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Towards an Enhanced Understanding of Suicide Risk through the Lens of the Integrated Motivational-Volitional (IMV) Model of Suicide

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DEGREE OF
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COLLEGE OF MEDICAL, VETERINARY AND LIFE SCIENCES



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*To my parents and my supervisors,
Ali, Ozden, Rory, Jack*

Abstract

Background and Aims: This thesis investigates the complex interplay of a range of psychological factors implicated in suicide risk, including multidimensional perfectionism, childhood trauma, and self-discrepancies within the context of the Integrated Motivational-Volitional Model (IMV) of Suicide. Although perfectionism, defined as striving for flawlessness and setting exceedingly high standards while being concerned about others' evaluations, has been linked to suicide risk, the mechanisms and contextual factors underlying this relationship still require further investigation. It is also worth investigating the extent to which childhood trauma and self-discrepancies relate to established correlates of suicide risk, such as defeat and entrapment, within the IMV model's framework. Therefore, this thesis set out to address these gaps by considering perfectionism, childhood trauma and self-discrepancies as pre-motivational risk factors. In addition, it aims to systematically explore the moderators and mediators of perfectionism (as a pre-motivational risk factor) and suicide risk relationship. Finally, by integrating Self-Discrepancy Theory within the IMV model's framework, this research aims to better understand how different cognitive appraisals are associated with suicidal ideation.

Methods: This thesis consists of a series of studies that combine a systematic review (41 studies) and three empirical studies (N=579, N=579, N=529 participants, respectively). The systematic review searched nine databases, and it had the specific aim of identifying the mediators and moderators of the relationship between perfectionism and suicide risk. Building upon the systematic review, three empirical online studies with cross-sectional designs were undertaken with UK community-based samples. Multivariate analyses, including regression-based mediation and moderation analyses (utilising Hayes' PROCESS Macro), were applied to test the pathways and interactions depicted in the IMV model. These analyses focused on the key roles of defeat, fear of humiliation, and internal/external entrapment in the pathway to suicidal ideation.

Results: The systematic review (Chapter 2) identified 41 potential mediators and 20 moderators that either elucidate or modify the trajectory from perfectionistic strivings/concerns to suicide risk. In Chapter 3, there was evidence that perfectionistic concerns and childhood trauma were associated with internal and external entrapment directly, and indirectly, via defeat and fear of humiliation. Although defeat emerged as a stronger mediator overall in the relationships of perfectionistic concerns and childhood trauma with internal/external entrapment, fear of humiliation indirect-only mediated relationships of perfectionistic strivings and childhood trauma with external entrapment and partially mediated the relationship between perfectionistic concerns and external entrapment. As expected, ruminative flooding moderated the relationships between defeat, fear of humiliation, and external entrapment, but not internal entrapment. The mediating roles of internal/external entrapment were consistently found to be significant in all the conceptual models in Chapter 4. However, contrary to the hypotheses, the potential moderating roles of goal adjustment factors, thwarted belongingness, and perceived burdensomeness were not significant. Finally, in Chapter 5, aspects of self-discrepancies (actual vs ideal and actual vs ought) were stronger correlates of defeat and internal/external entrapment, and subsequently, suicidal ideation directly and indirectly compared to perfectionistic concerns. Again, defeat and internal/external entrapment acted as significant mediators in all of the conceptual models, consistent with the IMV model.

Conclusions: Overall, the studies provided robust empirical support for the central components of the IMV model by elucidating how perfectionism interacts with various cognitive-emotional vulnerabilities to elevate suicide risk. The identification of key mediators, especially defeat and entrapment, and key pre-motivational vulnerabilities, such as self-discrepancies, offers promising additional targets for clinical interventions to prevent suicide risk. This thesis advanced the theoretical understanding of the IMV model and informed future research efforts. Despite several limitations, this research provides a strong foundation for future research exploring cognitive-emotional and pre-motivational vulnerabilities to suicide risk. The integration of the Self-discrepancy Theory into the IMV model's framework advanced the theoretical understanding of suicide risk, as well as providing robust foundations for future clinical applications and endeavours in the suicide prevention field.

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Elvan

Declaration

I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

Elvan Unlu

Chapter 1: Introduction

Towards an Enhanced Understanding of Suicide Risk through the Lens of the Integrated Motivational-Volitional (IMV) Model of Suicide

1.0 General Overview

More than 720,000 people around the world lose their lives to suicide each year with suicide rates increasing in many countries (WHO, 2024). Suicide affects people of all ages, and it is the fourth leading cause of death among individuals aged 15-29 years. For every person who dies by suicide, another 20 will attempt to take their own life (WHO, 2021). For some, suicide may be the outcome of an impulsive act in a moment of crisis, while for others, suicide may be the endpoint of a much longer process that includes experiencing suicidal thoughts for months or years. What is more, there are well established links between suicide and previous attempts (Cohen et al., 2018; Yaseen et al., 2010) and exposure to suicide or suicidal behaviour (O'Connor, 2021, pp. 150-154). In addition, in high income countries, suicide usually occurs in the context of existing mental health problems (Brådvik, 2018; WHO, 2021).

Without question, suicide is a major global public health challenge, which is preventable, but it requires a multidisciplinary and integrative approach (Grant & Lusk, 2015). Indeed, the factors that lead to suicide are complex and span the biopsychosocial framework (Tio et al., 2024; O'Connor & Kirtley, 2018). Individual differences and personality factors (e.g., perfectionism), adverse life events (e.g., childhood trauma), cognitive factors (e.g., rumination, goal orientation, internal/external entrapment, fear of humiliation), emotional factors (e.g., emotion regulation), psychiatric comorbidities (e.g., alcohol use, anxiety disorders, depression, post-traumatic stress disorder, conduct disorder, substance disorder) (Nock et al., 2010) are just some of the factors that

may contribute to suicide. However, as suicide is a decision that an individual makes, it is vital that we advance our understanding of the psychological determinants of suicide and their interplay, aided by robust theoretical frameworks. To this end, this thesis explores the interplay of personality factors such as perfectionism and a range of cognitive and emotional risk factors (e.g., self-discrepancies, feelings of defeat, and entrapment) through the lens of the Integrated Motivational-Volitional Model of Suicide, one of the predominant theories of suicide (O'Connor & Kirtley, 2018).

This introductory chapter describes the context of suicide research, including the global scale of suicide, terminological considerations, as well as the role of sociodemographic, psychiatric and psychological risk factors for suicide. The chapter also presents several pertinent theoretical models of suicide, including the Integrated Motivational-Volitional (IMV) model of suicide, which, as noted above, acts as the key theoretical framework for the research undertaken for this thesis.

1.1 Suicide: Global Public Health Challenge

Suicide is a global public health concern, accounting for over 1 in every 100 deaths worldwide (WHO, 2019). It affects all regions of the world, although rates of suicide deaths vary, over three-quarters of suicide deaths are recorded in low or middle-income countries (LMICs; WHO, 2019). This over-representation in LMICs is a result of the fact that this is where the vast bulk of the global population lives and where there is considerable evidence of disparities in social determinants of health, welfare, employment status, access to mental health services, and cultural differences (e.g. normative influence, social stigma) towards suicide (Meda et al., 2021; Bachmann, 2018; Khazaei et al., 2017; Schomerus et al., 2014). In addition, the associations between suicide risk and depression and alcohol use disorders are well established, especially in high-income countries, alongside impulsivity, financial problems, life stress, relationship break-ups or chronic pain and illness (WHO, 2025).

According to the World Health Organisation's latest statistics, Greenland has the world's highest suicide rate, with a rate of 59 people per 100,000 of the population annually (WHO, 2024). Childhood trauma, intergenerational trauma, and insomnia due to incessant daylight during summertime are among the reasons for this exceptionally high rate of suicide (Seidler et al., 2023; Björkstén et al., 2009). One of the countries with the lowest suicide rate is Indonesia, with less than

two people per 100,000 taking their own life annually (WHO, 2024). Several nations affected by recent conflicts and with low income also report lower suicide rates, including Afghanistan (4.1%), Iraq 3.6%), and Syria (2%). In these and many other countries around the world, the cultural stigma around suicide including social ostracisation, the legal consequences and religious condemnation, can lead to underreporting (Utyasheva et al., 2022; Chen et al., 2020; Lawrence et al., 2016). Moreover, suicide is still a criminal act in 23 countries, which may increase barriers to help-seeking, stigma, and discrimination, as well as violate human rights and impede suicide prevention efforts (WHO, 2023). The accuracy of recording can also affect estimated suicide rates when the deaths are misclassified due to stigma, lack of standardised registration systems and recording practices, and under-recording of some self-harm or suicide attempts due to the scarcity of health services (Renaud et al., 2022).

Bereavement by suicide is also a risk factor for suicide. Of course, every death by suicide is a tragedy, but it does not happen in a vacuum. The detrimental consequences extend far beyond the individual. Those closest to the person may experience the bereavement most acutely, but an estimated 5-15 further relatives will also be affected (Andriessen et al., 2017). Ultimately, as many as 135 people may be affected by each suicide death (Cerel et al., 2019). In addition to the emotional devastation of suicide, the economic cost of suicide is considerable. For example, it has been estimated that each death by suicide in Scotland costs over £1 million (£1.29 million), with overall costs to society and the economy exceeding £1 billion annually (£1.08 billion) (Platt et al., 2006).

1.1.2 Suicide Rates in the UK and National Strategies

Between 2022 and 2023 Scotland recorded the highest suicide rates in the UK, with 14.6 probable deaths per 100,000 people (National Records of Scotland, 2024). Comparable data based on registered deaths by suicide in the other UK nations indicates a slightly lower rate of suicide in Wales in 2023 (14.0 per 100,000) (National Records of Scotland, 2024), followed by Northern Ireland in 2022 (12.3 per 100,000) (NISRA, 2023), with the lowest rate recorded in England in 2023 at 11.2 (Office for National Statistics, 2024). High levels of alcohol and drug misuse, rural isolation, and socioeconomic deprivation are among the contributing factors (Erskine et al., 2010). Research also suggests that self-harm and non-fatal suicidal behaviour are prevalent in the UK. According to O'Connor et al. (2018), almost 1 in 4 young people aged 18-34 years in Scotland

reported having experienced suicidal thoughts in their lifetime, 1 in 9 reported having attempted suicide during their lifetime, and 1 in 6 reported engaging in non-suicidal self-harm. Results from the Adult Psychiatric Morbidity Survey (APMS), representing the population of England also report high prevalence of suicidal thoughts (20.6%), suicide attempts (6.7%) and non-suicidal self-harm over their lifetime (McManus et al., 2016).

Efforts to address suicide in Scotland include national strategies and action plans such as “Every Life Matters” and “Creating Hope Together: Scotland’s Suicide Prevention Strategy 2022-2032” (Scottish Government, 2022, September 29; 2018). In England, a new near-to-real-time suspected suicide surveillance system and a £10 million grant fund for voluntary, community, social enterprise organisations were established between 2022 to 2024 (HM Government, 2023). In addition to these efforts, the “Talk to Me 2” strategy was introduced in Wales (2015), with an update published in 2023 (Welsh Government, 2023). In Northern Ireland the “Protect Life 2” strategy was introduced in 2019 and extended to 2027 (Northern Ireland Assembly, 2023).

1.2 Suicide Terminology

Suicide is defined as the act of deliberately killing oneself by the World Health Organisation (2025). However, there is an overall lack of consensus in the language and definitions used to describe suicide, which is unhelpful and problematic since it has led to ambiguity in definitions, stigma and discrimination towards survivors and families of survivors. It has presented challenges in research comparability, difficulties in data collection, recording, and surveillance, as well as complications in clinical practice, with legal and policy implications (O’Carroll et al., 1996).

There are also a number of suicide-related behaviours, which include suicidal behaviour/attempt, suicidal ideation (Masi et al., 2021), self-harm (i.e. self-injury)/suicidal self-injury (SSI) and non-suicidal self-injury (NSSI) (Herzog et al., 2022). Indeed, relatively recently, there have been efforts to get Suicidal Behaviour Disorder and NSSI included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). Thus far they are included under the section for “conditions for further study” (Fehling & Selby, 2021; Zetterqvist, 2015; American Psychiatric Association, 2013).

Although a number of efforts have been made to establish a standard nomenclature for suicide research to facilitate clarity and consistency in research and practice (e.g., De Leo et al. 2021;

O’Carroll et al. 1996), there is considerable nuance and complexity surrounding suicide and suicidal behaviours and consensus remains elusive. Kapur et al. (2013) illustrates some of the key challenges faced by practitioners and researchers through their discussion of self-harm with and without suicidal intent. They describe how the use of the term “non-suicidal” when referring to behaviours such as “non-suicidal self-injury” (NSSI) may be misleading as there is considerable fluidity in the intent behind self-injurious acts and self-injurious acts are also strongly associated with future suicidal behaviour. Furthermore, NSSI is limited to methods of self-injury that involve destruction of bodily tissue (e.g., cutting, scratching, burning, hitting) and therefore cannot refer to methods such as self-poisoning. This is noteworthy because a significant proportion of self-poisonings may occur without any suicidal intent, and methods of self-harm may also change over time, including patterns of repetitive self-poisoning and switching between different methods (Kapur et al., 2013). In contrast, the National Institute for Health and Care Excellence defines self-harm as intentional self-poisoning or injury, irrespective of the apparent purpose (NICE, 2022), therefore, the NICE definition include acts of self-injury with varying degrees of suicidal intent and regardless of method.

In this thesis the following definitions are used to describe the spectrum of suicidal thoughts and behaviours: *Suicide Attempt* refers to non-fatal, however, potentially injurious (may or may not result in injury) self-directed behaviour with a certain level of intent to die (O’Carroll et al., 1996; Masi et al., 2021). *Suicidal Ideation* refers to contemplating, thinking about, considering and planning suicide (Masi et al., 2021). *Suicidal self-injury (SSI)* refers to self-destructive and bodily harmful behaviours with a clear intent (at some level) to die (Masi et al., 2021; O’Carroll et al., 1996). *Self-harm/self-injury* refers to an act of self-poisoning or self-injury, irrespective of motivation (National Institute for Health and Care Excellence, 2022; Melson & O’Connor, 2019). *Non-suicidal Self-Injury (NSSI)* refers to deliberate bodily harm without an intent to die (Herzog et al., 2022; Beauchaine et al., 2019). In the interest of conciseness *suicide risk* may refer to any of these aforementioned thoughts and behaviours factors, each of which confers an increasing risk of future suicide.

1.3 Psychological Models of Suicide

The previous section introduced suicide as a global and national public health concern. Looking beyond the quantitative epidemiological evidence, suicide may be considered one of the most

devastating and complex phenomena in mental health research. Researchers working to understand and prevent suicide must seek to explain the biopsychosocial dynamics which contribute to suicide, including cognitive processes, individual vulnerabilities, environmental factors and behavioural patterns. Psychological models of suicide can help researchers to account for and understand the considerable complexity which surrounds suicide. The current section of this chapter therefore provides an overview of a number of important psychological models of suicide, namely Escape from Self Theory, the Cry of Pain Theory, the Interpersonal Theory of Suicide, the Three-step Theory, the Fluid Vulnerability Theory of Suicide, the Narrative-Crisis Model (N-CM) of Suicide (Galynker, 2017), and the Integrated Motivational-Volitional (IMV) Model of Suicide (O'Connor & Kirtley, 2018; O'Connor, 2011). These models have been included in this section as they endeavour to clarify the aetiology of suicide and are relevant to several of the key psychological factors of interest in this thesis. Each model is also informed by the diathesis-stress perspective. Diathesis-stress models propose that suicide risk emerges from an interaction between a predisposing vulnerability (i.e., diathesis) and external stressors. This model has shaped contemporary suicide research by emphasising the notion that individuals with neurobiological, cognitive, and genetic predispositions may be more likely to develop suicidal thoughts and behaviours when exposed to significant external stressors. Several suicide-related theories have built upon this model further to specify how particular risk factors increase suicide risk (Van Heeringen, 2012).

Of these psychological models, the relatively recent the IMV model and the N-CM have contributed more directly to the work in this thesis. In particular, the IMV model serves as the overarching theoretical framework for the work in the thesis, with several of the studies examining the role of risk factors and pathways proposed within the IMV model, with a particular emphasis on perfectionism. While the N-CM also incorporates many of the risk factors also contained within the IMV model, its main contribution to this thesis is through the psychological measures which have been developed to operationalise the N-CM constructs, such as the Suicidal Crisis Scale and the Narrative-Crisis Inventory. These N-CM instruments were employed in the current research as practical tools to assess the IMV model's constructs and pathways. The reasons for prioritising the IMV model as the overarching theoretical framework for the studies in this thesis, rather than the N-CM, includes that the N-CM was primarily conceptualised to understand and identify imminent suicide risk (Galynker, 2017), whereas the IMV model does not specify a particular time frame and is broadly applicable across the spectrum of suicidal risk (O'Connor & Kirtley, 2018). As the studies in this thesis were planned to comprise cross-sectional designs and include community

rather than clinical populations, the N-CM would be less directly applicable than the IMV model. For example, in a recent systematic review of the Suicide Crisis Syndrome which included 21 studies, 18 of these were conducted in psychiatric populations and 15 utilised longitudinal designs (Melzer et al., 2024). Moreover, when the current studies were conducted, the N-CM was a relatively recent model which had received relatively limited empirical investigation. In contrast the IMV model had been more extensively investigated and provided a stronger empirical foundation on which to base the studies in this thesis.

In the following sections, a brief overview is provided of each psychological model, while the IMV model is described in more detail given its role as the overarching theoretical framework for the studies in this thesis.

1.3.1 The Escape from Self Theory of Suicide

The Escape from Self Theory, proposed by Baumeister (1990), is based on an early escape theory of Baechler (1979, 1980), which posits that suicide results from an overwhelming desire to escape from aversive self-awareness and negative self-evaluations. According to this theory, individuals who perceive themselves as failing to meet their internalised standards regarding achievements or social expectations experience a distressing and uncomfortable affective state based on feelings of shame and self-disgust (Baumeister, 1990). Consequently, these emotions yield a desire or motivation to avoid the psychological pain associated with this negative self-awareness.

Cognitive deconstruction may then occur, which involves a mental process in which individuals reduce complex and meaningful experiences into more concrete (e.g., narrowing thoughts) and less personally relevant constructs (e.g., emotional detachment) (Baumeister, 1990). A consequence of this deconstructed mental state is that a person will experience decreased inhibition and future-thinking, making them vulnerable to the extremes of decision-making and action that include suicidal acts as a means to avoid the discomfort of the aversive self-awareness (Baumeister, 1990).

1.3.2 The Cry of Pain Model of Suicide

Williams' (2001) Cry of Pain model incorporates social, biological and genetic dimensions in an effort to explain suicide risk (O'Connor, 2003). The Cry of Pain hypothesis is rooted in

evolutionary psychology, and it draws upon the “arrested flight” response (Gilbert & Allan, 1998) which suggests that expressions of distress (including suicidal behaviours) function as a “cry” for help (O’Connor, 2003). The model conceptualises suicide as a response to stressful events or circumstances (especially a sensitivity to defeat), entrapment and perceived helplessness, consistent with the arrested flight phenomenon (O’Connor & Nock, 2014; O’Connor, 2003; Williams, 2001). It is called “arrested flight” because the individual is trying to escape from distressing circumstances but is unable to do so.

Defeat (as previously mentioned) refers to a sense of failure or loss, often linked to interpersonal conflicts or external (life) stressors, whereas entrapment is a cognitive perception of being in an unbearable situation with no escape and no rescue (Rasmussen et al., 2024; O’Connor, 2003). As a third component of the model, helplessness is a perceived lack of social support triggered by feelings of defeat, no escape and no rescue (O’Connor, 2003). The Cry of Pain hypothesis has been particularly influential in suicide research in understanding how interpersonal and situational factors contribute to suicide risk and self-harm, highlighting the necessity of early intervention in reducing feelings of entrapment (Slade et al., 2012; Rasmussen et al., 2010; Johnson et al., 2008).

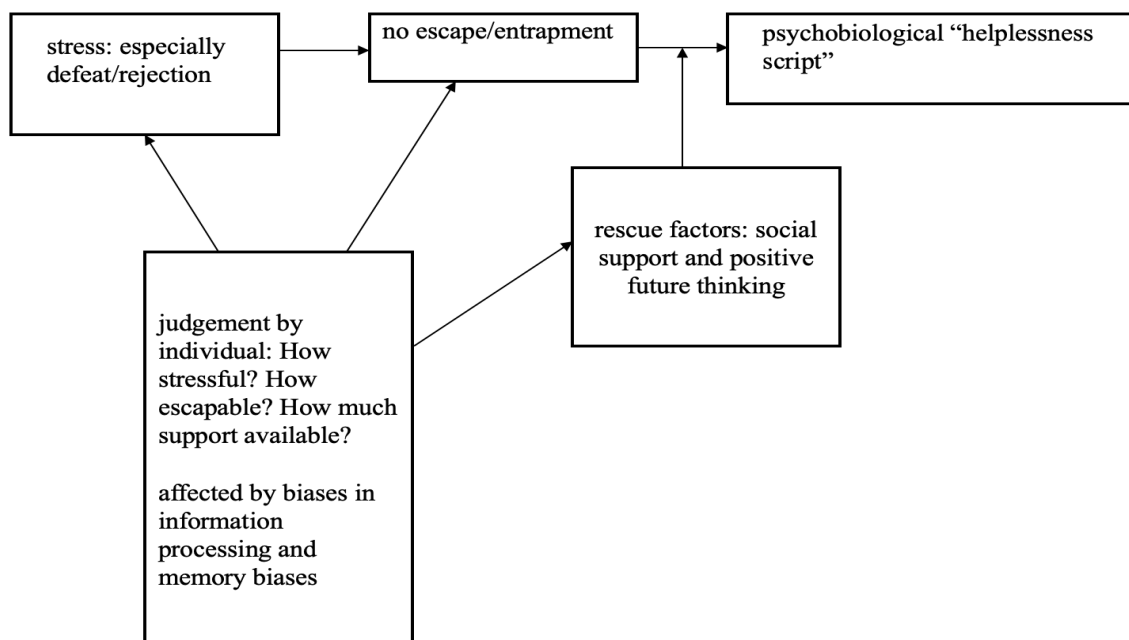


Figure 1.1 The Cry of Pain Model (adapted from Williams, 2001, as depicted in Rasmussen et al., 2010).

1.3.3 The Interpersonal Theory of Suicide

Developed by Joiner (2005), the Interpersonal Theory of Suicide posits that suicide risk arises when two psychological factors converge: perceived burdensomeness and thwarted belongingness. Perceived burdensomeness refers to the belief that one is a liability (or burden) to others, while thwarted belongingness refers to a feeling of not belonging involving social disconnection, isolation and alienation, which are very close to the concept of loneliness (Motillon-Toudic et al., 2022; Van Orden et al., 2010; Joiner, 2005). Other components of the theory include hopelessness (about the mutability of the two aforementioned components) and capability of enactment (Chu et al., 2017).

According to this theory, the desire for suicide is amplified when perceived burdensomeness and thwarted belongingness chronically co-exist, accompanied by hopelessness towards their mutability (Chu et al., 2017). However, the transition from desire for suicide to acting on those desires requires the development of acquired capability for suicide, which involves familiarisation with pain and inhibition of fear of that through exposure to painful or provocative experiences (May & Victor, 2019).

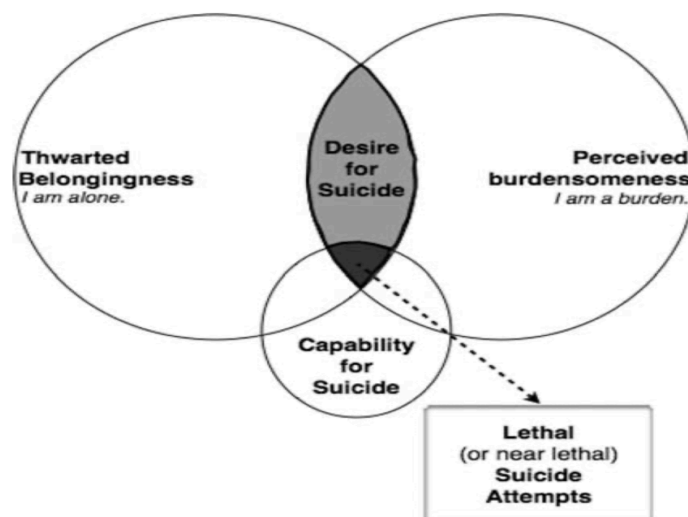


Figure 1.2 The Interpersonal Theory of Suicide (as depicted in Van Orden et al., 2010).

Joiner's theory has been extensively studied and offers valuable insights into suicide prevention and risk assessment strategies targeting social isolation and perceptions of self-worth (Chu et al., 2017; Joiner Jr. et al., 2009). Moreover, the theory has also been influential through its assumption that the factors that contribute to the emergence of suicide thoughts are distinct from those that may

prompt a transition to suicide attempts (Vélez-Grau et al., 2023; Forkmann et al., 2019). Joiner's theory was therefore one of the earliest and most influential of the 'ideation-to-enaction' models which has guided researchers and practitioners over recent years.

1.3.4. The Three-Step Theory of Suicide

Another of the 'ideation-to-enaction' theories, the Three Step Theory (3ST), proposed by Klonsky and May (2015), builds on the Interpersonal Theory of Suicide by incorporating additional risk factors and pathways through which suicide or suicide attempts occur (Klonsky & May, 2015). The model focuses on four factors that describe the circumstances under which suicidal thoughts and behaviours occur: the experience of pain (typically psychological), hopelessness, connectedness and capability for suicide (Klonsky et al., 2021). The aetiological pathway to suicide which involves these four factors takes place over three steps: the development of suicidal desire (the presence of a combination of pain and hopelessness), the strengthening or intensification of suicidal desire (when pain and hopelessness exceeds or overwhelms connectedness) and the progression to attempt (only where capability for suicide is present) (Klonsky et al., 2021). While the 3ST is a parsimonious theory, proposing a pathway to explain the emergence of suicide thoughts and the transition to suicidal behaviour based on just four key psychological factors, the model and the key factors can be used to inform research utilising a wider range of biopsychosocial variables (See Klonsky et al., 2021 for illustrative examples).

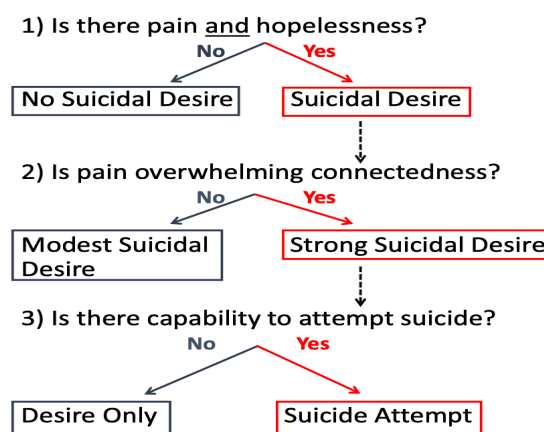


Figure 1.3 Three Step Theory of Suicide (as depicted in Klonsky et al., 2021).

1.3.5 The Fluid Vulnerability Theory of Suicide

The Fluid Vulnerability Theory (FVT), developed by Rudd (2006), offers a cognitive framework to inform the suicide risk assessment processes, by explaining the dynamic and fluctuating nature of suicide risk. The FVT conceptualises suicide risk as a continuum rather than a static state and distinguishes between chronic baseline risk (chronic or stable risk and protective factors) and acute spikes in risk (reaction to external forces) while exploring the cognitive and emotional mechanisms underlying suicidal behaviour (Rudd, 2006).

The key components of the FVT are *chronic vulnerability*, an ongoing predisposition to suicide, influenced by enduring factors such as past trauma, genetic vulnerabilities or psychopathology that creates a baseline risk which persists over time without necessarily resulting in suicide (Harmer et al., 2024; Rugo-Cook et al., 2021; Rudd, 2006). An *acute risk state* occurs when external risk factors (triggers) (e.g., mood, recent stressors, job loss, substance misuse problems) and chronic vulnerability converge, leading to a heightened but time-limited suicide crisis state (Rudd, 2006).

The FVT also identifies specific cognitive mechanisms, such as hopelessness, helplessness, unlovability, and perceived burdensomeness, that may amplify suicide risk (Bryan et al., 2020). These processes are fluid; in other words, they fluctuate in intensity based on personal experiences and external precipitators (Harmer et al., 2024; Rugo-Cook et al., 2021; Bryan et al., 2020; Rudd, 2006). During the suicide crisis state, the combination of risk and protective factors across cognitive, affective, physiological and behavioural domains may interact and play a role in maintaining, escalating or de-escalating the suicide crisis state. Thus, mitigating acute risk triggers can shift heightened suicide crisis back to baseline where risk is reduced (Harmer et al., 2024).

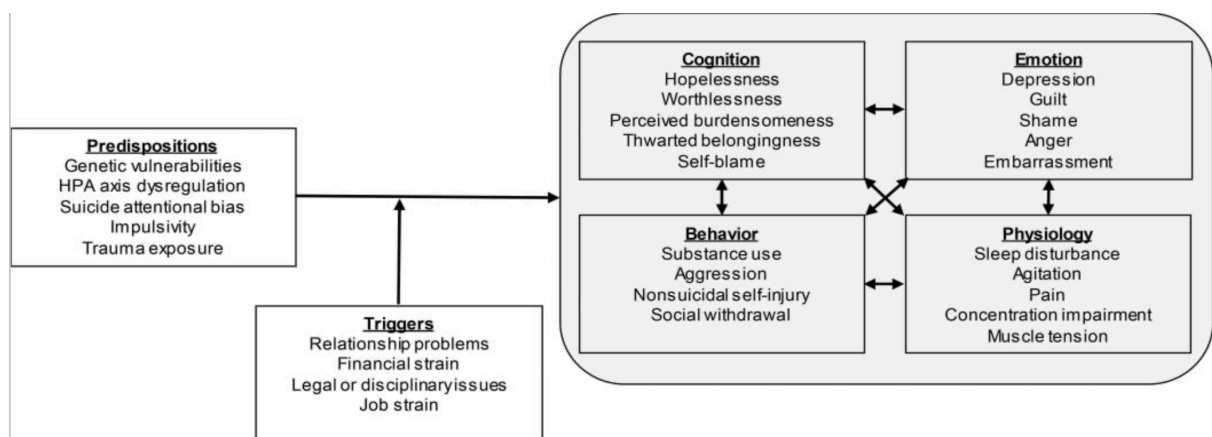


Figure 1.4 The Fluid Vulnerability Theory of Suicide (as depicted in Bryan et al., 2020).

1.3.6 The Narrative-Crisis Model (N-CM) of Suicide

The Narrative-Crisis Model (N-CM) is a recent model developed by Galynker (2017), which comprises the components of the Interpersonal Theory of Suicide and The Integrated Motivational-Volitional Model of Suicide. The N-CM is an iterative and dynamic diathesis-stress model that depicts the transition from chronic to acute suicide risk and identifies and predicts a potentially imminent suicidal risk (Menon, 2024; Rogers et al., 2024).

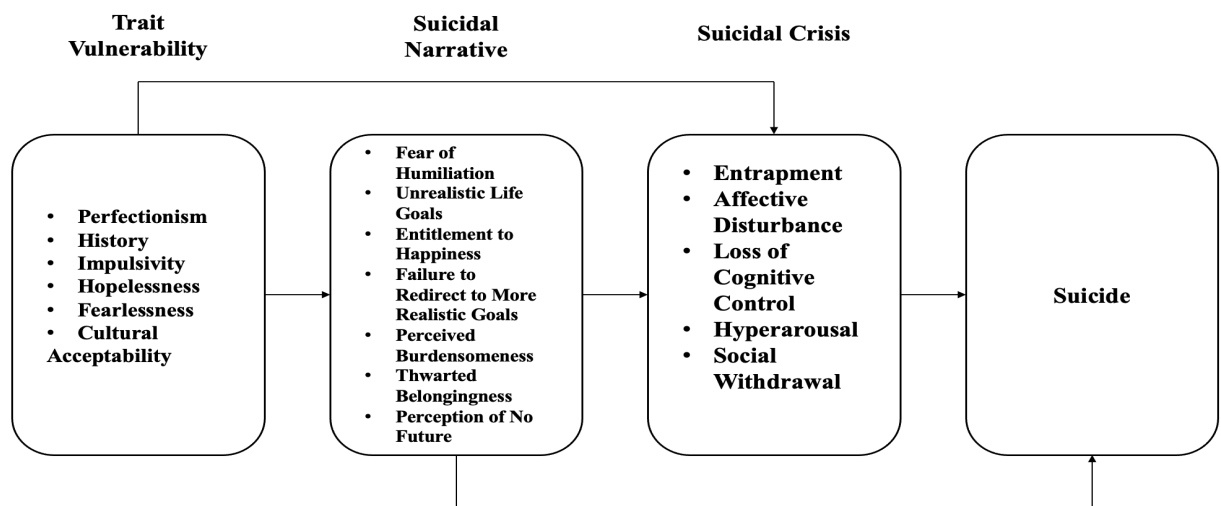


Figure 1.5 The Narrative-Crisis Model of suicide (as depicted in Pia et al., 2020).

The N-CM is a stepwise model that describes the progression to suicidal behaviour at four steps. At the *Initial Step* (1), exposure or experience of chronic risk factors or trait-vulnerabilities (e.g., history of a childhood trauma, perfectionism, psychiatric disorders, impulsivity) can make people more vulnerable to acute stressful life events. Next, *Stressful Life Events* (2) may cause deficits in stress management and precipitate the development of a sub-acute state called the *Suicidal Narrative* (3) which refers to exaggerated and distorted perceptions of the self in relation to others (e.g., social defeat, thwarted belongingness, perceived burdensomeness). This can precipitate a negative-affect state called suicide crisis syndrome. The *Acute State/Suicide Crisis Syndrome* (4) refers to a cognitive-affective state which involves entrapment, affective dysregulation (e.g., emotional pain, panic attacks, rapid mood swings), hyperarousal (e.g., insomnia, agitation), social withdrawal, and cognitive dysregulation (e.g., ruminative flooding) (Menon, 2024). As a result, people with suicide crisis syndrome carry heightened imminent suicidal risk. Stressful life events may mediate or moderate the relationship between chronic risk factors and suicidal narrative in this model (Cohen et al., 2021; Pia et al., 2020; Galynker, 2017).

1.3.7 The Integrated Motivational-Volitional (IMV) Model of Suicide

The IMV model was first described by O'Connor (2011) and then revised and updated by O'Connor and Kirtley (2018). It is a biopsychosocial framework which describes the vulnerabilities and background factors that provide the context for suicidal risk. It outlines specific psychological processes and pathways that can lead to the emergence of suicidal thoughts and, in turn, to suicidal acts. Further research explaining this model was published in 2016 as well as the revision in 2018 (O'Connor & Kirtley, 2018; O'Connor et al., 2016). The model was first introduced as a tripartite diathesis-stress framework, adopting the 'ideation-to-action' approach, which integrates a range of perspectives based on accumulated empirical evidence and contemporary suicide theory. Consequently, the IMV model incorporates a range of components from other relevant psychological and suicide theories in a single comprehensive framework.

The tripartite structure of the IMV model begins with the *Pre-motivational Phase*, which describes the biopsychosocial context in which suicidal thoughts and behaviour may emerge; the *Motivational Phase* then describes cognitive, emotional, interpersonal and external factors (e.g. environmental stressors, social norms, lack of social support) which precipitate the emergence of suicidal thoughts; in turn, the *Volitional Phase* describes those factors (e.g. impulsivity, access to the means, capability for suicide) hypothesised to play a distinctive and critical role in explaining the transition from suicidal thoughts to suicidal behaviours. The tri-partite IMV model is depicted in **Figure 1.6**, with each part and its salient pathways and assumptions described in further detail below with supporting evidence.

Key constructs of the model encompass the following mediator and moderator factors:

Defeat, Humiliation, and Entrapment. These mediating factors are pivotal to the model, with defeat and humiliation acting as precursors to entrapment, which directly leads to suicidal ideation in the motivational phase.

Threat-to-Self Moderators. These moderators (TSM) (e.g., social problem-solving, ruminative processes) strengthen or weaken the associations between defeat, humiliation, and entrapment.

Motivational Moderators. These factors influence whether entrapment develops into suicidal ideation (e.g., thwarted belongingness, burdensomeness, future thoughts, goal orientation).

Volitional Moderators. These eight factors (e.g., exposure to suicide, impulsivity, past behaviour) determine the progression from suicidal ideation to enactment (O'Connor & Kirtley, 2018).

The IMV model has also been extensively validated in the literature (Souza et al., 2024; Winstone et al., 2024). The IMV model offers a comprehensive framework which differentiates between the factors leading to suicidal ideation and those governing the progression to suicidal behaviours, providing a detailed framework for intervention and research (Branley-Bell et al., 2019; O'Connor & Kirtley, 2018).

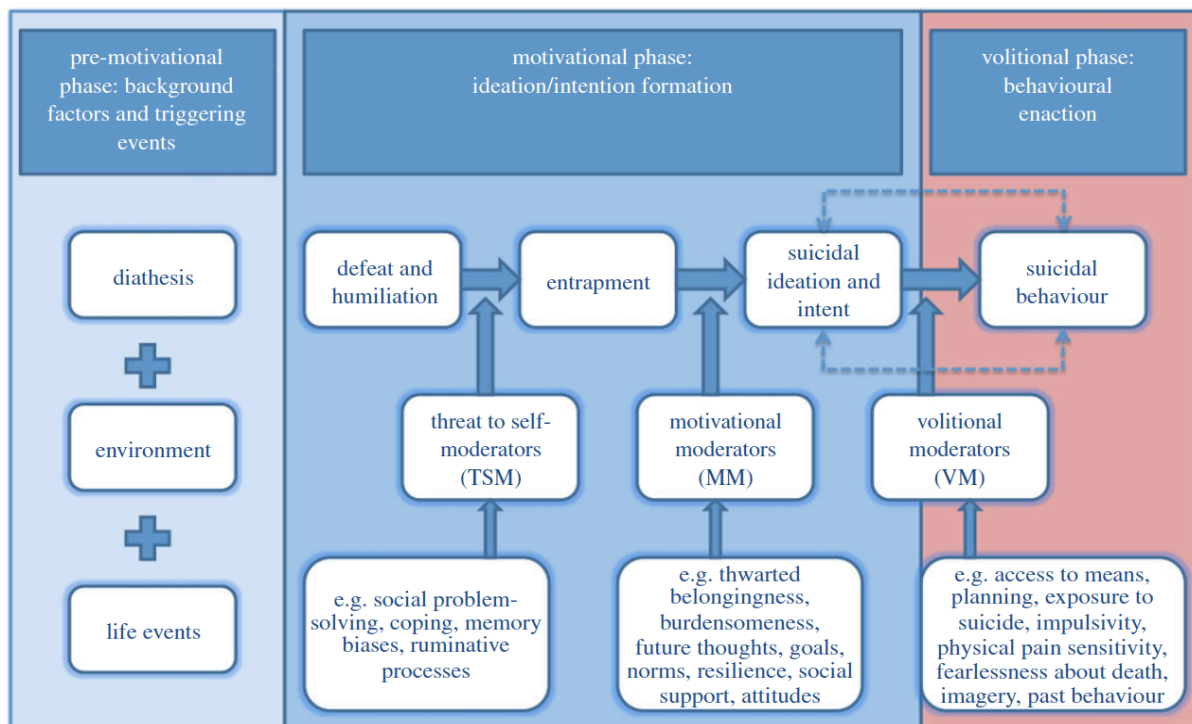


Figure 1.6 The IMV Model of suicide (as depicted in O'Connor and Kirtley, 2018).

1.3.7.1 Pre-motivational Phase

Suicide risk does not emerge in a vacuum; pre-existing vulnerabilities such as perfectionism and childhood trauma converge with external stressors (e.g., stressful life events). Although there is no direct path from the pre-motivational phase to the other phases, the factors within the pre-motivational phase are posited to have wide ranging influences across the different phases of the

model (O'Connor & Kirtley, 2018).

Based on the empirical evidence (Chapter 2), perfectionistic concerns is an important correlate of suicide risk. However, even though well-established, perfectionism and its link to suicide risk still requires more investigation within the IMV model's framework. Likewise, childhood trauma (as one of the pre-motivational risk factors) requires more attention as it is still unclear which types of childhood trauma are more dangerous (Zatti et al., 2017).

1.3.7.2 Motivational Phase

In the motivational phase, entrapment is the bridge between defeat/humiliation and suicidal ideation. Indeed, growing evidence in the literature has found that entrapment consistently mediates the relationship between defeat and suicidal ideation (Lucht et al., 2020; O'Connor & Portzky, 2018; Siddaway et al., 2015, Taylor et al., 2011, Souza et al., 2024). Although there is evidence for some of the motivational moderators (Souza et al., 2024; Winstone et al., 2024), research on protective factors such as resilience and adaptive coping strategies are less studied (Ki et al., 2024).

1.3.7.3 Volitional Phase

This phase introduces the volitional moderators which are central to the enactment of suicidal thoughts. They include access to the means of suicide (having access to lethal means), exposure to suicide (having a family member or a loved one die by suicide or attempt suicide), impulsivity (acting on suicidal thoughts without due consideration), fearlessness about death (overcoming the life instinct) (Risch et al., 2024), and mental imagery (suicidal flash-forwards; vivid mental images of dying facilitates behavioural enactment) (Crane et al., 2012; O'Connor & Kirtley, 2018).

1.4 Who is at Risk of Suicide: Epidemiological Overview

Suicide risk is a multifaceted phenomenon, encompassing biological, psychiatric/psychological, developmental, social and environmental factors (O'Connor & Nock, 2014). In particular, the roles of sociodemographic factors such as age, gender, ethnicity, marital status, socioeconomic status

(Xiao & Lindsey, 2021), and psychiatric/psychological factors have received considerable research attention and are well-established (Franklin et al., 2017; O'Connor & Nock, 2014).

Age. Although suicide affects those of any age, rates vary considerably across age groups and globally more than 58% of deaths by suicide occur before the age of 50 years (WHO, 2019). Among UK women, the highest suicide rates are found for those aged 45-49 years and in men between 50-54 years (ONS, 2022). While suicide is relatively rare before puberty, 13 children between the ages of 10-14 years, and 157 adolescents between the ages of 15-19 years are believed to have died by suicide in England alone in 2024 (ONS, 2024). School connectedness, perfectionistic tendencies, childhood trauma, social hopelessness, daily hassles, bullying, maladaptive coping, academic performance concerns, psychological distress, anxiety, relationship problems, housing problems, self-harm (by cutting, ideas or overdose), bereavement, and psychotic disorders are among the main reasons behind adolescent suicide risk (Rodway et al., 2022; Zhou et al., 2023; Gu et al., 2022; Barbeito et al., 2021; de Jonge-Heesen et al., 2021; Angelakis et al., 2020; Hewitt et al., 2014; Nock et al., 2013; Roxborough et al., 2012). Regarding young adults, impulsivity, social isolation, low socioeconomic status, mental disorders such as major depressive disorder and schizophrenia (Fujikane et al., 2023; DiBlasi et al., 2021; Orsolini et al., 2019), prior suicide attempts, history of self-harm, alcohol and drug misuse, adverse life events, relationship conflicts, family-related conflicts, and legal problems are some of the main contributors to suicide (Favril et al., 2022; O'Connor & Nock, 2014).

In one study in England and Wales it was reported that suicide rates in older adults were 19.2 per 100,000 for males, and 5.1 per 100,000 for females over 65 ages in England and Wales (Shah & Buckley, 2011). The similar figure was 15.2 for Scotland (for the ages between 65 and 74) (National Records of Scotland, 2024). Regarding Northern Ireland, in 2020, elderly suicide rates were lower compared to other regions of the UK; however, more than 15 males aged between 60 and 85+ and 5 females died by suicide (NISRA, 2022, May 26). Among older adults, some key contributing factors include stressful life events, lack of social connectedness, cognitive deficits, functional impairments, chronic pain, threats to autonomy and personal integrity. Psychiatric morbidities such as major depression, alcohol misuse, psychosis, anxiety have also been associated with suicide risk in older adults (Conwell et al., 2011).

Gender. Globally, men are much likely to die by suicide than women, yet women are much more likely to report a suicide attempt and express suicidal thoughts than men (Berardelli et al., 2022).

This ‘gender paradox’ can also be seen in the UK, where male suicide rates are almost three-times as high as in females (ONS, 2022). A key reason for the higher death rate among men is that men may use more lethal methods for suicide than women (Berardelli et al., 2022). Beyond traditional binary gender categories, increasing risk of suicide is reported among non-binary youth, where the risk of suicide is 5-8 times greater than among cisgender counterparts, due, in part, to a lack of social support, more violence, victimisation and stigmatisation (Russon et al., 2022; Johns et al., 2020; Haas et al., 2011). In addition, a recent retrospective cohort study from Canada reported that based on the suicidal behaviour data rates per 100,000 person-years, bisexual individuals are more likely to have a suicidal experience than their gay/lesbian and heterosexual counterparts. Moreover, gay/lesbian individuals are more likely to have a suicidal experience than their cisgender counterparts (Chum et al., 2023). However, a study from the UK reported no significant difference between treatment seeking binary and non-binary transgender individuals in terms of self-harming behaviours (Thorne et al., 2018).

Ethnicity. Ethnicity is another socio-demographic factor that may moderate suicide risk (Chen et al., 2017). A recent systematic review and meta-analysis reported an elevated rate of suicide among individuals from ethnic minority groups, with some limited evidence that they may be at heightened suicide risk compared to their majority group counterparts globally (Troya et al., 2022). The same review concluded that there was stronger evidence of elevated risk of suicide among Indigenous populations (Troya et al., 2022), which others have argued is likely to reflect ongoing and historical marginalisation, loss of cultural identity, social disconnection, hopelessness, and lack of access to mental health services (Kirmayer, 2022). Further evidence pointing towards a complex picture of the role of ethnicity and suicide risk can be seen from a UK study which showed that ethnicity-related suicide risk may be altered by sociodemographic characteristics such as age, gender and socioeconomic position (Alothman et al., 2022).

Marital status. Marital status also matters in terms of suicide risk because unmarried, widowed, or divorced individuals appear to be at higher suicide risk compared to their married (or cohabiting) counterparts, suggesting that social support from their significant others may serve as a protective factor (Stephenson et al., 2023). However, while non-married individuals have an overall greater risk of suicide than those who are married, the risk is moderated by a range of factors including age (greater risk among those <65 years than >65 years of age) and gender (unmarried men are at greater risk than unmarried women) (Kyung-Sook et al., 2018).

Socio-economic status and economic strain. Economic factors such as unemployment and financial insecurity are consistently associated with heightened suicide risk (Blakely et al., 2003). Evidence also shows that economic strain exacerbates feelings of psychological distress and hopelessness, contributing to suicide risk (Ryu & Fan, 2023). Socioeconomic status, however, refers more broadly to income, education, and occupation and is a further important determinant of suicide risk. Those from lower socio-economic groups are at higher risk of suicide compared to those from higher socio-economic groups (Platt, 2011). One recent prospective study carried out over a ten-year period found that socioeconomic status was negatively associated with increases in suicidal ideation and attempts (Madigan & Daly, 2023). Furthermore, mediation analysis has indicated that subjective social status, that is, an individual's perception of their standing relative to others, explained a significant portion of the relationship between socioeconomic status and suicide risk (Madigan & Daly, 2023). This suggests that the relationship between suicide risk and economic factors such as unemployment or poverty is not solely reducible to economic strain and financial insecurity but is socially and psychologically mediated.

Education level. Differences in levels of educational attainment are known to affect suicide risk. However, whether education may protect or increase suicide risk is less clear. For example, Pompili et al. (2013) examined death registers in Italy between 2006-08 and found those who died by suicide tended to have higher educational attainment than those who died from natural causes, i.e., non-suicide deaths (Pompili et al., 2013). Possible mechanisms behind this may be greater psychological stress towards failures, setbacks or public shame due to their high expectations and evaluative concerns (e.g. societal pressures) (Pompili et al., 2013). In contrast, a study from the USA showed that individuals with at least a college degree exhibited the lowest suicide rates, while those with high school degrees displayed the highest suicide rates. However, mental health problems and job problems were more apparent among college-educated individuals, while substance abuse and interpersonal problems were more common among less-educated individuals (Philips & Hempstead, 2017). A recent systematic review and meta-analysis of 50 studies from across 19 European countries found that education was negatively associated with suicidal ideation, but the relationship was dependent on a range of factors such as whether the studies reported on 'community' samples and the overall quality of the study (Ludwig et al., 2024). A person's own level of education may contribute to their risk of suicide, but so too may their parents' education level. Chen et al. (2022) conducted a systematic review and meta-analysis of the impact of parental education level on youth suicidal ideation and attempts based on 59 articles. Their analysis indicated that low parental education was associated with an increased risk of

suicide attempts but not suicidal ideation overall, although geographic region moderated both the strength and direction of the relationships.

1.4.1 Psychiatric Risk Factors

WHO (2025) reports that the association between psychiatric disorders and suicide is well-established in high-income countries. Indeed, a wide range of evidence from survey studies, psychological autopsy studies and evidence syntheses indicate that psychiatric disorders are among the most significant predictors of suicide as approximately two-thirds of the people with suicidal histories reported having a prior psychiatric morbidity such as anxiety disorders, mood disorders, impulse-control disorders, schizophrenia, and substance use disorders (Sutar et al., 2023; Turecki et al., 2019; Hor & Taylor, 2010; Nock et al., 2010). Mood disorders (e.g., major depressive disorder, bipolar disorder), and schizophrenia have consistently been linked to suicide risk, accounting for the majority of suicide cases globally via depressive episodes (Hawton et al., 2013; Wilcox et al., 2010; Mann et al., 2005; Dean & Range, 1999). In addition, post-traumatic stress disorder (PTSD), panic disorder, and again generalised anxiety disorder are frequently found to be comorbid and associated with increased suicide risk, with exacerbating effects of intense fear and emotion dysregulation (Bentley et al., 2016).

Alcohol and substance use disorders are present in a substantial proportion of those who die by suicide. According to Turecki et al. (2019) alcohol may be found in up to 40% of deaths by suicide and substance misuse in up to 25%. The impact of alcohol and substance use disorders on suicide risk is thought to be mediated through increased impulsivity, aggressiveness, impaired judgement, occupational and social dysfunction and decreased inhibition and distress associated with attempting suicide (Rahoof et al., 2022; Pompili et al., 2010). Alcohol use is particularly linked to suicide attempts with an acute effect on cognition and mood (Pompili et al., 2010; Conner & Bagge, 2019). Indeed, a range of specific alcohol misuse factors differentiated those with a history of self-harm enactment from those with a history of self-harm ideation in a community sample of adults in Scotland (Melson & O'Connor, 2019).

Individuals with psychosis and schizophrenia are also at heightened risk of suicide compared to the general population. Risk is heightened during the early stages of the illness or periods of active psychosis, as most suicides occur within the first two years after the diagnosis via the positive

effects of delusions, hallucinations and prior suicide attempt (Paljärvi et al., 2023; Hor & Taylor, 2010).

Personality disorders are chronic diagnosable mental health conditions characterised by distressing and dysregulated emotions, thoughts and behaviours. Those with a diagnosed personality disorder often experience significant difficulties in various domains of functioning, most notably interpersonal relationships. They are common, found in up to 8% of community samples and 30% of clinical samples. A recent systematic review concluded that those with a personality disorder are at heightened risk of suicide compared to those without a mental health diagnosis (McClelland et al., 2023). Borderline Personality Disorder, in particular, may convey significant risk for suicide, as up to 10% of individuals with the diagnosis die by suicide (Paris, 2019) and there is a high incidence of self-injury.

In summary, mental illness is often found among those who die by suicide or attempt to take their own life, with the symptoms and features of psychiatric illness contributing to an overall elevated risk of suicide. Importantly, however, while the presence of a psychiatric disorder is often present among those who die by suicide, the vast majority of those with a psychiatric disorder will never become suicidal. O'Connor et al. (2014) have therefore argued that psychiatric disorders have poor predictive and explanatory power. Instead, more precise and nuanced accounts of the factors that contribute to suicide risk are needed including a stronger focus on psychological factors.

1.4.2 Psychological Factors

Psychological factors encompass a wide range of individual and contextual elements, including emotional, cognitive, and behavioural patterns which, alongside environmental stressors and mental health issues, are part of the complex interplay of risk factors contributing to suicide risk (Pilkington et al., 2021; O'Connor & Nock, 2014). The following section introduces a number of important factors with an emerging or important role in the psychology of suicide including hopelessness, cognitive distortions and social connection-related factors. This is followed by an introduction to those psychological factors which are the foci of several studies in the current thesis and their relationship to suicide risk. Later in the Introduction the role of these psychological factors in contemporary theoretical models of suicide will be considered.

Hopelessness. Hopelessness, defined as pessimism about the future, has long been considered an important psychological driver of suicidal ideation and behaviour (Beck et al., 1975; Beck et al., 1985; O'Connor et al., 2014). However, O'Connor and Nock (2014) have argued that more recent empirical evidence has been mixed on the extent to which hopelessness predicts suicidal behaviour when past behaviour and other psychological factors such as entrapment are also considered. Nonetheless, it seems likely that hopelessness plays a key role in the emergence of suicidal ideation. A number of studies have also found that hopelessness, and interpersonal hopelessness (defined as the addition of interpersonal constructs such as perceived burdensomeness and thwarted belongingness (Tucker et al., 2018) have also been associated with perfectionism (defined as striving for flawlessness accompanied by overly critical self-evaluations and concerns about others' evaluations of oneself (Flett et al., 2022; Stoeber, 2018) and suicide risk (Robinson et al., 2021; Roxborough et al., 2012; Blankstein et al., 2007; Dean & Range, 1999).

Cognitive distortions. Cognitive distortions refer to patterns of erroneous cognitive processing and content that can result in unhelpful and distorted interpretations of reality. Although cognitive distortions have often been the focus of cognitive theories of depression (Beck, 1969), some research suggests that this cognitive style may also contribute to increasing suicidal risk. For example, a recent review of cognitive models of suicide emphasised the roles of distorted thinking patterns such as overgeneralisations, dichotomous thinking, catastrophising, and higher levels of hopelessness, which reinforced negative self-perceptions and pessimistic views about the future. Moreover, the review findings concluded that those with recent suicide attempts were more likely to experience cognitive distortions than those in the control group, above and beyond the role of depression and hopelessness (Jager-Hyman et al., 2014).

Loneliness and Social Isolation. Loneliness, characterised as a subjective experience of social isolation and a feeling state of being alone without meaningful connections, has emerged as a critical psychological factor influencing mental health outcomes, including the risk of suicide (Shoib et al., 2023; Veazie et al., 2019; Ernst & Cacioppo, 1999). Three recent systematic reviews have demonstrated that loneliness and social isolation have direct relationships with suicide risk and can also exacerbate the effects of co-existing mental illness, substance use disorder and financial hardship (Blázquez-Fernández et al., 2023; Shoib et al., 2023; McClelland et al., 2020). Indeed, the high prevalence of loneliness and social isolation across all age groups, alongside the serious health and social consequences of those experiencing loneliness and social isolation, has led the World Health Organisation to recognise them as public health priorities and establish the

1.4.2.1 Perfectionism

As one of the key psychological risk factors of interest in this thesis, perfectionism is defined as a multidimensional personality construct with various components and characterised by striving for flawlessness and associated with setting exceedingly high standards of performance accompanied by overly critical self-evaluations and concerns about social evaluations (Flett et al., 2022; Stoeber, 2018). Historically, perfectionism was widely accepted as a unidimensional personality trait and considered an indication of psychopathology (Stoeber & Otto, 2006; Burns, 1980). However, Hamachek, in 1978, defined perfectionism as a multidimensional construct for the first time, differentiating between normal and neurotic aspects of perfectionism (Hamachek, 1978). In recent years, the multidimensional approach to the study of perfectionism has received greater attention, and this has led to several conceptualisations. For example, in 1990, Frost and colleagues posited that perfectionism consisted of six dimensions: personal standards, preference for order and organisation, concern over mistakes, doubts about actions, parental expectations, and parental criticism (Frost et al., 1990). Around the same time, Hewitt and Flett (1991) developed another multidimensional perfectionism concept, which had three perfectionistic traits: self-oriented, other-oriented, and socially prescribed perfectionism. Other research groups have also identified additional facets of perfectionism, including positive and negative perfectionism (Terry-Short et al., 1995), adaptive and maladaptive perfectionism (Rice et al., 1998), healthy and unhealthy perfectionism (Stumpf & Parker, 2000; Stoeber & Otto, 2006), personal standards, and self-critical perfectionism (Dunkley et al., 2003), as well as conscientious perfectionism and self-evaluative perfectionism (Hill et al., 2004).

More recently, Stoeber and Otto (2006) synthesised the expanding range of dimensions and conceptualisations of perfectionism under two super-ordinate dimensions: perfectionistic strivings and perfectionistic concerns. Based on these two super-ordinate dimensions, they differentiated between healthy and unhealthy perfectionism (Stoeber & Otto, 2006; Gaudreau & Thompson, 2010). According to Stoeber and Otto (2006), perfectionistic strivings are positive, defined as striving for flawlessness in order to achieve one's standards regardless of being overly concerned about others' thoughts or evaluations. These include adaptive, self-oriented perfectionistic traits, informally known as 'healthy perfectionism'. Conversely, perfectionistic concerns were defined as

being overly concerned about mistakes and others' evaluations of oneself. Perfectionistic concerns are comprised of relatively negative dimensions of perfectionism, such as maladaptive, socially prescribed, and are informally referred to as 'unhealthy perfectionism'.

The relationship between perfectionism and psychopathology is well-established (Smith et al., 2017). Furthermore, contemporary theoretical models of suicide, some of which will be discussed later in this chapter, conceptualise perfectionism as a vulnerability factor for suicide. These theoretical models and frameworks include Baumeister's Escape Theory of Suicide (ETS), The Integrated Motivational-Volitional (IMV) Model of Suicide and The Narrative-Crisis Model of Suicide (N-CM) (O'Connor & Kirtley, 2018; Galynker, 2017; O'Connor, 2011; Hewitt & Flett, 2002; Baumeister, 1990). Thus, the ETS posits that personal standards trigger factors like self-blame that eventually lead to suicide (Baumeister, 1990). In addition, the IMV model considers perfectionism as a pre-motivational risk factor for suicide as it increases feelings of defeat and humiliation, which in turn, creates a sensitivity to emotional pain and makes individuals more vulnerable to experiencing entrapment (O'Connor & Kirtley, 2018). Furthermore, the N-CM supports the IMV model by defining perfectionism as a chronic risk factor that increases vulnerability to acute stressful life events and consequently, individuals may develop a sub-acute state called suicidal narrative that can precipitate a negative-affective state called suicide crisis syndrome (Galynker, 2017). Additionally, perfectionism-specific models such as Hewitt and Flett's (2002) Diathesis-Stress Model of Perfectionism and Hewitt et al.'s (2006) Perfectionism Social Disconnection Model, propose that suicide risk increases with increasing perfectionistic concerns since these are likely to create interpersonal complications (Smith et al., 2017; Hewitt et al., 2006; Hewitt & Flett, 2002; Ingram & Price, 2001).

1.4.2.2 Humiliation

Humiliation is a self-conscious and complex emotion arising from the perception of being devaluated by others (Fernández et al., 2018). It usually involves a public component (i.e. victimisation), where the individual's self-worth is undermined in the presence of others, leading to intense feelings of shame and powerlessness (Li et al., 2024). The experience of humiliation can trigger various negative emotions, including shame, embarrassment, and worthlessness, which are closely related to mental health challenges (Li et al., 2024). Certain groups may be more vulnerable to the negative effects of humiliation, such as individuals identifying as LGBTQ+ (Marzetti et al.,

2022), older adults (Conwell et al., 2011) and adolescents (Sadath et al., 2024).

A recent systematic review from the UK found significant associations between humiliation and self-harm, though not between humiliation and suicidal thoughts and behaviours in fully adjusted models (Sadath et al., 2024). Importantly, humiliation can refer both to the experience or perception of having been humiliated through some action or event, as well as the negative affective state induced by the fear or anticipation of being humiliated, which occurs in the absence of an actual event (Sadath et al., 2024; Cohen et al., 2018). According to Pia et al. (2020) the negative effect of fear of humiliation can be so distressing that suicide may be considered as a possible means of avoiding humiliation. Although both the experience of a humiliating event as well as the fear of humiliation are likely to be important psychological factors contributing to suicide risk, the empirical studies contained in the present thesis have focused on the fear of humiliation.

1.4.2.3 Rumination

In 1991, Nolen-Hoeksema defined rumination as a tendency to passively and repetitively fixate on the causes, meanings, and consequences of one's distress without acting (Rogers et al., 2017). When applied to suicide research, specific forms of rumination have been investigated, including brooding rumination, reflection (or reflective rumination), anger rumination, deliberate rumination, intrusive rumination, and ruminative flooding (Buerke et al., 2025; Liu et al., 2023; Schuck et al., 2018).

In one study investigating later life suicidal behaviour, Buerke et al. (2025) reported that all forms of rumination were found to be related to depression, while brooding rumination and ruminative flooding were correlated to suicide risk, suicidal ideation, and ideation severity and attempts. Indeed, brooding rumination is the salient form of rumination in suicide research as it received substantial empirical support in terms of its association with suicide risk (Rogers et al., 2017; Abdollahi & Talib, 2015; O'Connor & Nock, 2014; Tucker et al., 2013; Miranda & Nolen-Hoeksema, 2007; O'Connor & Noyce, 2008; O'Connor et al., 2007). The meta-analysis of Rogers and Joiner (2017) also indicated that different forms of rumination may be differentially related to suicidal thoughts and attempts. While global rumination, brooding, and reflective rumination were consistently associated with suicidal ideation in the literature, only global and brooding

ruminations were related to attempts in a significant manner.

A number of potential moderators of the relationship between rumination and suicide risk have also been studied. Sleep quality, history of suicide attempt, hope and optimism were found to moderate the relationship between rumination and suicide risk, especially the association between brooding rumination and history of suicide attempts (Holdaway et al., 2018) and between brooding and reflective rumination and suicidal ideation (Tucker et al., 2013).

Ruminative flooding, defined as the severe cognitive inability to stop ruminative thoughts (Rogers et al., 2021), has also been widely studied. Ruminative flooding may be particularly strongly linked to suicidal risk because it may lead to feelings of hopelessness and entrapment in the context of a failed important life goal (Rogers et al., 2021). Indeed, several studies/reviews have confirmed that ruminative flooding is associated with suicide risk (Buerke et al., 2025; Holdaway et al., 2018; Schuck et al., 2018; Yaseen et al., 2010, 2012, 2014). Therefore, while existing evidence suggests that different ruminative processes are likely to be important psychological factors that increase the risk of suicide, the empirical studies contained in the present thesis will focus on ruminative flooding because, as mentioned above, recent evidence exhibited strong associations between ruminative flooding and suicide risk (Calati et al., 2022).

1.4.2.4 Goal Orientation

Goal orientation refers to two cognitive strategies, which comprise disengagement from unattainable goals and reengagement with more attainable goals (Rogers et al., 2021). Goal disengagement is likely to minimise ongoing feelings of failure regarding an impossible goal and free up cognitive resources to focus on a new attainable goal (i.e., goal reengagement). Goal disengagement and subsequent reengagement are thought to contribute to greater life satisfaction, life quality and well-being (Rogers et al., 2021). There is considerable evidence in the literature that achievement motivation (broadly, the drive to succeed and overcome challenges) depends on the goals that individuals bring to the achievement context, as the goals create a social-cognitive framework in which individuals interpret and react to external events (Grant & Dweck, 2003; Wrosch & Scheier, 2003; Dweck & Leggett, 1988).

In the social-cognitive context, motivation and goals have also been linked to self-regulation

strategies, and consequently, to ego depletion and willpower (O'Connor et al., 2009; Baumeister et al., 2018). According to goal adjustment theory, an adaptive response to an unattainable goal is goal adjustment, which consists of disengagement from the unattainable goal and reengagement in alternative attainable goals (Kappes & Greeve, 2024; Mens et al., 2015; Wrosch et al., 2003a). In other words, the tendency for goal disengagement refers to the ability to withdraw effort and commitment from unattainable goals, while goal reengagement refers to having tendency to identify, commit to, and pursue other new attainable goals (Dunne et al., 2011).

The relationship between goal orientation strategies (i.e. goal reengagement and goal disengagement) and suicide risk has been investigated from empirical and theoretical perspectives as the emotional discomfort arising from poor attainment of goals may lead to feelings of defeat, being a burden on others, humiliation, and incapability of belonging (Bloch-Elkouby et al., 2024; O'Connor & Kirtley; 2018; O'Connor et al., 2009). Indeed, both goal orientation strategies have been found to be related to suicide risk (Dhingra et al., 2016; O'Connor et al., 2009). In one study low levels of goal reengagement were found to predict suicide ideation when accompanied by high levels of goal disengagement (O'Connor et al., 2009), while another study found that goal reengagement was positively associated with suicidal ideation while goal disengagement was negatively associated suicidal ideation (Dhingra et al. 2016). On the other hand, Cohen et al. (2019) reported that while goal adjustment strategies were associated with feelings of defeat and humiliation, they were not significantly associated with the acute, high risk, suicide crisis syndrome.

1.4.2.5 Thwarted Belongingness and Perceived Burdensomeness

Two key constructs from The Interpersonal Theory of Suicide, thwarted belongingness and perceived burdensomeness, have been the subject of a substantial body of research which suggests they are likely to contribute to the development of suicidal ideation (Van Orden et al., 2010). Thwarted belongingness refers to a sense of loneliness accompanied by the tendency for social isolation, while perceived burdensomeness is a cognitive belief of being a liability to others coupled with self-hatred (Van Orden et al., 2010). A recent meta-analysis demonstrated that thwarted belongingness and perceived burdensomeness are associated with suicide risk (Chu et al., 2017).

Furthermore, there is also evidence that thwarted belongingness has a mediating role between stress and suicidal ideation (Glenn et al., 2022), while another systematic review reported that perceived burdensomeness was related to suicidal ideation and attempts and also has mediating and moderating roles between suicide-related risk and protective factors and suicide-related outcomes (Hill & Pettit, 2014). However, other studies have failed to find evidence that thwarted belongingness, and perceived burdensomeness moderate the association between entrapment and suicidal ideation (Forkmann & Teismann, 2017) and that only thwarted belongingness is significantly correlated to suicide index scores among veterans (O'Connor et al., 2017).

1.4.2.6 Defeat

Defeat refers to a perceived sense of failed struggle, such as loss of social status (Rasmussen et al., 2024). Understanding the relationship between feelings of defeat and suicide risk has garnered significant attention, in part due to the inclusion of defeat within contemporary theoretical frameworks such as the IMV model (O'Connor & Kirtley, 2018) and Arrested Flight Model (Williams, 2001). Defeat, as studied in the suicide field, can refer to defeat (e.g., failed struggles in life), mental defeat (e.g., hopelessness after a traumatic event), and social defeat (e.g., failed interpersonal struggles) (Themelis et al., 2023; Cohen et al., 2018; O'Connor & Kirtley, 2018).

Empirical evidence has consistently demonstrated a significant association between defeat and increased suicide risk (Rasmussen et al., 2024; Rogerson et al., 2024; Souza et al., 2024; Moscardini et al., 2022; Rasmussen et al., 2010; O'Connor et al., 2020; Branley-Bell et al., 2019; Taylor et al., 2011), as well as between defeat and a wide range of other psychological factors that contribute to suicide risk including internal/external entrapment, perfectionism, rumination, loneliness, coping, self-judgement and isolation, nightmares, insomnia, stress, impulsivity, negative social comparison, rejection sensitivity, thwarted belongingness, coping strain, workplace bullying, sexual abuse, attachment anxiety and avoidance, and childhood trauma (Rogerson et al., 2024; Souza et al., 2024; O'Connor et al., 2020; Branley-Bell et al., 2019).

1.4.2.7 Entrapment

Entrapment is a key psychological construct found within several theories of suicide and refers to the subjective belief that a person is unable to escape from stressful, humiliating, or defeating circumstances. The experience of those who feel trapped may therefore reflect tunnel vision, where they feel they have no control over their circumstances and where thoughts of suicide may emerge as the only viable solution to their circumstances (Rasmussen et al., 2023; Wang et al., 2023; O'Connor & Kirtley, 2018; Li et al., 2018; Galynker, 2017; Klonsky and May 2015; Williams, 2001). Entrapment may refer to internal entrapment, where one feels motivated to escape from internal thoughts and feelings, or external entrapment where one feels motivated to escape from other people or external situations (De Beurs et al., 2020).

A growing body of empirical research has demonstrated that higher levels of entrapment are associated with increasing suicide risk across diverse populations (Taylor et al., 2011). One meta-analytic study (Siddaway et al., 2015) found that entrapment is a robust predictor of suicidal ideation and behaviours and also confirmed the importance of studying both internal and external entrapment, with each independently contributing to suicide risk. Souza et al. (2024), in their major review, also provided evidence of a strong association between entrapment and suicide risk. Similarly, O'Connor and Portzky (2018) reported a robust association between entrapment and suicidality across diverse populations, which was confirmed by the abovementioned systematic review (Taylor et al., 2011) and meta-analysis (Siddaway et al., 2015). In addition, the O'Connor and Portzky (2018) paper also reported that entrapment predicted suicide risk independently of depression, hopelessness, and previous attempts in a prospective study.

Regarding the two types of entrapment, although studies have yielded varied findings (Rasmussen et al., 2010), most show that internal entrapment (i.e., feeling trapped by one's emotions and thoughts) is the stronger predictor of suicide risk than external entrapment (i.e., a sense of being trapped by external circumstances/life events) (O'Connor & Portzky, 2018).

Studies using qualitative approaches have also provided substantial insights into the lived experiences of individuals with high levels of entrapment. In one study, participants described a profound sense of external entrapment with no viable option to escape from the circumstances around them (O'Brien et al., 2021). In another study, narratives regarding internal entrapment were

more self-focused, while external entrapment related to conceptual factors such as relationships or work stress (Rasmussen et al., 2023). Additionally, Marzetti et al. (2022) defined queer entrapment as a sense of being trapped in a hostile environment shaped by cis-heteronormativity and queerphobia that leads to suicidal distress.

A number of studies have investigated entrapment as a mediator of the relationship between other risk factors and suicide risk. For example, Owen et al. (2018) reported that internal/total entrapment fully mediated the relationship between defeat and suicidal ideation among individuals with bipolar disorder. Likewise, another study reported a mediation effect of entrapment (alongside defeat) in the relationship between Post Traumatic Stress Disorder (PTSD) symptom severity and suicidal behaviour (Panagioti et al., 2013). However, the previously mentioned longitudinal study from Rasmussen et al. (2024) found no significant association between internal/external entrapment and suicidal intent when internal and external entrapment were mediators between chronotype (morning-eveningness) and suicidal intent among adults from the UK.

1.4.2.8 Childhood Trauma

Many studies have demonstrated the severe consequences and impact of early life adversity on physical and mental wellbeing in later life (Rogerson et al., 2023; Spínola et al., 2022; O'Connor et al., 2020). Exposure to childhood adversities (e.g., domestic violence, maltreatment, physical and/or sexual abuse, neglect, parental separation, imprisonment, substance misuse within the household, mental illness, suicidal behaviours) are experienced as stressful by children and can lead to emotional dysregulation, psychiatric comorbidities (Dvir et al., 2014), psychache (Spínola et al., 2022) as well as difficulties forming healthy attachment relationships during childhood and in adulthood (Dvir et al., 2014). Childhood trauma may occur when threatening events or experiences overwhelm someone's ability to cope. Potentially traumatic events may include being involved in an accident or being the victim of crime or a violent attack. At the same time recurring or repeated experiences such as emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect are often traumatic and the repeated experience, which may include those with a caring role, can have particularly severe emotional consequences (Bernstein & Fink, 1998).

Given the wide range of impacts of exposure to childhood adversity on mental health and wellbeing, emotion regulation and interpersonal relationships and functioning, it is unsurprising that a substantial body of research indicates that childhood adversity is strongly associated with increased suicide risk across the lifespan. For example, meta-analyses and prospective design studies indicate that childhood adversities and maltreatment increase the likelihood of suicidality, both during childhood and in later life, with complex abuse inducing the highest risk (Angelakis et al., 2019; Ng et al., 2018; Cluver et al., 2015) and that Adverse Childhood Experiences (ACEs) are associated with hospital treated repeat self-harm (Cleare et al., 2018). Attachment and interpersonal needs, executive functioning, impulsivity, cognitive bias, psychotic experiences, depression, perceived social support and psychache are among the psychological mediators which have been found to explain the relationship between childhood trauma and suicide risk (Rogerson et al., 2023; Ihme et al., 2022; Spínola et al., 2022; Gaweda et al., 2020; Bahk et al., 2017).

1.4.2.9 Self-Discrepancy

Self-discrepancy, from Self Discrepancy Theory, proposed by Higgins (1989), focuses on the relationships between different self-representations and their effects on emotional (subjective) experiences. The theory identifies three major domains of self: the *Actual Self* which represents the attributes that one or others believe they currently possess, the *Ideal Self* which represents the attributes that one hopes or aspires to achieve, and the *Ought Self* which represents the attributes that others believe one should possess based on obligations or duties (e.g., social norms imposed by society) (Hu et al., 2022).

Of particular relevance to the current thesis, the theory emphasises the emotional discomfort arising from the discrepancies between these three major domains, which fall into two categories (Philippot et al., 2018). The *Actual-Ideal Discrepancy* is associated with dejection-related emotions like disappointment, shame and sadness due to unmet aspirations or hopes (Hu et al., 2022; Higgins, 1989) while the *Actual-Ought Discrepancy* is associated with agitation-related emotions such as guilt and anxiety (Hu et al., 2022; Higgins, 1989). These self-discrepancies are assumed to function as cognitive structures that guide motivation and information processing (Boldero et al., 2005; Higgins, 1989), drawing attention to how individuals' socialisation histories influence the types of self-guides they prioritise and the emotional vulnerabilities they may experience (Merino et al., 2024). Therefore, self-discrepancy theory may provide a nuanced framework for

understanding how different versions of self-concept relate to emotional distress and well-being by emphasising the importance of synchronising self-representations to reduce emotional distress and discomfort (Oh et al., 2024).

Although self-discrepancies have received more limited attention in the suicide prevention field, a number of studies have demonstrated the potential relevance and value of further research into the role of self-discrepancies and suicide risk. For example, a recent meta-analysis demonstrated that self-discrepancies were associated with psychiatric disorders and psychopathology including depression, anxiety and eating disorders (Mason et al., 2019), while another study found that self-discrepancy was related to suicidal ideation through hopelessness and depressive symptoms (Cornette et al., 2009).

1.4.3 Summary of Psychological Factors

In summary, a wide range of psychological factors that include individual differences, cognitive processes, emotion regulation strategies, life events, and adversity can contribute to an increased suicide risk. The growing interest in psychological factors represents a welcome development because, historically, there has been an overreliance on the presence or severity of psychiatric disorder as the salient issue for understanding suicide risk. The focus on psychological factors has been accompanied by increasing interest in theoretical models of suicide (O'Connor & Nock, 2014), which have provided researchers and practitioners with much-needed frameworks and models to understand the complex and multifaceted nature of suicide. While literature reviews and evidence syntheses (including **Chapter 2** of this thesis) have identified a wide range of important factors (Souza et al., 2024), the psychological factors emphasised in this chapter and those which were a focus of studies in this thesis, were selected based on the existence of empirical support and theoretical relevance indicated by contemporary models of suicide (see **Section 1.3**). For example, several factors of the IMV model were chosen for further exploration (e.g., perfectionism, childhood trauma, defeat, fear of humiliation, entrapment) as one of the thesis aims is to investigate the IMV model, including its risk factors and pathways. The prioritisation of theoretically relevant factors means that a number of potentially important factors (e.g., sleep, bullying, other personality traits) have not been included among the targeted psychological/cognitive/emotional/social factors in this thesis.

1.5 Rationale for the Thesis

Although there has been significant progress in recent years in understanding the range of factors that contribute to suicide risk, current understanding of the specific pathways to suicide is more limited. In light of the substantial literature indicating the pernicious relationship between interpersonal psychological factors and suicide, this thesis aims to investigate the potentially problematic relationship between perfectionism (as one of the interpersonal psychological factors) and suicide risk, with a particular focus on the cognitive and emotional risk factors that may mediate or moderate this relationship. Recent work on perfectionism (Stoeber & Otto, 2006) has sought to incorporate multiple dimensions of perfectionism under two super-ordinate dimensions (i.e., perfectionistic concerns and perfectionistic strivings), a conceptualisation which holds considerable appeal as the combination allows for the differentiation of healthy and unhealthy perfectionism. While the existence of a relationship between perfectionism, psychopathology and suicide risk is well-established this thesis aimed to further clarify the pathways from perfectionism to suicide risk informed by contemporary models of suicide (i.e., the IMV model and N-CM) and utilising the super-ordinate dimensions of perfectionism. By employing the IMV model as a theoretical framework, this thesis seeks to elucidate the pathways through which perfectionism contributes to suicidal ideation. Specifically, the research will also explore key constructs such as childhood trauma, feelings of defeat, fear of humiliation, internal/external entrapment, ruminative flooding, goal adjustment, thwarted belongingness and perceived burdensomeness, since they are underlined in the IMV model. As stated earlier the IMV model was preferred over the N-CM as the overarching theoretical framework for the thesis because the IMV model is broadly applicable across the spectrum of suicidal risk. In contrast the N-CM was developed for use with those in crisis and at more imminent risk of suicide. The IMV model was therefore deemed the more appropriate framework for the studies in the current thesis which utilised cross-sectional designs and sought to enhance understanding of suicidal risk in community populations without a specific focus on those at imminent risk of suicide.

Through an in-depth examination of both internal (e.g., internal entrapment, ruminative flooding) and external (e.g., perfectionistic concerns, actual-ought discrepancy) factors, the study aims to identify critical psychological mechanisms driving the risk of suicide. Furthermore, it seeks to inform the development of tailored intervention and prevention strategies regarding suicide risk by highlighting the importance of reducing the detrimental effects of the risk factors. It is also hoped

that by exploring self-discrepancies and perfectionistic tendencies within the IMV model's framework, that the research will bridge the gaps in the existing literature.

Overall, this programme of research aspires to advance theoretical understanding and inform practical approaches for suicide prevention, particularly among individuals with heightened perfectionistic concerns and self-discrepancies. The findings should offer valuable insights for suicide researchers, policymakers, and clinicians dedicated to preventing suicide.

1.6 Aim of the Thesis

Based on the substantial evidence provided in the previous sections, this thesis aims to investigate the relationships between pre-motivational risk factors (i.e., perfectionism and childhood trauma) and suicide risk through the lens of the Integrated Motivational-Volitional Model of Suicide. It aims to systematically explore the moderators and mediators of perfectionism (as a pre-motivational risk factor) and the suicide risk relationship. Furthermore, by empirically testing the risk factors proposed in the IMV model, this research seeks to offer a more comprehensive understanding of suicide risk and contribute new empirical evidence to the IMV framework. Finally, by integrating Self-Discrepancy Theory within the IMV model's framework, this study aims to elucidate how different forms of cognitive appraisals are associated with suicidal ideation.

1.7 Research Questions and Structure

This thesis includes four studies, presenting a novel investigation of the pathways from perfectionistic tendencies to suicide risk. The first study is a systematic review of the existing empirical literature, identifying and synthesising the factors that help to explain the relationship between perfectionism and suicide risk (Chapter 2). The second and third studies are linked and draw on a cross-sectional design survey. The second study investigates the pathway from perfectionistic tendencies and childhood trauma to internal/external entrapment through feelings of defeat and humiliation within the IMV framework (Chapter 3). The third study seeks to advance understanding of the role of several factors in the motivational phase of IMV model's framework that contribute to suicidal risk such as fear of humiliation, defeat, internal/external entrapment, perceived burdensomeness, thwarted belongingness, and goal adjustment strategies (Chapter 4). The fourth and final study in this thesis utilises a further cross-sectional design survey to explore

the relationship between perfectionistic concerns, self-discrepancies and suicide ideation within the IMV model (Chapter 5). The reason for choosing cross-sectional designs rather than prospective designs (e.g., longitudinal and ecological momentary assessment) in these consecutive studies was the perceived limited time available during this PhD. The final chapter of this thesis (Chapter 6) provides a discussion of the findings from across the studies contained in the thesis, addressing their significance, limitations and wider implications for research, theory and practice.

The following research questions and hypotheses are addressed in the four studies.

- **Study 1 (Chapter 2)**

- Research Question 2.1: What factors explain the relationship between perfectionism and suicide risk?

- **Study 2 (Chapter 3)**

- Research Question 3.1. To what extent do perfectionism and childhood trauma predict internal/external entrapment?
- Research Question 3.2. To what extent does ruminative flooding moderate the relationship between fear of humiliation and internal/external entrapment?
- Research Question 3.3. To what extent does ruminative flooding moderate the relationship between defeat and internal/external entrapment?

- **Study 3 (Chapter 4):**

- Research Question 4.1. To what extent does internal/external entrapment predict suicide ideation?
- Research Question 4.2. To what extent do goal reengagement and goal disengagement moderate the relationship between internal/external entrapment and suicidal ideation?
- Research Question 4.3. To what extent do thwarted belongingness and perceived burdensomeness moderate the relationship between internal/external entrapment and suicide ideation?

- **Study 4 (Chapter 5):**
- Research Question 5.1. Is self-discrepancies or perfectionistic concerns a stronger predictor of defeat within the context of their relationship with entrapment?
- Research Question 5.2. Is the relationship between perfectionistic concerns or self-discrepancies (whichever was a stronger predictor of defeat) and suicidal ideation serially mediated by defeat and entrapment?

What Factors Explain the Relationship Between Perfectionism and Suicide Risk?: A Systematic Review

2.0 Abstract

Background and Aims: This systematic review examines the factors that influence the relationship between multidimensional perfectionism and suicide risk. Perfectionism, characterised by excessively high standards and critical self-evaluation, has been consistently linked to increased suicide risk. However, the specific reasons for this link are not fully understood.

Methods: This review analyses findings from studies that explore cognitive, emotional, coping, social, and life events factors that may either mediate or moderate the relationship between perfectionism and suicide risk by using narrative synthesis technique.

Results: The review included 41 studies derived from nine different databases (EBSCOHost; Child Development and Adolescent Studies, CINAHL, Health Source: Nursing/Academic Edition, MEDLINE, APA PsycArticles, Psychology and Behavioural Sciences Collection, APA PsycINFO, and via OVID; PubMed/ MEDLINE), encompassing quantitative (8 longitudinal and 31 cross-sectional) and qualitative methodologies and a variety of populations. It identified 41 mediators and 20 moderators which appear to serve as pathways linking perfectionism to suicidal thoughts and behaviours or which may either worsen or mitigate the impact of aspects of perfectionism on suicide risk.

Conclusion: The findings suggest that interventions targeting these transdiagnostic mediator and moderator factors could offer promise in reducing suicide risk among individuals with high levels

of perfectionism.

2.1 Introduction

Suicide is a global public health problem, with the World Health Organisation declaring suicide prevention to be a high-priority objective (WHO, 2014). According to the WHO's latest data, suicide is the fourth-leading cause of death among 15–29-year-olds (WHO, 2021). Suicide and self-harm are complex phenomena affected by biological, clinical, psychological, social, cultural, risk and protective factors (O'Connor & Kirtley, 2018) and do not only occur in the context of a mental disorder (Zeifman et al., 2020; Judd, Jackson, Komiti, Bell, & Fraser, 2012). The pathways to suicide can span a lifetime (O'Connor, 2011). A prior suicide attempt, the presence of a mental disorder and experiencing conflict, disaster, violence, abuse, loss, a sense of isolation (such as perceived loneliness or lack of social support), impulsivity in moments of crisis, life stresses (such as financial problems, relationship break-up, racism and discrimination, or chronic pain and illness), and feelings of defeat, humiliation, hopelessness, and entrapment are just some of the factors that may precipitate suicidal behaviour (WHO, 2021, O'Connor & Kirtley, 2018). Alongside the presence of mental disorders, researchers increasingly focus on transdiagnostic risk factors for suicide and self-harm, such as perfectionism (Zeifman, Antony & Kuo, 2020; Smith, Sherry, Chen, Saklofske, Mushquash, Flett & Hewitt, 2018; Galynker, 2017; O'Connor, 2011; Eagan, Wade, Shafran, 2011).

2.1.1 Perfectionism and Suicide Risk

Perfectionism is defined as a personality disposition that leads one to strive for flawlessness, and to set exceedingly high standards of performance accompanied by overly critical self-evaluations and concerns about what others think of them (Stoeber, 2018). Perfectionism and its pernicious relationship with psychopathology is well established (Limburg, Watson, Hagger & Egan, 2017), including its link to ruminative style thoughts (rumination), and worry (Senra, Merino & Ferreira, 2017; Flett, Nepon & Hewitt, 2016; Hill, Huelsman & Araujo, 2010), avoidant coping (Dunn, Whelton & Sharpe, 2006), emotional strain (Ozbilir, Day & Catano, 2015), psychological distress, depression (Mehr & Adams, 2016; Aldea & Rice, 2006), interpersonal complications, sensitivity to rejection, and social isolation (Magson, Oar, Fardouly, Johnco & Rapee, 2019). However, less is known about the relationship between perfectionism and suicide risk (Zeifman et al., 2020; Smith

et al., 2018). Several theories and models have sought to clarify the nature of this relationship, including Baumeister's Escape Theory of Suicide (1990), Hewitt and Flett's (2002) Stress-diathesis Model of Perfectionism and Hewitt et al.'s (2006) Perfectionism Social Disconnection Model (Hewitt, Flett, Sherry, Caelian, 2006), with each proposing that suicide risk increases, with increasing perfectionistic concerns. Contemporary suicide-specific theories, such as the Integrated Motivational-Volitional Model (IMV) (O'Connor, 2011; O'Connor & Kirtley, 2018) and the Narrative-Crisis Model (N-CM) of Suicide (Galynker, 2017) also consider perfectionism to be a vulnerability factor for suicide.

Previous systematic reviews have documented the relationship between perfectionism and suicide risk. In 2007, O'Connor concluded that growing correlational evidence links specific aspects of perfectionism (especially socially prescribed perfectionism i.e., concerns about others' evaluations of oneself) to suicidality (suicidal ideation and suicidal behaviour) (O'Connor, 2007). Johnson et al.'s (2011) review adopted a resilience perspective to suicidality and concluded there was strong evidence that perfectionism and its subdimensions moderated (i.e. amplified) the risk of suicide in response to stressors. Hewitt et al.'s (1991) review also concluded that perfectionism styles, specifically self-oriented (related to setting standards for oneself) and socially prescribed perfectionism, had critical roles in terms of increasing vulnerability to suicide. In a more recent review, Flett et al. (2014) reported that self-oriented and socially prescribed perfectionism acted as moderators that amplified the impact of life stress on suicide risk (Flett, Hewitt & Heisel, 2014; Johnson, Wood, Goodling, Taylor, Tarrier, 2011; Hewitt & Flett, 1991). Accumulating evidence from several other systematic reviews and meta-analyses also point towards the critical role of socially prescribed perfectionism (or perfectionistic concerns) in the relationship between perfectionism, suicide risk and psychopathology (Limburg et al., 2017; Smith, Sherry, Chen, Saklofske, Mushquash, Flett & Hewitt, 2017; Smith, Vidovic, Sherry, Saklofske, 2017; Flett, Hewitt, Heisel, 2014).

While there is consistent evidence that perfectionistic beliefs are directly or indirectly associated with suicidal thoughts and behaviours (Chang et al., 2019; O'Connor & Kirtley, 2018; Johnson et al., 2011; Adkins & Parker, 1996; Dean, Range & Goggin, 1996; Hewitt & Flett, 1991), key gaps remain in our understanding of this relationship (Zeifman et al., 2020; Smith et al., 2018; Flett, Hewitt & Heisel, 2014). These include a tendency for studies to be conducted among university students, limiting the extent to which findings can be generalised to clinical populations or other members of the community (Zeifman et al., 2020). Furthermore, although systematic reviews have

identified a range of associations between perfectionism and suicide risk based on different hypotheses and operationalisations of perfectionism, a comprehensive search and synthesis of the relevant literature on the pathways linking perfectionism and suicide risk has not been undertaken. Specifically, it is unclear what mechanisms may explain (i.e. ‘mediate’) the relationship between the aspects of perfectionism and suicide risk, nor is it clear the conditions under which the relationship is strengthened or weakened (i.e. ‘moderate’) (Hewitt et al., 2014). Substantial progress could be made through an enhanced understanding of the factors that can help to explain the nature of the relationship between perfectionism and suicide risk. In this systematic review, we aimed to undertake a comprehensive search and synthesis of the available research investigating factors which mediate and/or moderate the relationship between all of the previously defined aspects of perfectionism and suicide risk. As mentioned in **Chapter 1** and in the introduction to this chapter, perfectionism has different dimensions and operationalisation approaches in the literature. This has led to confusion in understanding and examining the relationship between perfectionistic tendencies and psychopathology. This study, therefore, aims to highlight the complexity of perfectionism in suicide research by critiquing the different dimensions, terminologies, and operationalisations in the context of suicide research.

2.2 Materials and Methods

Systematic searches of nine research databases (via EBSCOHost; Child Development and Adolescent Studies, CINAHL, Health Source: Nursing/Academic Edition, MEDLINE, APA PsycArticles, Psychology and Behavioral Sciences Collection, APA PsycINFO, and via OVID; PubMed/ MEDLINE) were carried out to identify relevant, peer-reviewed articles using the search syntax: [“perfecti*” AND “suicid*”]. The initial search was undertaken in January 2021 with the final search completed in October 2024. This systematic review utilised Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page, McKenzie, Bossuyt, Boutron, Hoffmann, Mulrow et al., 2020).

2.2.1 Study Selection

Quantitative peer-reviewed studies, written in the English language, that specifically investigated mediator or moderator factors in the relationship between perfectionism and suicide risk, as well as qualitative studies that describe the strength of relationships or offer potentially mechanistic

explanations, were included. There were no limitations placed on study year, design or population. Studies investigating deaths by suicide, suicide attempts, suicidal ideation, and self-harm (including suicidal or non-suicidal self-injurious acts) were included. Overeating, body piercing, tattooing, excessive alcohol consumption or recreational drugs, starvation arising from anorexia, bulimia nervosa, refusing food or accidental self-harm were excluded from the self-harm category. Full eligibility criteria are reported in the study protocol (<https://www.crd.york.ac.uk/PROSPERO/view/CRD42021225855>). After the initial database search, screening of titles and abstracts took place against the inclusion criteria, after which 82 articles remained for full-text retrieval. All full-text articles were successfully retrieved, read and full eligibility criteria were applied. Regarding the reliability of the initial screening, a sample of ten full-text articles (12%) were independently assessed by a second reviewer using the inclusion/exclusion criteria, with consensus achieved for all ten.

2.2.2 Quality Assessment

Quality assessment scores were reported and recorded using an 8-item tool modelled on O'Connor, Ferguson, Green, O'Carroll, and O'Connor (2016). The tool prompts the user to assess and allocate scores based on study design, a priori power analysis, reported statistical power, suicide risk assessment, measurement of perfectionism, measurements of mediator/moderator variables, confounding variables, and generalisability of the results. The assessment tool yields a potential range of scores from 0 to 11 (O'Connor et al., 2016). All of the included studies were quality assessed by the first author, with a sample of 11 (31%) independently assessed by a second reviewer to ensure inter-rater reliability. Initial disagreement over three articles (27%) was resolved through discussions and 100% agreement was achieved.

2.2.3 Data Extraction and Synthesis

Due to the heterogeneity of the included research, which reported on various suicide risk, perfectionism and mediator and moderator factors, meta-analysis was not appropriate (Cumpston et al., 2019). The present study followed Campbell et al.'s recommendations on synthesis without meta-analysis in systematic reviews (Campbell, McKenzie, Sowden, Katikireddi, Brennan, Ellis, Hartmann-Boyce, Ryan, Shepperd, Thomas, Welch & Thomson, 2020). A standard set of items was extracted from each study: author name, year of publication, title, journal, country of research,

study design, data collection method, sample characteristics, suicide-related outcome, measure of perfectionism and mediator and moderator factors. Key findings pertaining to mediation and/or moderation effects of the relationship between perfectionism and suicide risk were extracted. The synthesis presents findings for mediator and moderator factors separately, and according to features of the study design and suicide risk outcomes. Anticipating a wide range of potential mediator and moderator factors in this research, these were categorised into groups of related mediator or moderator factors. In the results section, each study included in the narrative synthesis was allocated a study number (see Appendix 2.A, **Table 2.1**).

2.3 Results

The database search generated 8,217 potential records. Following de-duplication, a total of 5,738 records were screened. Forty-one studies in total were included in the final narrative synthesis. **Figure 2.1** provides a detailed overview of the search and selection process.

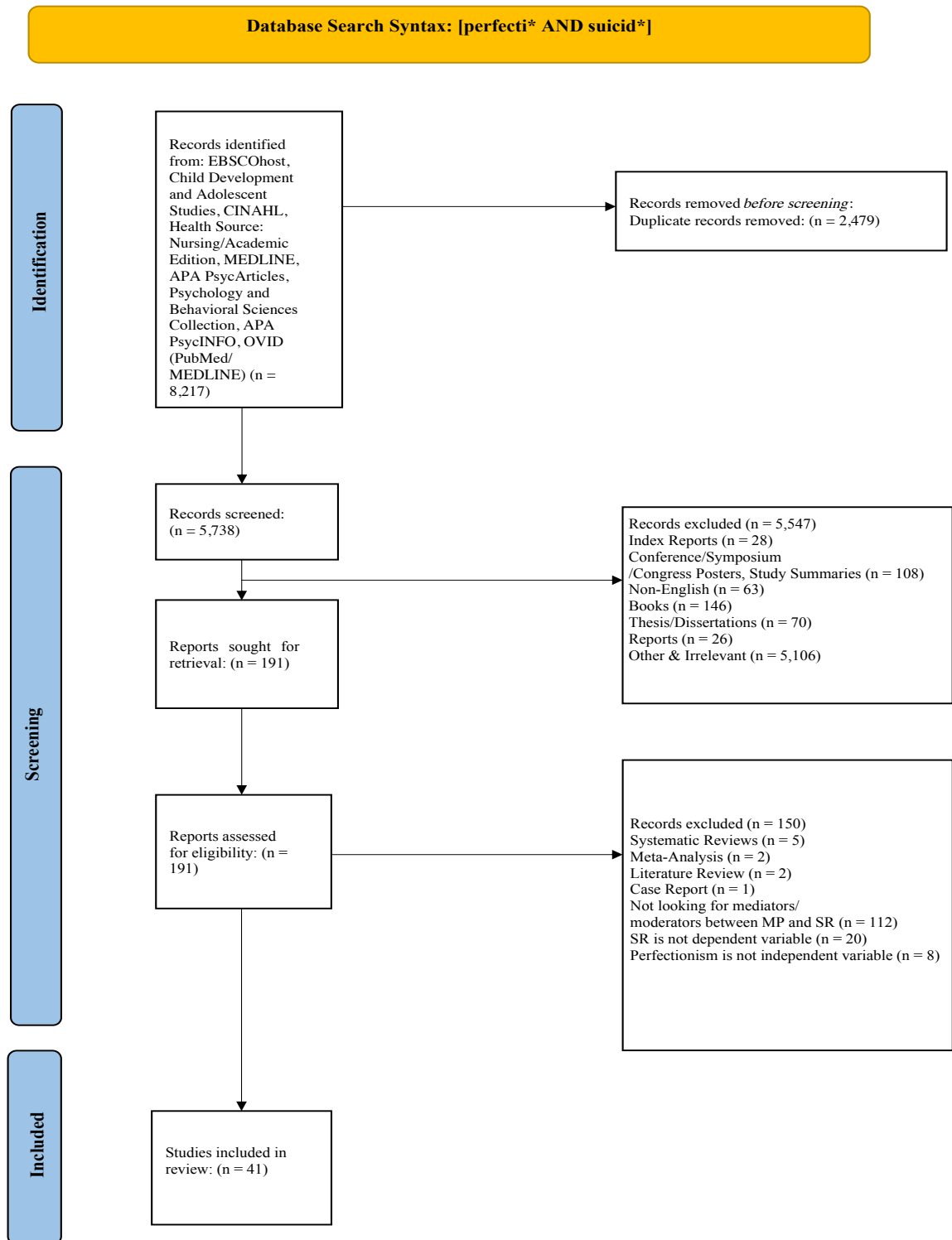


Figure 2.1. MP = multidimensional perfectionism, SR = suicide risk. Flow diagram for systematic reviews recommended in Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n7

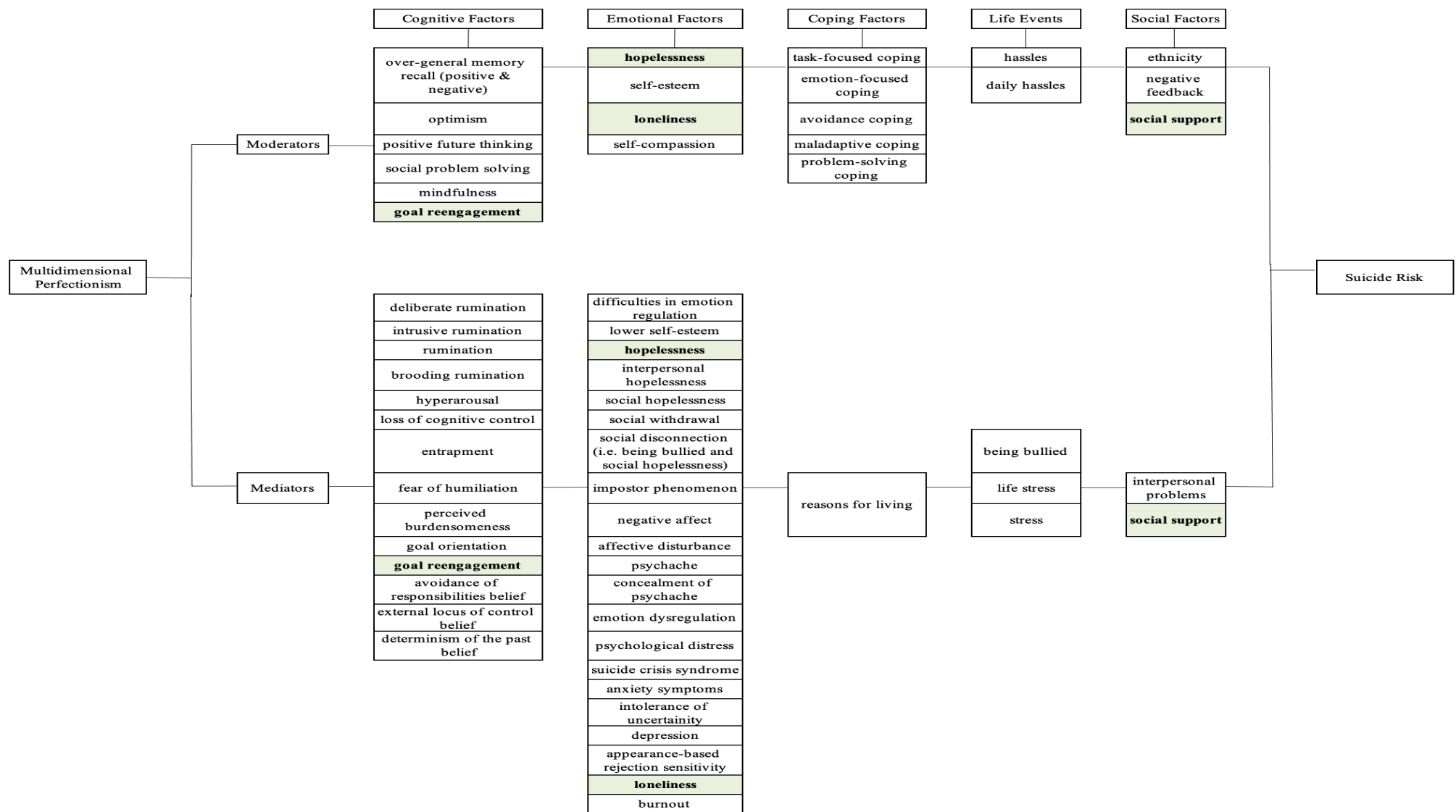


Figure 2.2. Significant mediator and moderator factors and categorisations in the relationship between perfectionism and suicide risk. Highlighted factors were found as both mediators and moderators.

2.3.1 Study Design

This review included eight longitudinal studies, one psychological autopsy, one community-based ethnographic study, and thirty-one cross-sectional studies. Except for the psychological autopsy and the ethnographic studies ($n = 2$), all studies were quantitative.

2.3.2 Demographics

Included articles reported findings based on 16,508 participants. Just over one third (37%) were male, and the vast majority were university students (54%) or adolescents (28%), with one in ten (10%) drawn from psychiatric patient populations. Most participants were from China (33%) or the USA (21%), with 8% from Spain, 6% from the UK, Australia, and Canada (6%). The remaining participants were from Iran, Korea, Turkey, Netherlands, Norway, Mexico, Israel and Portugal (all <5%).

2.3.3. Quality Assessment

The results of the quality assessment ratings are presented in **Table 2.S1** (Appendix 2.B). Scores ranged from 4 (lowest) to 9 (highest). The ratings for longitudinal studies were generally higher than for cross-sectional studies. Approximately 50% of the papers were found to have weaknesses such as unreported or low statistical power. Based on the overall scores, 58% of the papers were rated as medium quality, with the remaining papers rated as high and excellent quality. There was no discernible pattern of findings as a function of quality of study.

2.3.4 Factor Categories

The included studies investigated 41 mediator and 20 moderator factors. These factors represented five categories: cognitive, emotional, coping, life event and social factors (**Figures 2.2 and 2.3**). A summary of study characteristics and key findings for potential mediators and moderators of perfectionism and suicide risk can be found in **Table 2.1** that also includes a study-specific identifier (numbers 1-41) which will be referred to in the narrative synthesis.

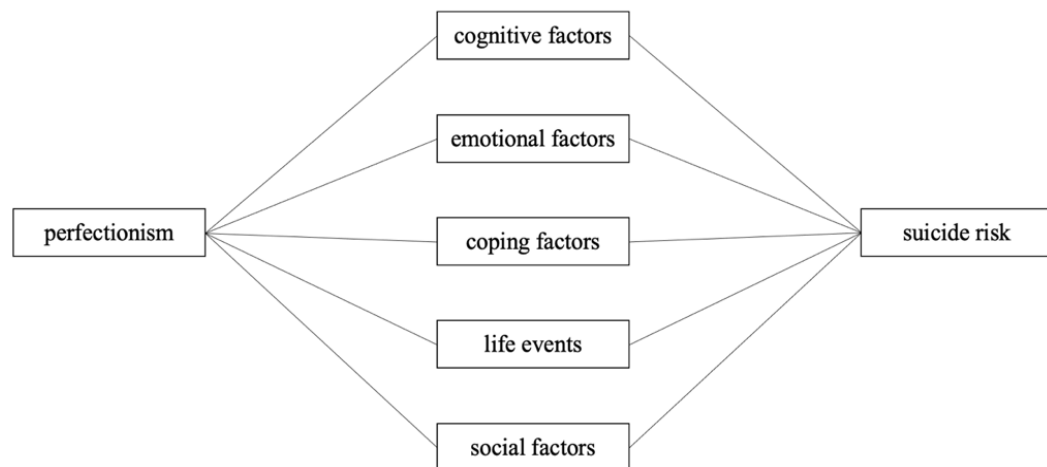


Figure 2.3. Mediator and moderator factors' categories displayed as five different groups of factors labelled cognitive factors, emotional factors, coping factors, life events and social factors.

2.3.5 Potential Mediators of the Relationship Between Perfectionism and Suicide Risk

The present review included 41 studies that investigated mediators of the perfectionism and suicide risk relationship.

2.3.5.1 Cross-Sectional Studies

Twenty-two of the 41 studies were cross-sectional in design (see **Table 2.1**). These studies involved 8,655 participants overall from clinical (491 participants), community (1,358 participants), and student samples (6,806 participants). The majority of participants were female ($\approx 65\%$) and from the USA (36%), Canada (13%), China, Australia, and the UK (9% from each country), as well as from Iran, Portugal, Israel, Mexico, and Korea ($<5\%$ for each).

2.3.5.2 Potential Mediators Investigated regarding Perfectionism and Self-Harm Relationship

Four cross-sectional studies investigated lower self-esteem, experiential avoidance, rumination, negative affect, and psychological distress in the relationship between perfectionism and self-harm (Duncan-Plummer et al., 2023; Tonta et al., 2022; Gu, Hu & Wang, 2022; Chester, Merwin, DeWall, 2015), three of which used university student samples (Duncan-Plummer et al., 2023; Tonta et al., 2022; Chester, Merwin, DeWall, 2015). Two of these studies found that negative affect mediated the relationship between maladaptive perfectionism and self-harm (Chester, Merwin, DeWall, 2015) as well as between overall perfectionism and non-suicidal self-injury (NSSI) (Duncan-Plummer et al., 2023). Additionally, psychological distress (Gu, Hu & Wang, 2022), rumination (Tonta et al., 2022) and lower self-esteem (Duncan-Plummer et al., 2023) also mediated the relationships involving overall perfectionism (Tonta et al., 2022), maladaptive perfectionism (Gu, Hu & Wang, 2022), clinical perfectionism (Duncan-Plummer et al., 2023) and non-suicidal self-injury (NSSI) (Tonta et al., 2022; Gu, Hu & Wang, 2022; Duncan-Plummer et al., 2023). In addition, Gu, Hu & Wang (2022) also reported that the mediation effect of psychological distress in the relationship between maladaptive perfectionism and NSSI, was moderated by mindfulness among adolescents from China. Duncan-Plummer et al. (2023) also found that experiential avoidance was not a significant mediator in the relationship between clinical perfectionism and NSSI.

2.3.5.3 Potential Mediators between Perfectionism and Suicidal Ideation

In sixteen cross-sectional studies, researchers investigated a range of potential mediators between specific aspects of perfectionism and suicidal thoughts. The following factors, which are described below, were found to mediate the perfectionism and suicide ideation relationship: psychological distress (Oskouei et al., 2024), difficulties in emotion regulation (Brás et al., 2024), appearance-based rejection sensitivity (Zhao et al., 2024), loneliness (Zhao et al., 2024), burnout (Kleinhendler-Lustig et al., 2023), depression (Kleinhendler-Lustig et al., 2023; Dean & Range; 1999), avoidance of responsibilities belief (Rosas-Fuentes et al., 2023), external locus of control belief (Rosas-Fuentes et al., 2023), determinism of the past belief (Rosas-Fuentes et al., 2023), life stress (You, Kwon & Kim, 2022), interpersonal hopelessness (Robinson, et al., 2021), impostor phenomenon (Brennan-Wydra et al., 2021), emotion dysregulation (Zeifman, Antony, Kuo, 2020), social support (D'Agata & Holden, 2018), concealment of psychache (D'Agata & Holden, 2018), suicide crisis syndrome (SCS) (Cohen et al., 2018), perceived burdensomeness (Rasmussen et al., 2012), goal reengagement (O'Connor & Forgan, 2007), psychache (Flamenbaum & Holden; 2007), stress (Chang et al., 2004), reasons for living (Dean & Range; 1999), hopelessness (Dean & Range; 1999).

Specific to the maladaptive perfectionism and suicide ideation relationship, several studies reported significant findings (Brás et al., 2024; You, Kwon & Kim, 2022; Brennan-Wydra et al., 2021; Chang et al., 2004), such as the mediation effect of difficulties in emotion regulation in this relationship among young adults from Portugal (Brás et al., 2024). In a study, the mediation effect of life stress between maladaptive perfectionism and suicidal ideation was stronger in a college student group with lower levels of self-compassion compared to the group with higher levels of self-compassion. This indicates a moderated mediation effect, where self-compassion appears to influence how life stress mediates the relationship between maladaptive perfectionism and suicide ideation in a student sample from Korea (You, Kwon & Kim, 2022). In another

student sample from the USA, impostor phenomenon significantly mediated the same relationship between maladaptive perfectionism and suicidal ideation (Brennan-Wydra et al., 2021). A further study from the USA found that stress significantly mediated the relationship between maladaptive perfectionism and suicidal ideation among black female students, while it partially mediated the same relationship in white female student group (Chang et al., 2004).

In a community sample from the USA, social support mediated the relationship between nondisclosure of imperfection (an aspect of perfectionistic self-presentation) and suicidal ideation, while concealment of psychache mediated the relationship between self-concealment/perfectionistic self-presentation (nondisplay of imperfection, nondisclosure of imperfection) and suicide ideation (D'Agata & Holden, 2018). Furthermore, this relationship between perfectionistic self-presentation and suicide ideation was also explored in a study conducted with a similar community sample from the USA; this research revealed that interpersonal hopelessness (unmet social needs and feeling disconnected) explained the associations between socially prescribed perfectionism, self-oriented perfectionism, and perfectionistic self-presentations with suicide ideation. In contrast, general hopelessness did not mediate the same relationships (Robinson, et al., 2021).

Two studies with university students in the UK found that goal reengagement and perceived burdensomeness were significant mediators of the relationship between perfectionism and suicide ideation (Rasmussen et al., 2012; O'Connor & Forgan, 2007). In the first of these studies (O'Connor & Forgan, 2007), goal reengagement partially mediated the relationship between socially prescribed perfectionism and suicidal thinking, whereas perceived burdensomeness was found to mediate the relationship between maladaptive perfectionism and suicide ideation (Rasmussen et al., 2012).

Another study of university students from Canada found that psychache fully mediated the link between socially prescribed perfectionism and suicidality (SI) (Flamenbaum & Holden, 2007). In one other study conducted with a student sample from Canada, emotion dysregulation

mediated the relationship between both dimensions of perfectionism (perfectionistic concerns and strivings) and suicide ideation (Zeifman, Antony, Kuo, 2020).

Not surprisingly, depression was found to be a significant mediator in two studies (Kleinhendler-Lustig et al., 2023; Dean & Range; 1999). One of these studies, which was conducted among physicians from Israel, comparing pre-COVID-19 vs. during COVID-19, there was evidence of a link between maladaptive perfectionism and suicidal ideation, serially mediated via burnout and depression in the “during COVID-19” data (Kleinhendler-Lustig et al., 2023). However, this model was not significant in the “pre-COVID-19” data. So, the “time” variable served as a moderator (Kleinhendler-Lustig et al., 2023). In a clinical sample in the USA, path analysis revealed significant paths between socially prescribed perfectionism and suicidal ideation through depression, hopelessness and reasons for living (Dean & Range; 1999). One other study with a clinical sample from the USA, reported that suicide crisis syndrome mediated the relationship between trait perfectionism and suicide ideation (Cohen et al., 2018).

More recent literature that explored this association reported new findings. One study from Iran (2024) (Oskouei et al., 2024), with medical residents reported that psychological distress (depression, anxiety and stress) fully mediated the relationship between overall perfectionism and suicidal ideation (Oskouei et al., 2024). Another recent study of psychology students from Mexico (Rosas-Fuentes et al., 2023) found a path from perfectionism to suicidal ideation through avoidance of responsibilities belief, external locus of control belief and determinism of the past belief. Loneliness and appearance-based rejection sensitivity were additional mediators which were also shown to serially mediate the relationship between both dimensions of perfectionism (socially prescribed and self-oriented) and suicidal ideation in a sample of Chinese university students (Zhao et al., 2024).

2.3.5.4 Potential Mediators between Perfectionism and Suicidal Behaviour

Three cross-sectional studies investigated potential mediators of the perfectionism and suicidal behaviours (attempts) relationship (Cohen et al., 2018; Roxborough et al., 2012; Dean & Range, 1996). Significant mediators of this relationship included suicide crisis syndrome, being-bullied and social hopelessness (consistent with the perfectionism social disconnection model) in clinical samples (Cohen et al., 2018; Roxborough et al., 2012) and reasons for living in a college student sample (Dean & Range, 1996). Specifically, one of these studies (Cohen et al., 2018) tested the relationship between trait perfectionism and lifetime suicidal behaviour in a clinical sample, finding that suicide crisis syndrome fully mediated the relationship. Another study (Roxborough et al., 2012) reported that the relationships between perfectionistic self-promotion, nondisclosure of imperfection, and potential suicide attempts were fully mediated by social hopelessness in children and adolescent outpatients as perfectionistic youth felt more isolated and disconnected. Additionally, the same study (Roxborough et al., 2012) found that being bullied fully mediated the relationship between nondisplay of imperfections and future suicide attempt, and partially mediated relationships between perfectionistic self-presentations (nondisplay of imperfections, nondisclosure of imperfections, perfectionistic self-promotion) and suicide risk (anxious-impulsive depression, suicidal ideation and acts, and family distress). In a study of college students from the USA (Dean & Range, 1996), utilising a path analysis, there was evidence of a significant path between socially prescribed perfectionism and suicidal behaviours through reasons for living.

One psychological autopsy study using a qualitative approach investigated the relationship between perfectionism and suicide death. In this study, it was proposed that fear of failure, keeping up the perfect façade, and rigidity may support the link between perfectionistic tendencies and suicide (Kimanesh et al., 2014). Another qualitative study (Peterson and Smith-Morris, 2024) underscored the importance of parental expectations, high standards, social

isolation, academic expectations, material success imposed by society, and stigmatisation of mental health issues in suicide risk since they might trigger suicide risk by creating a discrepancy between individual's standards and others' expectations. As the proposed mediational models in these studies represent a post hoc account of the interview findings, these pathways were not formally tested.

2.3.5.5 Longitudinal Studies

Seven of the forty-one studies investigated potential mediators of the perfectionism and suicide risk relationship, prospectively. These studies involved 5,310 participants in total, consisting of adolescents (3,594), university students (1,217), adult psychiatric inpatients and outpatients (680). The majority (58%) of participants were female. Study participants were from China (80%), the USA (33%), and the UK (7%). Five of the seven studies reported statistically significant mediators regarding the relationship between different aspects of perfectionism and later suicide risk (Liu et al., 2023; Zhou et al., 2023; Bloch-Elkouby et al., 2020; Pia et al., 2020; O'Connor, O'Connor, Marshall, 2007).

2.3.5.6 Potential Mediators Investigated Prospectively

To elaborate, three of these longitudinal studies investigated mediators of perfectionism and suicide-related outcomes in psychiatric samples from racially diverse backgrounds in the USA (Bloch-Elkouby et al., 2020; Pia et al., 2020). Over a period of one month, one study (Pia et al., 2020) assessed suicidality at two time points and found the factors that comprise the suicide crisis syndrome (SCS: entrapment, affective disturbance, loss of cognitive control, hyperarousal, social withdrawal) and fear of humiliation serially mediated the relationship between socially prescribed perfectionism and suicidal thoughts and behaviours in a psychiatric inpatient/outpatient sample from the USA. However, mediation was only significant when suicide crisis syndrome and fear of humiliation were both present (Pia et al., 2020). Another

study with psychiatric inpatients, conducted over a two-year period (Bloch-Elkouby et al., 2020), showed that interpersonal problems and suicide crisis syndrome but not goal orientation mediated the relationship between self-oriented perfectionism and suicidal thoughts and behaviours at intake. However, inclusion of a direct path between goal orientation and prospective suicide attempts indicated that there was a significant path between self-oriented perfectionism and prospective suicide attempts via goal orientation (Bloch-Elkouby et al., 2020).

The remaining three longitudinal studies (Liu et al., 2023; Zhou et al., 2023; O'Connor, O'Connor, Marshall, 2007) reported tests of mediating effects in school and university samples. One study of Chinese college students (Liu et al., 2023) found that intrusive rumination (positively associated with negative perfectionism and negatively associated with positive perfectionism), deliberate rumination (only associated with positive perfectionism), and depression serially mediated the relationship between both dimensions of perfectionism (i.e., positive and negative perfectionism) and suicidal ideation over a period of 6 months in Chinese college students (Liu et al., 2023). Zhou et al. (2023) also conducted a two-wave study over six months period and found that intolerance of uncertainty and anxiety symptoms partially mediated the relationship between negative perfectionism and suicidal ideation among Chinese adolescent school pupils. Another prospective study from the UK (O'Connor, O'Connor, Marshall, 2007), found that brooding rumination partially mediated the relationship between socially prescribed perfectionism and suicidal ideation while it fully mediated the relationship between self-oriented perfectionism and suicidal ideation, over an 8-week period in a sample of university students.

Regarding the non-significant mediators in the prospective studies, Etherson et al. (2022) reported non-significant mediating effects of mattering (“the feeling of others depending on us, are interested in us, concerned with our fate, or see us as an extension of their ego”) and anti-mattering between perfectionism (socially prescribed and self-oriented) and suicide ideation among UK university students over a 6-week period. The last of the seven longitudinal studies explored whether hopelessness mediated the relationship between maladaptive perfectionism and

suicidal ideation among psychiatric inpatients over 6 months, but the path analysis produced a poor model fit and there was no evidence of mediation (Beevers & Ivan, 2004).

2.3.6 Potential Moderators of the Relationship Between Perfectionism and Suicide Risk

2.3.6.1 Cross-Sectional and Longitudinal Studies

The present review included 16 studies that investigated moderators of the perfectionism and suicide risk relationship, thirteen of which had a cross-sectional design, and one had a longitudinal design. The studies included 5,937 participants in total, the majority of whom ($\approx 66\%$) were female, 71% consisted of university/college students, the remaining 22% were adolescents, and 6% were clinical samples. These studies contained samples from a range of geographical backgrounds including Spain (24%), China (16%), the UK and Iran ($\approx 10\%$), Canada and Australia ($\approx 9\%$), the USA ($\approx 8\%$), Turkey, and the Netherlands ($< 6\%$ each). All of the findings are summarised in (Appendix 2.A, **Table 2.1**).

2.3.6.2 Potential Moderators of the Relationship Between Perfectionism and Self-harm

Five studies (4 cross-sectional and 1 longitudinal (O'Connor et al., 2007)) investigated potential moderators of the relationship between perfectionism and self-harm (Duncan-Plummer et al., 2023; Gu, Hu & Wang, 2022; de Jonge-Heesen et al., 2021; Chester, Merwin, DeWall, 2015; O'Connor et al., 2007), with evidence of moderation reported in four of them (Gu, Hu & Wang, 2022; de Jonge-Heesen et al., 2021; Chester, Merwin, DeWall, 2015; O'Connor et al., 2007). One of these studies reported a mediated moderation model, with mindfulness mitigating the negative effect of maladaptive perfectionism on non-suicidal self-injury among adolescents from

China (Gu, Hu & Wang, 2022). A further study with an adolescent sample (from the Netherlands) found that maladaptive coping moderated the relationship between perfectionistic concerns, perfectionistic strivings and suicidality (a latent variable consisting of self-harm, suicidal ideation and behaviours), but adaptive coping did not (de Jonge-Heesen et al., 2021). Negative feedback was reported as another significant moderator between maladaptive perfectionism and self-harm among university students from the USA. It was observed that self-aggression, among students with maladaptive perfectionism, significantly increased after receiving negative feedback (Chester, Merwin, DeWall, 2015). Duncan-Plummer et al. (2023) reported that, although, external locus of control was associated with experiential avoidance and lower self-esteem (two factors that are significantly correlated to NSSI in the sample), it did not moderate the relationship between clinical perfectionism and experiential avoidance or self-esteem that were linking to NSSI. Only one study (O'Connor et al., 2007) investigated a potential moderator of the relationship between perfectionism and self-harm using a longitudinal design. Over an 8-week period, positive future thinking moderated the relationship between socially prescribed perfectionism and self-harm in a sample of patients with experience of repeat self-harm (O'Connor et al., 2007).

2.3.6.3 Potential Moderators of the Relationship Between Perfectionism and Suicidal Ideation

Ten cross-sectional studies investigated potential moderators of the perfectionism and suicide ideation relationship. Significant moderators included: time (Kleinhendler-Lustig et al., 2023), self-compassion (You, Kwon & Kim, 2022), ethnicity (Chen, Hewitt, & Flett, 2017), task-focused coping (Abdollahi & Carlbring, 2017), avoidance coping (Abdollahi & Carlbring, 2017), emotion-focused coping (Abdollahi & Carlbring, 2017), loneliness (Muyan and Chang, 2015), overgeneral memory recall (Chester, Merwin, DeWall, 2015), goal reengagement (O'Connor & Forgan, 2007), optimism, avoidance coping, social support, hassles, self-esteem, hopelessness, problem-solving coping (Blankstein, Lumley, Crawford, 2007), social problem-solving (Chang,

2002).

First, as mentioned previously, a cross-sectional study (Kleinhendler-Lustig et al., 2023) explored a moderated mediation model in which the time variable moderated the serial mediation of burnout and depression between maladaptive perfectionism and suicide ideation by intensifying the feelings of burnout and depression, so their link with suicide ideas was strengthened.

One study reported a moderation effect of self-compassion which mitigated the negative impact of life stress on the link between maladaptive perfectionism and suicidal ideation among Korean university students. This indicated a moderated-mediation model (You, Kwon & Kim, 2022). Chen et al.'s study (2017) showed that ethnicity moderated the link between other-oriented perfectionism (but not socially prescribed perfectionism) and suicidal ideation among university students in Canada from diverse ethnic backgrounds. In addition, a study reported that loneliness contributed to suicidal ideation beyond the effects of perfectionism (i.e. parental expectation and doubts about actions factors) among Turkish university students (Muyan and Chang, 2015).

Two of the ten studies investigated multiple moderation models involving coping styles. One study found that task-focused coping buffered the relationship between both types of perfectionism (i.e. maladaptive, adaptive) and suicidal ideation; on the other hand, emotion-focused and avoidance coping styles intensified the suicidal thoughts in an Iranian university student population having maladaptive perfectionistic tendencies (Abdollahi & Carlbring, 2017). Similarly, one study also explored the moderation effects of coping styles (i.e. avoidance coping, problem-solving coping) among other potential moderators such as optimism (higher optimism was associated with a weaker socially prescribed perfectionism (SPP) and suicidal ideation relationship), social support (acted as another protective factor buffering against the effect of self-oriented (SOP)/other-oriented perfectionism (OOP) and suicidal thinking), hassles (academic hassles increased the risk of suicide in men with SPP, whereas, social hassles played the same role for women with SOP), self-esteem (low self-esteem was associated with higher

levels of suicide ideation in men with OOP), and hopelessness (exacerbated the link between SPP and suicide ideation) yielding significant results showing that avoidance coping might exacerbate the negative effects of socially prescribed perfectionism on suicidal thinking (Blankstein, Lumley, Crawford, 2007). In contrast, problem-solving coping mitigated the strength of the link between other-oriented perfectionism and suicidal thinking, especially in women (Blankstein, Lumley, Crawford, 2007). Social problem-solving also mitigated the negative impact of general perfectionism on suicide ideation among college students from the USA (Chang, 2002).

Two studies from the UK (Rasmussen et al., 2008; O'Connor & Forgan, 2007) investigated the moderating roles of cognitive factors in the relationship between perfectionism (especially SPP) and suicidal thoughts. Rasmussen et al. (2008) reported that overgeneral memory recall interacted with socially prescribed perfectionism and increased suicide risk in self-harm patients. Similarly, O'Connor & Forgan (2007) found that difficulty in reengaging with new goals exacerbated the negative feelings arising from high levels of SPP and heightened suicidal thinking among undergrads from the UK.

One other of these cross-sectional studies (Fernández-García et al., 2022) also reported non-significant moderation effects of the academic perfectionism and suicidal ideation relationship, where academic performance, level of demand of a university degree (indicated by degree admission requirements), and gender, did not moderate the relationship among university students from Spain.

2.3.6.3 Potential Moderators of the Relationship Between Perfectionism and Suicidal Behaviours

Two studies investigated the link between perfectionism and suicidal behaviours (de Jonge-Heesen et al., 2021; Hewitt, Caelian, Chen, Flett, 2014). Maladaptive coping, and daily

hassles were found to have moderating roles, with each amplifying (increasing) the occurrence of suicidal behaviours (de Jonge-Heesen et al., 2021; Hewitt, Caelian, Chen, Flett, 2014). Both these studies also reported non-significant moderation effects, whereby adaptive coping did not moderate the relationship between perfectionistic strivings/concerns and suicidal acts (de Jonge-Heesen et al., 2021) and the relationship between self-oriented perfectionism and suicide risk (acts and thoughts) was not moderated by daily hassles (Hewitt, Caelian, Chen, Flett, 2014).

2.4 Discussion

This systematic review has identified and synthesised empirical results of 41 studies (39 quantitative, 2 qualitative studies) reporting 41 potential mediators and 20 moderators of the relationship between perfectionism and suicide risk. This review found evidence that deliberate rumination, intrusive rumination, rumination, brooding rumination, hyperarousal, loss of cognitive control, entrapment, fear of humiliation, perceived burdensomeness, goal orientation, avoidance of responsibilities belief, external locus of control belief, determinism of the past belief, difficulties in emotion regulation, lower self-esteem, interpersonal hopelessness, social hopelessness, social withdrawal, social disconnection model (i.e. being bullied, social hopelessness), impostor phenomenon, negative affect, affective disturbance, psychache, concealment of psychache, emotion dysregulation, psychological distress, suicide crisis syndrome, anxiety symptoms, intolerance of uncertainty, depression, appearance-based rejection sensitivity, burnout, reasons for living, life stress, stress, interpersonal problems, goal reengagement, hopelessness, loneliness, and social support are potential mediators of the relationship between various aspects of perfectionism and suicide risk.

Whereas, over-general memory recall (positive & negative), optimism, time, positive future thinking, social problem solving, mindfulness, self-esteem, self-compassion, loneliness, hopelessness, goal reengagement, task-focused coping, emotion-focused coping, avoidance coping, maladaptive coping, problem-solving coping, hassles, daily hassles, social support, ethnicity, and negative feedback have the potential to buffer or heightened the negative effects of

different types of perfectionistic tendencies on suicide risk.

The review provides important new evidence to enhance our understanding of the mechanisms and conditions associated with the perfectionism and suicide risk relationship. Our findings reinforce the importance of focusing on transdiagnostic factors such as perfectionism to make sense of the pathways to suicide by synthesising the findings on mediators/moderators that influence this relationship. Across the reviewed studies, the relationship between perfectionism and suicide risk emerged as a multifaceted construct rather than uniformly adverse, depending on the levels of perfectionistic tendencies, types of perfectionistic tendencies, severity of suicidal tendencies, and role of mediators or moderators (Zeifman et al., 2020; Smith et al., 2018; Galynker, 2017; O'Connor, 2011). While maladaptive or socially prescribed perfectionism (i.e., perfectionistic concerns) consistently yielded positive associations with suicide risk variables (e.g., Bloch-Elkouby et al., 2020; Hewitt, Caelian, Chen, Flett, 2014), several findings indicated that not all dimensions of perfectionism operated in harmful way in terms of suicide risk (e.g., Zhao et al., 2024; Zhou et al., 2023; Gu, Hu & Wang, 2022; You, Kwon & Kim, 2022; Brennan-Wydra et al., 2021; Robinson et al., 2021; D'Agata & Holden, 2018; Abdollahi & Carlbring, 2017; Chen, Hewitt, & Flett, 2017; Chester, Merwin, DeWall, 2015). In several studies, mixed associations with perfectionism were found, with studies reporting not only negatively perceived aspects of perfectionism being pernicious, but also relatively positive aspects of perfectionism (such as perfectionistic strivings) being associated with suicidal outcomes when experienced at high levels or in context-dependent situations (e.g., Liu et al., 2023; de Jonge-Heesen et al., 2021; Zeifman et al., 2020; Smith et al., 2018). Nonetheless, negative aspects of perfectionism, such as perfectionistic concerns and socially prescribed perfectionism dominated the reviewed literature by having stronger associations with suicide risk.

As can be seen in **Figure 2.3** studies have investigated five main categories of mediators and moderators: cognitive, emotional, coping, life events, and social factors.

Based on the significant cognitive category factors (**Figure 2.3**), it can be concluded that they emphasise the important roles of perception and memory in the link between perfectionism and suicide risk. Similarly, emotional category factors have been the focus of a substantial body of research and are closely linked to an individual's inner world. Researchers also looked into various coping styles as potential moderators of the connection between perfectionism and the risk of suicide. Additionally, within the same category, the "reasons for living" emerged as a mediator in this relationship. Life events was another substantial category having several mediators/moderators playing different roles in the link between perfectionism and suicide.

Although most of the mediators/moderators were investigated in cross-sectional studies, there was also evidence from a smaller number of longitudinal studies that a range of mediator (n=15) and moderator factors (n=1) play a crucial role in explaining how and under what conditions perfectionism may subsequently lead to an increase or decrease in suicide risk. Most of the significant mediators reported in the longitudinal studies (including rumination, depression, anxiety symptoms, suicide crisis syndrome, interpersonal problems, and goal orientation) were also found to be significant mediators in the cross-sectional studies, providing converging evidence of their importance. However, while hopelessness mediated the relationship of perfectionism and suicide risk in one cross-sectional study (Dean & Range, 1999), this relationship was not supported longitudinally (Beevers & Ivan, 2004).

Furthermore, we identified four factors that have been investigated both as moderators and mediators: goal reengagement (O'Connor & Forgan, 2007), hopelessness (Blankstein, Lumley, Crawford, 2007; Dean & Range, 1999), loneliness (Zhao et al., 2024; Muyan and Chang, 2015) and social support (D'Agata & Holden, 2018; Blankstein, Lumley, Crawford, 2007). This illustrates the complexity of the relationship between perfectionism and suicide risk; future research needs to further explore whether other identified mediator/moderator factors are also playing different roles in this relationship.

2.4.1 Aspects of Perfectionism in Suicide Research

This review found that mediators and moderators appear to influence the relationship between the dimensions of perfectionism and suicide risk. The common conceptualisations of multidimensional perfectionism were as follows.

Socially Prescribed (SPP), Self (SOP)/Other-oriented Perfectionism (OOP). The majority of studies used Hewitt and Flett's Multidimensional Perfectionism (1991) approach which is also widely used in the literature. Based on our findings, the emerging aspect was socially prescribed perfectionism in terms of its relationship to suicide risk in general. Especially, social disconnection, social hopelessness (Roxborough et al., 2012), psychache (Flamenbaum & Holden, 2007), depression, hopelessness, and reasons for living (Dean & Range, 1999; Dean & Range, 1996) mediated the relationship between SPP and suicide risk (self-harm, thoughts, and behaviours), while overgeneral memory recall (Rasmussen et al., 2008) and positive future thinking (O'Connor et al., 2007) were moderating the same relationship. In addition, brooding rumination (O'Connor, O'Connor, Marshall, 2007), loneliness (Zhao et al., 2024), and interpersonal hopelessness (Robinson, et al., 2021) mediated the link between both aspects of perfectionism (SPP and self-oriented perfectionism) and suicide risk. In contrast, problem solving coping only mediated the link between SOP and suicide risk. In addition to this, interpersonal problems and goal orientation only moderated the link between SOP and suicide risk (Bloch-Elkouby et al., 2020).

Adaptive and Maladaptive Perfectionism. Most of the findings were significant for maladaptive perfectionism in terms of its link to suicide risk such as the following mediators: impostor syndrome (Brennan-Wydra et al., 2021), negative affect (Chester, Merwin, DeWall, 2015), perceived burdensomeness (Rasmussen et al., 2012), stress (Chang et al., 2004), difficulties in emotion regulation (Brás et al., 2024), burnout, depression (Kleinhendler-Lustig et al., 2023), life stress (You, Kwon & Kim, 2022), and psychological distress (Gu, Hu & Wang, 2022). However, certain coping styles (namely, task-focused coping and emotion-focused coping) significantly

moderated the relationship between adaptive perfectionism and suicide risk, as well as also moderating the relationship between maladaptive perfectionism and suicide risk (Abdollahi & Carlbring, 2017).

Perfectionistic Self-Presentations (Self concealment, nondisplay of imperfection, nondisclosure of imperfection). Perfectionistic self-presentation styles are also preferred by some researchers to understand the link between perfectionist beliefs and suicide risk. Mainly, nondisclosure of imperfection and non-display of imperfection emerged in terms of their associations with suicide ideation via the mediators; interpersonal hopelessness (Robinson, et al., 2021), concealment of psychache (D'Agata & Holden, 2018), being bullied (nondisplay of imperfection) (Roxborough et al., 2012), social support (nondisclosure of imperfection) (D'Agata & Holden, 2018).

Negative and Positive Perfectionism. Some studies conceptualised perfectionism as negative and positive. In terms of these aspects of perfectionism, intrusive rumination, deliberate rumination, and depression emerged as significant mediators in the relationship between both negative and positive perfectionism styles and suicide ideation (Liu et al., 2023). Whereas intolerance of uncertainty and anxiety symptoms only mediated the relationship between negative perfectionism and suicide ideation (Zhou et al., 2023).

Perfectionistic strivings and concerns. Three of the included studies reported that both super-ordinate dimensions of perfectionism were linked to suicidal outcomes significantly through intrusive rumination, deliberate rumination, depression (Liu et al., 2023), emotion dysregulation (Zeifman, Antony, Kuo, 2020) and maladaptive coping (moderator) (de Jonge-Heesen et al., 2021).

2.4.2 Strengths and Limitations

This review has identified a number of limitations present within the literature which examines mediators and moderators of the relationships between perfectionism and suicide risk. The generalisability of the reported findings to populations beyond young (adolescent or student) women is unclear so caution should be exercised. In future, more male population-focused studies and studies across the age range are recommended.

Secondly, differences in sample sizes and sample characteristics prevented us from generalising the results. Small sample sizes may lack statistical power and cause underestimating or overestimating the findings, and differences in sample characteristics may influence the findings based on their group contexts. For instance, a group of medical residents may have different perspectives regarding suicide risk than a group of inpatients in the emergency department.

Thirdly, the quality assessment of included studies highlighted concerns over the adequacy of statistical power and there was a relative dearth of longitudinal studies (only eight studies in this review had longitudinal design and only one moderator study). Longitudinal data are important as they help us to examine many aspects of mediation models that cannot be achieved with cross-sectional data, such as whether an effect is stable across time or whether there is evidence for one of the important conditions of causality, temporal precedence (MacKinnon, Fairchild & Fritz, 2007).

Most of the studies in this review only investigated suicide risk in terms of suicidal ideation. However, it is known that suicide risk comprises suicidal thoughts and iteration of past suicidal behaviours, and self-harmful acts. Therefore, more studies exploring the mediating and moderating pathways of the perfectionism and suicidal behaviours relationship are needed to obtain an overarching perspective to the matter (Cohen et al., 2018; O'Connor & Kirtley, 2018).

If one thinks about the types of factors that have been examined, relatively little research appears

to have been conducted with regards to exploring “social factors ” and “life events” as mediators and moderators in the present context. Further research, therefore, into the mediating and moderating role of these types of factors may further enhance our understanding of the perfectionism and suicide relationship.

Within this review, there was substantial variation in how perfectionism was operationalised across studies, even among the majority of studies that used the same measurement instruments such as the “Multidimensional Perfectionism Scale” (MPS; Hewitt & Flett, 1991) or the “Frost Multidimensional Perfectionism Scale” (FMPS; Frost et al., 1990). For instance, while some studies approached perfectionism as a unidimensional construct (overall perfectionism) by using total scores (e.g., Tonta et al., 2022), most examined it as a multidimensional construct by specifying its subdimensions, such as self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism (Robinson et al., 2021; O’Connor et al., 2007).

Furthermore, conceptual distinctions between adaptive (positive) and maladaptive (negative) perfectionism were operationalised differently across studies. Some studies utilised scales that explicitly differentiate adaptive and maladaptive forms (e.g., APS-R; the Almost Perfect Scale-Revised) (Abdollahi & Carlbring, 2017; Chester et al., 2015), whereas other studies yielded these distinctions through factor scores within broader multidimensional approaches (Liu et al., 2023; Zhou et al., 2023).

Finally, in a few cases, context-specific measures such as the “Academic Perfectionism Scale” (Fernández-García et al., 2022) or the “Tehran Multidimensional Perfectionism Scale” (Oskouei et al., 2024) were utilised, reflecting situational or cultural adaptations of the perfectionism construct.

2.4.3 Clinical Implications

A consistent approach to the operationalisation, measurement and description of perfectionism is desirable to allow for comparisons across studies and accumulation of robust evidence base. At this point, regarding the operationalisation of perfectionism in the suicidology field, researchers should be mindful of using a more standardised and clear terminology to ensure a consistent approach for future research. This inconsistency has made comparisons across studies more difficult, thereby obscuring theoretical clarity. Future research should prioritise the development and use of a unified conceptual framework and measurement system that clearly distinguishes between adaptive and maladaptive facets of perfectionism or it should utilise the recently defined superordinate dimensions of perfectionism –perfectionistic concerns and perfectionistic strivings. It may be useful to conduct a Delphi study with key stakeholders in the perfectionism field to agree a consensus about the best way forward in terms of a unified conceptual framework and measurement system.

Our findings also shone a light on another key limitation: Relatively few studies in the literature were foregrounded in theoretical models. Moving forward, the field must focus on depicting the perfectionism and suicide relationship in terms of existing models such as the IMV model (O'Connor & Kirtley, 2018) and the N-CMS (Galynker, 2017). Applied research should also use these models to inform clinical practice. We need to tailor clinical practice in light of the transdiagnostic mediator and moderator factors that we identified. Our findings provide a substantial clinical rationale considering the dynamics of perfectionism and suicide risk relationship for developing assessments specific to the perfectionism-suicide risk relationship in mental health care, particularly for high-risk individuals and youth. This approach can support clinicians to understand better the underlying mechanisms, such as risk/protective factors associated with the link between perfectionistic tendencies and suicide risk and develop evidence-based strategies to mitigate the harmful effects of this relationship.

2.5 Conclusion

This systematic review investigated the empirical evidence examining the relationship between perfectionism and suicide risk and found that results generally support the view that the dynamics of this relationship within a biopsychosocial context are linked to individuals' cognitive, emotional, and coping abilities or vulnerabilities as well as they are linked to the external factors like life events and social factors. Our results also revealed that all aspects of perfectionism can be pernicious in terms of their relationships with suicide risk. It is recommended that future research focus on longitudinal studies to establish causal relationships and explore the effectiveness of tailored interventions. This review highlights the complexity of the perfectionism-suicide link by being the first review that provides all the relevant transdiagnostic factors by which researchers can clarify when and how perfectionism may increase or lower the risk of suicide and emphasizes the need for a nuanced approach in both research and clinical practice.

Chapter 3:

Towards an Enhanced Understanding of Entrapment through the lens of the Integrated Motivational-Volitional (IMV) Model of Suicide Part 1: Pre-motivational Risk Factors and Entrapment

3.0 Abstract

Background and aims: Contemporary theoretical models emphasise the complex and multifactorial nature of suicidal risk. The systematic review reported in Chapter 2 of this thesis also undertook a comprehensive search and synthesis of the empirical literature reporting potential mediators and moderators of the relationships between perfectionism and suicide risk. The findings of the review therefore provide a strong basis for identifying research priorities and knowledge gaps. Among the gaps identified was the need for further theoretically informed research to clarify the relationship between precipitating risk factors, including perfectionism, and suicide risk.

As explained in Chapter 1, the N-CMS was developed to support further research and understanding of the suicidal process in those with elevated suicidal risk and who may be at risk of imminent suicidal crisis. In contrast the IMV model seeks to account for a relatively greater range of experiences and places emphasises less on understanding imminent suicidal risk.

Therefore, in this and subsequent chapters, the IMV model provides the theoretical framework for the empirical studies. Within the IMV model entrapment is proposed to play a key bridging role between feelings of defeat and humiliation and suicidal ideation. Informed by the IMV model the present study aims to add to our understanding of how key vulnerability factors, perfectionism and childhood trauma, contribute to entrapment. The study also aims to clarify the role of ruminative flooding as a potential moderator of the paths to entrapment.

Methods: The study design was cross-sectional and utilised an online survey. A total of 579 community-based participants from the UK (18 years or older) completed measures of socio-demographics, pre-motivational phase vulnerability factors (perfectionism and childhood trauma), defeat, fear of humiliation, ruminative flooding and internal/external entrapment. The survey scales were randomly ordered. However, when scales containing highly negative items appeared consecutively, scales with relatively more positive items were deployed in between to maintain balance. Multivariable regression-based mediation and moderation analyses in the Hayes Process Macro were used to test the study hypotheses.

Results: Perfectionistic concerns and childhood trauma were associated with internal and external entrapment directly and indirectly via defeat and fear of humiliation. Although defeat emerged as a stronger mediator overall in the relationship between perfectionistic concerns and childhood trauma with internal/external entrapment, fear of humiliation also played a role. Specifically, fear of humiliation indirect-only mediated the relationships between perfectionistic strivings and childhood trauma with external entrapment. In addition, it partially mediated the relationship between perfectionistic concerns and external entrapment. As expected, ruminative flooding moderated the relationship between defeat, fear of humiliation, and external entrapment, but not internal entrapment.

Conclusions: The present study provides empirical support for several of the pre-motivational and motivational phase premisses of the IMV model. The study findings may contribute to future clinical treatments focusing on alleviating the negative effects of feelings of defeat and fear of

humiliation among vulnerable groups with perfectionistic concerns and childhood trauma.

3.1 Introduction

The present study utilises the IMV Model of Suicide (O'Connor, 2011; O'Connor & Kirtley, 2018) to enhance understanding of the role of transdiagnostic risk factors, psychological mechanisms and moderators and their interplay in the path to suicidal thinking. To give due consideration to the complex multivariate relationships by which suicidal thinking may emerge, the present study is reported in two separate chapters with distinct hypotheses. The present chapter (Chapter 3) therefore focuses on those risk factors, psychological mechanisms and moderators expected to contribute to entrapment, one of the central precursors to the development of suicidal thinking and intent. In the next chapter (Chapter 4), the focus shifts to risk factors and processes hypothesised to contribute to suicidal thinking. Reporting the present study across two separate chapters provides greater clarity and focus with respect to the different multivariate dynamics and paths which are depicted in the IMV model.

3.1.1 The Integrated Motivational Volitional (IMV) Model of Suicide

As described earlier in the thesis (Chapter 1), the IMV model is a biopsychosocial framework that aims to improve our understanding of how and why people die by suicide, including the psychological factors and processes that contribute to the emergence of suicidal thoughts and the transition to suicidal acts. The model was first introduced as a tripartite diathesis-stress framework in 2011 by O'Connor. A further account of this model was published in 2016 and subsequently refined in 2018 (Kirtley & O'Connor, 2018; O'Connor, 2016; O'Connor, 2011).

To briefly recap, the IMV model (**Figure 3.1**) comprises three phases. People may experience those phases separately or consecutively at any point in their lives: 1) the pre-motivational phase

refers to the biopsychosocial context or circumstances in which suicidal thoughts or behaviours may emerge; 2) the motivational phase describes a range of factors that are proposed to contribute towards the emergence of suicidal ideation; 3) the volitional phase describes the factors that are associated with the transition from suicidal thoughts to suicidal behaviours.

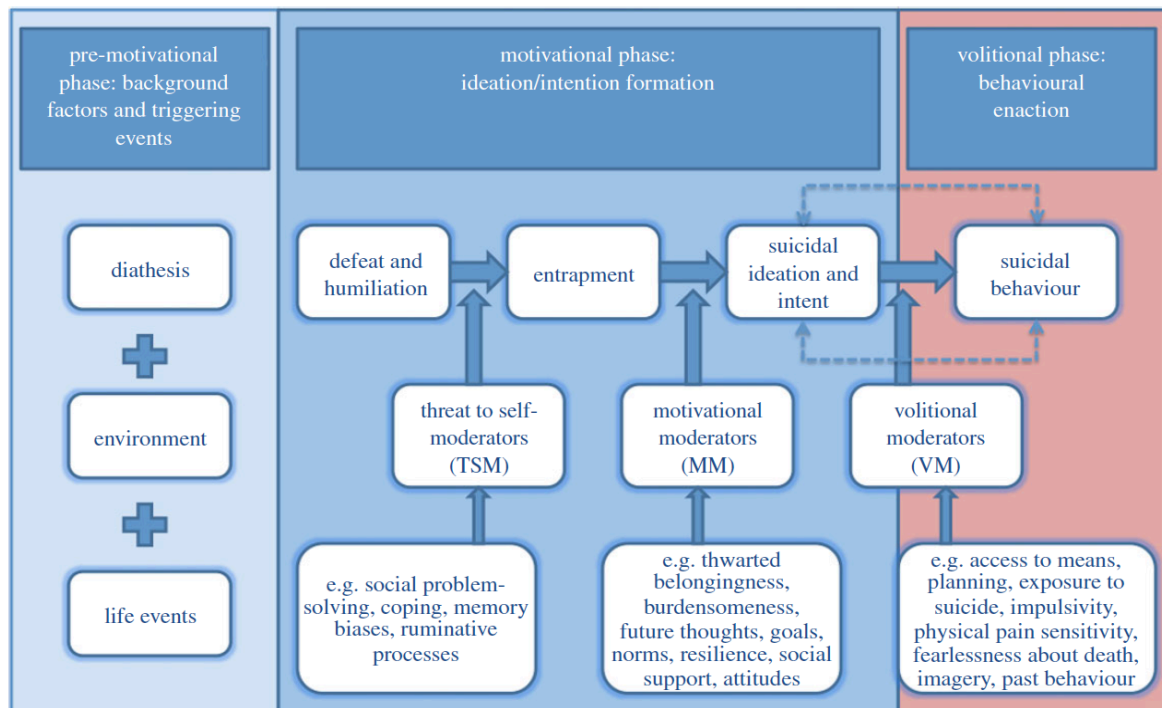


Figure 3.1. The IMV Model of Suicide (O'Connor & Kirtley, 2018).

The IMV model posits that the presence of pre-motivational risk factors, including psychological dispositions such as perfectionism and recent or historic life events, may influence a person's vulnerability to suicide. The presence of vulnerabilities and stressors increases the likelihood that an individual will feel defeated and humiliated by life circumstances and ultimately feel trapped. Thus, factors such as defeat, and humiliation may mediate the relationship between pre-motivational risk factors and entrapment. A range of 'Threat-to-Self Moderators', including social problem-solving and ruminative processes are proposed to increase or decrease the likelihood that a person will transition from feeling defeated and humiliated to feeling trapped

(O'Connor & Kirtley, 2018).

3.1.2 Understanding the Factors Leading to a Sense of Entrapment

The IMV model posits that perceived defeat, and humiliation may lead individuals to experience feelings of entrapment which may later result in suicidal ideation or behaviours (O'Connor & Kirtley, 2018). Although different aspects of the IMV model have been investigated across a significant number of empirical studies (Souza et al., 2024), a number of notable gaps have been identified, particularly concerning the potentially mediating roles of defeat and humiliation between pre-motivational vulnerability factors, such as childhood trauma and perfectionistic tendencies, and entrapment.

Within the IMV model humiliation is one of the components of the motivational phase, hypothesised to contribute to feelings of entrapment alongside feelings of defeat. Humiliation, or more specifically in this study, the fear of being humiliated, is a self-conscious and complex emotion arising from a sense of perceived fear of being devaluated by others (Fernández et al., 2018; Rothstein, 1984) and also features in the Narrative-Crisis Model as a risk factor for suicide (Pia et al., 2020; Cohen et al., 2019; O'Connor & Kirtley, 2018; O'Connor, 2011). However, surprisingly, this prominent risk factor has not been the subject of much empirical research (Sadath et al., 2024; Souza et al., 2024). Feelings of defeat, another ego-involving stressor, is another key component and mediator within the motivational phase of the IMV model. Defeat refers to a sense of being defeated by life as a result of failed struggle, which contributes to the onset of mental health problems such as depression (Gilbert & Allan, 1998; Rasmussen et al., 2024). As described earlier in this thesis (Chapter 1) the relationship between defeat and suicide risk is well-established. However, less is known about how its mediational role especially between the pre-motivational risk factors (i.e., aspects of perfectionism (concerns and strivings), childhood trauma) and internal/external entrapment differs across various populations (Souza et

al., 2024; Blackwell, 2022; Moscardini et al., 2022; Wetherall et al., 2019). Therefore, this chapter will utilise the IMV model's framework, to further investigate the role of fear of humiliation and defeat in suicide risk, more specifically their role in the path to entrapment.

Within the IMV model, entrapment—the sense of being trapped in unendurable situations without the hope of escape—is proposed as a locomotive mechanism between feelings of defeat/humiliation and suicide ideation (O'Connor, Kirtley, 2018). Although entrapment can be investigated as a single construct, it is increasingly recognised that researchers should examine both internal and external entrapment to better understand their unique contribution to suicidal risk. Internal entrapment refers to being trapped by unbearable thoughts and emotions, while external entrapment refers to being trapped by external circumstances that cannot be controlled (O'Connor, 2011; Taylor et al., 2011). As described earlier in this thesis (Chapter 1) entrapment and its association with suicide risk is well-established, with both internal entrapment and external entrapment variously associated with suicide risk outcomes (O'Connor & Portzky, 2018), and some evidence suggesting that internal entrapment may be particularly strongly associated with suicide (Rasmussen et al., 2023; Baumeister, 1990). Therefore, in the present study, both internal and external entrapment will be examined independently.

Existing research has also investigated the relationship between childhood trauma (a pre-motivational risk factor) and increased risk of feeling trapped and defeated by life in adulthood. For example, Rogerson et al. (2024) found an association between childhood trauma, daily feelings of defeat and entrapment and suicidal thoughts, as well as an indirect relationship via daily stress-related vulnerability factors by utilising an ecological momentary assessment (EMA) design. However, the specific mediating effects of humiliation and defeat between childhood trauma and entrapment were not addressed in this study. Two prospective studies have also investigated paths between defeat, suicidal ideation and internal/external entrapment (O'Connor et al., 2020; Branley-Bell et al., 2019). However, there is a dearth of literature that seeks to investigate whether defeat and/or humiliation may mediate the pathway from childhood trauma to entrapment. Better understanding of the potentially mediating roles of defeat and humiliation

is important as this may provide further empirical evidence to support targeted interventions to mitigate the risk of future suicide risk among those with childhood trauma (Sanford et al., 2022). Addressing this knowledge gap may also inform the design and conduct of more prospective and EMA studies to explore causal relationships between childhood trauma, humiliation, defeat and feelings of entrapment.

Perfectionism, conceptualised as a pre-motivational risk factor within the IMV model framework, may also contribute to feelings of entrapment through feelings of defeat and humiliation. Moscardini et al. (2022) investigated whether the link between socially prescribed perfectionism-related factors and internal/external entrapment was mediated by defeat alone and found that negative social comparison (a construct related to socially prescribed perfectionism) was associated with external entrapment through defeat. However, this study did not explore whether humiliation also acted as a mediator of the relationship between socially prescribed perfectionism and internal/external entrapment. Overall, in light of the limited number of studies which have investigated the path between perfectionism and entrapment, including whether this relationship is mediated by defeat and humiliation (see Souza et al., 2024), the present study will also focus on enhancing our understanding of these relationships. Furthermore, the review findings reported in Chapter 2 identified inconsistencies in the operationalisation of perfectionism as a key limitation of the existing empirical literature. The present study therefore followed recent efforts to conceptualise perfectionism under the two super-ordinate dimensions of perfectionistic concerns and perfectionistic strivings (Stoeber & Gaudreau, 2017). Specifically perfectionistic strivings, informally known as ‘healthy perfectionism’, are positive and refer to striving for flawlessness in order to achieve one’s standards regardless of being overly concerned about others’ thoughts or evaluations. Perfectionistic concerns on the other hand, often described as ‘unhealthy perfectionism’, are frequently negative and refer to being overly concerned about mistakes and others’ evaluations of oneself, including those which are socially prescribed.

Rumination, broadly defined as recurrent and repetitive thinking about negative or upsetting events, feelings, thoughts, problems or personal attributes (Watkins, 2023), is identified within

the IMV model as a factor that can increase the likelihood that someone experiencing feelings of defeat and humiliation will go on to feel trapped, either by their internal thoughts and feelings or their external circumstances (O'Connor & Kirtley, 2018). Thus, rumination, as a threat-to-self moderator, is hypothesised to moderate the relationship between defeat/humiliation and internal/external entrapment. As was found in Chapter 2, in the literature, three studies have also tested rumination as a mediator of the relationship between perfectionism and suicide risk, finding a significant mediation effect of ruminative processes on the perfectionism-suicidality relationship (Liu et al., 2023; Tonta et al., 2022; O'Connor et al., 2007). However, these studies all conceptualised and tested ruminative processes as a mediator rather than a moderator of the perfectionism-suicidality relationship and none specifically investigated the path to entrapment. Recently, Souza et al. (2024) identified six studies that tested ruminative processes as a moderator of the defeat and entrapment pathway. Four of the six studies were reported as part of doctoral theses and only two of the six studies reported a significant positive moderation effect of rumination, where higher levels of rumination strengthened the relationship between defeat and overall entrapment (Scowcroft et al., 2019). The three other studies which tested rumination as a potential moderator of the relationship between defeat and entrapment did not find evidence that rumination moderated the relationship (Miller, 2015; Hollingsworth, 2017; Li et al., 2021). In addition to these, in a study of Tucker et al. (2016), brooding rumination (i.e. experiencing passive judgmental thoughts about one's mood) strengthened the association between defeat and entrapment, whereas rejection rumination (i.e. repetitive thinking or dwelling on experiences of rejection) did not (Tucker et al., 2016).

Apart from these findings, one further study -conducted in Puerto Rico- reported that rumination moderated the association between exposure to workplace bullying and feelings of defeat (Rosario-Hernández et al., 2019), and one other study from Iran reported that rumination significantly moderated the relationship between defeat and entrapment in a structural equation modelling design (Sardarzehi et al., 2023).

Overall, the current literature appears to provide inconsistent support for the role of rumination

as a moderator of the relationship between defeat and entrapment. Importantly, as can be seen from the findings of Tucker et al. (2016), there are different components and ways of assessing rumination and a more nuanced understanding of the effects of different types of rumination is important. For this reason, in the present study, we also aimed to test the moderating effect of ruminative processes in the motivational phase, as a further test of the central tenets of the IMV model. Specifically, we have focused on ruminative flooding which is defined as a particularly intense type of rumination which has previously been shown to be associated with suicide risk (Calati et al., 2020).

In summary, theoretical approaches highlight the importance of understanding the relationship between the previously described vulnerability factors (e.g., childhood trauma, perfectionism) with central precursors to suicidal ideation such as entrapment. Furthermore, they also emphasise the importance of clarifying the conditions or circumstances that may increase/decrease the likelihood that those who feel defeated and humiliation go on to experience entrapment. However, the current empirical literature is limited and provides inconsistent support for these factors and their interplay. The present study therefore aimed to enhance understanding of the relationships between these factors and will address the following questions:

Research Question 3.1. To what extent do perfectionism and childhood trauma predict internal/external entrapment?

Research Question 3.2. To what extent does ruminative flooding moderate the relationship between fear of humiliation and internal/external entrapment?

Research Question 3.3. To what extent does ruminative flooding moderate the relationship between defeat and internal/external entrapment?

3.1.3 Aims and Hypotheses

Drawing on the IMV model, the present study aims to enhance understanding of the relationship between two pre-motivational phase vulnerability factors, namely perfectionism and childhood trauma, and the motivational phase factor entrapment, one of the central precursors to suicidal ideation. Specifically, the potentially mediating role of defeat and humiliation will be explored. In addition, the study aims to investigate and enhance our understanding of whether the threat-to-self moderator, ruminative flooding, acts as a moderator of the relationships between defeat and humiliation and entrapment. To address these two aims four hypotheses will be tested:

Hypotheses 3.1 and 3.2: Perfectionism and childhood trauma, as pre-motivational phase factors, may increase the likelihood of experiencing stressors and lead to feelings of defeat and humiliation, which in turn can lead one to feel inescapably trapped (O'Connor & Kirtley, 2018; Cohen et al., 2022). It is, therefore, hypothesised that defeat and humiliation will mediate the relationship between perfectionism (specifically, perfectionistic concerns and strivings) and entrapment (internal and external) (hypothesis 3.1). Similarly, it is hypothesised that defeat and humiliation will mediate the relationship between childhood trauma and entrapment (internal and external) (hypothesis 3.2).

Hypotheses 3.3 and 3.4: The IMV model proposes that the ruminative process is expected to strengthen the relationship between feeling humiliated and defeated by life, with feelings of being trapped with no escape. Ruminative flooding, as a threat-to-self moderator, is therefore hypothesised to moderate the relationship between fear of humiliation and entrapment (internal and external) (hypothesis 3.3) and between defeat and entrapment (internal and external) (hypothesis 3.4) (O'Connor & Kirtley, 2018).

3.2 Design

Since the aim of this study is to explore existing patterns and relationships previously defined in the IMV framework, it utilised a cross-sectional design.

3.2.1 Participants and Procedure

A convenience sample of 579 participants was recruited and took part in the study. The target population consisted of English-speaking adults and young adults (18 years and older). The study was advertised across a range of social media and other public platforms, with each advert including a link to an online survey hosted on the Online Surveys platform (<https://app.onlinesurveys.jisc.ac.uk>). Those interested were directed to an information page, followed by an informed consent page. Those who decided not to take part in the survey received an automated ‘thank you’ message. The remaining participants provided informed consent, confirming that they understood that their participation was voluntary and that they would be free to withdraw at any time, without giving any reason, without their legal rights being affected. Participants were also presented with a privacy notice. Those consenting then completed the study questionnaires, which included a range of socio-demographic, mental health, psychological and suicidal history measures. The questionnaire took approximately 15-20 minutes to complete. In the following section, only the measures relevant to the present study are reported. An exception here is the correlation matrix reported in Table 3.2 which includes study variables relevant to Chapter 3 and 4. See Appendix **3.M** for study materials.

Ethical review and approval were provided by the College of Medical, Veterinary and Life Sciences Ethics Committee at the University of Glasgow (project no: 200200176, **Appendix 3.N**).

3.2.2 Measures

Childhood trauma was assessed via the *Childhood Trauma Questionnaire-Short Form (CTQ-SF; Bernstein & Fink, 1998)*. This 28-item questionnaire is widely used to identify experiences of different types of childhood traumas: 1) physical abuse (e.g. “I got hit so hard by someone in my family that I had to see a doctor or go to the hospital”), 2) sexual abuse (e.g. “Someone molested me”), 3) emotional abuse (e.g. “I believe that I was emotionally abused”), 4) physical neglect (e.g. “I didn’t have enough to eat”), and 5) emotional neglect (e.g. “I felt loved” [reverse coded]). Responses are provided on a 5-point Likert-type scale ranging from 1 (never true) to 5 (very often true) (Pennebaker & Susman, 1988). The internal consistency of the scale was very high in the present study sample ($\alpha = .89$). This measure was utilised as it provides good coverage of different trauma experiences, has been extensively used by researchers and clinicians and has been psychometrically developed and evaluated in different populations including those in the community (Bernstein et al., 2003).

Ruminative Flooding was assessed using the 8-item subscale from the *Suicide Crisis Inventory (SCI; Galynker et al., 2016)*. Items were recorded on a 5-point Likert-type scale ranging from 0 (not at all) to 4 (extremely), e.g., “Did you feel that your head could explode from too many thoughts?”. This measure was utilised as it provides a direct measure of potentially harmful ruminative process using only 8 items. The internal consistency of this subscale was excellent in the present study sample ($\alpha = .91$).

Entrapment was measured via the *Entrapment Scale-Short Form (E-SF; De Beurs, Cleare, Wetherall, Eschle-Byrne, Ferguson, O’Connor & O’Connor, 2020)* which is a 4-item questionnaire assessing feelings of external (e.g. “I feel powerless to change things”) and internal (e.g. “I feel trapped inside myself”) entrapment. Responses are provided on a 5-point Likert-type scale ranging from 0 (Not at all like me) to 4 (Extremely like me). This measure was included in the present study because it provides a very brief and easy to administer measure of both internal and external entrapment, is reliable and valid and suitable for use with community populations (De Beurs et al., 2020). The internal

consistency of the scale was high in the present study sample ($\alpha = .89$).

Perfectionistic strivings and concerns were assessed via two subscales of the *Almost Perfect Scale-Revised (APS-R)* (Slaney, Rice, Mobley, Trippi, Ashby, 2001). These measures were chosen for the present study as they enable assessment of the two super-ordinate dimensions of perfectionism based on the Two-factor Model of Perfectionism (Stoeber & Otto, 2006). The striving subscale includes 7 items (e.g. “I have high standards for my performance at work or at school”) and the concerns subscale includes 12 items (e.g. “I am not satisfied even when I know I have done my best”), with responses provided on a 7-point Likert-type scale from 1 (strongly disagree) to 7 (strongly agree) (Slaney, Rice, Mobley, Trippi, Ashby, 2001). The two subscales demonstrated excellent internal consistency in the present study sample (perfectionistic strivings $\alpha = .88$, perfectionistic concerns $\alpha = .95$).

Fear of Humiliation and Defeat were assessed by the relevant subscales of the *Suicidal Narrative Inventory (SNI)* (Cohen et al., 2019). Specifically, the 5-item (fear of) humiliation (e.g., “I am concerned about being called names or referred to in derogatory terms”) and the 5-item defeat (e.g. “I feel defeated by life”) subscales were utilised. Responses are provided on a 5-point Likert-type scale from 1 (not at all true) to 5 (extremely true) (Lew et al., 2020; Cohen et al., 2019). These scales were utilised because they provide direct and brief assessment of fear of humiliation and defeat and were developed specifically to support measurement in the context of suicide research (Cohen et al., 2019). In the present study, the internal consistencies of the two subscales were very good (fear of humiliation $\alpha = .87$, defeat $\alpha = .92$).

Socio-demographics. Demographic information were recorded in response to the following questions: “What is your age?”, “What gender do you identify as?”, “What is your ethnicity?”, “If you selected Other, please specify:”, “What is your relationship status?”, “If you selected Other, please specify:”, “What is your level of education?”, “What is your employment status?”, “Have you been diagnosed with a mental health issue?”, “If yes and happy to do so, please state your diagnosis”. These questions were included to understand

the key characteristics and histories of the study sample. They have been used extensively for this purpose in past research conducted by members of the Suicidal Behavioural Research Laboratory (Bennett, 2023, McClelland, 2022).

The study questionnaire, including all measures, can be found in **Appendix 3.M**.

3.2.3 Data Preparation and Statistical Analysis

A priori power calculation. Based on guidance provided by Cohen (1988), a statistical power calculation was undertaken using G*Power (Version 3.1.9.6) to determine the required sample size to test the study hypotheses. The calculation (based on the largest number of variables in any one model) for a regression model with 8-10 predictor variables would require a sample size of 160-172 participants to achieve 0.95 power, given an effect size of 0.15, which is considered a moderate effect size based on Cohen's standards (Selya et al., 2012), and an α level = 0.05.

Data screening and preparation. All dataset preparation and analyses were conducted using SPSS version 29.0.2.0 (Version 29). Of 579 participants, seven were excluded from the dataset as they did not respond to any of the items. In the remaining dataset, only 0.22% of values were missing. While Little's MCAR test indicated the missing values were unlikely to be missing completely at random (Chi-Square = 6109.528, DF = 5294, Sig. = .0001), as the overall proportion of missing values was minimal (Jakobsen, Gluud, Wetterslev & Winkel, 2017), the Expectation Maximisation algorithm was used to impute missing values. The presence of multivariate outliers was assessed using the Mahalanobis Distance test, leading to the removal of a further three participants from the dataset. Regression assumptions were checked, indicating that most variables in this study were skewed, and therefore, not normally distributed. However, further checks of regression assumptions indicated that there were no concerns over multicollinearity or homogeneity/homoscedasticity. A more detailed description of the data screening and preparation process with supporting test results and figures, can be found in **Appendix 3.O**.

Data analysis. The socio-demographic characteristics of the study sample will be described using means (standard deviation), frequencies and percentages. Key study variables will be described using measures of total scores for continuous variables and frequencies for categorical variables. Bivariate correlations were used to examine relationships among all study measures (See **Table 3.2**). In order to test the study hypotheses, the Hayes PROCESS Macro for SPSS (2013, 2017) was used to test simple mediation, multiple (parallel) mediation and simple moderation models. Parallel multiple mediation was used to allow for the observation of the relative mediation effects of two potential mediators, defeat and humiliation (which are also correlated to each other), simultaneously within a multiple regression model (Hayes, 2013; 2017). For simple and multiple mediation, Model 4 was used, and Model 1 was used for simple moderation. While it would have been possible to test moderation and mediation in the same model (i.e. moderated mediation) the number of potentially moderated paths in parallel mediation makes interpretation challenging. As a result, carrying out separate analyses of mediation and moderation was the preferred option. For all mediation and moderation analyses, 95% confidence intervals were used (CI: 95%), and bootstrapping was set at 5000 samples to address the non-normal distributions of variables found during screening (Johnston & Faulkner, 2021). The models were not adjusted for socio-demographic characteristics and subgroup analyses were not carried out. The indirect effect in PROCESS was calculated as follows: Total effect (c) – Direct effect (c'). Where significant moderation is found, then simple slopes analysis and conditional effects will be used to examine the effect of the independent variable on the dependent variable at specific values of the moderator (Hayes, 2017).

3.3 Results

3.3.1 Sociodemographic and Descriptive Statistics

A total of 569 participants were included in the analyses: 18% were male, 75% were female, and 5.4% identified as queer. The remaining participants either chose "other" or preferred not to disclose their gender. Regarding ethnicity, 79% of our sample identified as white British or other white backgrounds, while the remaining 21% identified as other ethnicities. Among the respondents, 15% were married, 30% were in a relationship, and others were single (47.4%), divorced/widowed (4.3%), separated (1.7%). With regards to their education levels, 35% of the participants held undergraduate degrees, 29% had postgraduate degrees, and the rest had qualifications at or below Higher/A level (9.5%). Concerning employment status, 36% were students, 40.3% were employed, 19.6% were unemployed and the rest (4.2%) were retired or stay at home parents. Almost two thirds (65.5%) of the participants reported a history of mental health problems. Participants' ages ranged between 18 and 76 ($M_{age}=31.82$, $SD=13.18$). The sociodemographic characteristics of the participants are shown in the table below (**Table 3.1**).

Table 3.1. *Sociodemographic Characteristics of Participants at Baseline*

	<i>n</i>	%	<i>M_{age}</i>	<i>SD</i>
Gender				
Female	430	75.2	31.47	12.73
Male	103	18	36.14	15.35
Queer	31	5.4	23.70	5.52
Other	5	0.9	26	1.41
Ethnicity				
White British/Other white backgrounds	452	79	32.88	14.01
Other ethnicities	120	21	28.22	8.4
Marital status				
Single	271	47.4	27.35	10.16
Married	87	15.2	43.84	13.02
In a relationship	172	30.1	29.20	10.53
Divorced/widowed	25	4.3	56.51	12.86
Other	10	1.7	28.80	5.95
Highest educational level				
Postgraduate Degree	164	28.7	35.67	11.17
Undergraduate Degree	198	34.7	29.12	12.63
HNC / HND / NQ / SVQ / Other vocational qualification	46	8.1	39.55	14.48
Higher / A Levels	109	19.1	25.36	10.84
Standard grades / GCSE / O Levels	40	7.0	39.10	16.37
Did not complete school	14	2.5	30.21	11.65
Employment				
Employed full time	137	24	34.37	10.46
Employed part time	93	16.3	30.01	11.56
Unemployed and seeking work	25	4.4	34.20	14.47
Unemployed due to disability/incapacity	87	15.2	41.31	12.30
Stay at home parent	5	0.9	28.6	4.82
Student	206	36	23.57	5.9
Retired	19	3.3	66.36	6.93
Previously diagnosed mental health issues				
Yes	374	65.5	34.24	13.82
No	181	31.7	27.57	10.89
Preferred not to say	16	2.8	24.06	4.23

3.3.2 Main Findings

Bi-variate correlations of the variables: 9 variables were included in Pearsons' Correlation analysis. Regardless of the study hypotheses, the results showed that suicidal ideation was most strongly and positively associated with both feelings of defeat and entrapment (internal/external), and ruminative flooding. Perfectionistic strivings was significantly and positively correlated to perfectionistic concerns and fear of humiliation; however, it showed no association with the other variables. On the other hand, perfectionistic concerns was moderately to strongly and positively correlated to feelings of defeat, internal/external entrapment, fear of humiliation, suicidal ideation, and ruminative flooding. Childhood trauma had positive moderate associations with all the variables in the analysis but the perfectionistic strivings. Likewise, ruminative flooding had shown moderate to strong positive correlations with all the other variables but perfectionistic strivings. Both internal and external entrapment were central to the IMV model's framework, especially showing moderate to strong positive correlations to feelings of defeat, suicidal ideation, and ruminative flooding. Defeat was another critical variable showing moderate to strong positive associations with internal/external entrapment, suicidal ideation, and perfectionistic concerns. Fear of humiliation was the only variable that significantly and positively correlated to all the other variables in the analysis. **Table 3.2** presents further information regarding these findings.

Table 3.2. *Overall Correlations of the Risk and Protective Factors*

	si	ps	pc	ct	rf	ie	ee	hu	d
si	1	.005	.454**	.390**	.539**	.697**	.639**	.437**	.739**
ps	.005	1	.478**	.003	.081	-.001	.006	.123**	-.025
pc	.454**	.478**	1	.246**	.413**	.507**	.522**	.435**	.516**
ct	.390**	.003	.246**	1	.323**	.339**	.320**	.270**	.354**
rf	.539**	.081	.413**	.323**	1	.632**	.605**	.349**	.365**
ie	.697**	-.001	.507**	.339**	.632**	1	.788**	.378**	.780**
ee	.639**	.006	.522**	.320**	.605**	.788**	1	.449**	.744**
hu	.437**	.123**	.435**	.270**	.349**	.378**	.449**	1	.487**
d	.739**	-.025	.516**	.354**	.609**	.780**	.744**	.487**	1

Note: si: suicidal ideation total, ps: perfectionistic strivings, pc: perfectionistic concerns, ct: childhood trauma, rf: ruminative flooding, ie: internal entrapment, ee: external entrapment, hu: fear of humiliation, d: defeat, (**): correlation is significant at the 0.01 level (2-tailed), (*): correlation is significant at the 0.05 level (2-tailed). Suicidal Ideation is retained in the correlation matrix to provide a single point of reference for the interrelations of study variables reported in Chapter 3 and 4.

Hypothesis 3.1: Defeat and fear of humiliation will mediate the relationship between perfectionism (perfectionistic concerns and strivings) and entrapment (internal and external)

Hypothesis 3.1 was examined in a series of four separate multiple mediation models. Within each model, defeat and fear of humiliation were included as parallel mediators, with either perfectionistic striving or concerns as the independent variable (predictor). Both aspects of entrapment (internal and external) were included in the analyses separately as dependent variables (outcome).

The first model tested whether defeat and fear of humiliation mediated between perfectionistic concerns and internal entrapment. **Figure 3.5** presents this conceptual model and the standardised coefficients for each path. The analysis showed that perfectionistic concerns were directly, and positively, related to each mediator (paths *a* and *a'*) and also the dependent variable (path *c'*). While one of the mediators, defeat, was directly, and positively, related to internal entrapment (path *b*), the second mediator, fear of humiliation, was not directly related to internal entrapment (path *b'*). The two key paths of interest in the test of the hypothesis are the indirect relationships of perfectionistic concerns on internal entrapment through defeat and fear of humiliation. While the indirect path through defeat was significant ($B_{defeat} = .06$, $SE = .0048$, 95%CI [.0507-.0701]), the indirect path through fear of humiliation was not ($B_{humiliation} = -.0028$, $SE = .0022$, 95%CI [-.0071-.0016]). The total effect of the model was also significant ($B_{total} = .0575$, $SE = .0049$, 95%CI [.2969-.4127]). As the direct effect of perfectionistic concerns (path *c'*) on internal entrapment remained significant alongside the significant mediation effect of defeat, this is consistent with partial mediation. In this model, defeat but not fear of humiliation partially mediated the relationship between perfectionistic concerns and internal entrapment. Further model information can be found in **Appendix 3.E (Table 3.5)**.

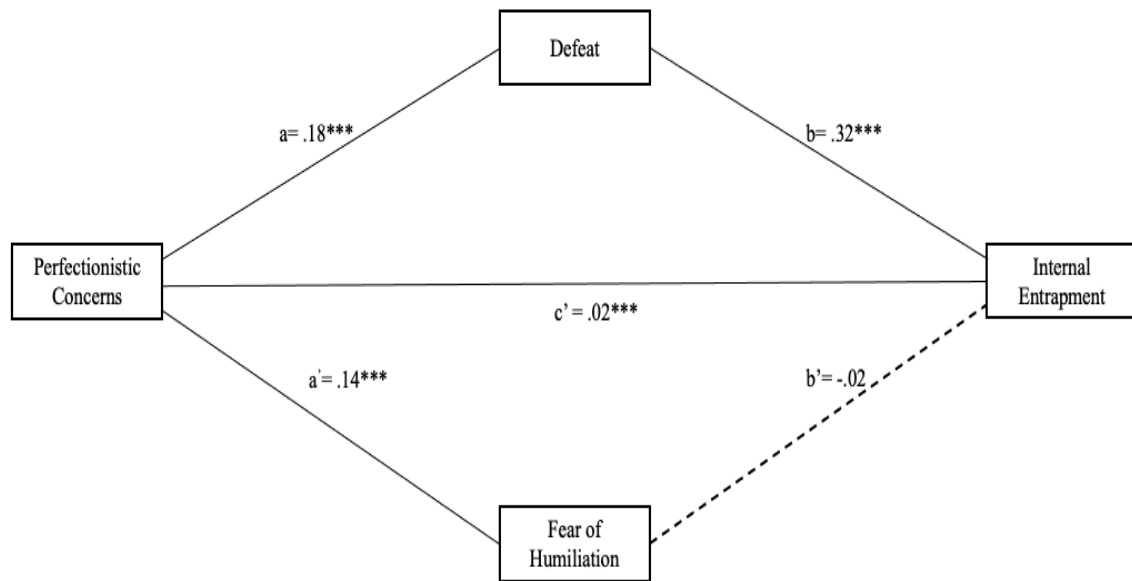


Figure 3.5. Standardised beta coefficients (β) showing the strengths of the associations between perfectionistic concerns, defeat, fear of humiliation and internal entrapment.

The second model tested whether defeat and fear of humiliation mediated between perfectionistic concerns and external entrapment. The conceptual model and path coefficients for this analysis are presented in **Figure 3.6**. Again, perfectionistic concerns were directly, and positively, related to each mediator (paths a and a') and the dependent variable (path c'). Both mediators were also directly, and positively, related to the dependent variable (paths b and b'). In this model, both the indirect paths of interest were significant, indicating that the association of perfectionistic concerns with external entrapment is separately mediated through defeat ($B_{defeat} = .045$, $SE = .0039$, 95% CI [.0376-.0528]) and fear of humiliation ($B_{humiliation} = .0045$, $SE = .0020$, 95% CI [.0005-.0086]). As the direct effect of perfectionistic concerns on the external entrapment remained significant (path c') in the presence of each mediator, defeat and fear of humiliation are acting as partial mediators (Hayes, 2013). The total effect of this model was also significant ($B_{total} = .0495$, $SE = .0039$, 95% CI [.0421-.0574]). Further model information can be found in **Appendix 3.F (Table 3.6)**.

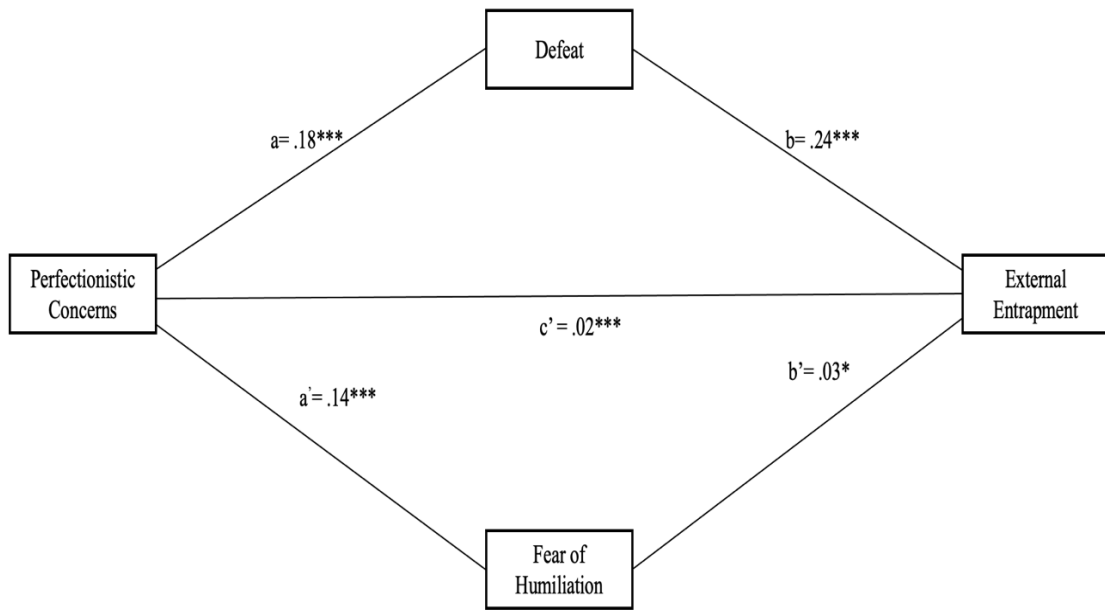


Figure 3.6. Standardised beta coefficients (β) showing the strengths of the associations between perfectionistic concerns, defeat, fear of humiliation and external entrapment.

The third and fourth models tested whether the relationships between perfectionistic strivings, rather than perfectionistic concerns, and internal/external entrapment, were mediated by defeat and fear of humiliation. The conceptual model and path coefficients with internal entrapment as the dependent variable are presented in **Figure 3.7**, and with external entrapment as the dependent variable in **Figure 3.8**. For internal entrapment the direct paths of perfectionistic strivings to fear of humiliation (path a'), and defeat to internal entrapment (path b), were both positive and significant. However, no other paths were significant in this model, indicating that perfectionistic strivings were not associated with internal entrapment, either directly or indirectly via the key defeat ($B_{defeat} = -.0065$, $SE = .0120$, 95%CI [-.0297-.0167]) and fear of humiliation ($B_{humiliation} = -.0002$, $SE = .0014$, 95%CI [-.0031-.0025]) paths. The total effects model was also non-significant ($B_{total} = -.0067$, $SE = .0120$, 95%CI [-.0302-.0169]). Further model information can be found in **Appendix 3.P (Table 3.13)**.

In the model with external entrapment as the dependent variable, perfectionistic strivings was also not directly associated with external entrapment (path c'). In this model the indirect path from perfectionistic strivings to external entrapment via defeat was also non-significant ($B_{defeat} = -.0049$, $SE = .0091$, 95%CI [-.0227-.0127]). However, the other

key path of interest, from perfectionistic strivings to external entrapment via fear of humiliation, was significant, ($B_{humiliation} = .0040$, $SE = .0019$, 95%CI [.0007-.0083]) (**Figure 3.8**). In the absence of a significant direct effect between perfectionistic strivings and external entrapment, this significant indirect effect is consistent with indirect-only mediation between perfectionistic strivings and external entrapment via fear of humiliation (Hair et al., 2021; Hayes & Rockwood, 2017). The total effect model was also non-significant ($B_{total} = -.0009$, $SE = .0101$, 95%CI [-.0210-.0187]). Further model information can be found in **Appendix 3.R (Table 3.14)**.

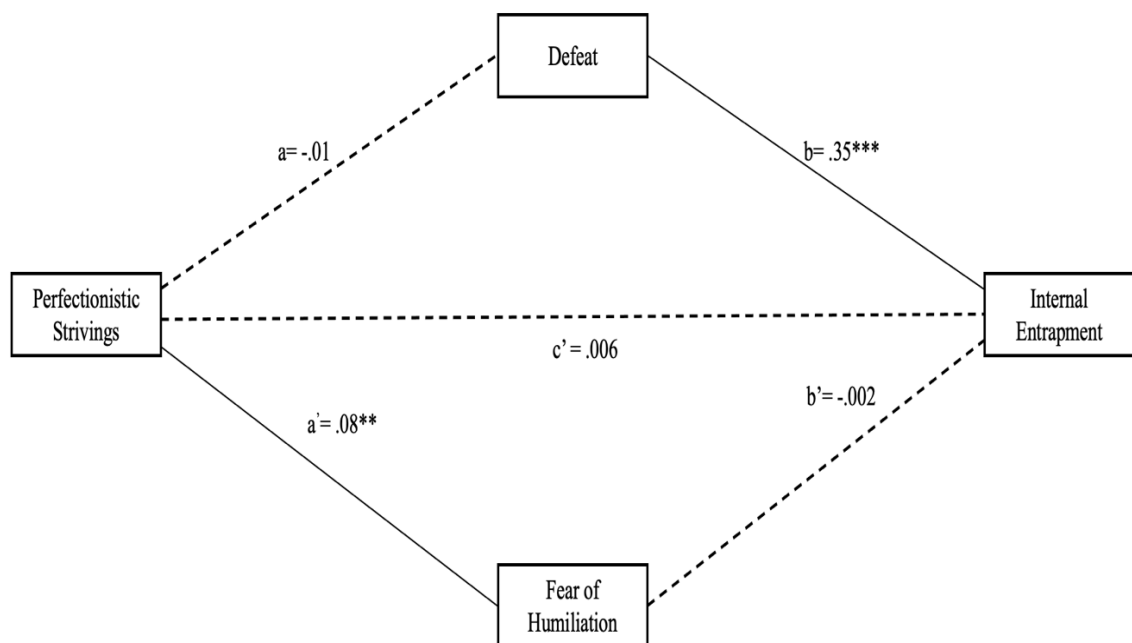


Figure 3.7. Standardised beta coefficients (β) showing the strengths of the associations between perfectionistic strivings, defeat, fear of humiliation and internal entrapment.

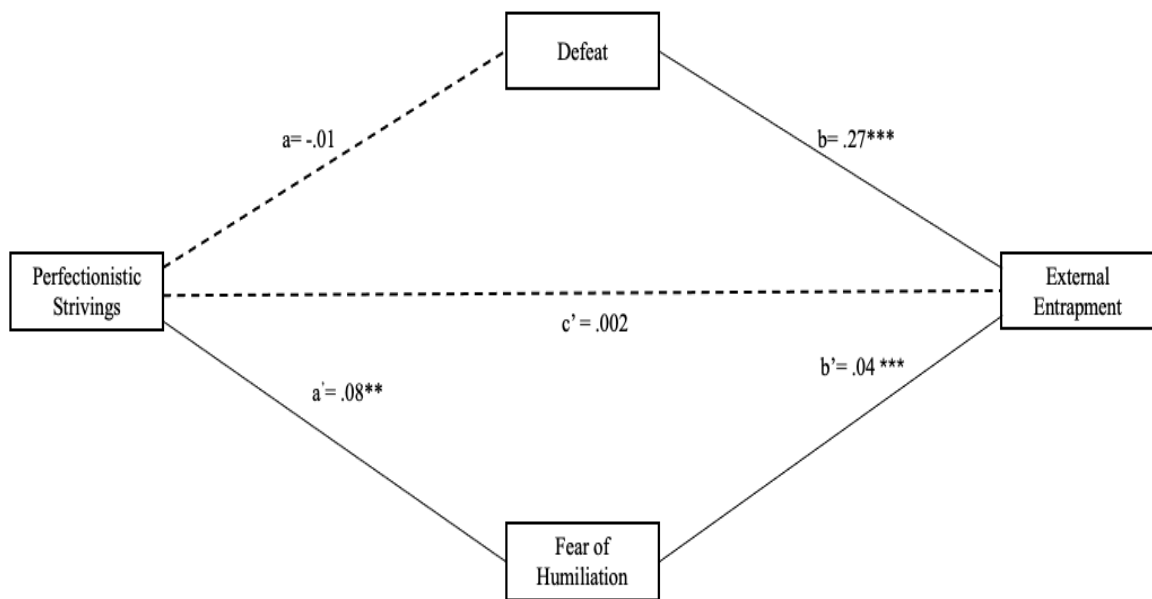


Figure 3.8. Standardised beta coefficients (β) showing the strengths of the associations between perfectionistic strivings, defeat, fear of humiliation and external entrapment.

In summary, there was mixed support for Hypothesis 3.1. There was evidence that defeat partially mediated the perfectionistic concerns–internal and external entrapment relationships. However, fear of humiliation indirect-only mediated the perfectionistic strivings–external entrapment relationship and partially mediated the perfectionistic concerns and external entrapment relationship. In respect of perfectionistic strivings, fear of humiliation did not mediate the former’s relationship with internal entrapment and defeat did not mediate the relationships between perfectionistic strivings and either form of entrapment.

Hypothesis 3.2 Defeat and fear of humiliation will mediate the relationship between childhood trauma and entrapment (internal and external)

Hypothesis 3.2 was examined in two separate multiple mediation models. Within each model defeat and fear of humiliation were included as parallel mediators, with childhood trauma as the independent variable and internal or external entrapment as the dependent variable.

In the first model (**Figure 3.9**) there were significant and positive direct paths from

childhood trauma to internal entrapment (path c') and to each of the mediators, defeat and fear of humiliation (paths a and a'), as well as from defeat to internal entrapment (path b). The key indirect paths from childhood trauma to internal entrapment via defeat and fear of humiliation were significant for defeat ($B_{defeat} = .0424$, $SE = .0050$, 95%CI [.0329-.0521]) but not fear of humiliation ($B_{humiliation} = -.0005$, $SE = .0013$, 95%CI [-.0030-.0021]). As both the direct and indirect (via defeat) effects of childhood trauma on internal entrapment were significant, this is indicative of partial mediation via defeat only (Hayes, 2013). The total effect model was also significant ($B_{total} = .0419$, $SE = .0049$, 95%CI [.0323-.0515]). Further model information can be found in **Appendix F (Table 3.6)**.

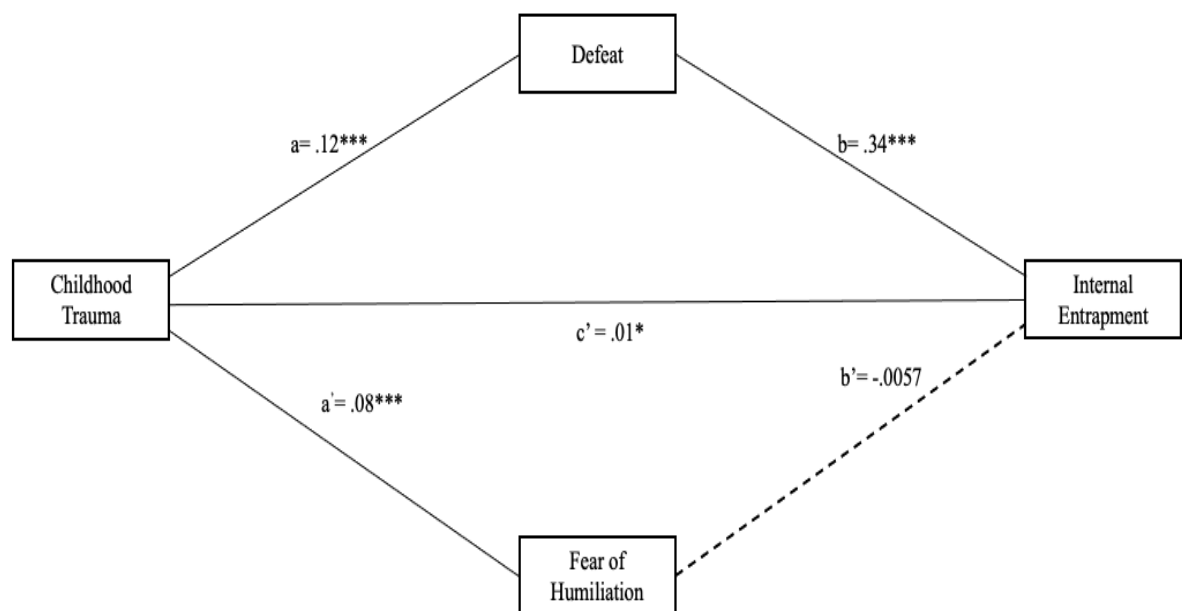


Figure 3.9. Standardised beta coefficients (β) showing the strengths of the associations between childhood trauma, defeat, fear of humiliation and internal entrapment.

In the second model (**Figure 3.10**) there were significant and positive direct paths from childhood trauma to defeat and fear of humiliation (paths a and a'), as well as from defeat and fear of humiliation to external entrapment (paths b and b'). However, the direct path between childhood trauma and external entrapment was not significant (c'). Both the key indirect paths were significant, indicating significant mediation of childhood trauma on external entrapment via both defeat and fear of humiliation. As the direct path between childhood trauma and external entrapment (path c') was not significant, even though

there were significant mediation effects, this suggests that defeat ($B_{defeat} = .0326$, $SE = .0038$, 95%CI [.0253-.0402]) and fear of humiliation ($B_{humiliation} = .0040$, $SE = .0014$, 95%CI [.0014-.0069]) indirect-only mediated the relationship between childhood trauma and external entrapment. The total effect for the model was also significant ($B_{total} = .0365$, $SE = .0040$, 95%CI [.0287-.0445]). Further model information can be found in **Appendix 3.G (Table 3.7)**.

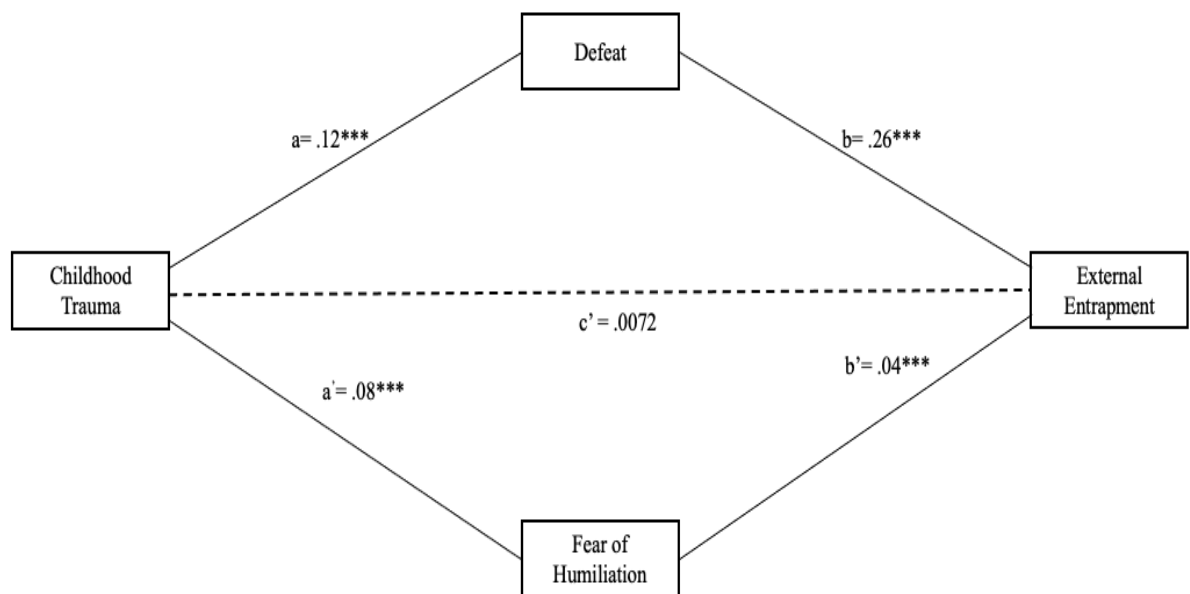


Figure 3.10. Standardised beta coefficients (β) showing the strengths of the associations between childhood trauma, defeat, fear of humiliation and external entrapment.

In summary, there was again mixed support for Hypothesis 3.2. There was evidence that defeat partially mediated the childhood trauma–internal entrapment relationship but no evidence that fear of humiliation mediated this relationship. In contrast, the relationship between childhood trauma and external entrapment was fully mediated by defeat and fear of humiliation with evidence these were indirect-only mediators.

Hypothesis 3.3: Ruminative flooding, as a threat-to-self moderator, should moderate the relationship between fear of humiliation and entrapment (internal and external).

Hypothesis 3 was examined in two separate simple moderation models. Within each model ruminative flooding was included as a moderator, with fear of humiliation as the independent variable and internal or external entrapment as the dependent variable.

In the first model, with internal entrapment as the dependent variable, the overall model was significant ($F(3, 565) = 141.34, p < .001, R^2 = .42$). As shown in **Figure 3.11**, fear of humiliation and ruminative flooding were associated with internal entrapment (paths b_1 and b_2). However, the interaction between ruminative flooding and fear of humiliation was not statistically significant ($b_3 = -.0019, p = .28$), indicating that ruminative flooding did not moderate the relationship between fear of humiliation and internal entrapment. Further model information can be seen in **Appendix 3.H (Table 3.8)**.

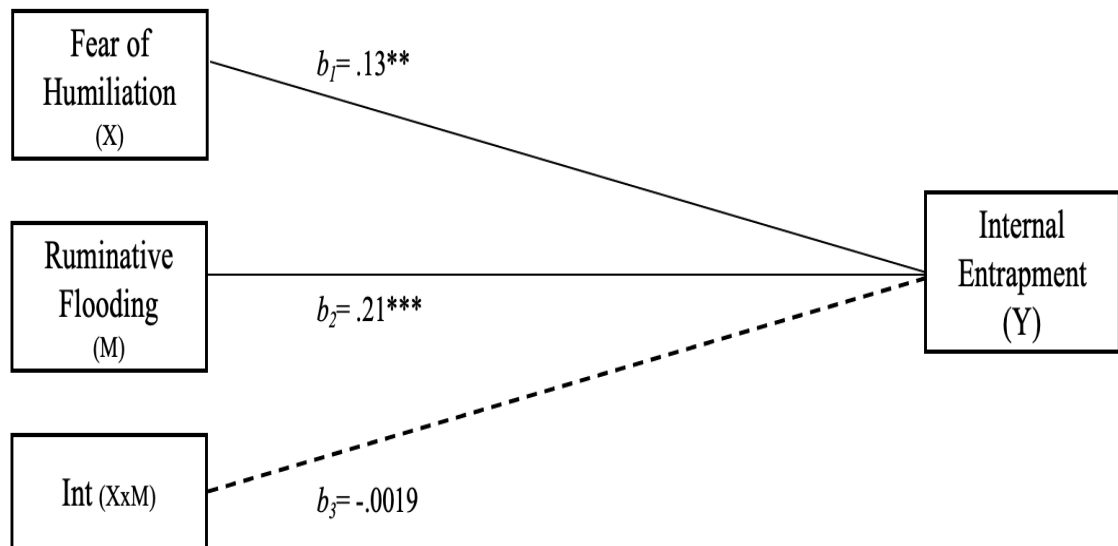


Figure 3.11. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3).

In the second model, with external entrapment as the dependent variable, the overall model was significant ($F(3, 565) = 146.34, p < .001, R^2 = .43$). Both fear of humiliation

and ruminative flooding were positively associated with external entrapment (paths b and b_2) (**Figure 3.12**). Furthermore, the interaction between fear of humiliation and ruminative flooding was also significant ($b_3 = -.0039$, $t(565) = -2.58$, $p = .01$, 95% CI $[-.0069, -.0009]$). Further model information can be seen in **Appendix 3.I (Table 3.9)**. The simple slopes shown in **Figure 3.13** represent the conditional effects of fear of humiliation at high (+1SD, 34.60) and low (-1SD, 17.44) levels of ruminative flooding. The conditional effects show that feelings of external entrapment increase with increasing fear of humiliation for those at high and low levels of ruminative flooding ($B_{Rf_LowLevels} = .1460$, $SE = .0189$, $t(565) = 7.72$, $p < .001$, 95% CI $[.1089-.1830]$), ($B_{Rf_HighLevels} = .0789$, $SE = .0194$, $t(565) = 4.07$, $p < .001$, 95% CI $[.0409-.1170]$), with the strongest feelings of external entrapment experienced by those reporting relatively higher levels of both fear of humiliation and ruminative flooding.

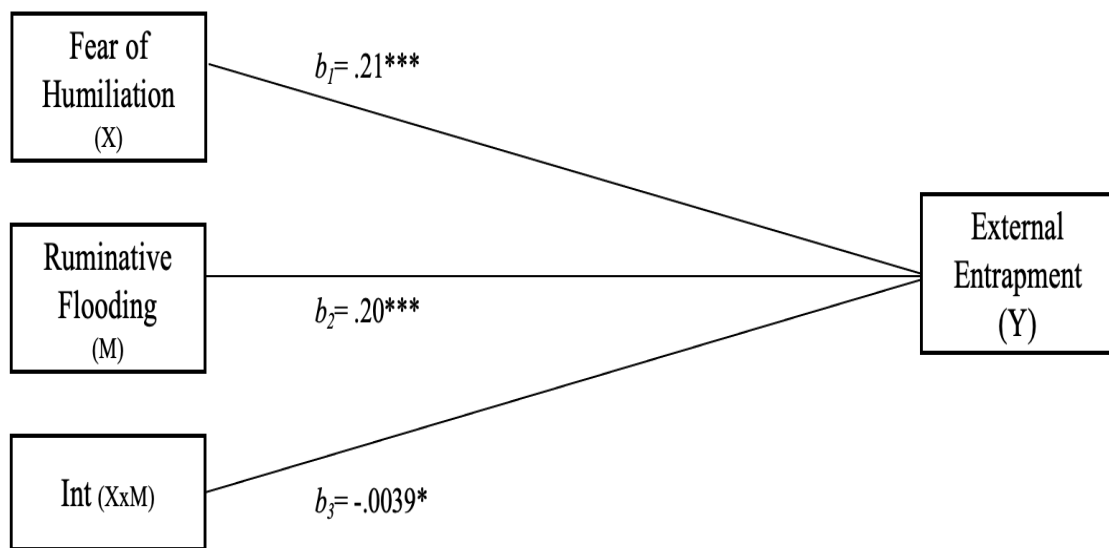


Figure 3.12. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3) (external entrapment).

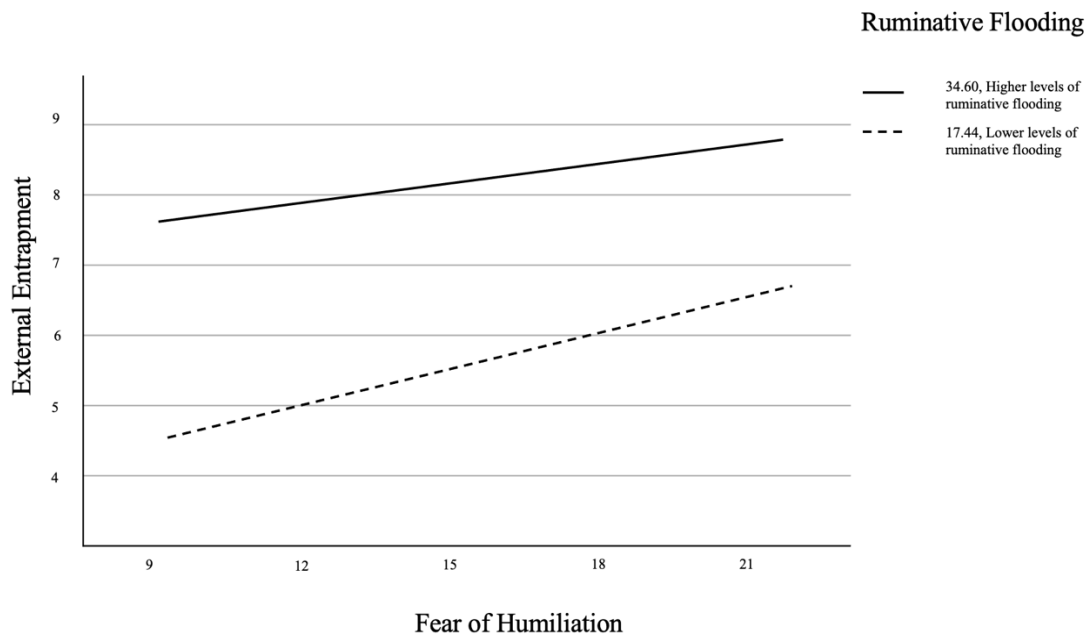


Figure 3.13. Simple slopes of the relationship between fear of humiliation and external entrapment at high and low levels of ruminative flooding. Moderator values in conditional tables are +/- 1 SD from the mean.

In summary, Hypothesis 3.3 was partially supported. Ruminative flooding did not moderate the association between fear of humiliation and internal entrapment but did moderate the relationship between fear of humiliation and external entrapment. Individuals with the strongest perception of external entrapment were those reporting both relatively higher levels of fear of humiliation and ruminative flooding.

Hypothesis 3.4: Ruminative flooding, as a threat-to-self moderator, should moderate the relationship between defeat and entrapment (internal and external).

Similar to Hypothesis 3.3, Hypothesis 3.4 was examined using two separate simple moderation models, with ruminative flooding as a moderator, and defeat as the independent variable and internal or external entrapment as the dependent variable.

In the first model, with internal entrapment as the dependent variable, the overall model was significant ($F(3,565) = 347.67, R^2 = 0.64, p < .001$). Defeat and ruminative flooding were both positively associated with internal entrapment (**Figure 3.14**). However, the interaction of ruminative flooding and defeat was not statistically significant ($b_3 = -.0021$,

$p=.11$), indicating that ruminative flooding did not moderate the relationship between defeat and internal entrapment. Further model information can be seen in **Appendix 3.J (Table 3.10)**.

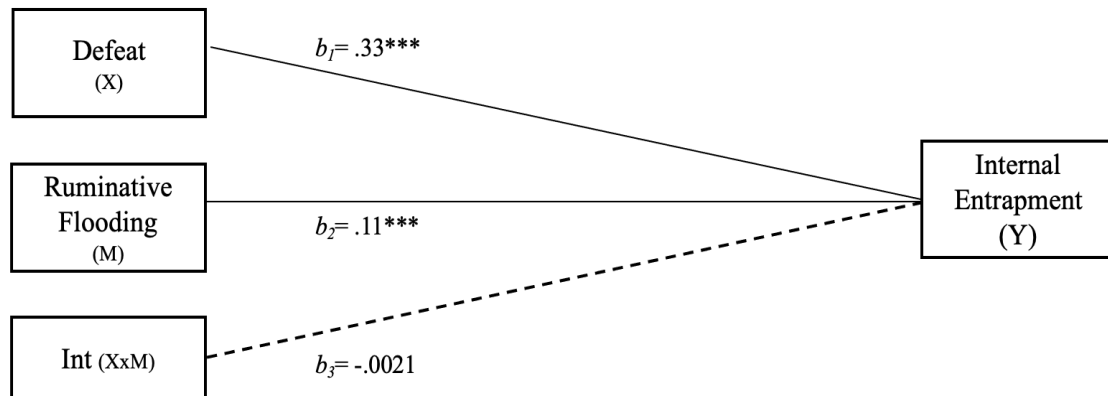


Figure 3.14. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3) (internal entrapment).

In the second model, with external entrapment as the dependent variable, the overall model was significant ($F(3,565) = 276.06$, $R^2 = 0.59$, $p < .001$). Defeat and ruminative flooding were both positively associated with external entrapment (**Figure 3.15**). The interaction between defeat and ruminative flooding was also significant, indicating moderation ($b_3 = -.0032$, $p = .01$). Further model information can be seen in **Appendix 3.K (Table 3.11)**. Simple slopes shown in **Figure 3.16** represents the conditional effects of fear of defeat at high (+1SD, 34.60) and low (-1SD, 17.44) levels of ruminative flooding. The conditional effects show that feelings of external entrapment increase with increasing levels of defeat for those at high and low levels of ruminative flooding ($B_{Rf_LowLevels} = .2605$, $SE = .0169$, $t(565) = 15.39$, $p < .001$, 95%CI [.2273-.2937]), ($B_{Rf_HighLevels} = .2058$, $SE = .0172$, $t(565) = 11.95$, $p < .001$, 95%CI [.1720-.2396]), with the strongest feelings of external entrapment experienced by those reporting relatively higher levels of both defeat and ruminative flooding.

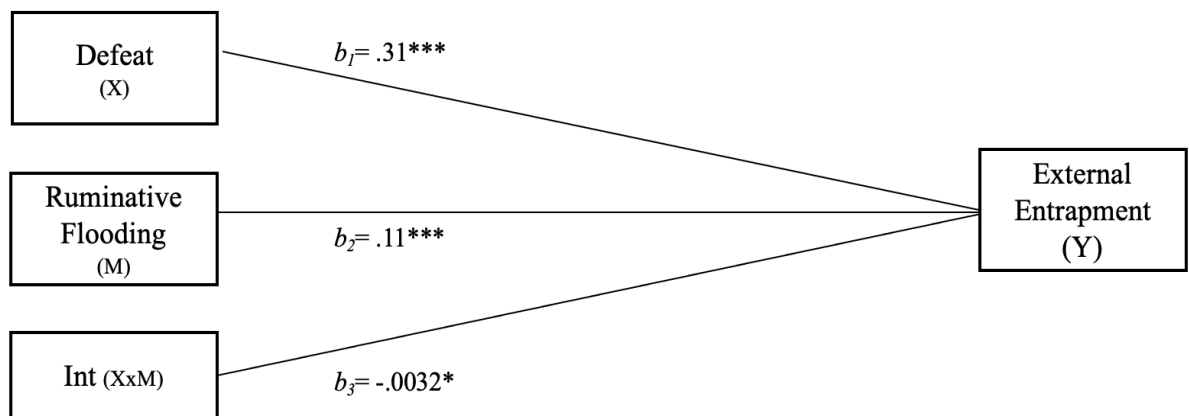


Figure 3.15. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3) (external entrapment).

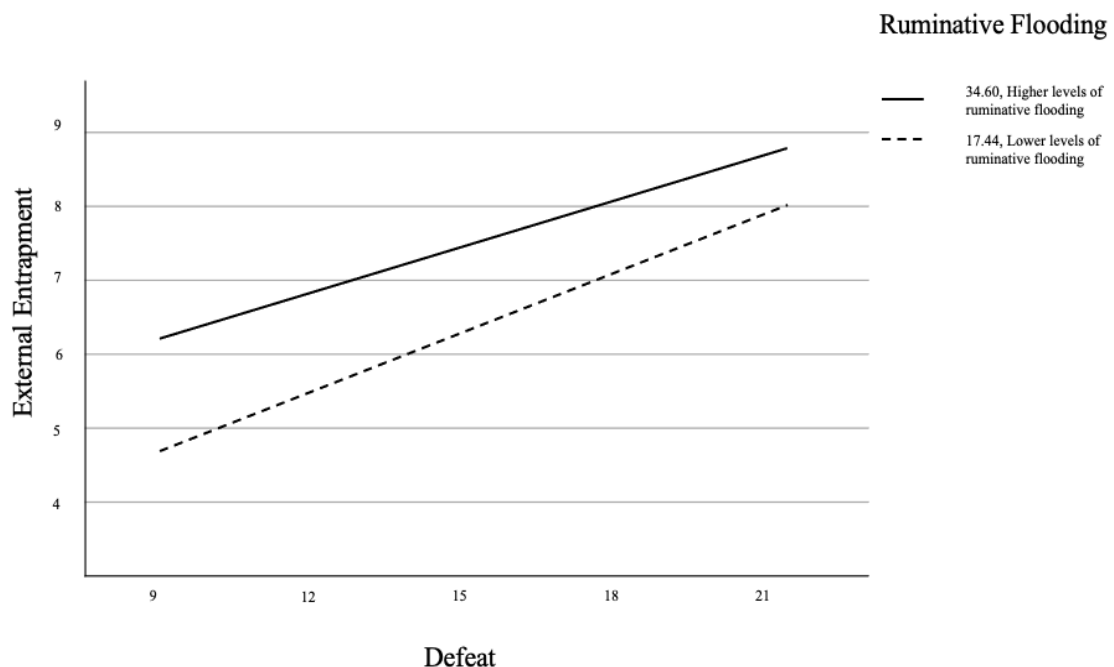


Figure 3.16. Simple slopes of the relationship between fear of humiliation and external entrapment at high and low levels of ruminative flooding. Moderator values in conditional tables are ± 1 SD from the mean.

In summary, Hypothesis 3.4 was also partially supported. The hypothesised moderation effect of ruminative flooding on the association between feelings of defeat and internal entrapment was not significant. However, the moderation effect of ruminative flooding on the association between defeat and external entrapment was significant. Individuals with higher levels of defeat experienced higher levels of external entrapment at all levels of ruminative flooding. However, at lower levels of ruminative flooding the relationship

between defeat and external entrapment appears more dynamic, as seen in the **Figure 3.16** based on the somewhat steeper slope.

3.4 Discussion

The present study, guided by the IMV model (O'Connor & Kirtley, 2018; O'Connor et al., 2016; O'Connor, 2011), has addressed its aims, firstly, to enhance our understanding of the relationship between perfectionism, childhood trauma and entrapment, and secondly, to clarify whether ruminative flooding acts as a moderator of the relationships between feelings of defeat and fear of humiliation and internal/external entrapment. As planned, four hypotheses were tested:

Hypothesis 3.1. It was posited that defeat and fear of humiliation would mediate the relationship between perfectionism (perfectionistic concerns and strivings) and entrapment (internal and external).

Hypothesis 3.2. It was hypothesised that defeat and fear of humiliation would mediate the relationship between childhood trauma and entrapment (internal and external).

Hypotheses 3.3. It was predicted that ruminative flooding, a threat-to-self moderator, would moderate the relationship between fear of humiliation and entrapment (internal and external).

Hypothesis 3.4. It was predicted that ruminative flooding would also moderate the relationship between defeat and entrapment (internal and external).

There was mixed support for the hypotheses, as summarised below:

Defeat. As a mediator, defeat had stronger mediation effects in parallel multiple mediation models than fear of humiliation (H 3.1 and H 3.2). In Hypothesis 3.1, defeat partially mediated the relationships between perfectionistic concerns and internal/external entrapment. However, when perfectionistic strivings was the predictor of internal/external entrapment, its

mediation effect was non-significant. In addition, feelings of defeat partially mediated the relationship between childhood trauma and internal entrapment and indirect-only mediated (Hair et al., 2021) the childhood trauma-external entrapment relationship alongside fear of humiliation (H 3.2).

Fear of humiliation. As a mediator, fear of humiliation was a more consistent mediator of the perfectionism-external entrapment relationship than the perfectionism-internal entrapment relationship. Specifically, fear of humiliation indirect-only mediated the relationship between perfectionistic strivings and external entrapment and partially mediated the relationship between perfectionistic concerns and external entrapment. However, when fear of humiliation was tested as a mediator of the perfectionism and internal entrapment relationship, its mediation effect was nonsignificant for both perfectionistic strivings and concerns (H 3.1). Furthermore, fear of humiliation also indirect-only mediated the relationship between childhood trauma and external entrapment but did not mediate the path from childhood trauma to internal entrapment (H 3.2).

Ruminative flooding. As expected, when tested as a moderator, ruminative flooding strengthened the relationship between feelings of defeat and external entrapment (H 3.4), as well the relationship between fear of humiliation and external entrapment (H 3.3). In contrast, there was no evidence that ruminative flooding moderated these relationships when internal entrapment was the outcome (H 3.3 and 3.4).

3.4.1 Pre-Motivational Factors: Perfectionism and Childhood Trauma

Looking beyond the hypotheses, the findings highlight that childhood trauma and perfectionism are critical pre-motivational risk factors in terms of their relationship with entrapment, both directly and indirectly via other psychological factors and stressors. The notable pathways connecting perfectionistic concerns with motivational constructs such as defeat, and humiliation suggest that individuals with high levels of perfectionistic concerns

are more prone to feelings of entrapment. The analyses also illustrate the dynamic interplay between perfectionistic concerns, feelings of defeat and humiliation.

The study findings make important and novel contributions to the literature on the relationship between perfectionism and entrapment. For example, the current study found that fear of humiliation indirect-only mediated the perfectionistic strivings-external entrapment relationship. This finding was unique because the analyses explored the predictive capacity of perfectionistic strivings on external entrapment through defeat and humiliation, consistent with the paths proposed by the IMV model. This relationship has not been explored in this way before, although some studies (e.g., Bloch-Elkouby et al. 2020), have investigated these along with many other many risk factors using SEM methods.

Similarly, childhood trauma was significantly associated with feelings of defeat and fear of humiliation, leading to perceptions of entrapment. Notwithstanding differences in study design and pathways examined, the present study therefore adds to a limited but growing body of research which has investigated the relationship between childhood trauma, defeat and entrapment. For example, these findings support previous research that has found adverse early life experiences are associated with increased susceptibility to feelings of entrapment and maladaptive coping mechanisms (Rogerson et al., 2024). The findings are also parallel to the findings of O'Connor et al. (2020) (in which they measured daily stress-related vulnerability factors, which were positively, and significantly, associated with daily suicide risk, including daily feelings of defeat and entrapment), and Hong and Shin (2021) who reported a significant path from childhood trauma to entrapment through defeat.

The current study findings therefore reinforce and extend the existing literature in important ways, emphasising the key role of cognitive-emotional processes as individual vulnerabilities that can increase feelings of entrapment.

3.4.2 Perfectionistic Concerns vs. Perfectionistic Strivings

As conveyed in the previous section, parallel to some recent literature (e.g., Smith et al., 2018; Zeifman et al., 2019), we found evidence that perfectionistic strivings were not significantly, and directly, associated with internal or external entrapment, but were associated with external entrapment through fear of humiliation. While perfectionistic strivings were correlated with perfectionistic concerns and humiliation in bivariate analyses, they did not demonstrate significant direct effects on feelings of entrapment. In contrast perfectionistic concerns demonstrated a more consistent pattern of association with defeat, humiliation, and internal/external entrapment. Although we did not hypothesise that these superordinate dimensions of perfectionism would have different patterns of association with entrapment, defeat and humiliation, the finding that perfectionistic concerns were more consistently related to these factors than were perfectionistic strivings is in keeping with the review findings of Chapter 2. These findings may suggest that aspects of perfectionism characterised by socially prescribed perfectionism and evaluative concerns (i.e., perfectionistic concerns –Stoeber, 2018) are relatively more important to our understanding of suicidality than those involving personal standards or goals (i.e., perfectionistic strivings). Indeed, this finding is consistent with the Perfectionism Social Disconnection Model which holds that socially prescribed perfectionism can lead to interpersonal complications that precipitate the emergence of suicide risk (Roxborough et al., 2016). Indeed, based on the current evidence, perfectionistic concerns appears to be the more salient form of perfectionism, yielding stronger coefficients with the suicide-relevant, ego-involving stressors (i.e., defeat, fear of humiliation, internal/external entrapment).

In addition, as described in Chapter 2, perfectionistic concerns (mainly socially prescribed perfectionism) have been shown to have positive and significant associations with suicidal thoughts and behaviours (Smith et al., 2018). The growing evidence base, indicating that perfectionistic concerns has a relatively stronger role to play in suicidal risk, suggests therapeutic interventions which seek to reduce maladaptive concerns hold substantial appeal as an area of future research.

3.4.3 Ruminative Flooding as a Moderator

The present study found a moderation effect of ruminative flooding, which to some extent is consistent with existing studies showing that rumination amplifies the effect of defeat on entrapment (Sardarzehi et al., 2023; Scowcroft et al., 2019). The moderation analysis also revealed that ruminative flooding strengthened the relationship between fear of humiliation and external entrapment only. As is predicted from the IMV model (O'Connor & Kirtley, 2018), this finding suggests that this particularly intense type of ruminative process (Calati et al., 2020) exacerbates the already deleterious effects of fear of humiliation and feelings of defeat on external entrapment. It is surprising that there was no evidence of moderation for internal entrapment because internal entrapment is considered a stronger correlate of suicide risk than external entrapment (Rasmussen et al., 2023; Baumeister, 1990). Although speculative, this may reflect the possibility that internal entrapment and rumination are both internally focused psychological states and processes, whereas external entrapment combines an internal process with feeling trapped by external circumstances. Taken together, the findings for external entrapment reinforce the importance of ruminative processes in suicide risk (Teismann & Forkmann, 2017). Further prospective design research may offer further insight into how negative cognitive-emotional processes such as rumination may alter the experience or perception of negative emotions such as defeat, humiliation and entrapment.

3.4.4 Defeat and Fear of Humiliation as Motivational Mediators

Defeat was a more consistent mediator of the relationships examined between perfectionistic concerns, childhood trauma, and entrapment (both internal and external) compared to fear of humiliation. This finding was unique, as to the authors knowledge, it is the first to explore the relationship between specific aspects of perfectionism and entrapment, through defeat and fear of humiliation. For example, Bloch-Elkouby et al.'s study (2020) explored overall perfectionism and entrapment alongside the other relevant risk factors in a SEM but did not focus on different aspects of perfectionism or entrapment.

This finding also provides some support for the IMV model's premisses that defeat and humiliation precipitate and are likely to drive feelings of entrapment. Interestingly, however, the mediating role of fear of humiliation was relatively weaker and non-significant in some pathways, particularly where internal entrapment was the outcome of interest. This may point towards the importance of fear of humiliation as a more context-dependent mediator or one which is moderated by other variables such as ruminative processes. Additionally, it is important to note that fear of humiliation is just one aspect of a broader humiliation construct, and it is possible that other aspects of humiliation may contribute differently.

3.4.5 Implications

Even though most of the present study findings are consistent with the IMV model (O'Connor & Kirtley, 2018), it was somewhat surprising that more of the significant pathways involved external rather than internal entrapment. The greater prominence of external entrapment in the present study is contrary to several other studies where internal entrapment has played a more key role in explaining the relationship between defeat and suicidal ideation (O'Connor & Portzky, 2018; Owen et al., 2018; Rasmussen et al., 2010). However, this finding may not be entirely unexpected, as childhood trauma and perfectionism have many external dimensions (e.g., socially prescribed perfectionism, perfectionistic concerns, physical/emotional neglect and abuse) which may account for the relatively stronger associations with external rather than internal entrapment. This interpretation also aligns with the findings of Zortea et al. (2020), highlighting that these relationships (attachment styles based on the perceived adverse childhood experiences, feelings of defeat, entrapment, and suicidal ideation) often involve interpersonal or external relational context (external sources of self-worth), which may heighten vulnerability to entrapment, defeat, and suicide risk later in life. The findings also have important theoretical implications for the role of perfectionism in the suicidal process (Flett & Hewitt, 2024; Smith et al., 2018). They highlight the importance of conceptualising perfectionism from a multidimensional perspective (Hewitt & Flett, 1991) and specifically illustrate that perfectionistic concerns is more central to

understanding suicide risk than perfectionistic strivings, consistent with recent meta-analyses (Smith et al., 2018). As noted above, it is also of interest that defeat appears to be more important than fear of humiliation and so clinical efforts may be best directed to targeting feelings of defeat. In addition, in support of the recent call to focus on perfectionism in suicide risk assessment (Flett & Hewitt, 2024), greater efforts need to be made in developing perfectionism-specific psychological treatments. We also only employed one measure of rumination in this study, and it would be useful to explore the moderating effect of rumination using other measures such as brooding rumination (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Wilson et al., 2015).

It should also be noted that the two vulnerability factors examined in this study, perfectionism and childhood trauma, are potentially linked. For example, it has been suggested that perfectionism (as a maladaptive personality trait) may emerge as a coping response to the feelings of shame that follow childhood trauma, sometimes alongside neuroticism (Verrastro et al., 2024; Chen et al., 2019; Hill et al., 2011; Miller et al., 2007). Although the relationship between perfectionism and childhood trauma was not a focus of the present study, and the paths between these vulnerability factors were not examined in detail, there was a significant positive correlation between perfectionistic concerns and childhood trauma ($r = .246^{**}$).

Finally, aligning with the Latent Vulnerability Theory (McCrory & Viding, 2015), mediation-only interactions may indicate that as pre-motivational risk factors, childhood traumas and perfectionistic strivings are not emotional factors that actively trigger feelings of being trapped during our daily routines without any exposure to or the effects of any external stressor. Especially childhood traumas are dormant during our daily routines, being latent vulnerabilities. However, within the conceptual models of this study, ego-involving stress factors such as defeat and humiliation, may need to be experienced at statistically significant levels in order to be driven to feel trapped with the effects of pre-motivational vulnerabilities.

3.4.6 Strengths and Limitations

A key strength of this study was the use of a sufficiently statistically powered sample, recruited from a wide range of sources. Another strength was the testing of theory-driven hypotheses with potential clinical implications. However, the study's findings ought to be considered in light of its limitations. The cross-sectional nature of the study design and data prevents us from drawing causal implications. In addition to this, it is worth noting that almost two thirds of the study sample reported a history of mental health diagnosis, therefore, this sample is unlikely to be representative of the population in general. However, the over-representation of people with a mental health diagnosis is unsurprising as this study was advertised with suicide in the title, therefore it will have attracted those with a history of mental health problems. Despite the high proportion of people with mental health problems in the sample, it is important to note that this is not a clinical sample. Finally, several indirect-only mediation effects were observed for perfectionistic strivings and childhood trauma with external entrapment. These initially non-significant direct paths between perfectionistic strivings and external entrapment, as well as between childhood trauma and external entrapment, were significant via mediation effects of fear of humiliation and defeat. Future research should examine these relationship pathways across diverse populations and cultural contexts, including in clinical contexts, both cross-sectionally and prospectively to ensure the consistency of these findings.

3.5 Conclusions

These findings highlighted the importance of childhood trauma, perfectionistic concerns, defeat, humiliation, and rumination in the pathways leading to feelings of being trapped. The study findings also offer valuable insights into the underlying mechanisms of suicide risk. In the next chapter, we will build on these findings, again within the IMV model's framework, to explore additional factors in the transition from feelings of entrapment to suicide ideation.

Towards an Enhanced Understanding of Suicidal Ideation through the lens of the Integrated Motivational-Volitional (IMV) Model of Suicide Part 2: Motivational Risk Factors Contributing to Suicide Ideation

4.0 Abstract

Background and aims: Building upon the findings of Chapter 3, the present study aims to advance our understanding of the IMV model by further exploring the dynamics between the key motivational factors that are posited to lead to suicidal ideation. As outlined in Chapters 1 and 3, this research seeks to offer a more comprehensive understanding of suicide risk by empirically testing the pathways proposed in the IMV model. The present study is presented across two different chapters, each addressing different hypotheses and constructs derived from the IMV model. In this chapter the focus is on defeat, fear of humiliation, internal/external entrapment, goal reengagement, goal disengagement, thwarted belongingness, perceived burdensomeness and suicidal ideation.

Methods: The study design was cross-sectional and utilised the same sample as Chapter 3. Defeat, fear of humiliation, internal/external entrapment, goal reengagement, goal disengagement, thwarted belongingness, perceived burdensomeness, and suicidal ideation were the foci of this study in terms of exploring the dynamics among these variables as

depicted in the IMV model. The survey scales were randomly ordered as conveyed in Chapter 3. Multivariate regression-based mediation and moderation analyses using the Hayes Process Macro were used to test the study hypotheses.

Results: The mediating roles of internal/external entrapment were consistently found to be significant in all the conceptual models. However, contrary to the hypotheses, the potential moderating roles of goal adjustment factors, thwarted belongingness, and perceived burdensomeness were not significant.

Conclusions: Overall, the results once again underlined the predominant mediating role of internal/external entrapment in the pathways from fear of humiliation/defeat to suicidal ideation in line with the IMV model's premises. While goal reengagement and disengagement have been proposed as potential protective factors for psychopathology, physical health and well-being, and suicidal ideation previously, according to current findings, they did not buffer the effects of internal/external entrapment on suicidal ideation in this sample. Therefore, the results provided partial support for the IMV model. Likewise, even though the Interpersonal Theory of Suicide proposes that thwarted belongingness and perceived burdensomeness are the key risk factors for suicidal thoughts, their moderation effects were not evident.

4.1 Introduction

In Chapter 3, factors from the pre-motivational phase and the motivational phase of the IMV model were examined, providing further empirical support for some of the cognitive-emotional processes that appear to convey individual vulnerability to entrapment, consistent with the premises of the IMV model. This study aimed to extend the coverage of the previous study (Chapter 3) by exploring additional factors within the IMV model regarding the motivational phase to see how these motivational factors contribute to the emergence of suicide ideation in our sample.

4.1.1 The Motivational Phase of the IMV Model of Suicide

The motivational phase of the IMV model covers the mediating and moderating factors which precipitate the emergence of suicidal ideation, such as humiliation, defeat, entrapment, thwarted belongingness, burdensomeness, goal reengagement and goal disengagement (Kirtley & O'Connor, 2018; O'Connor, 2014; O'Connor, 2011). Indeed, these variables are the focus of this Chapter which aims to explore their relationship with suicidal ideation.

Chapters 1 and 3 provide detailed information regarding the role of defeat, humiliation (as fear of humiliation) and entrapment in the suicidal process. However, in this chapter several key moderators within the motivational phase, namely thwarted belongingness, perceived burdensomeness, goal reengagement and goal disengagement) are examined.

Thwarted belongingness, the sense of disconnection from others, and burdensomeness, defined as the belief of being a burden to others, have both been theorised as critical drivers/contributors/moderators of suicidal ideation within the IMV model. Indeed, they have been consistently found to be significantly associated with suicide risk in the literature (Cohen et al., 2019; Chu et al., 2017; Joiner et al., 2009; Van Orden et al., 2010). For the present purposes, the IMV model posits that thwarted belongingness and burdensomeness act as moderators, which can be important in the emergence of suicidal ideation (O'Connor &

Kirtley, 2018).

Additionally, goal regulation strategies such as goal reengagement, defined as the ability to focus on the new/alternative goals and goal disengagement, defined as one's ability to disengage from unachievable goals, are also considered motivational moderators in the IMV model. As summarised in Chapter 1, there is evidence that these goal regulation processes are implicated in suicide risk (e.g., O'Connor et al., 2009; O'Connor & Forgan, 2007), as well as wellbeing (Wrosch et al., 2013; Wrosch et al., 2003). More widely, the relevant literature also asserts that they play adaptive roles when individuals face unattainable goals, and they are associated with higher levels of positive well-being and indicators of physical health (Barlow et al., 2018). In light of these, in the present study, it is expected that disengaging in unachievable goals and reengaging in new ones would act as buffers, reducing the likelihood that suicidal ideation emerges. If the study yields evidence of buffering effects, the findings could usefully inform the development of clinical interventions to reduce suicide risk.

Despite the growing theoretical background regarding the roles of these risk/protective factors of suicide, the empirical evidence remains limited. Therefore, this study aimed to better understand the nature of the relationship between these motivational factors (see Figure 4.1) by addressing the following questions:

Research Question 4.1. To what extent does internal/external entrapment predict suicide ideation?

Research Question 4.2. To what extent do goal reengagement and goal disengagement moderate the relationship between internal/external entrapment and suicidal ideation?

Research Question 4.3. To what extent do thwarted belongingness and perceived burdensomeness moderate the relationship between internal/external entrapment and suicide ideation?

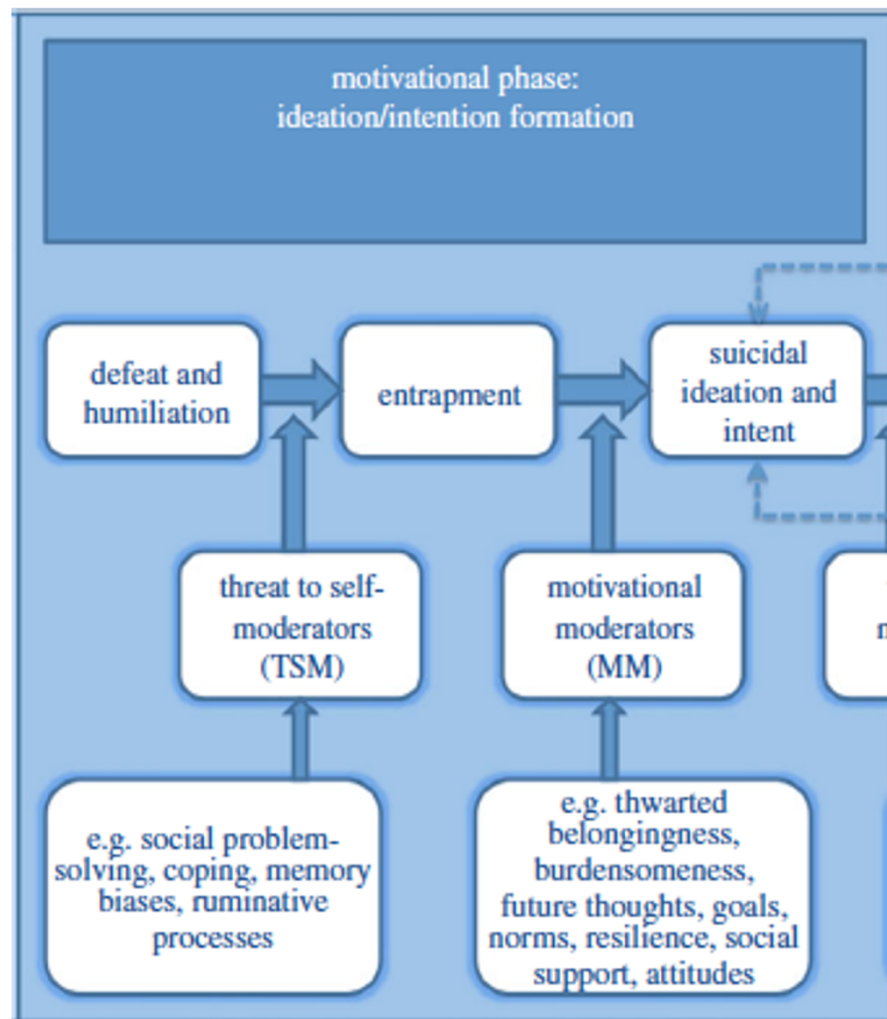


Figure 4.1. The motivational phase of the IMV Model of Suicide (O'Connor & Kirtley, 2018).

4.1.2 Aims and Hypotheses

In summary, drawing on the motivational phase of the IMV model, the present study firstly aims to enhance understanding of the relationship between some of the motivational phase vulnerability factors, namely fear of humiliation, defeat and entrapment and suicidal ideation. Secondly, it aims to enhance the understanding of the effects of four potential motivational phase moderators, namely goal reengagement, goal disengagement, belongingness and burdensomeness on the relationship between entrapment (internal/external) and suicidal ideation. To address these two aims, five hypotheses were tested.

a) The first two hypotheses tested the mediation effect of internal/external entrapment in the motivational phase of the IMV model, as according to the IMV model, internal/external entrapment mediates the relationship between defeat and humiliation and suicidal ideation (O'Connor & Kirtley, 2018; Cohen et al., 2022).

Hypothesis 4.1: Feelings of internal/external entrapment should mediate the relationship between fear of humiliation and suicidal ideation.

Hypothesis 4.2: Feelings of internal/external entrapment should mediate the relationship between defeat and suicidal ideation.

b) The next three hypotheses tested the role of four motivational moderators (MM) in the context of the IMV model.

Hypothesis 4.3: Adaptive goal pursuit is a motivational moderator (acting as a buffer) between internal/external entrapment and suicidal ideation in the IMV model (O'Connor & Kirtley, 2018). Based on this postulation, it was hypothesised that goal disengagement and re-engagement should moderate the relationship between internal/external entrapment and suicidal ideation.

Hypothesis 4.4: Belongingness is a MM between internal/external entrapment and suicidal ideation, according to the IMV model (O'Connor & Kirtley, 2018). Therefore, it was hypothesised that the lack of belongingness would exacerbate the relationship between internal/external entrapment and suicidal ideation.

Hypothesis 4.5: Again, the IMV model defines burdensomeness as a moderator (MM) between internal/external entrapment and suicidal ideation (O'Connor & Kirtley, 2018). Therefore, it was hypothesised that burdensomeness would exacerbate the relationship between internal/external entrapment and suicidal ideation.

4.2 Design

This study also utilised a cross-sectional survey design.

4.2.1 Participants and Procedure

This study reports the results from the same sample that was used in the study described in Chapter 3. Further information, ethics approval, and study materials were provided in Chapter 3 (see **Chapter 3- 3.2.1**).

4.2.2 Measures

Entrapment was measured via the *Entrapment Scale-Short Form (E-SF*; De Beurs, Cleare, Wetherall, Eschle-Byrne, Ferguson, O'Connor & O'Connor, 2020) which is 4-item questionnaire assessing feelings of external (e.g. "I feel powerless to change things") and internal (e.g. "I feel trapped inside myself") entrapment. Responses are provided on a 5-point Likert-type scale ranging from 0 (Not at all like me) to 4 (Extremely like me). The internal consistency of the scale was excellent in the present study sample ($\alpha = .89$). This scale is a recent and highly reliable scale that was used in suicide literature, allowing researchers to measure internal/external entrapment separately, with only 4 items.

Suicidal Ideation was recorded via the 8-item "Suicidal Ideation" subscale of the *Suicide Probability Scale (SPS*; Cull & Gill, 1982), which is a widely used and highly reliable scale in suicide literature. Responses are provided on a 4-point Likert-type scale ranging from 0 (none or a little of the time) to 3 (most or all of the time), e.g., "I think of suicide". The internal consistency of the scale was high in the present study sample ($\alpha = .91$).

Goal reengagement, goal disengagement, thwarted belongingness and perceived burdensomeness were assessed by the relevant subscales of the *Suicidal Narrative Inventory (SNI*; Cohen et al., 2019). Responses are provided on a 5-point Likert-type scale from 1 (not at all true) to 5 (extremely true). This scale was utilised because it measures four of the important factors of interest through its subdimensions. It was specifically

designed for suicide research (Cohen et al., 2019).

Goal reengagement consisted of 5 items (e.g. “If I have to stop pursuing an important goal in my life, I think about other new goals to pursue”). In comparison, *goal disengagement* consisted of only 3 items (e.g. “I stay committed to a goal for a long time”), all of which had reversed scores with $\alpha = .93$.

Thwarted Belongingness (e.g. “These days, other people care about me”) and *burdensomeness* (e.g. “These days, I think the people in my life wish they could be rid of me”) had 5 items each (Lew et al., 2020; Cohen et al., 2019). In the present study, the internal consistencies of these four subscales were very good (goal reengagement $\alpha = .93$, goal disengagement $\alpha = .74$, thwarted belongingness $\alpha = .87$, perceived burdensomeness $\alpha = .94$).

Demographic Characteristics. Items were included to record age, gender identity, ethnicity, country residing in, relationship status, education, employment, and whether they have ever been diagnosed with a mental health issue.

4.2.3 Data Preparation and Statistical Analyses

A priori power calculation. Details of the a priori power analysis is provided in Chapter 3 (see **Chapter 3- 3.2.3**).

Data screening and preparation. This study is also multivariate and cross-sectional in design as per the previous study (see **Chapter 3- 3.2.3**). For data analysis, this study also utilised Hayes’ mediation and moderation analyses (2013, 2017) to investigate the relationships between the given variables. Data screening and preparation are not described in this chapter because the same sample is used in this study as that reported in Chapter 3. A more detailed description of the data screening and preparation process with supporting test results and figures specific to this chapter can be found in **Appendix 4.S**.

Data analysis. As in Chapter 3, the socio-demographic characteristics of the study

sample and study variables are described using measures of total scores for continuous variables and frequencies for categorical variables. In order to test the study hypotheses, the Hayes PROCESS Macro for SPSS (2013, 2017) was used to test simple mediation and simple moderation models. Model 4 was used for simple mediation, and Model 1 was used for simple moderation analysis. For all mediation and moderation analyses, 95% confidence intervals were used (95% CI), and bootstrapping was set at 5000 samples to address the non-normal distributions of variables found during screening (Johnston & Faulkner, 2021). Where significant moderation is found, then simple slopes analysis and conditional effects will be used to examine the effect of the independent variable on the dependent variable at specific values of the moderator (Hayes, 2017).

4.3 Results

4.3.1 Sociodemographic and Descriptive Statistics

Please see Chapter 3 for the relevant information (**Chapter 3- 3.3.1**).

4.3.3 Main Findings

Before describing the analyses related to each of the specific hypotheses, the correlations between the variables are summarised in **Table 4.3 (Appendix 4.E)**. All the bi-variate correlations between the variables tested in the hypotheses were statistically significant, except for goal-oriented variables. Goal reengagement and goal disengagement were not found to have statistically significant correlations with other variables in the study but with each other.

Hypothesis 4.1 and 4.2: Entrapment will mediate the relationships between fear of humiliation, defeat and suicidal ideation.

According to the IMV model, entrapment should mediate the relationship between fear of

humiliation and suicidal ideation. Therefore, Hypothesis 4.1 was examined in a series of two different mediation models. Both aspects of entrapment (internal and external) were included in the analyses separately. Therefore, Hypothesis 4.1a looked at how internal entrapment mediates the relationship between fear of humiliation (predictor) and suicidal ideation (dependant variable/outcome), while Hypothesis 4.1b focused on the mediation effect of external entrapment in the same relationship.

Figure 4.5 presents the conceptual model and the standardised coefficients for each path. The overall model was significant ($F(2, 566) = 308.22, p < .001, R^2 = .52$) explaining 52% of the variance in suicidal ideation.

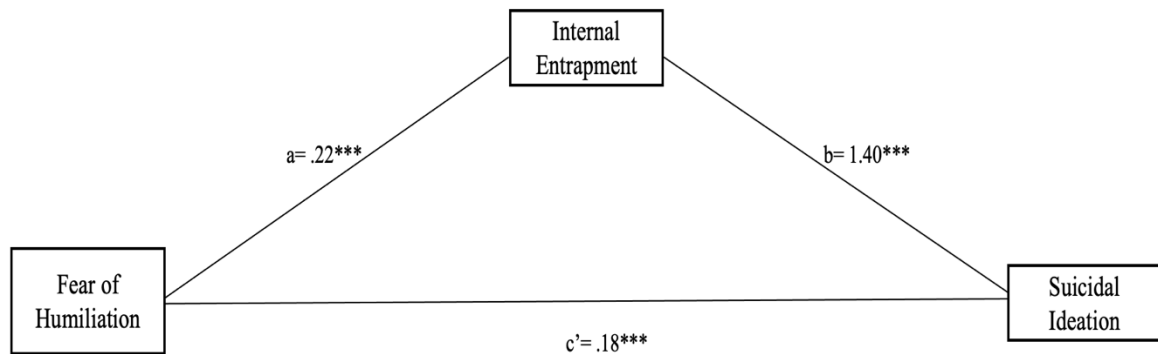


Figure 4.5. Standardised beta coefficients (β) showing the strengths of the associations between fear of humiliation, internal entrapment, and suicidal ideation.

The analysis showed that fear of humiliation was directly and positively related to the mediator (path a) and also to the dependent variable (path c'). In addition, the path between internal entrapment and suicide ideation (path b) in the model was significant ($b = 1.40, t(566) = 19.75, p < .001$). The indirect path between fear of humiliation and suicidal ideation through internal entrapment (path ab) was also significant ($B_{ab} = .25, SE = .02, 95\% \text{ CI } [.2012-.3152]$). As the direct effect of fear of humiliation on suicidal ideation (path c') remained significant in the total model and the indirect path through internal entrapment is also significant, this suggests that internal entrapment is acting as a partial (Baron & Kenny, 1986). Further model information can be found in **Table 4.4 (Appendix 4.F)**.

The second model tested whether there was a mediation effect of external entrapment between fear of humiliation and suicidal ideation. The conceptual model and path coefficients for this analysis are presented in **Figure 4.6**. The overall model was statistically significant ($F(2, 566) = 219.63, p < .001, R^2 = .43$), explaining 43% of the variance in suicidal ideation. Again, fear of humiliation was directly and positively related to the mediator (path a) and also to the dependent variable (path c'). However, the direct effect of fear of humiliation on suicidal ideation (path c') was slightly weaker in this model ($c' = .20, t(566) = 5.3, p < .001$) compared to the previous internal entrapment model. The single path between external entrapment and suicidal ideation (path b) was slightly stronger ($b = 1.45, t(566) = 15.71, p < .001$) in this model. Once again, there was evidence of partial mediation because both the direct path between fear of humiliation and suicidal ideation (path c') and the indirect path through external entrapment were significant ($B_{ab} = .27, SE = .02, 95\% \text{ CI } [.2218-.3257]$). Further model information can be found in **Table 4.5 (Appendix 4.G)**.

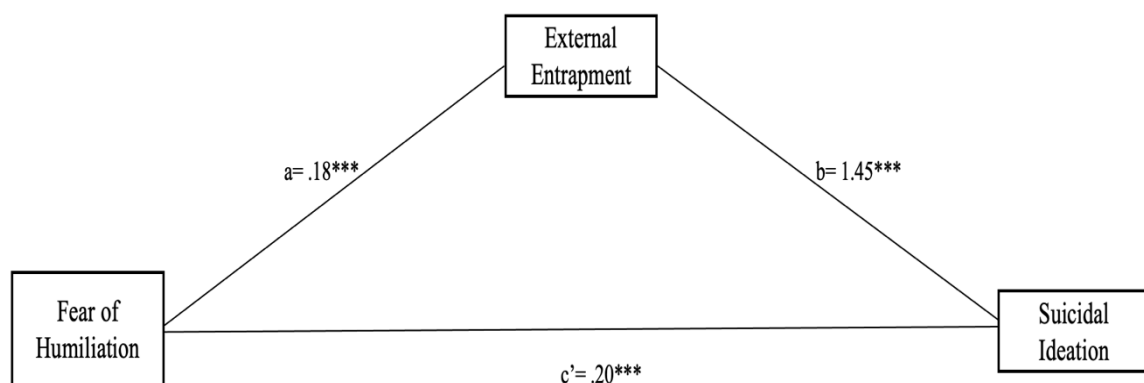


Figure 4.6. Standardised beta coefficients (β) showing the strengths of the associations between fear of humiliation, external entrapment, and suicidal ideation.

The third and fourth models tested whether entrapment mediates the relationship between feelings of defeat and suicidal ideation. The conceptual model and path coefficients with internal entrapment as the potential mediator are presented in **Figure 4.7**, and with external entrapment as the potential mediator in **Figure 4.8**. For internal entrapment, the direct paths of defeat to suicidal ideation (path c'), and defeat to internal entrapment (path a), were both positive and significant. In this model, both the direct ($c' = .51, t(566) = 11.54, p < .001$) and indirect paths ($B_{ab} = .24, SE = .03, 95\% \text{ CI } [.2218-.3257]$) of interest were

significant, thereby indicating partial mediation of internal entrapment in the relationship between feelings of defeat and suicidal ideation. Further model information can be found in **Table 4.6 (Appendix 4.H)**.

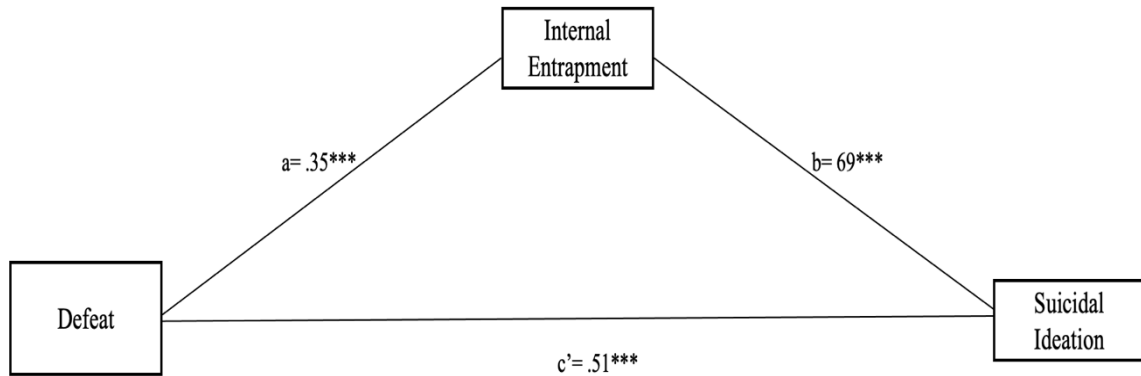


Figure 4.7. Standardised beta coefficients (β) showing the strengths of the associations between defeat, internal entrapment, and suicidal ideation.

In the fourth model with external entrapment as the mediator, defeat was again positively and directly associated with suicidal ideation ($c' = .60$, $t = 14.24$, $p < .001$). In this model the indirect path from defeat to suicide ideation via external entrapment was also significant indicating partial mediation ($B_{ab} = .15$, $SE = .03$, 95% CI [.0908-.2127]). Further model information can be found in **Table 4.7 (Appendix 4.I)**.

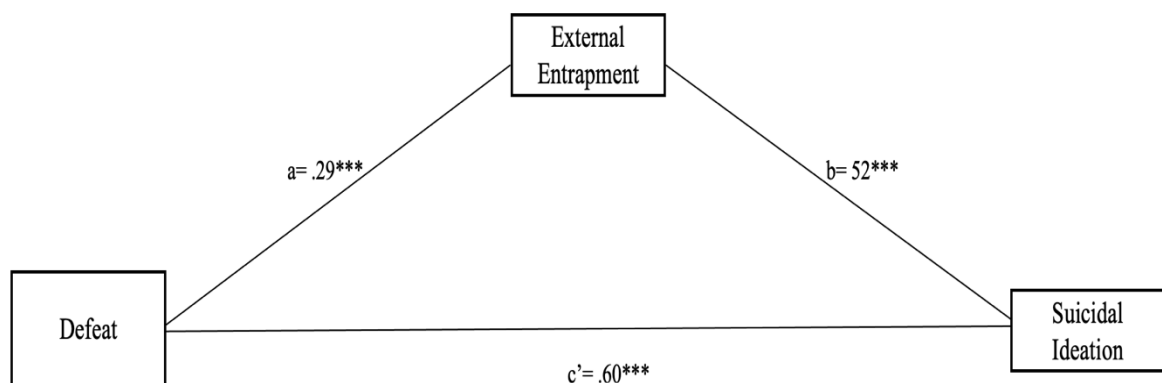


Figure 4.8. Standardised beta coefficients (β) showing the strengths of the associations between defeat, external entrapment, and suicidal ideation.

In summary, Hypotheses 4.1 and 4.2 included significant models which supported the hypotheses by exhibiting partial mediation effects of internal/external entrapment between defeat, fear of humiliation and suicidal ideation. All of the models tested in this section yielded significant partial mediation effects of internal/external entrapment ($B_{Hypothesis\ 4.1a} = .25$, $SE = .02$, 95% CI [.2012-.3152]; $B_{Hypothesis\ 4.1b} = .27$, $SE = .02$, 95% CI [.2218-.3257]; $B_{Hypothesis\ 4.2a} = .24$, $SE = .03$, 95% CI [.2218-.3257]; $B_{Hypothesis\ 4.2b} = .15$, $SE = .03$, 95% CI [.0908-.2127], respectively), aligning with the IMV model's framework.

Hypothesis 4.3: Goal disengagement and reengagement should moderate the relationship between entrapment and suicidal ideation

Hypothesis 4.3 was examined in a series of four different moderation models. Within two of the models, goal reengagement was included as a moderator, with internal/external entrapment as the independent variable and suicidal ideation as the dependent variable. The remaining two models examined whether goal disengagement moderates the same relationships. In the first model, with internal entrapment as the independent variable and goal reengagement as the potential moderator, the overall model was significant and explained 48% of the variance in suicidal ideation ($F(3, 565) = 178.65$, $p < .001$, $R^2 = .48$). As shown in **Figure 4.9**, internal entrapment was significantly and positively associated with suicidal ideation ($b_1 = 1.72$, $SE = .18$, $t(565) = 9.54$, $p < .001$). However, the path between goal reengagement and suicidal ideation was not statistically significant ($b_2 = .05$, $SE = .08$, $t(565) = .62$, $p = .53$). Finally, the interaction between internal entrapment and goal reengagement also was not statistically significant ($b_3 = -.01$, $SE = .01$, $t(565) = -.84$, $p = .39$), indicating that goal reengagement did not moderate the relationship between internal entrapment and suicidal ideation. Further model information can be seen in **Table 4.9 (Appendix 4.K)**. Even though the interaction was not statistically significant, the direction of goal reengagement was negative as expected.

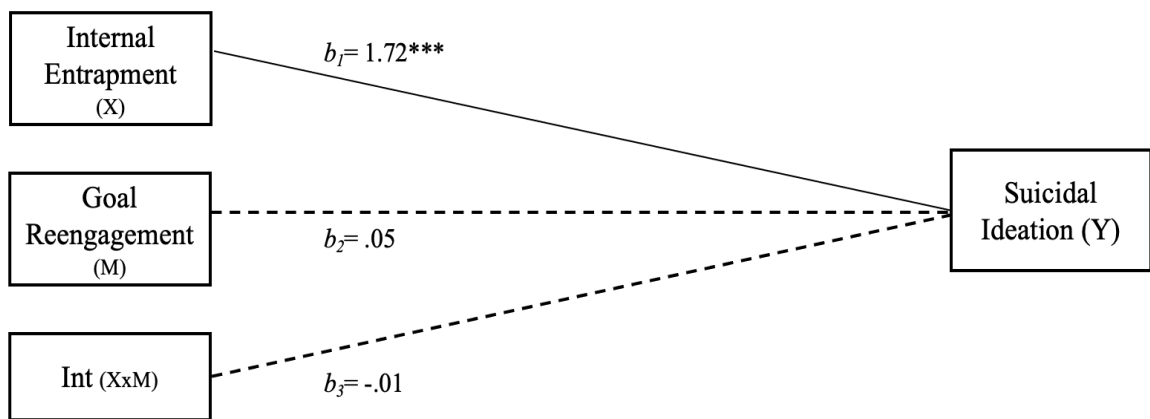


Figure 4.9. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3).

In the second model, with external entrapment as the predictor and goal reengagement as the potential moderator, the overall model was again significant ($F(3, 565) = 130.41, p < .01, R^2 = .40$), explaining 40% of the variance in suicidal ideation. External entrapment was positively associated with suicidal ideation ($b_1 = 1.76, SE = .21, t(565) = 8.09, p < .001$), (**Figure 4.10**). However, the path between goal reengagement and suicidal ideation ($b_2 = .03, SE = .10, t(565) = .28, p = .77$), and the interaction between the goal reengagement and external entrapment ($b_3 = -.007, SE = .01, t(565) = -.47, p = .63$) was not statistically significant, indicating no moderation effect of goal reengagement. However, the association between goal reengagement and suicidal ideation was once again negative, as expected. Further model information can be seen in **Table 4.9 (Appendix 4.K)**.

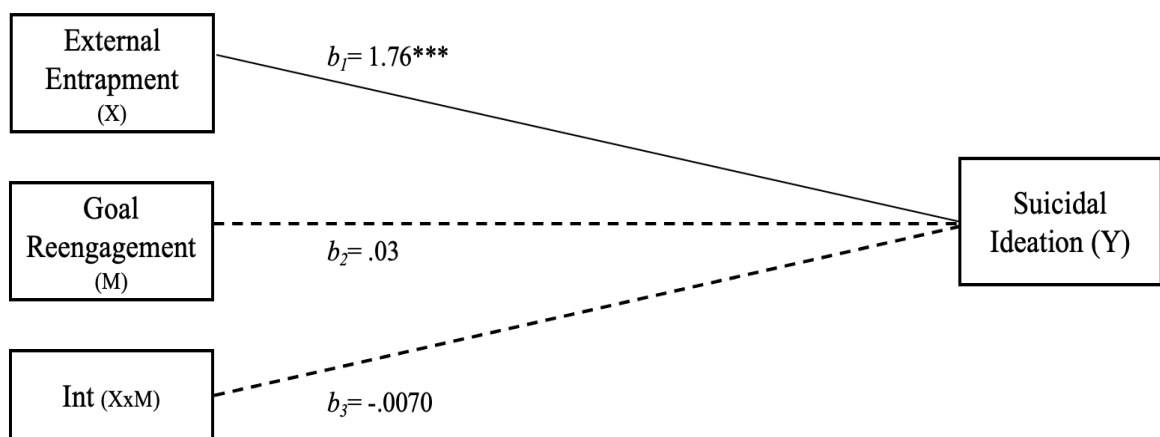


Figure 4.10. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3).

The third model with internal entrapment as the predictor and goal disengagement as the potential moderator on the association between internal entrapment and suicidal ideation, yielded non-significant findings in terms of the moderation effect of goal disengagement (see **Figure 4.11**). Even though the model explained 48% of the additional variance in suicidal ideation ($F(3, 565) = 178.17, p < .001, R^2 = .48$), neither the single coefficient path between goal disengagement and suicidal ideation ($b_2 = -.04, SE = .14, t(565) = -.31, p = .75$), nor the interaction between internal entrapment and goal disengagement were significant ($b_3 = .0056, SE = .02, t(565) = .27, p = .78$). **Table 4.10 (Appendix 4.L)** provides more detailed results.

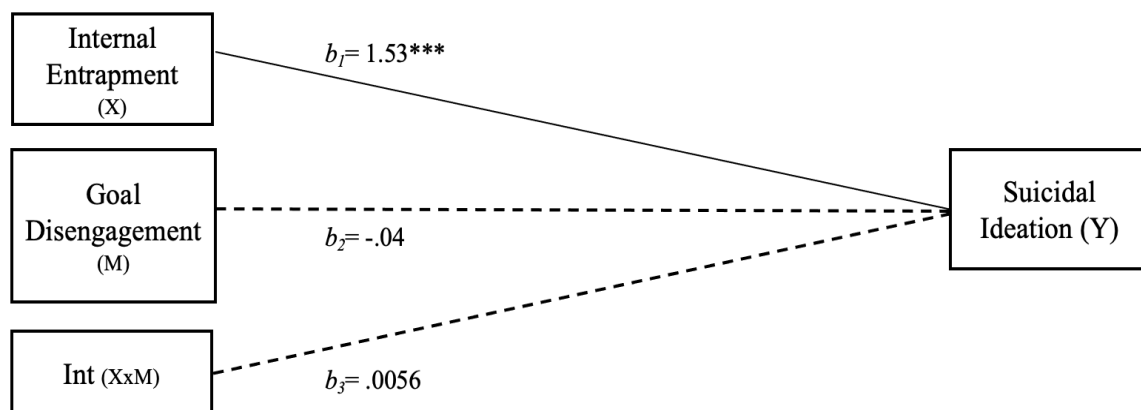


Figure 4.11. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3).

The fourth model tested whether goal disengagement moderates the relationship between external entrapment and suicidal ideation. Similarly, even though the overall model itself was found to be significant explaining 41% of the variance in suicidal ideation, as seen in **Figure 4.12** both the paths between the goal disengagement and suicidal ideation ($b_2 = .13, SE = .17, t(565) = .76, p = .44$) and the interaction between goal disengagement and external entrapment was not statistically significant ($b_3 = -.025, SE = .02, t(565) = -1.00, p = .31$), indicating no moderation effect of goal disengagement. Further model information can be seen in **Table 4.11 (Appendix 4.M)**.

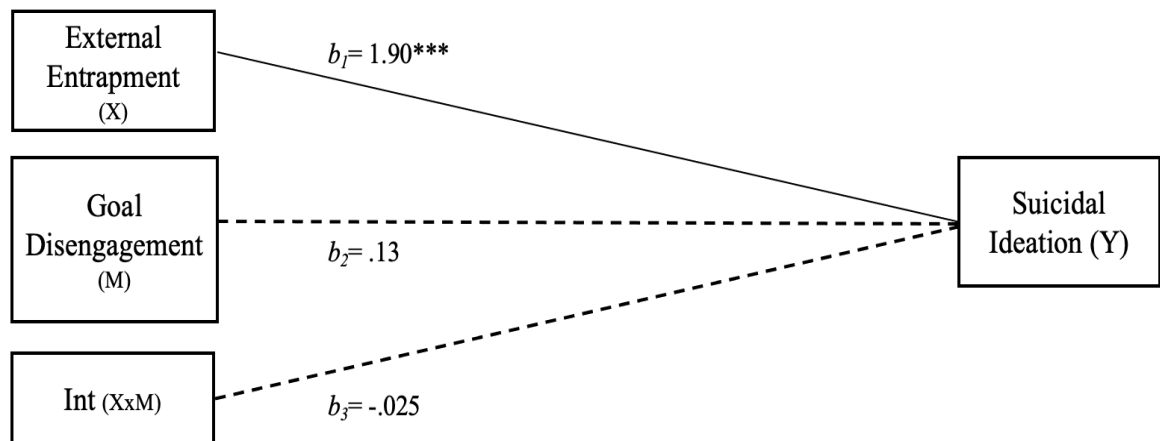


Figure 4.12. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3).

In summary, none of the tested moderation models in this section supported Hypothesis 4.3, yielding non-significant moderation effects of goal reengagement and goal disengagement between internal/external entrapment and suicide ideation. Even though the directions of goal reengagement and goal disengagement were as expected within the models, their non-significant interactions with internal/external entrapment did not provide evidence to support the relevant hypotheses.

Hypothesis 4.4: Thwarted belongingness would exacerbate the relationship between entrapment and suicidal ideation.

Hypothesis 4.4 was examined in a series of two different moderation models. The first model examined the potential moderation effect of thwarted belongingness on the association between internal entrapment and suicidal ideation. The overall model itself was again found to be significant, explaining 49% of the variance in suicidal ideation ($R^2 = .49, p < .001$). The paths between internal entrapment and suicidal ideation and between thwarted belongingness and suicidal ideation were both significant as illustrated in **Figure 4.13**. However, the interaction between thwarted belongingness and internal entrapment was non-significant ($b_3 = .01, SE = .01, t(565) = .96, p = .33$), indicating no moderation effect of thwarted belongingness. Further model information can be found in **Table 4.12 (Appendix 4.N)**.

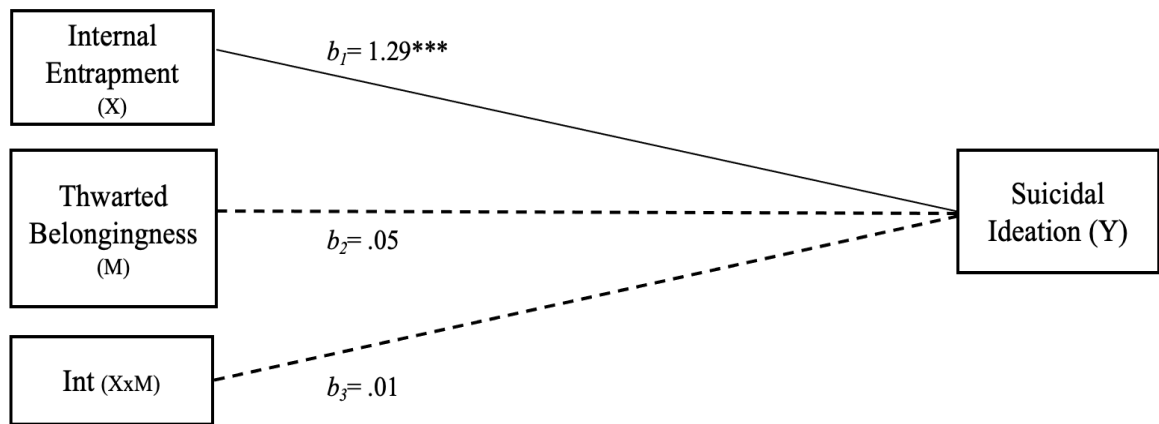


Figure 4.13. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3).

The second model also examined the potential moderation effect of thwarted belongingness on the relationship between external entrapment (predictor) and suicidal ideation (outcome) using the same analytic approach. Even though the model was significant ($F(3, 565) = 146.81, p < .01, R^2 = .43$) like the previous models, the interaction between external entrapment and thwarted belongingness was not significant (**Figure 4.14**, $b_3 = .01, SE = .01, t(565) = 1.18, p = .23$). Only the direct path between external entrapment and suicide ideation was significant in the model ($b_1 = 1.25, SE = .23, t(565) = 5.25, p < .001$). Further model information can be seen in **Table 4.13 (Appendix 4.O)**.

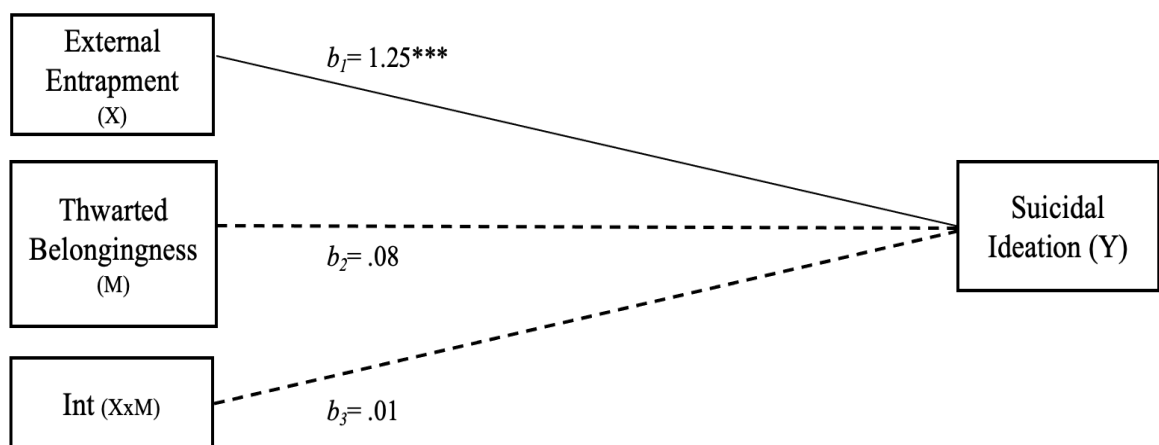


Figure 4.14. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3).

In summary, Hypothesis 4.4 was not supported. Thwarted belongingness did not moderate the relationships between internal/external entrapment and suicidal ideation, although significant beta coefficients between the predictors and the outcome variable ($b_{\text{internal_entrapment}}=.01$, $SE=.01$, $t(565)=.96$, $p=.33$; $b_{\text{external_entrapment}}=.01$, $SE=.01$, $t(565)=1.18$, $p=.23$) were evident in the study sample.

Hypothesis 4.5: Perceived burdensomeness would exacerbate the relationship between entrapment and suicidal ideation.

Hypothesis 4.5 was also examined in two different moderation models. The conceptual model and path coefficients with internal entrapment as the independent variable are presented in **Figure 4.15**, and with external entrapment as the independent variable in **Figure 4.16**. First, the extent to which perceived burdensomeness moderated the relationship between internal entrapment and suicidal ideation was tested. For this model, the results showed that even though the model itself was significant ($R^2= .70$, $p <.001$) with a considerably large amount of the variance explained, there was no evidence that internal entrapment and burdensomeness interacted to predict suicidal ideation ($b_3= .01$, $SE=.01$, $t(565)=1.73$, $p=.08$). As is evident in **Figure 4.15** most of the variance is attributed to the independent effects of internal entrapment and perceived burdensomeness. Further model information can be seen in **Table 4.14 (Appendix 4.P)**.

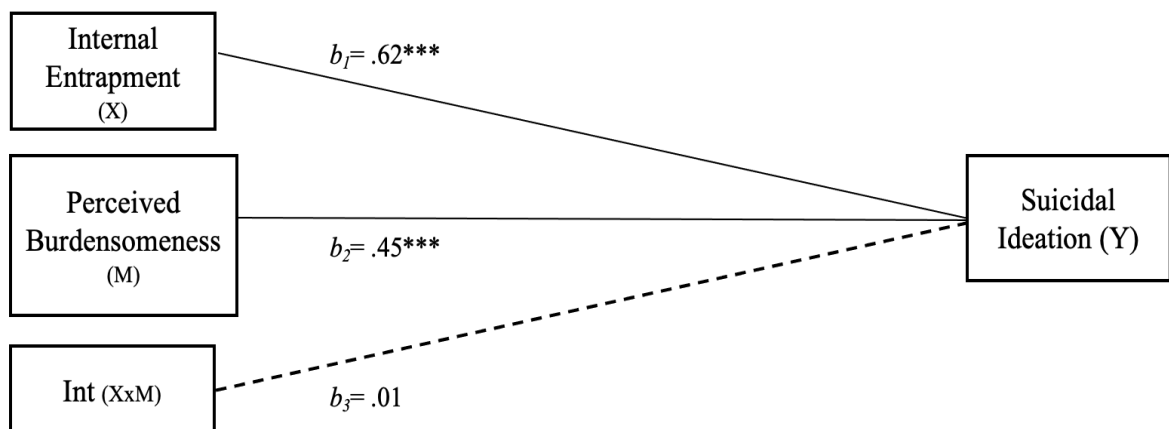


Figure 4.15. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3).

The second model was also significant and explained 68% of the variance in suicidal ideation ($R^2 = .68, p < .001$). Both paths between external entrapment and suicidal ideation, and between perceived burdensomeness and suicidal ideation were positive and significant. However, the moderation effect of perceived burdensomeness on the relationship between external entrapment and suicidal ideation (path b_3 - the interaction between $X \times M$) was non-significant ($b_3 = .01, SE = .01, t(565) = 1.40, p = .16$), with most of the variance attributed to the independent effects of external entrapment and perceived burdensomeness. Further model information can be seen in **Table 4.15 (Appendix 4.R)**.

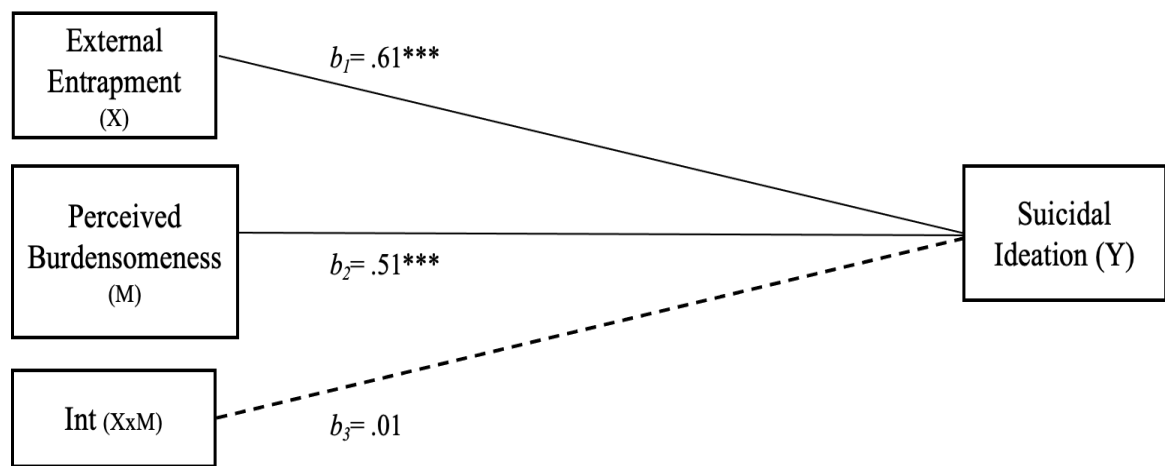


Figure 4.16. Standardised beta coefficients (β) showing the relationship paths between X and Y (path b_1), between M and Y (path b_2) and the interaction between X and M on Y (b_3).

In summary, similar to the previous hypothesis (Hypothesis 4.3), thwarted belongingness (Hypothesis 4.4) and perceived burdensomeness (Hypothesis 4.5) also did not moderate the relationship between internal/external entrapment and suicidal ideation and, therefore, were not supported. To sum up, none of the hypotheses that examined the moderation effects of goal disengagement/reengagement, thwarted belongingness, and perceived burdensomeness received statistically significant support. Even though the relevant paths between internal/external entrapment and suicidal ideation were all significant in the conceptual models, potential interactions of interest, showing moderation effects in the models were not found to be statistically significant. The possible explanations for these findings are elaborated in the Discussion section (4.4) and in the General Discussion (Chapter 6).

4.4 Discussion

This study aimed to assess the roles of various risk and protective factors regarding suicide risk, guided by the IMV model. To this end, it addressed its two aims. Specifically, it has enhanced understanding of the relationship between humiliation, defeat and entrapment and suicidal ideation. Secondly, it has improved understanding of the relationship between goal reengagement, goal disengagement, belongingness and burdensomeness on the pathway from entrapment (internal/external) to suicidal ideation. To address these two aims, five hypotheses were tested with mixed support for the relevant conceptual models. There was consistent support for the first two hypotheses (Hypotheses 4.1 and 4.2), testing the mediational effects of internal/external entrapment in the pathways from fear of humiliation/defeat to suicidal ideation. Across the four statistical models, internal and external entrapment were partial mediators between both fear of humiliation and defeat and their relationships with suicidal ideation.

The findings were less consistent for the next three hypotheses. For hypothesis 4.3, there was no evidence that adaptive goal pursuit acted as a motivational moderator between entrapment and suicidal ideation in the IMV model (O'Connor & Kirtley, 2018). Indeed, neither goal disengagement nor re-engagement moderated the relationship between entrapment and suicidal ideation. Hypothesis 4.4 was also not supported as there was no evidence that thwarted belongingness exacerbated the relationship between entrapment and suicidal ideation. It is important to highlight, however, that, as predicted by Joiner's theory (van Orden et al., 2010) and the IMV model, thwarted belongingness was an independent predictor of internal/external entrapment and suicidal ideation). Finally, Hypothesis 4.5 was also not supported as perceived burdensomeness did not moderate the relationship between either internal or external entrapment and suicidal ideation. Once again, however, it was a strong independent predictor of suicidal ideation.

4.4.1 Roles of Defeat, Humiliation and Entrapment in Suicidality

Across all the study findings, internal and external entrapment emerged as the strongest

predictors of suicidal ideation. There was clear evidence that individuals experiencing higher levels of feelings of defeat and fear of humiliation were more likely to report higher levels of suicidal ideation and some of the variance in this relationship was accounted for by feeling trapped internally (e.g., by their thoughts or emotions) or externally (e.g., by external circumstances). This is consistent with existing theories of entrapment, such as the IMV model and Cry of Pain model, which posit that entrapment is a key driver of suicidal ideation/behaviour (O'Connor & Kirtley, 2018; O'Connor, 2011; Rasmussen et al., 2010; Williams, 2001). Defeat yielded consistently stronger associations with other risk factors in both studies, highlighting that feelings of defeat are more effectively linked to pre-motivational and motivational risk factors than fear of humiliation is.

In addition, defeat has yielded stronger coefficients as a predictor of internal/external entrapment and suicidal ideation compared to the fear of humiliation within the same conceptual models that were tested. Furthermore, these findings were also aligned with the extant literature showing that both aspects of entrapment are associated with psychopathological outcomes (Taylor et al., 2011). However, even though the relative effects of both types of entrapment varied based on the conceptual models in which they were mediators, both aspects of entrapment significantly and strongly mediated the tested relationships. This is a little different from the previous findings showing that internal entrapment was a much stronger predictor/mediator of suicide risk (Rasmussen et al., 2010; O'Connor & Portzky, 2018). Sample populations and contextual factors may explain these divergent findings. For instance, in Rasmussen et al.'s (2010) study, the sample was comprised of clinical/self-harm participants, whereas the present study involved a community-based sample (i.e., students and mixed populations). Perhaps internal entrapment is more pernicious and dangerous in a clinical sample or in older samples, compared to a young community sample. This interpretation also aligns with O'Connor & Portzky's (2018) suggestion for future research, highlighting that cultural or situational differences (e.g., age, gender, clinical history) may affect which type of entrapment feels more inescapable.

With regards to fear of humiliation's predictive role, interestingly, no studies have explored its relationship with suicidal ideation through internal/external entrapment as

depicted in the IMV model thus far (Sadath et al., 2024; Souza et al., 2024). This study is the first to provide significant findings regarding the mediational role of internal/external entrapment between fear of humiliation and suicidal ideation as depicted in the IMV model.

4.4.2 Moderation of Goal Disengagement and Reengagement in the Motivational Phase

As noted above, the results did not provide support for Hypothesis 4.2, which proposed that goal disengagement and reengagement would buffer or exacerbate the entrapment-suicidal ideation association according to the motivational phase of the IMV model. While the moderation models were significant overall for both goal reengagement and disengagement, the moderation effects of both goal disengagement and reengagement on both types of entrapment and their link to suicidal ideation were not statistically significant. Despite having some explanatory power in the models, accounting for between 40% and 48% of the variance in suicidal ideation, the non-significant moderations suggested that goal-related factors do not effectively alleviate or exacerbate the influence of entrapment on suicidal ideation. This may indicate that some of the motivational moderators within the IMV model (especially regarding goal regulation strategies) may function differently in various populations or under different conditions or contexts. For example, there is some evidence that goal regulation varies as a function of age (Wrosch et al., 2013). Specifically, Wrosch et al. (2013) emphasised that goal disengagement may reduce psychological distress, whereas goal reengagement was more often associated with positive indicators of subjective well-being (e.g., positive affect) but rarely predicted psychological distress in various populations. Similarly, Chipperfield et al. (1999) reported that older adults may adopt more adaptive goal disengagement strategies (e.g., secondary-control strategies) than younger adults due to perceived personal limitations and lowered expectations. In addition, the context and the nature of the exposure to suicide and self-harm may play a role in the functioning of these motivational moderators (O'Connor, Rasmussen, Hawton, 2012).

It may also be because of the strength of the relationship between internal and external entrapment and suicidal ideation. As is evident in the models, entrapment was strongly correlated with suicidal ideation. As a result, its direct effect may have completely swamped the effect of goal reengagement and disengagement, rendering it very difficult to detect any moderating effects. Moreover, it would be worth exploring the validity of the measure that was employed to assess goal disengagement and reengagement. Are the items suitable for use with young adult non-clinical populations and are they measuring what they set out to measure? To this end, it is worth mentioning that the weak or non-existent correlations between the goal orientation factors and other constructs seem to be a pattern in studies using the Suicide Narrative Inventory (SNI) from which the goal orientation items were extracted (Menon et al., 2024; Peper-Nascimento et al. 2024; Lew et al., 2020). Indeed, during the analyses, we noticed that the items related to goal reengagement, which the authors advise to be reversed-coded, should not be reverse-coded in terms of the way the items are expressed. To clarify this, we cross-checked with the original scale (The Goal Reengagement and Goal Disengagement Scale (GAS)) that the authors of the SNI had drawn the goal orientation items from, which confirmed that only the goal disengagement subscale has reversed-coded items (Wrosch et al., 2003).

The results derived from Pearson's correlation and moderation analyses aligned with Cohen et al.'s findings reporting that goal orientation was not a correlate of suicide risk in their sample (2019). However, these findings diverged from the previous literature showing robust moderation effects of goal adjustment strategies on suicide risk, as well as their associations with suicide risk (Dhingra et al., 2016; O'Connor et al., 2009; O'Connor & Forgan, 2007).

4.4.3 Thwarted Belongingness and Burdensomeness as Moderators in Suicidality

For Hypothesis 4.3, thwarted belongingness was considered to be a potential risk factor/moderator between entrapment and suicidal ideation, in line with its role as a motivational moderator in the IMV model. However, as noted above, despite being an independent predictor, the interaction effects of belongingness with internal and external

entrapment on suicidal ideation were not statistically significant. Moreover, the beta coefficients for the interaction terms were almost zero, indicating that there no evidence or even a signal of an interaction effect.

Similar patterns emerged with perceived burdensomeness (Hypothesis 4.4), where the interaction effects were also non-significant despite the models explaining 70% of the variance in suicidal ideation. These findings suggest that while belongingness and burdensomeness may be significant components of suicidal ideation, they may not serve as effective moderators in the entrapment-suicidal ideation pathway specific to our sample. Similar to goal orientation, the challenge may have been linked to the strength of the relationship between entrapment and suicidal ideation.

However, the thwarted belongingness findings are perhaps less surprising than the burdensomeness findings as previous research has shown that belongingness' relationship with suicide risk is less robust than the burdensomeness relationship (e.g., Hatcher & Stubbersfield, 2013). In addition, two recent studies also reported no moderation effects of thwarted belongingness and perceived burdensomeness on the relationship between entrapment and suicidal ideation (Lucht et al., 2020; Forkmann et al., 2017), similar to the current findings.

Overall, therefore, these results provided only partial support for the IMV model.

4.4.4 Strengths and Limitations

As noted in Chapter 3, a key strength of the study was that the sample size exceeded what was needed as per the a priori sample size calculation. Secondly, it was the first to explore and report the fear of humiliation's predictive capacity (which was significant) within the motivational phase as depicted in the IMV model. Third, it achieved its main goal by enhancing the understanding of the IMV model in a sample of various populations.

However, once again, it is important to note that, as this study was cross-sectional, it is hard to draw certain conclusions about causality. Future research should employ prospective or ecological momentary assessment designs to ensure the consistency of these findings across different populations and time, including clinical populations. Also, the fact that all measures were completed simultaneously may have affected people's responses, thereby contaminating the findings (Chapter 6).

4.4.5 Theoretical and Clinical Implications

The findings provide some empirical support for theoretical models of suicide, including the Cry of Pain model and the Interpersonal Theory of Suicide, in addition to the IMV model (O'Connor & Kirtley, 2018; Joiner et al., 2009; Williams, 2001). Entrapment has emerged as a central construct, reinforcing its importance as a proximal statistical predictor of suicidal ideation.

However, the non-significance of the moderating effects of goal orientation strategies suggests that we need to look afresh at this construct. It would also be good to investigate these relationships in longitudinal studies across a wide range of populations. If such studies yield positive findings, it would be important to develop interventions focused on enhancing goal regulation in those vulnerable to suicide.

The key roles of perceived burdensomeness and thwarted belongingness in the suicidal process were also supported, albeit without any evidence for moderation. Furthermore, as a significant direct/indirect predictor of internal/external entrapment and suicidal ideation, the fear of humiliation should be explored further in suicide research.

Likewise, feelings of defeat also consistently yielded significant results both as a predictor and as a mediator (as defined in the IMV model) in the pathway to suicidal ideation across different studies, warranting further calls for clinical interventions.

There are numerous clinical implications to these findings (Chapter 6). However, as the fear of humiliation, feelings of defeat, and internal/external entrapment emerged as the

key mechanisms consistent with the IMV model, addressing these risk factors through cognitive-behavioural interventions would undoubtedly help to reduce suicidal ideation (Tarrier et al., 2008) in the first instance.

4.5 Conclusions

The study findings emphasised the importance of defeat, fear of humiliation, internal/external entrapment, burdensomeness, and thwarted belongingness in understanding suicidal ideation within the IMV model's framework. The absence of significant moderation effects by goal-related factors (goal reengagement and disengagement), burdensomeness, and thwarted belongingness raises questions about the role of these factors as moderators across different populations. It is clear that addressing feelings of defeat, humiliation and entrapment alongside fostering interpersonal connections remain critical components of suicide prevention. These findings underscore the importance of holistic interventions that address both individual and interpersonal factors in mitigating suicide risk.

Future research should explore variations in the IMV model constructs and factors related to the motivational phase across different contexts or populations by adopting a longitudinal or an ecological momentary assessment approach.

Investigating the Roles of Self-Discrepancy and Perfectionism in Suicide Risk through the Lens of the IMV Model

5.0 Abstract

Background: Self-discrepancy Theory (Higgins, 1987) emphasises the emotional discomfort that can arise when discrepancies exist between different self-representations (or ‘selves’). Psychological well-being therefore depends on synchronising the selves. Consistent evidence in the literature also shows that self-discrepancies are associated with psychopathology (Mason et al., 2019). In addition, people with perfectionistic tendencies are generally prone to experience discrepancies between their ideal self, socially prescribed self, and actual performance. As the IMV model posits that the pre-motivational risk factors, such as perfectionism and motivational risk factors, are deeply interconnected, the current study aimed to examine whether self-discrepancies may also be considered as pre-motivational vulnerabilities that lead to suicidal ideation through motivational risk factors.

Methods: A cross-sectional design was used, with data collected via an online survey. 529 people from the UK (18 years or older) participated in this study and completed measures of perfectionism, entrapment and suicidal ideation. The survey scales were randomly ordered as conveyed in the previous chapters. They also completed measures of self-representation to

enable the assessment of self-discrepancies. Hypotheses were tested using the mediation and serial multiple mediation analyses of Hayes' PROCESS Macro (2013, 2017).

Results: Aspects of self-discrepancies (actual vs ideal and actual vs ought) were stronger correlates of defeat and internal/external entrapment and subsequently suicidal ideation, directly and indirectly, compared to perfectionistic concerns. Defeat and internal/external entrapment acted as significant mediators in all of the conceptual models, consistent with the IMV model.

Conclusions: The present study provided further empirical support for the premises of the IMV model and introduced self-discrepancies as a new cognitive-emotional vulnerability factor within the pre-motivational phase. The study's empirical findings can provide the foundation for clinical treatments targeting the magnitude and distress associated with self-discrepancies, which may help to reduce feelings of defeat and entrapment and, subsequently, suicidal ideation, especially for those experiencing actual vs ideal discrepancy.

5.1 Introduction

The perception of unmet personal standards is a key factor associated with perfectionism that can lead to psychological distress. In this regard, Slaney et al. (2001) have suggested that the mismatch between one's high personal standards for performance and other people's perceptions of success in meeting those high standards can cause a perception of discrepancy between one's ideal standards and one's actual performance (Slaney, Rice, Mobley, Trippi & Ashby, 2001). And this discrepancy may be a driver for psychological distress and suicide risk.

Regarding the perfectionism-suicide risk relationship, as noted earlier (Chapters 2, 3 & 4), growing evidence has highlighted the links between perfectionism and suicide risk, with researchers in the field developing new models to clarify this association (e.g., The Integrated Motivational-Volitional Model of Suicide, Perfectionism Social Disconnection Theory, Narrative-Crisis Model of Suicide) (O'Connor & Kirtley, 2018; Galynker, 2017; O'Connor, 2011; Hewitt, Flett, Sherry, Caelian, 2006). In addition, the previous evidence has also shown that negative feelings arising from perfectionistic tendencies can lead to psychopathological outcomes, including suicide risk (Chapters 2, 3 & 4).

5.1.1 Self-discrepancy Theory, Perfectionism, and Suicide Risk

Self-discrepancy Theory (Higgins, 1987), a well-established psychological theory, posits that individuals have different representations of their sense of self. They have their actual representations (ie., self-state or actual self), their ideal selves (ie., individual's beliefs about their hopes, wishes, societal expectations, goals or aspirations for themselves) and their ought selves (ie., individual's beliefs about their duties, responsibilities, or obligations imposed by external sources like family, society, normative influence or culture). According to a substantial body of evidence, the perceived discrepancies between actual representations and ideal selves (actual vs ideal discrepancy) or actual representations and socially prescribed selves (actual vs ought

discrepancy) are associated with negative psychological outcomes, such as emotional distress, depression, anxiety, and unhealthy perfectionism (Schlechter, Hellmann, Morina, 2022; Slaney et al., 2001; Higgins, 1987).

Specifically, according to the previous literature on perfectionism, the negative aspects of perfectionism (e.g., perfectionistic concerns; maladaptive perfectionism) can lead to a perceived discrepancy between one's standards and one's actual performance (actual vs ideal discrepancy) (Mobley, Slaney & Rice, 2005), and this discrepancy also leads to negative psychological outcomes (such as suicide, eating disorders, alcohol abuse) (Canning, Patock-Peckham, Walters, Bauman, Frohe, Leemand, 2020; Landa, Bybee, 2007; Mobley et al., 2005). In addition, people who score high on socially prescribed perfectionism often feel pressured to reach the high standards that they believe others have imposed on them (actual vs ought discrepancy), and this personality characteristic can lead to cyclical, maladaptive patterns of self-evaluation (perfectionistic discrepancies) that can cause self-defeating behaviours (e.g., binge eating, procrastination, and interpersonal conflict) (Mushquash & Sherry, 2012).

Although Mobley, Slaney, and Rice (2005) examined perfectionistic self-discrepancies independently, there is a dearth of empirical research investigating how interconnected perfectionism and SDT are. However, the aforementioned theoretical accounts, which investigate these two constructs separately, may have inspired this research, indicating that they may be closely intertwined. Therefore, self-discrepancies may potentially act as a pre-motivational moderator, as does perfectionism.

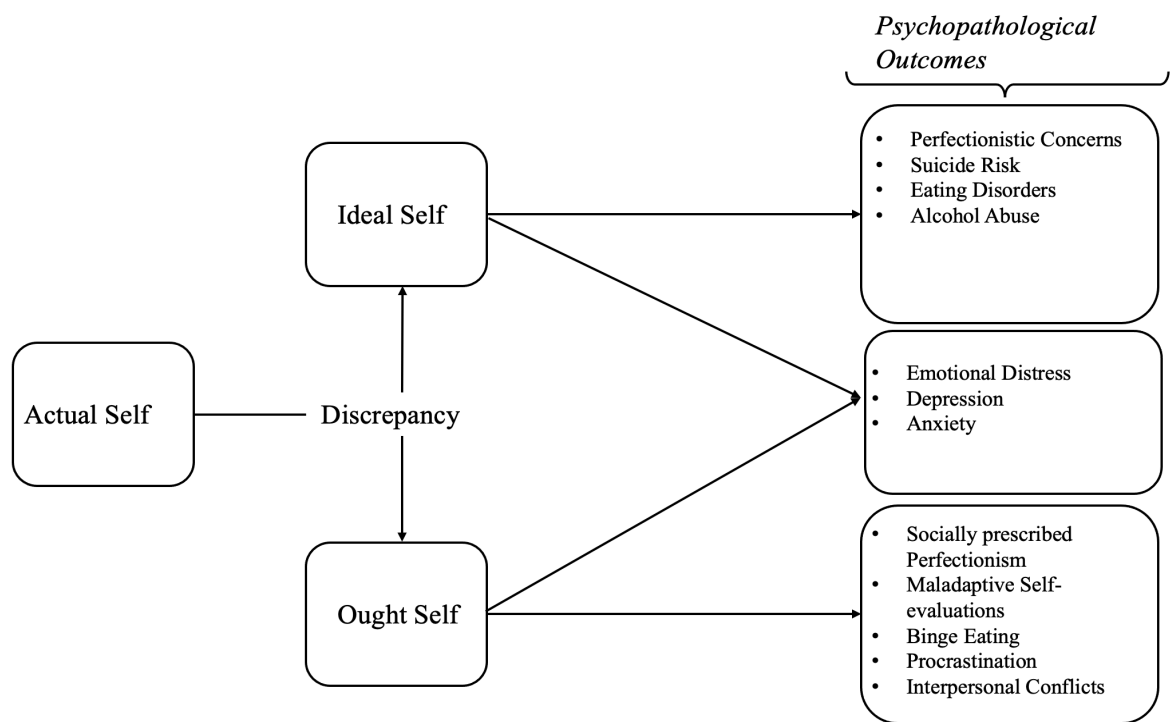


Figure 5.1. Self-Discrepancy Theory (SDT) and some of the psychopathological outcomes which have been reported in section 5.1 Introduction.

Despite a lot of evidence on the perfectionism and suicide risk relationship (Pia et al., 2020; Cohen et al., 2018; O'Connor & Kirtley, 2018; O'Connor et al., 2016), there is a paucity of literature on the association between self-discrepancy and suicide risk. In one of the few studies, Cornette et al. (2009) proposed the following links regarding the relationship between self-discrepancy and suicide risk: one possible link was via negative self-evaluation as both suicidal tendencies and self-discrepancies involve negative self-impressions (i.e., actual vs ideal discrepancy and actual vs ought discrepancy). The other hypothesised links were through depression and hopelessness since they can lead to negative affective states that may increase the risk of suicide ideation. Their results introduced a significant conceptual model from both actual vs ideal and actual vs ought discrepancies to suicidal ideation through depression and hopelessness.

The psychoanalytical perspective also supports these concepts, as Freud (1923) described suicide as a harsh attack of the superego on the ego, which relates to our actual and ought selves. In 2008, Crane et al. published a study showing the positive effect of Mindfulness-Based Cognitive Therapy among individuals with recurrent suicidal

depression history by limiting the increases in self-discrepancy. Furthermore, Fulginiti and Brekke (2015) reported that discrepancy factors significantly added to the prediction of suicidal ideation in a group consisting of patients with schizophrenia. In addition, according to the Integrated Motivational-Volitional Model of Suicide, ego-involving stressors (i.e., defeat and fear of humiliation), and entrapment are crucial motivational factors for suicide (Chapters 3 & 4). Therefore, it is important to explore the nature of the relationship between self-discrepancy and suicide risk within the context of perfectionism and wider theoretical frameworks (i.e., the IMV model).

5.1.2 Aims and Research Questions

Based on the extant literature, it is essential to explore these cognitive-emotional processes in relation to suicide risk in terms of understanding how to manage and reduce the negative effects of perfectionism, and potential negative effects of self-discrepancies on suicide risk. This study aims to contribute to the literature by exploring the relationship between perfectionism, self-discrepancies, defeat, entrapment, and suicidal ideation. It also aims to determine the extent to which self-discrepancies can be incorporated within the IMV model's framework in explaining the dynamics of suicide risk.

Integrating the SDT within the IMV model offers a better understanding of the trajectory from the pre-motivational phase to the feelings of defeat, humiliation, and entrapment, as the SDT provides a psychological mechanism (or background) for this process. The discrepancies between the actual, ideal, and ought selves, and the emotional discomfort arising from their severity, may act as ego-involving stressors and precipitate experiences of the motivational risk factors.

As a final note, regarding perfectionism, this study focused on perfectionistic concerns (a maladaptive form of perfectionism) in this chapter, as it was found in earlier chapters that perfectionistic concerns was the more salient form in the context of understanding suicide risk (Chapters 2, 3 and 4).

Therefore, this study aims to investigate the relationship between self-discrepancies, perfectionistic concerns and other established correlates of suicide risk, as depicted in the IMV model. Specifically, it addressed two research questions: First, this study aimed to explore whether self-discrepancies or perfectionistic concerns was a stronger predictor of defeat within the context of their relationship with total entrapment (Research Question 5.1), as depicted in **Figure 5.2** below.

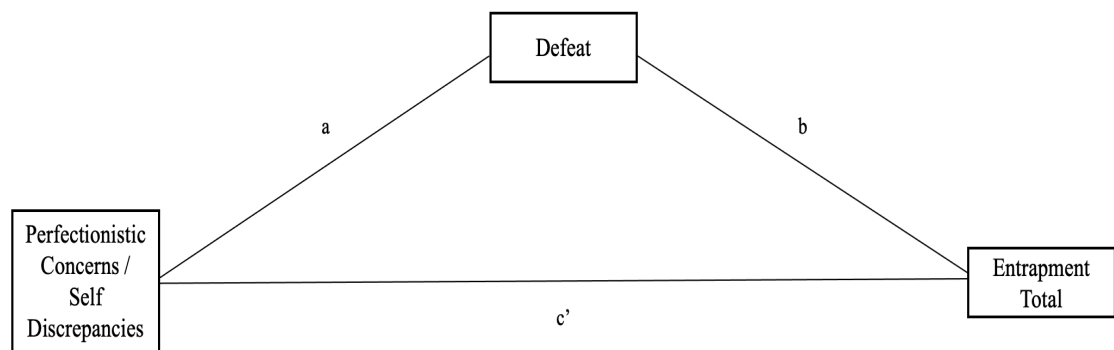


Figure 5.2. The conceptual model depicts the potential mediating relationships with either perfectionistic concerns or self-discrepancies as the predictor.

Second, the study tested whether the relationship between perfectionistic concerns or self-discrepancies (which ever was the stronger predictor of defeat in Research Question 5.1), and suicidal ideation was serially mediated by defeat and internal/external/total entrapment (Research Question 5.2). For the entrapment analyses, this research question was explored for total entrapment, internal entrapment and external entrapment separately. As self-discrepancies are being tested for the first time within the IMV framework, these hypotheses aimed to understand the different contributions of entrapment aspects.

This chapter focused on perfectionistic concerns and defeat but not on perfectionistic strivings and fear of humiliation, as perfectionistic concerns and defeat were found to be stronger correlates of internal/external entrapment and suicidal ideation in the previous studies (Chapters 2, 3 and 4).

5.2 Design

This study had cross-sectional design and utilised an online survey. Although longitudinal designs may provide a more robust framework for examining some the paths of interest in this study, particularly those based on serially mediating relationships, this was the final empirical study of this PhD, and a longitudinal design was not feasible within the available time. Moreover, self-discrepancies have rarely been investigated in relation to suicide risk, and a cross-sectional design enables a more efficient approach to developing an evidence base.

5.2.1 Participants and Procedure

A total of 529 participants from diverse backgrounds took part in the study. The data collection strategy was the same as in the previous study (Chapters 3 & 4). The target population consisted of English-speaking adults aged 18 years and older, primarily from the UK. The study was advertised across a range of social media and other public platforms, with each advert including a link to an online survey hosted on the Online Surveys platform (<https://app.onlinesurveys.jisc.ac.uk>). Those interested were directed to an information page, followed by an informed consent page. Those who decided not to take part in the survey received an automated ‘thank you’ message. The remaining participants provided informed consent, confirming that they understood that their participation was voluntary and that they would be free to withdraw at any time, without giving any reason, without their legal rights being affected. Participants were also presented with a privacy notice. Those consenting then completed the study questionnaires, which included a range of socio-demographic, mental health, psychological and suicidal history measures. The questionnaire took approximately 15-20 minutes to complete. Only the measures relevant to the present study are reported in the following section. See Appendices 5.L, 5.M, 5.N and 5.O for study materials.

Ethical review and approval were provided by the College of Medical, Veterinary and Life Sciences Ethics Committee at the University of Glasgow (project no: 200230036, Appendix 5.N) on the 24th of November 2024. However, ethics approval had to be renewed because a typo in the document caused a discrepancy between the approval and

end dates (Appendix 5.N shows both documents in detail). Data collection was between 27th of February and June 2024.

5.2.2 Measures

Respondents were asked to complete relevant questions from a series of well-established, reliable, and valid questionnaires. In addition, they were also asked to provide demographic information. The following question sets were used:

Questions for Demographics: age, gender, ethnicity, relationship status, level of education, employment status, and whether there was a previous diagnosis of a mental health issue were recorded.

Entrapment Scale-Short Form (E-SF). This is a 4-item measures with items completed via a Likert-type scale (De Beurs, Cleare, Wetherall, Eschle-Byrne, Ferguson, O'Connor & O'Connor, 2020). The details of this scale are described in Chapters 3 and 4. The internal consistency of this scale was high in this sample ($\alpha = .86$).

Suicide Probability Scale (SPS). The Suicidal Ideation Subscale was completed, which consists of 8 items completed on a Likert-type scale (Cull & Gill, 1982) (For details see Chapters 3 & 4). The internal consistency of this scale was also high in this sample ($\alpha = .89$).

Almost Perfect Scale-Revised (APS-R). This research utilised this scale to measure two super-ordinate dimensions of perfectionism (i.e., perfectionistic concerns and strivings) (Stoeber & Otto, 2006), which are assessed via 19-items on a Likert-type scale (7 items for strivings, 12 items for discrepancies) (Slaney, Rice, Mobley, Trippi, & Ashby, 2001) (For full details see Chapters 3 & 4). The internal consistency of this scale was excellent in this sample (perfectionistic strivings $\alpha = .87$, perfectionistic concerns $\alpha = .94$).

Suicidal Narrative Inventory (SNI). The details regarding this scale can also be found in Chapters 3 & 4. Only one subdimension of the SNI (Defeat), the 5-item subscale was

used in this study (Cohen, Galynker et al., 2019). The scale was highly reliable with this sample's internal consistency being (α) = .93.

The Self-Discrepancies Scale (S-DS). This scale evaluates self-discrepancies and, more broadly, their self-representations (Philippot, Dethier, Baeyens, Bouvard, 2018).

The scale consists of two main parts. The first one focuses on the ideal self and estimates the discrepancy between the ideal self and the actual self. The second part focuses on the socially prescribed self (ought self) and estimates the discrepancy between the socially prescribed self and the actual self.

The scale has seven items overall with four of which are completed on a 7-point Likert-type scale (from 1 to 7). Two of the four Likert-type items assess actual vs ideal discrepancy (i.e., “How strong is the distress caused by this discrepancy between your ideal self and actual representation?”, “How big is the overall discrepancy between this ideal and the way you perceive yourself (actual representation)?”). The other two items are regarding actual vs ought discrepancy (i.e., “How strong is the distress caused by this discrepancy between your ought self and actual representation?”, “How big is the overall discrepancy between this ought and the way you perceive yourself (actual representation)?”). The last 4-Likert-type item responses were used in the analyses to measure self-discrepancies (Bouvard et al., 2024).

One of the remaining items is a trait-list exercise, where participants choose the traits they wish they had and traits they wish to avoid. They also indicate traits that they believe others want them to have or not to have (from the participant's perspective). Two additional items require participants to estimate percentages representing how close they feel their actual self is to their ideal and ought selves.

The internal consistency of actual vs ideal discrepancy (includes 2-items, i. distress caused by the difference between the selves, and ii. perceived discrepancy) was (α) = .68. The reliability of the actual vs ought discrepancy was (α) = .69, and the overall Cronbach's alpha for these four items was .819.

5.2.3 Data Preparation and Strategy for Statistical Analyses

A priori power calculation. Based on guidance provided by Cohen (1988), a statistical power calculation was undertaken using G*Power (Version 3.1.9.6) to determine the required sample size to test the study hypotheses. The calculation (based on the largest number of variables in any one model) for a regression model with 7 or 8 predictor variables would require a sample size of 153-160 participants to achieve 0.95 power, given an effect size of 0.15, which is considered a moderate effect size based on Cohen's standards (Selya et al., 2012), and an α level = 0.05.

Data screening and preparation. All dataset preparation and analyses were conducted using SPSS version 29.0.2.0 (Version 29). The strategy for data preparation and analyses for this study is similar to that for Chapters 3 and 4. This study also has a multivariate/cross-sectional design. Little's MCAR test is used to explore the pattern of missing data. In addition, if there is less than 5% of missing values, the plan was to utilise the expectation-maximisation technique. Regression assumptions will be checked similarly to those in the previous chapters. Hayes' mediation (model 4) and serial multiple mediation analyses (model 6) was employed (2013, 2017) using the PROCESS Macro to explore the hypotheses (as in Chapters 3 and 4). The reason for choosing serial multiple mediation analysis (SMMA) is that the SMMA allows the observation of sequential relationships of the variables in a theory-driven framework, and it assumes the mediators are causally related (Hayes, 2013; 2017). Since self-discrepancy was not investigated as an independent variable within the IMV model's framework before, the current study aimed to see its predictive capacity in the context of the motivational phase of the IMV model (as a potential pre-motivational risk factor). The confidence interval (CI) and bootstrap sampling criteria were 95% and 5000, respectively.

5.3 Results

5.3.1 Data Screening & Preparation

Out of 529 total participants, 1 participant was removed via the listwise deletion method for not responding. Among the remaining participants, 65 participants who did not respond to 50% or more of the Self-Discrepancies Scale (S-DS) questions were also removed via the listwise deletion method. After this process, Little's MCAR Test was applied to evaluate whether missing data was completely random. **Table 5S.2 (Appendix 5.A)** shows the deleted participants in detail.

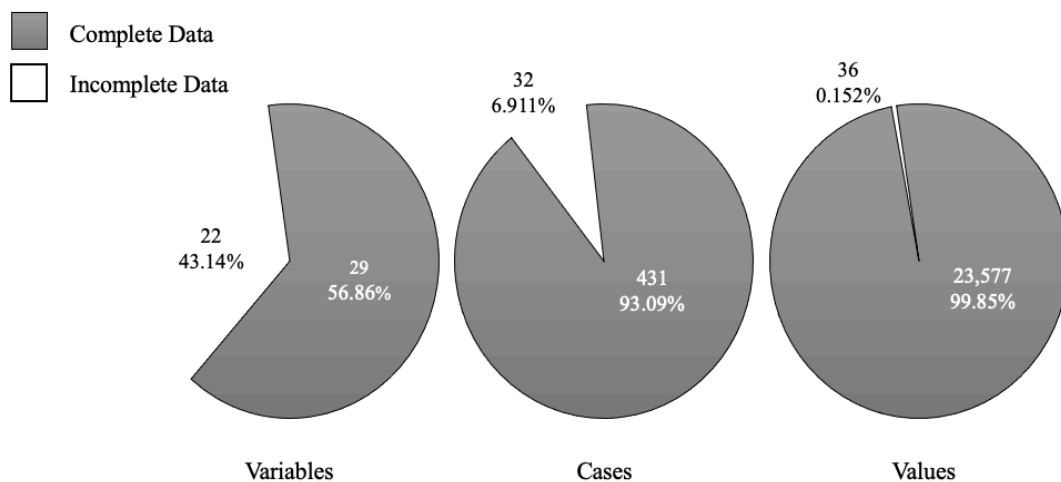


Figure 5.3. Overall summary of the exact missing values within the data.

The Little's MCAR test yielded a significant result (Chi-Square = 1345.045, DF = 1096, Sig. = .0001), suggesting that the missing values are not random. The patterns of the missing values were analysed item by item to double-check if the missing data are systematic or random and to see the overall ratio of the missing values. The sensitivity threshold for the minimum percentage missing for variables to be displayed was 0.01%, even though it is suggested that less than 5% of missing values is negligible (Jakobsen et al., 2017) or could be compensated with an expectation-maximisation technique. The missing value analysis showed that only 36 cases have incomplete data (Figure 1), meaning the missing values were only 0.15% of the whole dataset. As a result, expectation-maximisation substitution was applied to deal with this 0.15%.

The frequencies of the probable minimum and maximum scores were also checked, and they showed that all the scores were as expected (**Table 5.3- Appendix 5.D**). Following this step, each scale's internal consistencies were assessed via Cronbach's alphas.

After the Mahalanobis Distance (MDA) Analysis was applied to the data, the values of the MDA column were sorted in descending order to identify relatively large values, which would be indicators of multivariate outliers. The first 5 rows (5 participants) had relatively large values compared to the whole data. However, they did not seem too extreme. Therefore, these MDA values were compared to the Chi-square distribution (the same degrees of freedom, which was 9) [Probability_MD= 1 - CDF.CHISQ(MAH_1,9)]. Based on our results, 5 participants (Participant no: 290, 45, 76, 99, and 414) had probabilities less than $p=.001$ (.00013, .00019, .00040, .00046, .00050, respectively) which meant the data had 5 outliers in total. Accordingly, they have also been removed from the sample (Tabachnick & Fidell, 2007), leaving a total of 458 cases in the final dataset.

Following these processes, data were checked for regression assumptions as the PROCESS Macro employs regression-based analyses.

Normality: The normality, skewness, and kurtosis of the data were evaluated using the Shapiro-Wilk test, along with exploratory functions and histograms. The analysis showed that not all variables followed a normal distribution, indicating that some correlations did not display a linear pattern. Only the scores for suicide ideation and self-discrepancy showed distributions that were close to normal, while the rest of the variables were negatively skewed. Although bootstrapping does not require a normal distribution, it was decided to retain the data as is, but the plan was to check for multicollinearity and homoscedasticity. Bivariate correlations of all the variables are also provided in **Table 5.2**.

Multicollinearity: The values of the variance inflation factor (VIF) for all the variables were below ($<$) 10 which is an indicator of no multicollinearity (Vatcheva & Lee, 2016; Neter, Kutner, Nachtsheim, & Wasserman, 1997). **Figure 5.3a (Appendix 5.B)** shows

the VIF values in detail.

Homoscedasticity: The data were evenly distributed on both sides of zero based on the scatterplot and fitted line plot results. This indicated that similar variances exist in the different groups being compared (the degree of error was consistent for every value of X across the distribution) with regards to homogeneity/homoscedasticity. **Figure 5.4 (Appendix 5.C)** shows the relevant scatterplot with a fit line.

5.3.2 Sociodemographic Characteristics and Descriptive Statistics

In this sample, the demographic breakdown of participants was as follows: 17.3% identified as male, 74.7% as female, and 7.4% identified as queer. The remaining participants either chose "other" or preferred not to disclose their gender (see **Table 5.1**). Regarding ethnicity, 88.1% of the sample consisted of individuals of British or other white backgrounds, while the rest identified as various other ethnicities. Among the respondents, 17.9 % were married, 24.4% were in a relationship, and the remainder reported different single statuses such as "divorced," "separated," or "widowed."

With regards to participants' education levels, 36.3% of participants held undergraduate degrees, 30.9% had postgraduate degrees, and the remaining participants had qualifications at or below A levels. As for employment status, the majority were full-time employed (32.5%), 22.7% were students, 20.1% were part-time employed, and the rest had various unemployment statuses, including those who were retired. Another noteworthy point about the sample was that more than three quarters (76.8%) of the participants reported a history of mental health problems. Participants' ages ranged from 18 to 78 years [Mean age (M_{age})= 36.04, standard deviation (SD)= 14]. The mean age for female participants was 37.27 years (SD = 14.63), for male participants it was 35.08 years (SD = 13.74), and for genderqueer participants, it was 26.15 years (SD = 9.4). **Table 5.1** exhibits all the relevant sociodemographic characteristics in detail.

Table 5.1. Sociodemographic Characteristics of Participants at Baseline

	<i>n</i>	%	<i>M_{age}</i>	<i>SD</i>
Gender				
Female	345	74.7	37.27	14.63
Male	80	17.3	35.08	13.74
Queer	34	7.4	26.15	9.4
Other	3	0.6	36.33	15.04
Ethnicity				
White British/ Other white backgrounds	408	88.1	37.25	14.71
Other ethnicities	55	11.8	33.43	7.67
Marital status				
Single	214	46.2	31.54	12.78
Married	83	17.9	45.98	11.62
In a relationship	113	24.4	29.16	9.11
Divorced/widowed	34	7.3	57.44	10.77
Other				
Highest educational level				
Postgraduate Degree	143	30.9	36.94	11.59
Undergraduate Degree	168	36.3	35.04	14.32
HNC / HND / NQ / SVQ / Other vocational qualification	39	8.4	43.23	15.38
Higher / A Levels	76	16.4	28.62	13.33
Standard grades / GCSE / O Levels	30	6.5	45.07	17.08
Did not complete school	7	1.5	44.29	19.93
Employment				
Employed full time	150	32.5	37.06	10.89
Employed part time	93	20.1	38.52	13.60
Unemployed and seeking work	12	2.6	26.92	9.91
Unemployed due to disability/incapacity	81	17.5	42.65	13.40
Stay at home parent	1	0.2	30	0
Student	105	22.7	22.59	4.7
Retired	20	4.3	66.05	7.6
Previously diagnosed mental health issues				
Yes	355	76.8	38.01	14.26
No	99	21.4	29.86	13.06
Preferred not to say	8	1.7	23.25	6.47

Note. *n* = total number of participants, % = percentage of the total number, *M_{age}* = Mean age, *SD* = Standard deviation.

5.3.3. Main Findings

Table 5.2. *Bivariate Correlations of the Risk Factors in the Study*

	ps	pc	d	ee	ie	si	aid	aod
ps	1	.395**	.010	.106*	.048	.060	.058	.115*
pc	.395**	1	.547**	.500**	.544**	.488**	.471**	.418**
d	.010	.547**	1	.670**	.771**	.713**	.514**	.453**
ee	.106*	.500**	.670**	1	.743**	.641**	.440**	.437**
ie	.048	.544**	.771**	.743**	1	.717**	.518**	.457**
si	.060	.488**	.713**	.641**	.717**	1	.458**	.463**
aid	.058	.471**	.514**	.440**	.518**	.458**	1	.704**
aod	.115*	.418**	.453**	.437**	.457**	.463**	.704**	1

Table 5.2 shows bivariate correlations for the relevant variables for the current sample. **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed); ps= perfectionistic strivings, pc= perfectionistic concerns, d= defeat, ee= external entrapment, ie= internal entrapment, si= suicidal ideation, aid= actual vs ideal discrepancy, aod= actual vs ought discrepancy.

Summary of Correlations. All of the reported Pearson's correlations were positive in direction. Defeat and internal/external entrapment were central variables which showed the strongest associations with each other as well as suicidal ideation (see **Table 5.2**). All of the associations between these variables were higher than $\approx r = .700$, $p < .01$. This finding was not a surprise, as the IMV model posits that defeat and entrapment are the central precursors of suicidal ideation.

Perfectionistic Strivings. This finding was an important one to take away as perfectionistic strivings showed some significant correlations with external entrapment ($r = .106$, $p < .05$), and actual vs ought discrepancy ($r = .115$, $p < .05$).

Perfectionistic Concerns, Actual vs Ideal Discrepancy, Actual vs Ought Discrepancy. These three variables were also salient in terms of their strong correlations with other risk factors. However, perfectionistic concerns showed the strongest associations with other risk factors compared to actual vs ideal and actual vs ought discrepancies.

Research Question 5.1: The first research question aimed to explore whether self-discrepancies or perfectionistic concerns were a stronger predictor of defeat within the context of their relationship with total entrapment. This was examined in a series of nine mediation models separately for total entrapment, internal entrapment and external entrapment. However, as the findings for internal and external entrapment are similar to those for total entrapment, to avoid repetition we have reported the internal and external entrapment findings in Appendices 5.S, 5.T, 5.U, 5.W, 5.V, 5.Y. Within each model, defeat was included as mediator, with either perfectionistic concerns or self-discrepancies (actual vs ideal discrepancy and actual vs ought discrepancy) as the independent variable (predictor) and total entrapment (or internal or external entrapment) as the dependent variable (outcome).

The first model (Research Question 5.1a) tested whether perfectionistic concerns predicted total entrapment via the mediation effect of defeat. **Figure 5.5** presents this conceptual model and the standardised coefficients for each path. The analysis showed that perfectionistic concerns were directly, and positively, related to the mediator (path a) and also the dependent variable (path c'). Feelings of defeat, were also directly, and

positively, related to total entrapment (path b). The model explained 62% of the variance in total entrapment ($R^2 = .62, p < .001$). The key path of interest is the indirect relationship between perfectionistic concerns on total entrapment through defeat. This indirect path through defeat was significant, while the direct effect of perfectionistic concerns on the total entrapment remained significant (path c'), thereby indicating partial mediation ($B_{defeat} = .1137, SE = .0098, 95\% CI [.0947-.1331]$) (Hayes, 2013). Further model information can be found in **Table 5.4 (Appendix 5.E)**.

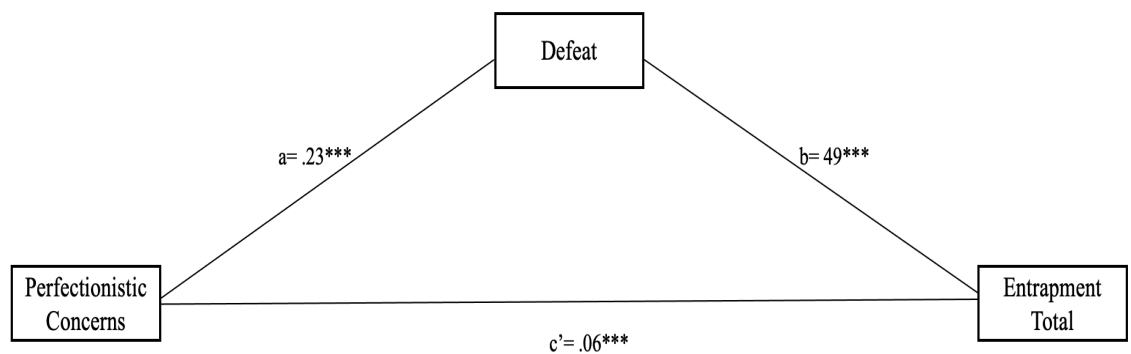


Figure 5.5. Standardised beta coefficients (β) showing the strengths of the associations between perfectionistic concerns, defeat, total entrapment.

The second and the third models tested whether defeat mediated between actual vs ideal, actual vs ought discrepancies (separately) and total entrapment, respectively. The conceptual model and path coefficients with actual vs ideal discrepancy as the independent variable are presented in **Figure 5.6**, and with actual vs ought discrepancy as the independent variable in **Figure 5.7**. In the second model, actual vs ideal discrepancy was directly, positively, and more strongly, related to the mediator (path a) ($a = 1.11, SE = .0874, t(456) = 12.78, p < .001$) and the dependent variable (path c') than perfectionistic concerns in the first model were. Defeat was also directly, and positively, related to the dependent variable (path b). The model again explained 62% of the variance in total entrapment ($R^2 = .62, p < .001$). In this model, the indirect path of interest was significant, while the direct effect of actual vs ideal discrepancy on total entrapment remains significant, indicating that the association of actual vs ideal discrepancy with total entrapment is partially mediated through defeat ($B_{defeat} = .56, SE = .0512, 95\% CI [.4704-$

.6675]). Further model information can be found in **Table 5.5 (Appendix 5.F)**.

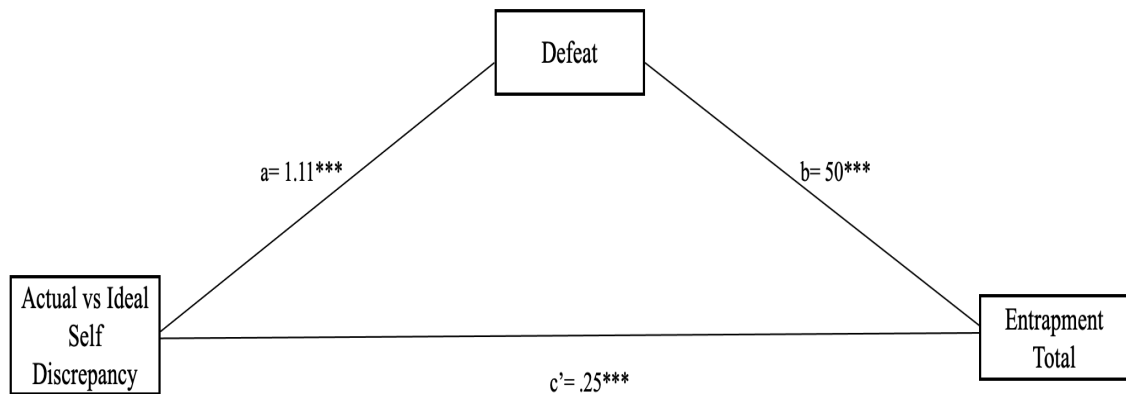


Figure 5.6. Standardised beta coefficients (β) showing the strengths of the associations between actual vs ideal self-discrepancy, defeat, and total entrapment.

In the third model, actual vs ought discrepancy was directly, positively, and also more strongly, related to the mediator (path a) ($a = .95$, $SE = .0878$, $t(456) = 10.85$, $p < .001$) and the dependent variable (path c') than perfectionistic concerns were. Defeat was also directly, and positively, related to the dependent variable (path b). This model also explained 62% of the variance in total entrapment ($R^2 = .62$, $p < .001$). In this model, the indirect path of interest was also significant, while the direct effect of actual vs ought discrepancy on total entrapment remains significant, indicating that the association between actual vs ought discrepancy and total entrapment is also partially mediated through defeat ($B_{defeat} = .49$, $SE = .0504$, 95% CI [.3923-.5899]). Further model information can be found in **Table 5.6 (Appendix 5.G)**.

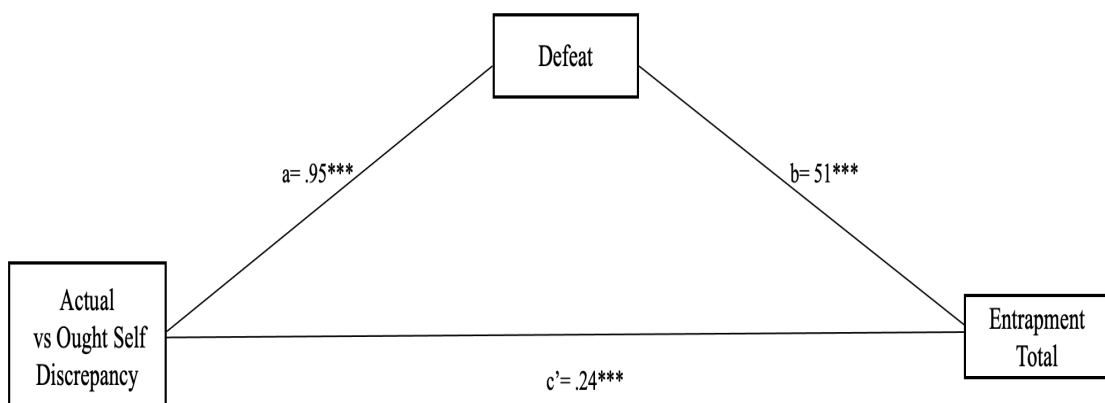


Figure 5.7. Standardised beta coefficients (β) showing the strengths of the associations between actual vs ought self-discrepancy, defeat, and total entrapment.

In summary, in respect of Research Question 5.1, self-discrepancy was more strongly related to defeat than perfectionistic concerns in the context of the mediating pathway to total entrapment. However, there was evidence that defeat partially mediated the perfectionistic concerns–total entrapment relationship, actual vs ideal discrepancy and the actual vs ought discrepancy–total entrapment relationships. Nonetheless, as aspects of self-discrepancy were found to be stronger predictors of total entrapment, than perfectionistic concerns, through defeat, the analyses for Research Question 5.2 have focused on self-discrepancies.

To test Research Question 5.2, therefore, we investigated whether the relationship between self-discrepancies and suicidal ideation was serially mediated by defeat and internal/external/total entrapment. For the entrapment analyses, we explored this research question for internal entrapment and external entrapment separately as well as for total entrapment – and as this research question is a central test of the IMV model, findings for all three entrapment indicators are included in the main body of the chapter.

This research question, for each entrapment measure, was examined in a series of six separate serial multiple mediation models. Within each model, defeat and internal/external/total entrapment were included as mediators, with either ideal vs actual discrepancy and actual vs ought discrepancy as the independent variable (predictor) and suicidal ideation as the dependent variable (outcome).

The first model tested whether defeat and internal entrapment mediated between actual vs ideal discrepancy and suicidal ideation. **Figure 5.8** presents this conceptual model and the standardised coefficients for each path. The analysis showed that actual vs ideal discrepancy was directly, and positively, related to each mediator (paths a_1 and a_2) and also the dependent variable (path c'). Both mediators, defeat and internal entrapment, were directly, and positively, related to suicidal ideation (paths b_1 and b_2), and the first mediator (defeat) was also directly, and positively, related to the second mediator (internal entrapment) (path d). The three key paths of interest to test the hypothesis are the indirect relationships of actual vs ideal discrepancy on suicidal ideation through defeat (M_1), internal entrapment (M_2), and their serial mediation effect (M_1M_2). The first indirect path through defeat was significant ($B_{defeat} = .41$, $SE = .0639$, 95% CI [.2893-

.5420]). The second indirect path through internal entrapment was also significant ($B_{internal_entrapment} = .13$, $SE = .0307$, 95% CI [.0832-.2027]). Finally, the third key indirect path through defeat and internal entrapment (M_1M_2) was also significant ($B_{M_1M_2} = .29$, $SE = .0461$, 95% CI [.2073-.3856]), indicating full mediation because the direct effect of actual vs ideal discrepancy on suicidal ideation became non-significant ($c' = .12$, $SE = .07$, $t(454) = 1.60$, $p = .1095$). The total effect of the model was also significant ($B_{total} = .84$, $SE = .0703$, 95% CI [.7050-.9798]). The model also explained 57% of the variance in suicidal ideation ($R^2 = .57$, $p < .001$). Further model information can be found in **Table 5.7 (Appendix 5.H)**.

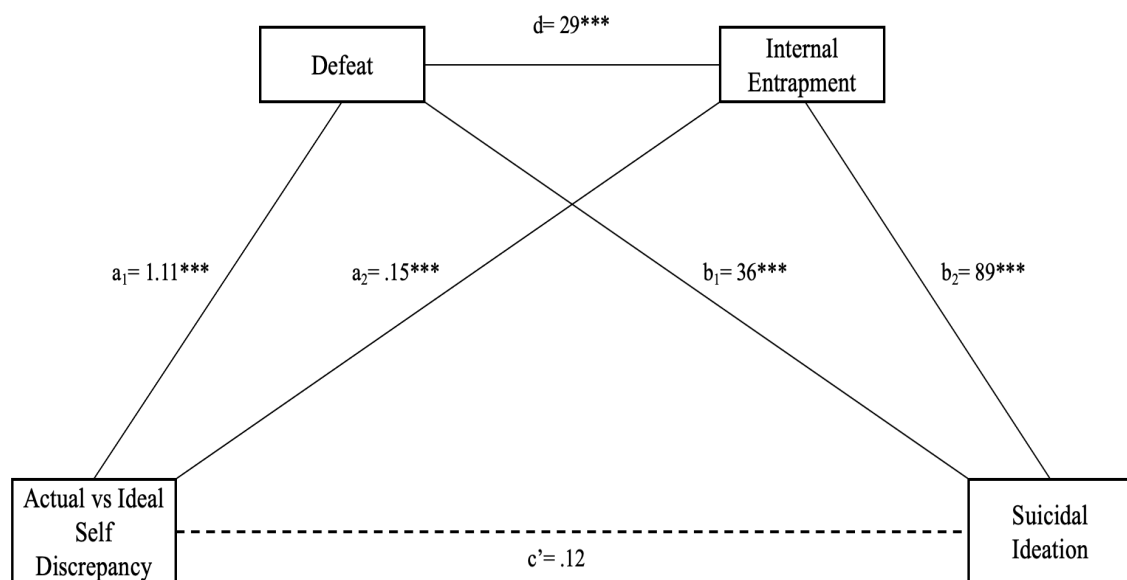


Figure 5.8. Standardised beta coefficients (β) showing the strengths of the associations between actual vs ideal self-discrepancy, defeat, internal entrapment, and suicidal ideation in a serial multiple mediation model.

The second model tested whether defeat and external entrapment mediated between actual vs ideal discrepancy and suicidal ideation. **Figure 5.9** presents this conceptual model and the standardised coefficients for each path. The analysis showed that actual vs ideal discrepancy was directly, and positively, related to each mediator (paths a_1 and a_2) and also the dependent variable (path c'). Both mediators, defeat and external entrapment, were directly, and positively, related to suicidal ideation (paths b_1 and b_2), and the first mediator (defeat) was also directly, and positively, related to the second

mediator (external entrapment) (path d). The three key paths of interest to test the hypothesis are the indirect relationships of actual vs ideal discrepancy on suicidal ideation through defeat (M_1), external entrapment (M_2), and their serial mediation effect (M_1M_2). The first indirect path through defeat was significant ($B_{defeat} = .52$, $SE = .0614$, 95% CI [.4071-.6456]). The second indirect path through external entrapment was also significant ($B_{external_entrapment} = .07$, $SE = .0267$, 95% CI [.0298-.1339]). In addition, finally, the third key indirect path through defeat and external entrapment (M_1M_2) was also significant ($B_{M1M2} = .18$, $SE = .0327$, 95% CI [.1225-.2500]), indicating partial mediation because the direct effect of actual vs ideal discrepancy on suicidal ideation remained significant ($c' = .18$, $SE = .07$, $t(456) = 2.38$, $p < .05$). The total effect of the model was also significant ($B_{total} = .78$, $SE = .0714$, 95% CI [.6455-.9237]). The model also explained 56% of the variance in suicidal ideation ($R^2 = .56$, $p < .001$). Further model information can be found in **Table 5.8 (Appendix 5.I)**.

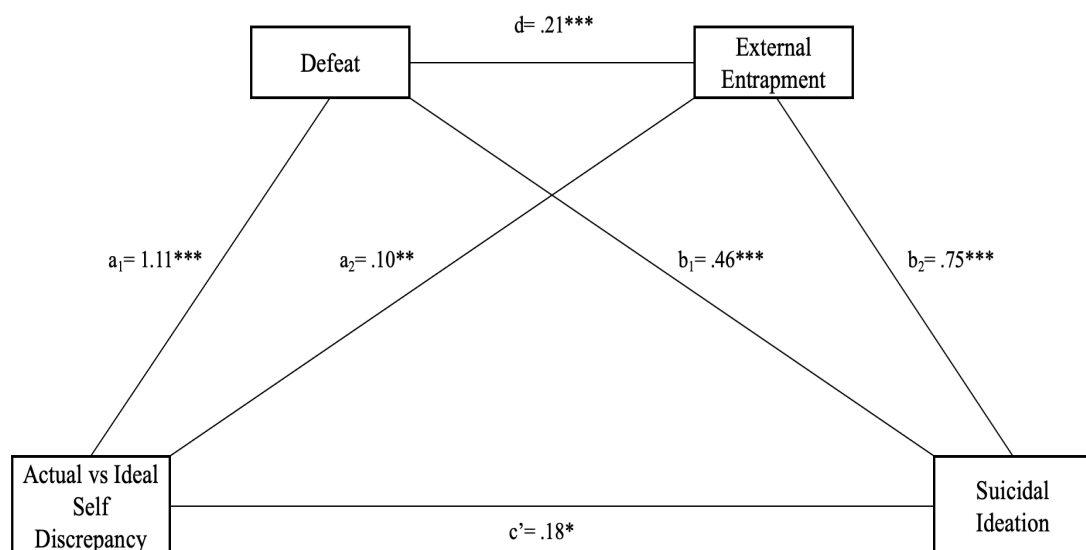


Figure 5.9. Standardised beta coefficients (β) showing the strengths of the associations between actual vs ideal self-discrepancy, defeat, external entrapment, and suicidal ideation in a serial multiple mediation model.

The third model tested whether defeat and total entrapment mediated between actual vs ideal discrepancy and suicidal ideation. **Figure 5.10** presents this conceptual model and the standardised coefficients for each path. The analysis showed that actual vs ideal

discrepancy was directly, and positively, related to each mediator (paths a_1 and a_2) and also the dependent variable (path c'). Both mediators, defeat and total entrapment, were directly related to suicidal ideation (paths b_1 and b_2), and the first mediator (defeat) was also directly related to the second mediator (total entrapment) (path d). The three key paths of interest in the test of the hypothesis are the indirect relationships of actual vs ideal discrepancy on suicidal ideation through defeat (M_1), total entrapment (M_2), and their serial mediation effect (M_1M_2). The first indirect path through defeat was significant ($B_{defeat} = .38$, $SE = .0607$, 95% CI [.2691-.5072]). The second indirect path through total entrapment was also significant ($B_{total_entrapment} = .14$, $SE = .0327$, 95% CI [.0862-.2149]). Moreover, finally, the third key indirect path through defeat and total entrapment (M_1M_2) was also significant ($B_{M1M2} = .32$, $SE = .0459$, 95% CI [.2370-.4146]), indicating full mediation because the direct effect of actual vs ideal discrepancy on suicidal ideation became non-significant ($c' = .11$, $SE = .07$, $t(454) = 1.53$, $p = .1251$). The total effect of the model was also significant ($B_{total} = .84$, $SE = .0721$, 95% CI [.7109-.9896]). The model also explained 58% of the variance in suicidal ideation ($R^2 = .58$, $p < .001$). Further model information can be found in **Table 5.17 (Appendix 5.V)**.

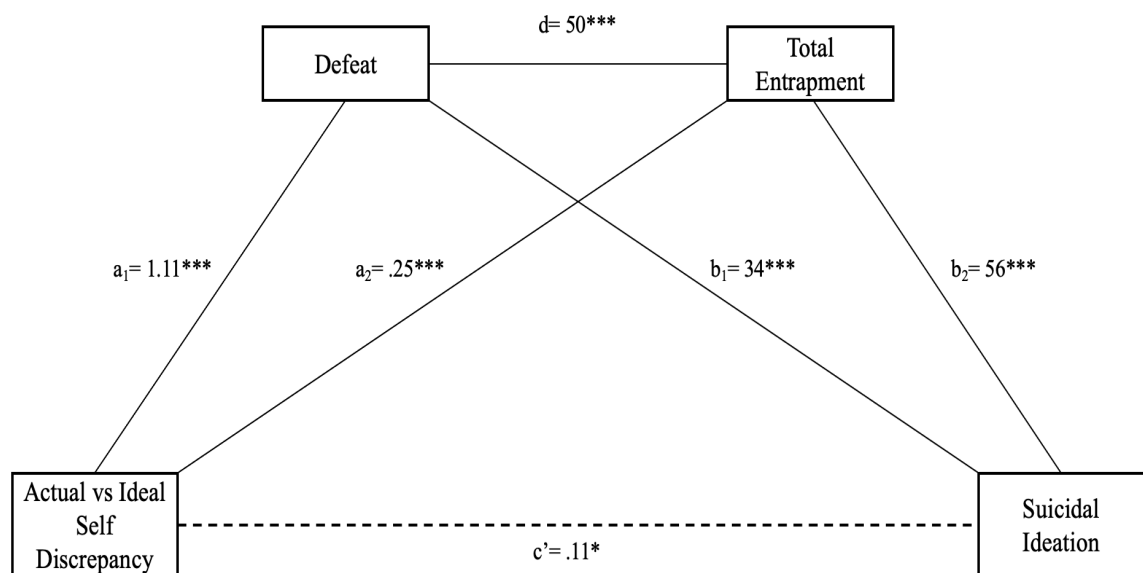


Figure 5.10. Standardised beta coefficients (β) showing the strengths of the associations between actual vs ideal self-discrepancy, defeat, total entrapment, and suicidal ideation in a serial multiple mediation model.

The fourth and fifth models tested whether defeat and internal/external entrapment mediated between actual vs ought discrepancy and suicidal ideation. **Figures 5.11** and

5.12 present these conceptual models and the standardised coefficients for each path, respectively. Regarding the fourth model, the analysis showed that actual vs ought discrepancy was directly related to each mediator (paths a_1 and a_2) and also the dependent variable (path c'). Both mediators, defeat and internal entrapment, were directly related to suicidal ideation (paths b_1 and b_2), and the first mediator (defeat) was also directly, and positively, related to the second mediator (internal entrapment) (path d). The three key paths of interest are the indirect relationships of actual vs ought discrepancy on suicidal ideation through defeat (M_1), internal entrapment (M_2), and their serial mediation effect (M_1M_2). The first indirect path through defeat was significant ($B_{defeat} = .33$, $SE = .0552$, 95% CI [.2328-.4498]). The second indirect path through internal entrapment was also significant ($B_{internal_entrapment} = .10$, $SE = .0273$, 95% CI [.0554-.1630]). Moreover, finally, the third key indirect path through defeat and internal entrapment (M_1M_2) was also significant ($B_{M1M2} = .24$, $SE = .0408$, 95% CI [.1728-.3323]), indicating partial mediation because the direct effect of actual vs ought discrepancy on suicidal ideation remained significant. The total effect of the model was also significant ($B_{total} = .69$, $SE = .0648$, 95% CI [.5614-.8174]). The model also explained 58% of the variance in suicidal ideation ($R^2 = .58$, $p < .001$). Further model information can be found in **Table 5.9 (Appendix 5.J)**.

Regarding the fifth model, the analysis showed that actual vs ought discrepancy was directly related to each mediator (paths a_1 and a_2) and also the dependent variable (path c'). Both mediators, defeat and external entrapment, were directly related to suicidal ideation (paths b_1 and b_2). In addition, the first mediator (defeat) was also directly related to the second mediator (external entrapment) (path d). The three key paths of interest are the indirect relationships of actual vs ought discrepancy on suicidal ideation through defeat (M_1), external entrapment (M_2), and their serial mediation effect (M_1M_2). The first indirect path through defeat was significant ($B_{defeat} = .44$, $SE = .0544$, 95% CI [.3396-.5469]). The second indirect path through external entrapment was also significant ($B_{external_entrapment} = .09$, $SE = .0251$, 95% CI [.0464-.1442]). Finally, the third key indirect path through defeat and external entrapment (M_1M_2) was also significant ($B_{M1M2} = .14$, $SE = .0291$, 95% CI [.0915-.2042]), indicating partial mediation because the direct effect of actual vs ought discrepancy on suicidal ideation remained significant. The total effect of the model was also significant ($B_{total} = .67$, $SE = .0662$, 95% CI [.5443-.8062]). The model also explained 57% of the variance in suicidal ideation ($R^2 = .57$, $p < .001$). Further

model information can be found in **Table 5.10 (Appendix 5.K)**.

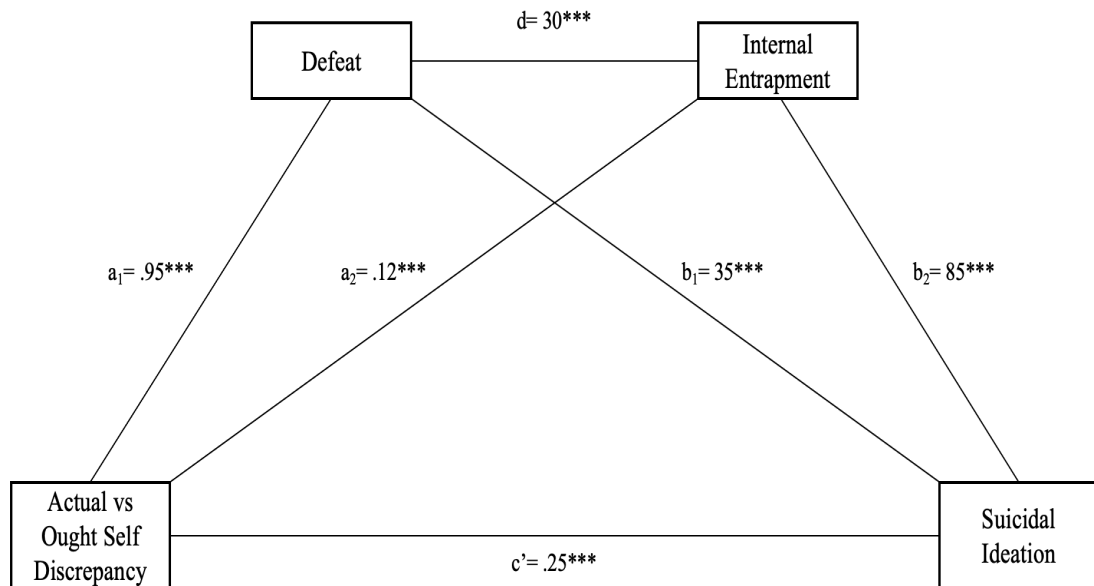


Figure 5.11. Standardised beta coefficients (β) showing the strengths of the associations between actual vs ought self-discrepancy, defeat, internal entrapment, and suicidal ideation in a serial multiple mediation model.

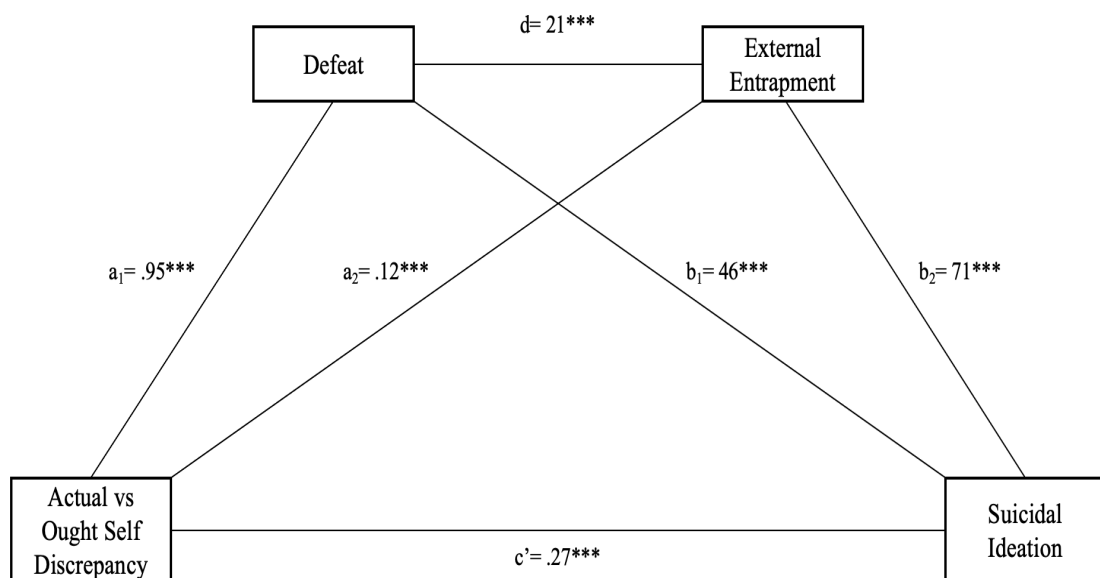


Figure 5.12. Standardised beta coefficients (β) showing the strengths of the associations between actual vs ought self-discrepancy, defeat, external entrapment, and suicidal ideation in a serial multiple mediation model.

Finally, the sixth model, as depicted in **Figure 5.13**, the analysis showed that actual vs ought discrepancy was related to each mediator (paths a_1 and a_2) and also the dependent variable (path c'). Both mediators, defeat and total entrapment, were directly related to suicidal ideation (paths b_1 and b_2). In addition, the first mediator (defeat) was also directly related to the second mediator (total entrapment) (path d). In terms of mediation, the first indirect path through defeat was significant ($B_{defeat} = .32$, $SE = .0521$, 95% CI [.2208-.4255]). The second indirect path through total entrapment was also significant ($B_{external_entrapment} = .13$, $SE = .0301$, 95% CI [.0798-.1984]). Finally, the third key indirect path through defeat and total entrapment (M_1M_2) was also significant ($B_{M1M2} = .26$, $SE = .0417$, 95% CI [.1903-.3538]), indicating partial mediation because the direct effect of actual vs ought discrepancy on suicidal ideation remained significant. The total effect of the model was also significant ($B_{total} = .71$, $SE = .0669$, 95% CI [.5874-.8529]). The model also explained 59% of the variance in suicidal ideation ($R^2 = .59$, $p < .001$). Further model information can be found in **Table 5.18 (Appendix 5.Y)**.

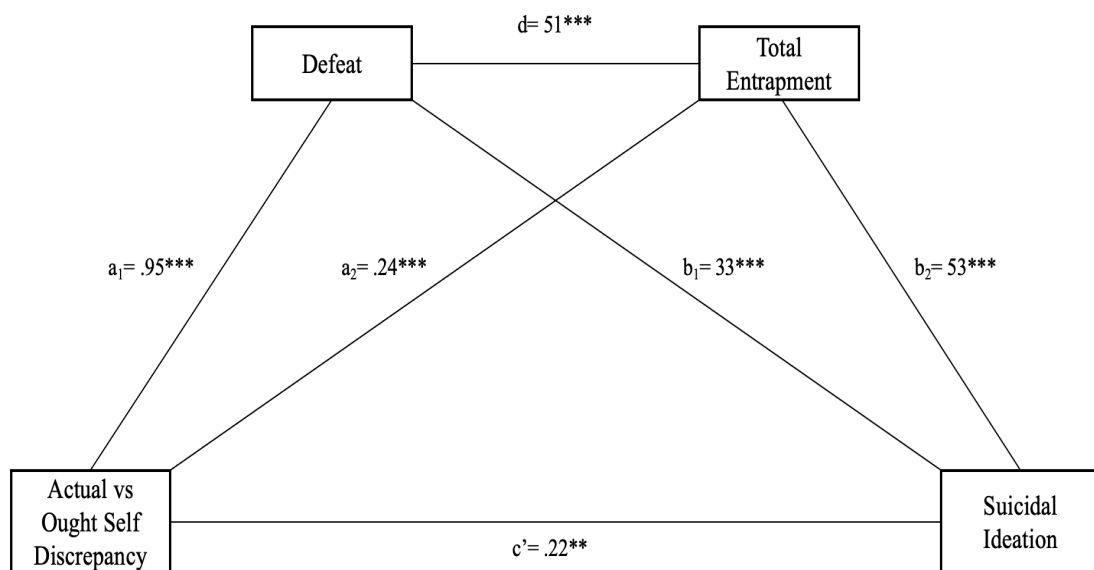


Figure 5.13. Standardised beta coefficients (β) showing the strengths of the associations between actual vs ought self-discrepancy, defeat, total entrapment, and suicidal ideation in a serial multiple mediation model.

In summary, there was clear support for Research Question 5.2. Defeat and internal/total entrapment fully mediated the actual vs ideal discrepancy–suicidal ideation relationship. Each mediation path in the same model was also significant. In addition, in the other

relevant models, defeat and internal/external/total entrapment partially mediated the relationships between actual vs ideal discrepancy and suicidal ideation, as well as partially mediated the actual vs ought discrepancy and suicidal ideation relationship.

5.4 Discussion

This study investigated the relationship between self-discrepancies, perfectionistic concerns, defeat, entrapment and suicidal ideation. Specifically, it yielded evidence in support of its two research questions. First, it found that self-discrepancies rather than perfectionistic concerns was a stronger predictor of defeat within the context of their relationship with entrapment (Research Question 5.1). Second, there was consistent evidence that the relationship between self-discrepancies and suicidal ideation was serially mediated by defeat and entrapment (Research Question 5.2).

To address these questions, this study investigated mediation models, including the important risk factors within the IMV model, and outlined critical pathways between them but it also introduced an additional risk factor, namely self-discrepancy. The results suggest that aspects of self-discrepancy are important to consider in the context of the pre-motivational and motivational phases of the IMV model.

5.4.1 Pathways between Perfectionistic Concerns,, Defeat, and Entrapment

As two central constructs within the motivational phase of the IMV model, feelings of being defeated by life and feelings of entrapment precipitate the emergence of suicidal ideation. In addition, these two critical risk factors play mediating roles between pre-motivational phase factors and, subsequently, suicide ideation (Hong & Shin, 2021; Pia et al., 2020; O'Connor & Kirtley, 2018). The findings of the first model (perfectionistic concerns–defeat–entrapment) aligned with the premises of the IMV model. Perfectionistic concerns was found to be a significant predictor of total entrapment (as well as internal and external) via feelings of defeat. In addition, perfectionistic concerns was one of the strongest correlates of suicide risk factors.

The finding regarding perfectionistic concerns emphasises the perniciousness of perfectionism and how strongly it is associated with suicide-related risk factors. Indeed, across the studies in this thesis, including different samples (Chapters 3 and 5) and in the relevant literature (Chapters 1 & 6), perfectionistic concerns have been found to be consistently and significantly related to suicide-related risk factors directly and indirectly (Chapter 2).

5.4.2 The Role of Self-Discrepancies

Philippot et al. (2018) conceptualised overall self-discrepancy in terms of the extent to which gaps in wanted vs unwanted, ideal vs ought selves, recorded in percentages, contributed to feelings of distress. However, a recent study found weak or non-significant correlations between the perceived discrepancies (in terms of percentages) and levels of perceived discrepancies and distress in a sample of 422 adults (Bouvard et al., 2024). However, both of the aforementioned studies found that perceived discrepancies and distress attributed to these discrepancies were associated with negative psychological outcomes (Bouvard et al., 2024; Philippot et al., 2022; 2018). So, this suggests that it is conceptually meaningful to combine these two dimensions' scores and create an overall discrepancy score, as we did here. Indeed, we combined the Likert-type responses linked to the discrepancies and the ratings for the distress caused by the gap for actual vs ideal discrepancy and actual vs ought discrepancy.

In so doing, we endeavoured to simplify the analysis related to self-discrepancies. By combining both the magnitude of the discrepancy and the associated distress, we were able to create an overall score for each aspect that reflected both the emotional (distress) and the cognitive (discrepancy size) dimensions of self-discrepancy. As noted above, the key findings regarding self-discrepancies addressed our research questions: 1) Actual vs ideal/actual vs ought discrepancies were more strongly associated with defeat, internal/external/total entrapment and suicidal ideation, compared to perfectionistic concerns within the conceptual models. Second, the results of the serial multiple mediation models suggest that self-discrepancies appear to play a pre-motivational role in

their relationship with suicidal ideation, potentially extending the pre-motivational risk factors outlined in the IMV model (O'Connor & Kirtley, 2018).

As self-discrepancies were more consistently associated with the IMV model variables, they were the focus of attention in Research Question 5.2. Indeed, these analyses yielded consistently stronger coefficients between actual vs ought discrepancy and suicide ideation in the context of the mediation effects, compared to the actual vs ideal discrepancy. With regards to the self-discrepancies and defeat relationship, actual vs ideal discrepancy consistently had stronger associations with defeat in the models compared to actual vs ought discrepancy. However, the association between actual vs ideal discrepancy and internal entrapment was the strongest in the model, compared to the other conceptual models in the study, whereas the association between actual vs ought discrepancy and internal/external entrapment remained the same in both models.

Even though the findings of this study make novel contributions to the literature within the context of the IMV model, these results were not surprising as high levels of self-discrepancies create emotional discomfort and distress, which, in turn, alter cognitions including information processing and motivation (Boldero et al., 2005; Higgins, 1987). Therefore, as cognitive-emotional vulnerability factors, self-discrepancies would undoubtedly be associated with feelings of being defeated by life and being trapped, which are two central precursors of suicidal ideation. In addition, as relatively similar constructs, the correlations between self-discrepancies and perfectionistic concerns were strong. It was interesting that, although perfectionistic concerns were more strongly correlated with suicide-related risk factors, in conceptual models including mediators: defeat and entrapment, self-discrepancies yielded stronger coefficients with the risk factors. However, R^2 -changes in the conceptual models in which either perfectionistic concerns or self-discrepancies were the predictors remained the same.

Previously, Cornette et al. (2009) explored the self-discrepancies and suicidal ideation relationship through depression and hopelessness, deriving significant results. The results of the present study provided further evidence of the association between self-discrepancies and suicide risk. Taken together, these findings lay the foundations for future research to explore these relationships across different populations (including

clinical samples), employing prospective or ecological momentary assessment designs.

5.4.3 Pathway to Suicide Ideation

According to the study results, self-discrepancies consistently appeared to contribute to feelings of defeat, which, in turn, were critical precursors to feeling trapped. Entrapment, then, acted as a strong mediator, leading to suicidal ideation. In other words, this suggests that self-discrepancies may initiate cognitive and emotional vulnerabilities that result in the emergence of suicidal ideation, consistent with the IMV model. In four of the serial multiple mediation models, the direct paths between self-discrepancies and suicidal ideation (path c') remained significant, although the mediation effects of defeat and external/internal/total entrapment were also significant.

However, in two of the analyses where either internal or total entrapment was one of the mediators, the same association between actual vs ideal discrepancy and suicidal ideation was no longer significant after the serial mediation effects of defeat and internal/total entrapment were included in the model. This finding may suggest that people with actual vs ideal discrepancy are more likely to be affected by feelings of defeat and internal/total entrapment that may result in suicidal ideation emerging. Further research is needed to explore the stability of this finding across time and different populations. As there is a dearth of studies in the literature it is not possible to directly compare the current findings.

5.4.4 Integration with the IMV Model

The findings closely aligned with the IMV model, as they showed that perfectionistic concerns and aspects of self-discrepancy were pre-motivational phase vulnerability factors that may predispose individuals to cognitive/emotional stressors such as feelings of being defeated by life and feelings of being trapped with no escape. The findings also confirmed key premises within the motivational phase as they highlighted the central role of defeat and entrapment within the suicidal process.

As mentioned previously, the findings showed that aspects of self-discrepancy can be deemed potential cognitive-emotional vulnerability factors that may lead to defeat and entrapment. Some studies reported that greater self-discrepancies are associated with greater interpersonal complications, which is very similar to the context of perfectionism (Mason et al., 2019). In addition, self-discrepancy was found to be associated with feelings of shame and lower self-esteem (Carrera et al., 2022; Barnett et al., 2017), both of which are highly related to increased suicide risk (e.g., self-harm) (Forrester et al., 2022; Sheehy et al., 2019).

Furthermore, emotional discomfort and distress arising from perceived self-discrepancies or facilitated by feelings of shame and defeat (Lester, 1988; Mueller et al., 2021) may act as cognitive vulnerability mechanisms that may trigger the onset of emotional disorders (Schapiro, 2023; Mason et al., 2019; May et al., 2018). They may, in turn, precipitate the emergence of suicidal ideation aligning with the IMV model's premises. Overall, the study findings showed that self-discrepancies are significant predictors of the key risk factors of suicide risk (i.e., defeat, entrapment, suicidal ideation), acting as a potential pre-motivational risk factor.

5.4.5 Implications

Future research should endeavour to replicate the role of self-discrepancies and their link to suicide risk, utilising cross-sectional, longitudinal, and ecological momentary assessment designs. In addition, exploring the role of self-discrepancies in suicidal behaviour rather than ideation across clinical populations would also be an important next step. As outlined in Chapter 2, investigations of suicide risk often focus on suicidal ideation, yet, consistent with cotemporary models, suicide risk covers a range of thoughts and actions including suicidal behaviours (Joiner, 2005; Rudd, 2006; Galynker, 2017). Therefore, more studies involving participants who attempted suicide or engage in self-harm are needed (O'Connor & Portzky, 2018). It would also be beneficial to study its conjunct effect with perfectionistic concerns in predicting suicide risk or to see whether different aspects of self-discrepancy moderate the associations between pre-motivational risk factors and motivational risk factors as a potential threat-to-self pre-motivational

moderator. Future research may also focus on integrating these two models (Self-discrepancy Theory and the IMV model) to examine how self-discrepancies operate across the pre-motivational and the motivational phases of the IMV framework.

This study investigated serial multiple mediation models within the IMV model's framework and introduced a new risk factor: self-discrepancy. The findings varied as a function of the type of self-discrepancy (i.e., ideal vs ought), confirming the importance of treating it as a multidimensional construct. Based on this finding, future research may similarly approach self-discrepancy when working with suicide-related risk factors. In addition, future efforts should concentrate more on perfectionistic concerns rather than perfectionistic strivings in suicide research. However, the study findings did show that even perfectionistic strivings are associated with external entrapment and actual vs ought discrepancy, indicating perfectionistic strivings may require some attention also.

Looking to prevention efforts, suicide prevention strategies and relevant interventions may usefully focus on targeting self-discrepancies and feelings of defeat and entrapment via cognitive restructuring techniques such as mindfulness-based cognitive therapy (Crane et al., 2008) or fostering a self-compassion-focused approach (Neff & Dahm, 2015), especially for those who are particularly vulnerable, i.e., the group who have high levels of actual vs ideal discrepancies. Addressing perfectionistic concerns may also help to mitigate the adverse psychological effects and interpersonal problems arising from maladaptive perfectionism, which would also indirectly reduce the feelings of defeat and entrapment and the emergence of suicidal ideation.

5.4.6 Strengths and Limitations

The key strength of this study was the use of a statistically powered sample, as in the previous studies (Chapters 3 and 4), recruited from a wide range of sources. Another strength was the testing of theory-driven hypotheses with clinical implications. In addition, it was unique in exploring the capacity of self-discrepancies in suicide-related research within the IMV model's framework.

However, the findings need to be considered in the context of the study limitations. Firstly, even though it achieved statistical power to assess small to large effect sizes, the study's cross-sectional nature limited the conclusions that we could draw. Future research may follow a longitudinal or ecological momentary assessment approach to see how stable the serial mediation effects of the defeat and internal/external entrapment are across different levels of the relevant independent variables in our tested models (i.e. actual vs ideal self-discrepancy, actual vs ought self-discrepancy and perfectionistic concerns) in different samples. Secondly, aggregating the scores of both constructs in the self-discrepancy measure (i.e., distress caused by the gap and perceived discrepancy of the gap) could obscure important differences or make it difficult to disentangle nuanced interactions. Therefore, future research may wish to differentiate between the types of self-discrepancies thereby allowing us to compare the effect of distress caused by the discrepancy as well as the perceived discrepancy on suicide risk. As a final limitation, as the majority of the sample (74%) consisted of female participants in the current study, it is not possible to generalise these results to the wider population. Future research should incorporate sampling and recruitment strategies that will increase the representation of different gender identities.

5.5 Conclusion

This study accomplished its goal of investigating two important research questions to help us to better understand suicide risk. In so doing, it provided further empirical support for the IMV model across several multivariate tests, and it explained considerable variance in outcome variables. In addition, it introduced a new predictor, self-discrepancy, which may be integrated into the IMV model, as it acted as a stronger predictor than perfectionistic concerns within the pre-motivational phase. In short, the findings extended knowledge of the pre-motivational and motivational mediators. Future research should investigate the key findings reported herein, fostering prospective and ecological momentary approaches.

Chapter 6:

General Discussion

6.0 Abstract

Background and Aims: This chapter synthesised the findings of the three empirical chapters and the systematic review and critiqued them in the context of the relevant previous literature. It also discusses implications, unique contributions, strengths, limitations, and future directions based on the studies' findings.

Methods: The evidence regarding the eight research questions investigated in this thesis was summarised, synthesised, and critiqued in relation to the Integrated Motivational-Volitional (IMV) Model, the overarching framework used in this thesis.

Results: The evidence confirmed a robust direct relationship between perfectionism and suicide risk, as well as indirect relationships mediated or moderated by cognitive and emotional factors outlined in the IMV model's framework. The findings also introduced the construct of self-discrepancies as a risk factor for suicidal ideation. Indeed, self-discrepancies were significantly associated with suicide risk directly and indirectly. Overall, all of the research questions were addressed in full, and there is extensive but not complete support for different pathways within the IMV model.

Conclusion: The collection of studies described in this thesis achieved its goals by advancing the theoretical comprehension of the IMV model by providing further empirical support for some of its central tenets, thereby making unique contributions to the literature. It also offered critical insights for future suicide research and prevention strategies.

6.1 Main Findings

The overarching aim of this thesis was to examine the complex interplay among psychological constructs, especially the relationships between pre-motivational risk factors (perfectionism and childhood trauma) and suicide risk, and the moderators and mediators associated with entrapment and suicidal ideation through the lens of the Integrated Motivational-Volitional Model of Suicide. Across the systematic review (Chapter 2) and the three empirical chapters (3, 4 and 5), this study explored a range of factors that are implicated in the emergence and persistence of suicidal ideation, namely perfectionism, childhood trauma, self-discrepancies, fear of humiliation, defeat, and entrapment. In addition, the moderation roles of ruminative flooding, perceived burdensomeness, thwarted belongingness, goal reengagement, and goal disengagement were critically evaluated. Based on the substantial evidence provided in the previous chapters, this thesis achieved its aim of investigating the relationships between pre-motivational risk factors (i.e., perfectionism and childhood trauma) and suicide risk through the lens of the Integrated Motivational-Volitional Model of Suicide. It systematically explored a range of moderators and mediators of the perfectionism (as a pre-motivational risk factor) and suicide risk relationship. Furthermore, by empirically testing the risk factors proposed in the IMV model, this research offered a more comprehensive understanding of suicide risk and contributed new empirical evidence to the IMV framework. Finally, by integrating Self-Discrepancy Theory within the IMV model's framework, this study elucidated how different forms of cognitive appraisals are associated with suicidal ideation.

Chapter 2 reported a systematic review which identified 41 mediators and 20 moderators which link perfectionism to suicidal thoughts and behaviours. These factors spanned five main categories of mediators and moderators: cognitive, emotional, coping, life events, and social factors. Although all aspects of perfectionism were pernicious in terms of their relationships with suicide risk, most of the evidence highlights that interpersonal and evaluative concerns aspects are most dangerous (i.e., perfectionistic concerns).

Chapter 3 addressed the utility of perfectionistic strivings, perfectionistic concerns, and childhood trauma in explaining variance in both internal and external entrapment through

the potential mediating effects of defeat and fear of humiliation. It also investigated the potential moderation effect of ruminative flooding on the associations between defeat and internal/external entrapment and between fear of humiliation and internal/external entrapment.

Chapter 4 built upon the findings presented in Chapter 3 by examining the direct and moderated relationships between internal/external entrapment and suicidal ideation, introducing the potential roles of goal reengagement, goal disengagement, thwarted belongingness, and perceived burdensomeness as buffers or exacerbators of suicidal ideation.

Finally, Chapter 5 analysed whether self-discrepancies or perfectionistic concerns are stronger predictors of internal/external and total entrapment through the mediation effect of defeat. The serial mediation of the relationships of self-discrepancies and perfectionistic concerns with suicidal ideation through defeat and internal/external and total entrapment was also explored, aligning with the IMV model.

The key findings across the systematic review and the three empirical chapters are synthesised in the following section to provide a better understanding of the interplay between these psychological (mainly emotional and cognitive) risk factors and offer insights into their practical and theoretical implications.

6.1.1 How the Study Findings Addressed the Specific Aims of Each Chapter

Chapter 2 reported the findings of a systematic review aimed at investigating the factors which mediate or moderate the relationship between multidimensional perfectionism (e.g., perfectionistic concerns, perfectionistic strivings, maladaptive perfectionism, socially prescribed perfectionism) and suicide risk (e.g., non-suicidal self-injury, self-harm, suicidal ideation, suicidal behaviour, suicide).

The systematic review sought to synthesise existing empirical quantitative and qualitative

research examining the abovementioned associations across various populations. A comprehensive search of the peer reviewed literature was conducted across multiple databases (e.g., EBSCOhost, PubMed/Medline, APA PsycINFO), yielding an initial pool of 8,217 records. After removing duplicates (2,479 records), a total of 5,738 studies were screened based on the eligibility criteria. Following an in-depth assessment, 41 studies were included in the review. The systematic review identified 41 reported mediators and 20 moderators in the relationship between the aspects of perfectionism and suicide risk, which were grouped into 5 categories: cognitive, emotional, coping, life events, and social factors. The samples in the studies involved clinical and non-clinical populations, community and student samples, and adolescents. The systematic review provided new insights into the role of multidimensional perfectionism in suicide risk, highlighting the importance of various mediator and moderator factors.

Findings from the empirical studies, based on simple, parallel, serial multiple mediation, and simple moderation analyses are summarised in Table 6.1 at the end of the current section. In addition, some of the key findings from the empirical studies are highlighted in the remainder of this section.

Chapter 3 tested four hypotheses organised around three research questions. The majority of the hypotheses provided further support for the IMV model, yielding results which were consistent with the IMV model's premises. Specifically, they highlighted the differential roles of fear of humiliation, feelings of defeat, and ruminative flooding as a function of the different subscales of entrapment. The studies yielded the following evidence:

Perfectionistic Concerns. The relationship between perfectionistic concerns and internal entrapment was partially mediated by defeat but not by fear of humiliation. On the contrary, both defeat and humiliation partially mediated the relationship with external entrapment, meeting the aim of identifying mediational processes specific to each form of entrapment (internal and external).

Perfectionistic Strivings. There was more limited evidence for the role of perfectionistic strivings in the association with entrapment. There was only evidence for indirect-only

mediation (Hair et al., 2021) via fear of humiliation between perfectionistic strivings and external entrapment, while the internal entrapment pathway was non-significant.

Childhood Trauma. As predicted, there was evidence that defeat partially mediated the relationship between childhood trauma and internal entrapment, and both fear of humiliation and defeat indirect-only mediated trauma's relationship with external entrapment.

Ruminative Flooding as a Threat-to-Self Moderator. The moderation effect of ruminative flooding varied depending on the aspect of entrapment considered. As is evident in Table 6.1, the relevant hypotheses received partial support, as ruminative flooding moderated the models concerning external entrapment but not internal entrapment. In short, ruminative flooding only exacerbated the associations between defeat, fear of humiliation, and external entrapment.

Chapter 4 tested five hypotheses based on three research questions, building upon the previous hypotheses in Chapter 3. Overall findings underlined the strong mediating roles of internal/external entrapment in the pathway to suicidal ideation while not supporting moderation roles for goal adjustment strategies, thwarted belongingness, and perceived burdensomeness, thereby only providing partial support for the IMV model. The relevant findings were as follows:

Fear of Humiliation and Defeat. Both internal and external entrapment partially mediated the relationships between fear of humiliation and defeat with suicidal ideation, supporting the IMV model's premises that entrapment has a central role in precipitating the emergence of suicide ideation.

Moderation Effects of Motivational Moderators. Contrary to the IMV model, the anticipated moderation effects of goal reengagement, goal disengagement, thwarted belongingness, and perceived burdensomeness were not observed.

Finally, Chapter 5 addressed two overarching research questions and introduced self-discrepancies, a new potential risk factor within the IMV model's framework. This

chapter's findings further supported the IMV model. The relevant findings were as follows:

Perfectionistic concerns vs Self-discrepancies. Consistent with the IMV model, defeat emerged as a robust mediator for the relationships between perfectionistic concerns, actual vs. ideal self-discrepancy, and actual vs. ought discrepancy with internal/external and total entrapment. Stronger β coefficients for the aspects of self-discrepancy suggested their influential role in the conceptual model, compared to perfectionistic concerns, and indicating that self-discrepancy may be a stronger pre-motivational risk factor than perfectionism.

Serial Mediation. Again, consistent with the IMV model, all proposed models were supported, with feelings of defeat and entrapment sequentially mediating the relationship between both aspects of self-discrepancies (actual vs. ideal and actual vs. ought) and suicidal ideation. These findings fully addressed the chapter's aims.

The findings across these chapters provided important insights into the complex pathways from psychological predictors (emotional and cognitive) to entrapment and suicidal ideation as depicted in the IMV model, emphasising the differential roles of mediators, such as defeat and fear of humiliation. The strong prediction effects of self-discrepancies within the IMV model's framework in Chapter 5, and the lack of support for the moderation effects of motivational moderators in Chapter 4, warrant further investigation. As noted above, **Table 6.1** provides further details of the empirical study findings of this thesis.

Table 6.1 *Summary of Findings from Simple, Parallel, and Serial Multiple Mediation, and Simple Moderation Analyses from Chapters 3, 4 and 5.*

Chapter	Research Question	Conceptual models (N)	Findings	Significant Mediators & Moderators
3	To what extent does perfectionism predict internal/external entrapment?	4	3.1a: The first relevant conceptual model tested whether perfectionistic concerns predict internal entrapment through defeat and fear of humiliation by utilising parallel multiple mediation analysis. This model received partial support as the mediation effect of fear of humiliation was statistically non-significant. However, defeat partially mediated the relationship between perfectionistic concerns and internal entrapment.	3.1a- <i>Defeat</i> : partially mediated between perfectionistic concerns and internal entrapment.
			3.1b: This model tested whether perfectionistic concerns predict external entrapment through defeat and fear of humiliation by utilising parallel multiple mediation analysis. This hypothesis was supported as both defeat and fear of humiliation partially mediated the relationship between perfectionistic concerns and external entrapment.	3.1b- <i>Defeat and Fear of Humiliation</i> : partially mediated between perfectionistic concerns and external entrapment.
			3.1c: Whether perfectionistic strivings predict internal entrapment through defeat and fear of humiliation was tested via parallel multiple mediation analysis. The model wasn't significant when perfectionistic strivings was the predictor.	3.1c- No mediation or direct effect was observed.
			3.1d: Whether perfectionistic strivings predict external entrapment through defeat and fear of humiliation was tested via parallel multiple mediation analysis. The model received partial support as defeat did not mediate the said relationship; however, there was evidence that fear of humiliation indirectly-only mediated the relationship between perfectionistic strivings and external entrapment, meaning the indirect effect was significant but not the direct effect (Hair et al., 2021).	3.1d- <i>Fear of Humiliation</i> : indirect-only mediation between perfectionistic strivings and external entrapment.
			3.2a: Whether childhood trauma predicts internal entrapment through defeat and fear of humiliation was tested via parallel multiple mediation	

3	To what extent does childhood trauma predict internal/external entrapment?	2	<p>analysis. This hypothesis received partial support as defeat but not fear of humiliation partially mediated the relationship between childhood trauma and internal entrapment.</p> <p>3.2b: Whether childhood trauma predicts external entrapment through defeat and fear of humiliation was tested via parallel multiple mediation analysis. This hypothesis was also supported as both defeat and fear of humiliation indirectly-only mediated the relationship between childhood trauma and external entrapment.</p>	<p>3.2a- <i>Defeat</i>: partially mediated between childhood trauma and internal entrapment.</p> <p>3.2b- <i>Defeat and Fear of Humiliation</i>: indirectly-only mediated between childhood trauma and external entrapment.</p>
3	To what extent does ruminative flooding moderate the relationship between fear of humiliation and internal/external entrapment?	2	<p>3.3a: Whether ruminative flooding moderated the association between fear of humiliation and internal entrapment was tested via simple slopes moderation analysis. Model wasn't significant.</p> <p>3.3b: Whether ruminative flooding moderated the association between fear of humiliation and external entrapment was tested via simple slopes moderation analysis. High levels of ruminative flooding exacerbated feelings of external entrapment.</p>	<p>3.3a- No moderation effect was observed.</p> <p>3.3b- <i>Ruminative Flooding</i>: exacerbated feelings of external entrapment.</p>
3	To what extent does ruminative flooding moderate the relationship between defeat and	2	<p>3.4a: Whether ruminative flooding moderated the association between defeat and internal entrapment was tested via simple slopes moderation analysis. Model wasn't significant.</p> <p>3.4b: Whether ruminative flooding moderated the association between defeat and external entrapment was tested via simple slopes moderation analysis. Ruminative flooding again exacerbated feelings of</p>	<p>3.4a- No moderation effect was observed.</p> <p>3.4b- <i>Ruminative Flooding</i>: The relationship between defeat and external</p>

	internal/external entrapment?		external entrapment.		entrapment was stronger at higher levels of ruminative flooding.
			4.1a: This model tested whether fear of humiliation predicts suicidal ideation through internal entrapment by utilising simple mediation analysis. The model was significant as internal entrapment partially mediated the relationship between fear of humiliation and suicidal ideation.		4.1a- <i>Internal Entrapment</i> : partially mediated between fear of humiliation and suicidal ideation.
			4.1b: This model tested whether fear of humiliation predicts suicidal ideation through external entrapment by utilising simple mediation analysis. The model was significant as external entrapment partially mediated the relationship between fear of humiliation and suicidal ideation.		4.1b- <i>External Entrapment</i> : partially mediated between fear of humiliation and suicidal ideation.
4	To what extent do fear of humiliation (4.1) and defeat (4.2) predict suicide ideation through internal/external entrapment?	4	4.2a: This model tested whether defeat predicts suicidal ideation through internal entrapment by utilising simple mediation analysis. The model was significant as internal entrapment partially mediated the relationship between defeat and suicidal ideation.		4.2a- <i>Internal Entrapment</i> : partially mediated between defeat and suicidal ideation.
			4.2b: This model tested whether defeat predicts suicidal ideation through external entrapment by utilising simple mediation analysis. The model was significant as external entrapment partially mediated the relationship between defeat and suicidal ideation.		4.2b- <i>External Entrapment</i> : partially mediated between defeat and suicidal ideation.
4	To what extent do goal reengagement	4	4.3a: Whether goal reengagement moderated the association between internal entrapment and suicidal ideation was tested via simple slopes moderation analysis. Model wasn't significant.		4.3a- No moderation effect was observed.

	and goal disengagement moderate the relationship between internal/external entrapment and suicidal ideation?		<p>4.3b: Whether goal reengagement moderated the association between external entrapment and suicidal ideation was tested via simple slopes moderation analysis. Model wasn't significant.</p> <p>4.3c: Whether goal disengagement moderated the association between internal entrapment and suicidal ideation was tested via simple slopes moderation analysis. Model wasn't significant.</p> <p>4.3d: Whether goal disengagement moderated the association between external entrapment and suicidal ideation was tested via simple slopes moderation analysis. Model wasn't significant.</p>	<p>4.3b- No moderation effect was observed.</p> <p>4.3c- No moderation effect was observed.</p> <p>4.3d- No moderation effect was observed.</p>
4	To what extent do thwarted belongingness and perceived burdensomeness moderate the relationship between internal/external entrapment and suicide ideation?	4	<p>4.4a: Whether thwarted belongingness moderated the association between internal entrapment and suicidal ideation was tested via simple slopes moderation analysis. Model wasn't significant.</p> <p>4.4b: Whether thwarted belongingness moderated the association between external entrapment and suicidal ideation was tested via simple slopes moderation analysis. Model wasn't significant.</p> <p>4.4c: Whether perceived burdensomeness moderated the association between internal entrapment and suicidal ideation was tested via simple slopes moderation analysis. Model wasn't significant.</p> <p>4.4d: Whether perceived burdensomeness moderated the association between external entrapment and suicidal ideation was tested via simple slopes moderation analysis. Model wasn't significant.</p>	<p>4.4a- No moderation effect was observed.</p> <p>4.4b- No moderation effect was observed.</p> <p>4.4c- No moderation effect was observed.</p> <p>4.4d- No moderation effect was observed.</p>

Is self-discrepancies or perfectionistic concerns a stronger predictor of entrapment through defeat?

5.1a: This model tested whether **perfectionistic concerns** predict **total entrapment** through **defeat** by utilising simple mediation analysis. The model was significant showing that defeat partially mediated the relationship between perfectionistic concerns and total entrapment.

5.1a- *Defeat*: partially mediated between perfectionistic concerns and total entrapment.

5.1b: This model tested whether **perfectionistic concerns** predict **internal entrapment** through **defeat** by utilising simple mediation analysis. The model was significant showing that defeat partially mediated the relationship between perfectionistic concerns and internal entrapment.

5.1b- *Defeat*: partially mediated between perfectionistic concerns and internal entrapment.

5.1c: This model tested whether **perfectionistic concerns** predict **external entrapment** through **defeat** by utilising simple mediation analysis. The model was significant showing that defeat partially mediated the relationship between perfectionistic concerns and external entrapment.

5.1c- *Defeat*: partially mediated between perfectionistic concerns and external entrapment.

5.1d: This model tested whether **actual vs ideal discrepancy** predicts **total entrapment** through **defeat** by utilising simple mediation analysis. The model was significant showing that defeat partially mediated the relationship between actual vs ideal discrepancy and total entrapment. This model had stronger β coefficients compared to the previous model with perfectionistic concerns as the predictor.

5.1d- *Defeat*: mediated between actual vs ideal discrepancy and total entrapment.

5.1e: This model tested whether **actual vs ideal discrepancy** predicts **internal entrapment** through **defeat** by utilising simple mediation analysis. The model was significant showing that defeat partially mediated the relationship between actual vs ideal discrepancy and internal entrapment. This model also had stronger β coefficients compared to the previous model with perfectionistic concerns as the

5.1e- *Defeat*: mediated between actual vs ideal discrepancy and internal entrapment.

predictor.

5.1f: This model tested whether **actual vs ideal discrepancy** predicts **external entrapment** through **defeat** by utilising simple mediation analysis. The model was significant showing that defeat partially mediated the relationship between actual vs ideal discrepancy and external entrapment. This model also had stronger β coefficients compared to the previous model with perfectionistic concerns as the predictor.

5.1f- *Defeat*: mediated between actual vs ideal discrepancy and external entrapment.

5.1g: This model tested whether **actual vs ought discrepancy** predicts **total entrapment** through **defeat** by utilising simple mediation analysis. The model was significant showing that defeat partially mediated the relationship between actual vs ought discrepancy and total entrapment. This model also had stronger β coefficients than the model 5.1a.

5.1g- *Defeat*: mediated between actual:ought discrepancy and total entrapment.

5.1h: This model tested whether **actual vs ought discrepancy** predicts **internal entrapment** through **defeat** by utilising simple mediation analysis. The model was significant showing that defeat partially mediated the relationship between actual vs ought discrepancy and internal entrapment. This model also had stronger β coefficients than the model 5.1b.

5.1h- *Defeat*: mediated between actual:ought discrepancy and internal entrapment.

5.1i: This model tested whether **actual vs ought discrepancy** predicts **external entrapment** through **defeat** by utilising simple mediation analysis. The model was significant showing that defeat partially mediated the relationship between actual vs ought discrepancy and external entrapment. This model also had stronger β coefficients than the model 5.1c.

5.1i- *Defeat*: mediated between actual vs ought discrepancy and external entrapment.

Do defeat and
entrapment serially
mediate the
relationship
between self-
discrepancies and
suicidal ideation?

5.2a: This model tested whether **actual vs ideal discrepancy** predicts **suicidal ideation** through **defeat** and **internal entrapment** by utilising serial multiple mediation analysis. The model was fully supported as both mediators fully and sequentially mediated the mentioned relationship.

5.2b: This model tested whether **actual vs ideal discrepancy** predicts **suicidal ideation** through **defeat** and **external entrapment** by utilising serial multiple mediation analysis. The model was also supported as both mediators partially and sequentially mediated the mentioned relationship.

5.2c: This model tested whether **actual vs ideal discrepancy** predicts **suicidal ideation** through **defeat** and **total entrapment** by utilising serial multiple mediation analysis. The model was fully supported as both mediators fully and sequentially mediated the mentioned relationship.

5.2d: This model tested whether **actual vs ought discrepancy** predicts **suicidal ideation** through **defeat** and **internal entrapment** by utilising serial multiple mediation analysis. The model was also supported as both mediators partially and sequentially mediated the

5.2a- *Defeat and Internal Entrapment*: fully and sequentially mediated the relationship between actual vs ideal discrepancy and suicidal ideation

5.2b- *Defeat and External Entrapment*: partially and sequentially mediated the relationship between actual vs ideal discrepancy and suicidal ideation

5.2c- *Defeat and Total Entrapment*: fully and sequentially mediated the relationship between actual vs ideal discrepancy and suicidal ideation

5.2d- *Defeat and Internal Entrapment*: partially and sequentially mediated the relationship between

	mentioned relationship.	actual vs ought discrepancy and suicidal ideation
	5.2e: This model tested whether actual vs ought discrepancy predicts suicidal ideation through defeat and external entrapment by utilising serial multiple mediation analysis. The model was also supported as both mediators partially and sequentially mediated the mentioned relationship.	5.2e- <i>Defeat</i> and <i>External Entrapment</i> : partially and sequentially mediated the relationship between actual:ought discrepancy and suicidal ideation
	5.2f: This model tested whether actual vs ought discrepancy predicts suicidal ideation through defeat and total entrapment by utilising serial multiple mediation analysis. The model was also supported as both mediators partially and sequentially mediated the mentioned relationship.	5.2f- <i>Defeat</i> and <i>Total Entrapment</i> : partially and sequentially mediated the relationship between actual:ought discrepancy and suicidal ideation

Note: Overall findings based on the tested hypotheses. Serial multiple mediation analyses were tested via Model 6, and simple moderation analyses were tested via Model 1, while simple and parallel mediation models were tested by utilising Model 4 of the PROCESS Macro integrated into SPSS. The numerical identifiers applied to each conceptual model, and the relevant findings do not correspond to the formal statements of study hypotheses.

6.2 Comparison of Findings with Existing Literature

This section aimed to critically evaluate the current evidence with findings from the existing relevant literature. The findings from tests of the study hypotheses and research questions offered varying degrees of alignment with the previous literature. The following sections elaborate on whether and how these findings support, expand, or diverge from the previous research.

6.2.1 What Aspect of Perfectionism is More Salient in its Association with Defeat, Humiliation, Entrapment and Suicidal Ideation?

Chapter 3 specifically investigated the relative predictive utility of the two superordinate aspects of perfectionism, namely perfectionistic strivings and perfectionistic concerns (Stoeber & Otto, 2006), for suicide-related risk factors. Indeed, Flett and Hewitt (2024) recently argued for a much stronger focus on the association between perfectionism and suicide risk based on findings from meta-analyses and longitudinal research.

According to Pearson's correlation analysis results (Chapter 3), perfectionistic concerns were significantly and much more strongly correlated with defeat, humiliation, internal/external entrapment, and suicidal ideation, compared to perfectionistic strivings, which were only significantly correlated with fear of humiliation. Perfectionistic concerns also yielded stronger and more significant results in the mediation models, thereby suggesting that this was the more salient form of perfectionism in terms of its associations with suicide-related risk factors. Indeed, the findings from the systematic review in Chapter 2 provide substantial evidence to support this finding. Moreover, Flett et al. (2022) also reported supporting review evidence that socially prescribed perfectionism (a form of perfectionistic concerns) should be considered a public health concern in terms of its link to poor mental and physical well-being, psychopathology, and suicide risk.

Additionally, with one exception, the parallel mediation models that included either subtype of perfectionism only yielded significant results when perfectionistic concerns was the predictor—specifically, when the predictive capacity of perfectionistic strivings on external entrapment through defeat and fear of humiliation was tested (Chapter 3-Hypothesis 3.2b). Further, it should be noted that this was an indirect-only mediation effect of fear of humiliation, with no direct effect found at all (Hair et al., 2021). That is not to say that perfectionistic strivings have not been found to be important in other studies. For example, they were found to be associated with suicide ideation in a sample of university students from Canada (Zeifmann et al., 2022) and Smith et al. (2017) found evidence that both perfectionistic concerns and strivings had small-to-moderate associations with suicidal ideation in their meta-analyses of 45 studies. The key take home message, though, is that across the research literature, perfectionistic concerns is more consistently and strongly associated with suicidality. Taking all of these findings into consideration, therefore, in Chapter 5, we only focused on perfectionistic concerns when examining the predictive capacity of perfectionism on total entrapment through defeat .

The overall findings regarding perfectionism align with the IMV model’s premises as the model considers perfectionism as a pre-motivational risk factor that may precipitate the emergence of feelings of defeat, humiliation, and entrapment (O’Connor & Kirtley, 2018).

6.2.2 The Role of Childhood Trauma in Predicting Defeat, Humiliation, Entrapment and Suicidal Ideation

Pearson’s correlation analyses showed clearly that childhood trauma was positively and significantly related to defeat, humiliation, internal/external entrapment, and suicidal ideation in Chapter 3. Childhood trauma also significantly predicted internal/external entrapment through defeat and fear of humiliation, consistent with the existing literature (see Chapter 1), as well as the IMV model’s framework, with significant direct and indirect associations between childhood trauma and suicide risk (Rogerson et al., 2024; Rogerson et al., 2023; Ihme et al., 2022; Spínola et al., 2022; O’Connor et al., 2020;

O'Connor & Kirtley, 2018; Gaweda et al., 2020; Bahk et al., 2017). In terms of suicide prevention efforts, the more that we can do to mitigate the negative and long-lasting effects of adverse early childhood experiences the better. The findings are clear, childhood trauma has pervasive effects on numerous risk factors for suicide (O'Connor et al., 2023).

An important consideration in interpreting these findings concerns how childhood trauma is conceptualised. While cumulative exposure to early life adversity is clearly indirectly linked to suicide risk, certain types of traumas (interpersonal and emotionally or physically abusive experiences) may have more profound effects on psychological processes such as defeat and entrapment, which were not examined in this research. Future research should explore whether it is the quantity or the qualitative nature of early trauma that most strongly contributes to later vulnerability, as this distinction may have implications for both theory and intervention. Relatedly, it would be important to explore whether one type of traumatic event versus the cumulative nature of trauma is most detrimental.

6.2.3 The Mediation Roles of Internal/External Entrapment between Defeat and Suicidal Ideation

Both internal and external entrapment, consistently, and partially, mediated the associations of defeat and fear of humiliation with suicidal ideation. These findings are consistent with those found in the existing literature, highlighting the precursor role that defeat plays through entrapment in the pathway to suicide ideation as depicted in the IMV model (Souza et al., 2024; O'Connor & Kirtley, 2018; Siddaway et al., 2015; Rasmussen et al., 2010). As most of the pathways were partial pathways, this suggests that other aspects of entrapment, not assessed via the entrapment scale, are needed to fully explain the relationship between defeat and entrapment. For example, the entrapment scale does not assess implicit attitudes to feeling trapped, perhaps by adapting existing implicit attitudes measures. It may also be useful to explore the extent to which people feel trapped by specific events or circumstances as the existing scale is quite generic.

In addition, consistent with the extant literature (Taylor et al., 2011), both sub-types of entrapment were significantly and positively correlated with all the suicide-related risk factors with the exception of perfectionistic strivings. However, as mentioned, this is not surprising as perfectionistic striving has been shown to be inconsistently associated with suicide risk. Nonetheless, in one of the analyses, perfectionistic strivings was related to external entrapment through fear of humiliation.

6.2.4 Ruminative Flooding and its Moderating Effect

Analyses from Chapter 3 illustrated the role of ruminative flooding in the suicidal process, with evidence that ruminative flooding was significantly associated with all of the suicide-related risk factors apart from perfectionistic strivings based on the Pearson's Correlation analysis results (see Chapter 3). These findings fit with much of the previous literature on rumination and suicide risk (Rogers et al., 2021; Rogers et al., 2017; Abdollahi & Talib, 2015; Tucker et al., 2013; Miranda & Nolen-Hoeksema, 2007; O'Connor & Noyce, 2008; O'Connor et al., 2007), as summarised in Chapter 1. In this thesis, we focused on one type of rumination, ruminative flooding, which was also found to be associated with suicide-relevant risk factors and suicide risk in a clinical sample from the USA (Rogers et al., 2021).

Concerning its moderation effect, ruminative flooding (a lack of cognitive inhibition to stop ruminative thoughts) had an exacerbating influence on the associations between defeat and fear of humiliation with external entrapment, but not with internal entrapment. These findings expand on the existing evidence that has explored the moderation effect of rumination via ruminative flooding. A recent study by Silvestre Vidal et al. (2024) provides support for the present findings, with rumination exacerbating the association between defeat and both aspects of entrapment instead of just external entrapment in a sample of 650 university students from Spain. Similarly, another study also provides support, reporting evidence that brooding rumination moderated the association between defeat and total entrapment in a sample of university students from the USA (Tucker et al., 2016).

Concerning the non-significant findings regarding the moderation effect of ruminative flooding, some studies also provided similar results, indicating that different forms of rumination (i.e., brooding and reflective) did not moderate the relationship between defeat and entrapment (Li et al., 2021; Miller, 2015). Miller's study revealed that brooding rumination partially mediated the same association between defeat and entrapment, which might explain the non-significant moderation effect (2015).

With regards to the fear of humiliation and entrapment relationship, no previous studies have explored the extent to which rumination has acted as a moderator in this regard (Souza et al., 2024; Kirtley, 2015). To our knowledge, therefore, this is the first study to establish any kind of relationship. However, the present findings only provide partial support for the IMV model's premises (O'Connor & Kirtley) as the moderation of ruminative flooding was significant only when external entrapment was the outcome.

6.2.5 Inconsistencies with the Previous Evidence: The Moderating Roles of Goal Adjustment Factors, Thwarted Belongingness, and Perceived Burdensomeness

Unlike the extant literature (Gill et al., 2023; Chu et al., 2017; O'Connor & Forgan, 2007; O'Connor et al., 2009), we found no evidence for significant moderation effects of goal reengagement, goal disengagement, thwarted belongingness, and perceived burdensomeness. This was surprising as our study samples were similar to other studies and included adults from diverse backgrounds. In addition, our samples were sufficiently powered to detect such effects.

However, the null findings may relate to the operationalisation of these constructs. Although we used items from an established scale, the Suicidal Narrative Inventory (SNI), to our knowledge the scale has never been used in a UK context. In addition, even though the reliability of the subscales was high in our sample (internal consistencies for goal reengagement $\alpha = .93$, goal disengagement $\alpha = .74$, belongingness $\alpha = .87$, burdensomeness $\alpha = .94$), in previous studies using the Suicide Narrative Inventory (SNI), weak or non-existent correlations between the goal adjustment factors and other

constructs have been reported (Menon et al., 2024; Peper-Nascimento et al. 2024; Lew et al., 2020). Contrary to the findings that we reported in, Chapter 4, O'Connor et al. (2009) reported that high levels of goal disengagement combined with low levels of goal reengagement exacerbated suicidal tendencies in a sample of participants following a suicide attempt.

In addition, during the data screening phase, it was noticed that some of the items related to goal reengagement seemed to be acting unusually. Although the authors of the scale suggest that some of the items should be reversed-coded, when we checked the wording of these items, we didn't think they should be reverse-coded (e.g., "If I have to stop pursuing an important goal in my life, I start working on other new goals", (1) not at all true-(5) extremely true). To clarify this, the SNI was cross-checked with the original scale (The Goal Reengagement and Goal Disengagement Scale (GAS)) that the authors of the SNI had drawn the goal orientation items from, which confirmed that only the goal disengagement subscale has reversed-coded items (Wrosch et al., 2003). So, the coding advised by Wrosch et al. (2003) was applied before the analyses. In their study, Cohen et al. (2019) also confirmed that goal orientation factor did not correlate with neither suicidal phenomena nor suicide crisis syndrome.

Concerning the absence of expected moderation effects of thwarted belongingness and perceived burdensomeness, it is worth noting Hatcher and Stubbersfield's (2013) systematic review findings of only a weak association between a low sense of belongingness and suicidality. However, in the present study (Chapter 4), although thwarted belongingness and perceived burdensomeness were significantly correlated with suicide-related risk factors, they did not moderate the associations of internal/external entrapment with suicidal ideation. These null effects are not consistent with the Interpersonal Theory of Suicide (ITS) (Joiner, 2005), where perceived burdensomeness and thwarted belongingness are central constructs which interact to amplify the likelihood of suicidal desire. Other studies, such as Cero et al. (2015), have also found limited support for this aspect of the ITS, as they reported no interaction between thwarted belongingness and perceived burdensomeness as a predictor of suicidal ideation, and that while perceived burdensomeness was positively associated with suicidal ideation, thwarted belongingness was not in both student and clinical samples. Lucht et

al. (2020) and Forkmann et al. (2017) also reported no moderation effects of thwarted belongingness and perceived burdensomeness on the association between entrapment and suicidal ideation.

Contrary to those studies which have reported non-significant findings, Gill et al. (2023) reported that both perceived burdensomeness and thwarted belongingness moderated and mediated the relationship between psychological distress and suicide ideation in a sample of Australian adults. Likewise, Chu et al. (2017) reported that thwarted belongingness and perceived burdensomeness mediated the relationship between violent daydreaming and suicidal ideation consistent within the context of the ITS model (Joiner, 2005).

In short, the belongingness and burdensomeness findings did not support either the IMV model's or the ITS model's premises, as no moderation effects were observed based on the risk factors tested in the conceptual models (O'Connor & Kirtley, 2018; Joiner, 2005).

6.3 Theoretical and Clinical Implications

This section provides further appraisal of the extent to which the study findings in this thesis can be anchored within the frameworks of the Integrated Motivational-Volitional (IMV) Model of Suicide (O'Connor, 2011; O'Connor et al., 2016; O'Connor & Kirtley, 2018), the Self-Discrepancy Theory of Higgins (SDT, 1987), and Hewitt et al.'s (2006; 2017)'s Perfectionism Social-Disconnection Model (PSDM). Furthermore, it will outline the implications pertaining to intervention development, clinical practice, and policy, as well as offer a proposal to further specify the IMV model to incorporate the Self-Discrepancy Theory's factors (i.e., actual vs. ideal discrepancy and actual vs. ought discrepancy) in the pre-motivational phase as cognitive-emotional vulnerabilities.

6.3.1 Alignment with the Perfectionism Social-Disconnection Model (PSDM)

The PSDM posits that interpersonal vulnerabilities arise from the adverse effects of perfectionism, which in turn, lead to feelings of social disconnection and interpersonal complications, thereby rendering individuals more vulnerable to psychological morbidities and suicide (Etherson et al., 2022; Goya Arce & Polo, 2017).

The study findings reported in this thesis aligned with this theory's premises as perfectionistic concerns (a pernicious form of perfectionistic tendencies (Smith et al., 2017)) were consistently and significantly associated with suicide-related risk factors directly and indirectly across the studies and different samples (Chapters 3 and 5). The findings also corroborate the PSDM's perspective, particularly through the partial mediations of feelings of defeat and fear of humiliation in the relationship between perfectionistic concerns and external entrapment (Chapters 3 and 5).

In addition, there was also evidence that even perfectionistic strivings predicted external entrapment through the indirect-only mediation effect of fear of humiliation (but not defeat). This aligns with the PSDM as fear of humiliation and external entrapment are considered cognitive-emotional discomforts in the context of socially prescribed norms and interpersonal life-stress factors (Hewitt et al., 2006; 2017). In short, these results reinforce the centrality of interpersonal risk factors, such as fear of humiliation, in understanding perfectionism's maladaptive consequences.

6.3.2 Alignment with Self-Discrepancy Theory (SDT)

As noted in Chapter 5, Higgins' theory posits that perceived discrepancies between actual, ideal, and ought selves lead to emotional discomfort and distress by creating cognitive structures that guide motivation and information processing (Boldero et al., 2005; Higgins, 1987). In this thesis, these premises of SDT were empirically supported as the associations of the actual vs. ideal and actual vs. ought discrepancies with suicidal ideation were found to be mediated by feelings of defeat and internal/external and total

entrapment. As SDT posits that life satisfaction depends on the synchronisation of these selves (Higgins, 1987), it is unsurprising that the findings yielded consistently strong associations between self-discrepancies and feelings of being defeated by life.

In addition, according to Chapter 5's findings, there were stronger mediation effects of feelings of defeat in models where actual vs. ideal and actual vs. ought discrepancies predicted total, internal, and external entrapment. This extends the premisses of the IMV model of Suicide (O'Connor & Kirtley, 2018), suggesting that perceived self-discrepancies may be stronger vulnerability factors for suicide-related outcomes than perfectionistic tendencies. This finding is also supported by previous literature which has shown that emotional discomfort, arising from perceived self-discrepancies or facilitated by feelings of shame and defeat (Lester, 1988; Mueller et al., 2021), may result in the creation of a cognitive vulnerability mechanism that may contribute to the onset and maintenance of emotional disorders (Schapiro, 2023; May et al., 2018; Mason et al., 2019).

Chapter 5's findings also confirmed that both types of discrepancies convey risk in terms of being associated with feelings of defeat and entrapment and, subsequently, suicidal ideation. However, individuals experiencing a discrepancy between their ideal selves and actual representations appear to be more vulnerable to suicide-related risk factors than those who are experiencing a discrepancy between their socially prescribed selves and actual representations, highlighting the importance of personal ideals.

Our findings build upon those of Cornette et al. (2009) who reported that self-discrepancies were found to be related to suicidal ideation through hopelessness and depressive symptoms in a sample of undergraduates from the USA (Cornette et al., 2009). Our findings are, however, the first to show such relationships with defeat and entrapment, which are recognised as more specific markers of suicide risk than hopelessness and depressive symptoms.

6.3.3 Self-Discrepancies within the IMV Model: Integration of Self-Discrepancy Theory into the Pre-Motivational Phase

Four distinct theories played important roles in the development of the IMV model, one of which, the Diathesis-Stress Model, focuses on individual vulnerabilities (such as perfectionism) in developing suicidal ideation when triggered by various stressors (O'Connor & Kirtley, 2018). Therefore, in the IMV model, perfectionism was defined as a pre-motivational risk factor. The findings in Chapters 2-4 consistently aligned with this premise of the IMV model, as perfectionistic concerns were found to be significant predictors of suicide-related risk factors such as defeat, entrapment and suicidal ideation. However, Chapter 5 provided compelling evidence for a stronger potential (theory-driven) pre-motivational vulnerability factor, namely self-discrepancies. When comparing the associations between perfectionistic concerns and self-discrepancies with key variables such as defeat, self-discrepancies tended to be more strongly related. This would suggest that it may also be considered a potential pre-motivational variable. Indeed, in the mediation analyses, the association between actual vs. ideal discrepancy and suicidal ideation was fully mediated by feelings of defeat and internal/total entrapment, indicating the importance of personal ideals and perceptions, which, in turn, underlines the importance of individual differences.

Moreover, the results of the conceptual models tested in Chapter 5 where actual vs. ought discrepancy was the predictor provided stronger effect sizes and R^2 -changes than models with perfectionistic concerns as the predictor. As a predictor variable, actual vs. ought discrepancy also yielded meaningful results in the serial multiple mediation models, where it was more strongly associated with defeat and internal/external entrapment. This contributes to our understanding of how socially prescribed constructs play crucial roles in the pathways to suicide, by creating emotional and cognitive discomfort.

As mentioned in the previous section, according to SDT, perceived maladjustments between different aspects of the self can lead to emotional discomfort, which can also alter cognitive structures related to information processing and motivation in life

(Boldero et al., 2005; Higgins, 1987). In Chapter 5, these constructs were consistently found to be strongly associated with key motivational risk factors (i.e., feelings of being defeated by life and perceptions of being trapped without hope of escape) depicted in the IMV model. These findings warrant further research to explore the utility of integrating aspects of SDT into the IMV model, specifically the actual vs. ideal discrepancy and actual vs. ought discrepancy as pre-motivational phase vulnerabilities (see **Figure 6.1**). It would also be useful to empirically investigate the conceptual overlap between self-discrepancies and different dimensions of perfectionism.

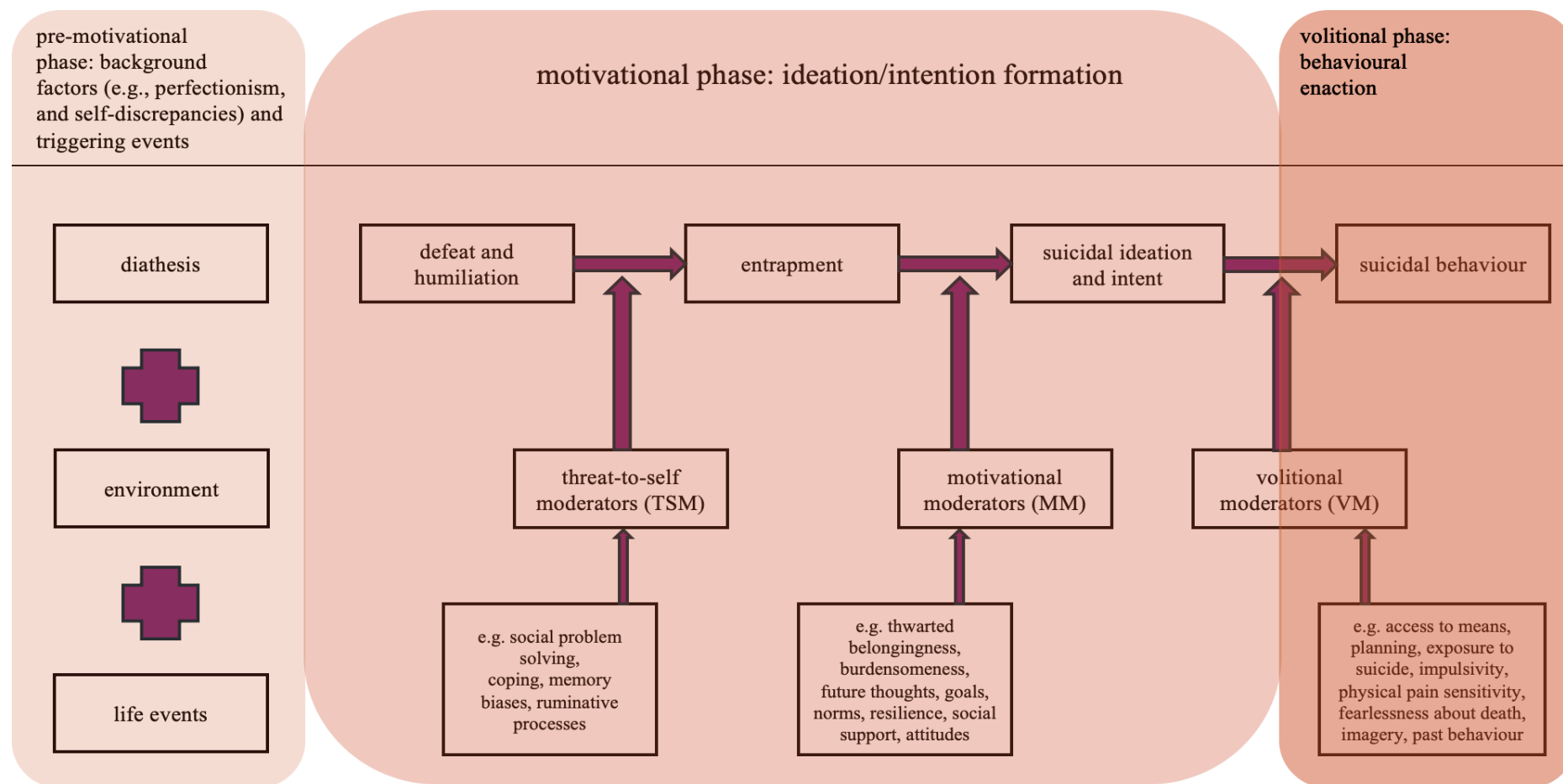


Figure 6.1. The Integrated Motivational-Volitional Model (IMV) with an updated proposal for integrating the Self-Discrepancy Theory (Higgins, 1987) factors (i.e., actual vs ideal self-discrepancy and actual vs ought discrepancy) into the pre-motivational phase as cognitive-emotional vulnerabilities.

6.3.4 Clinical Implications

Taken as a whole, the findings in this thesis elucidate critical pathways linking perfectionism, self-discrepancies, childhood trauma, and suicidal ideation. They also suggest that feelings of defeat, fear of humiliation, and internal/external/total entrapment are key mechanisms to explain how these former factors can lead to suicidal thoughts. The key clinical message is that these factors should be targets for clinical intervention. However, it is important to acknowledge that the reported in this thesis are based on cross-sectional data and therefore we cannot establish causality. The findings also offer valuable clinical insights by anchoring these relationships within the Integrated Motivational-Volitional Model of Suicide, Self-Discrepancy Theory, and the Perfectionism Social-Disconnection Model, which serve as frameworks for intervention, policy development, and clinical practice.

Intervention Development and Clinical Practice. The findings underline the critical roles of motivational mediators. Therefore, cognitive-behavioural interventions specifically targeting feelings of defeat and entrapment through cognitive restructuring of defeatist beliefs may be beneficial in mitigating entrapment-related distress. Such approaches are aligned with the methods described by Tarrier et al. (2008) for reducing suicide risk, especially for adults. They are also consistent with the National Institute of Health and Care Excellence's clinical guidelines on the management of self-harm (NICE, 2022).

Addressing self-discrepancies via cognitive restructuring techniques such as mindfulness-based cognitive therapy (Crane et al., 2008), self-compassion trainings, and well-being programmes may help individuals reconcile their actual, ideal, and ought selves by reducing the emotional distress, feelings of defeat and entrapment associated with self-discrepancies or perfectionistic concerns (Schapiro, 2023; May et al., 2018; Yildirim & Belen, 2020; Fulginiti & Brekke, 2015; Neff & Dahm, 2015).

In addition, based on the present findings, addressing ruminative flooding via mindfulness-based cognitive restructuring therapy may also be particularly helpful in interrupting the cycles of ruminative flooding (Segal et al., 2002). Such therapies may

improve one's ability to cognitively inhibit their thoughts and behaviours, which, in turn, may help to reduce feelings of external entrapment.

Finally, the findings show that early adversity (i.e., childhood trauma) significantly predicts defeat, fear of humiliation, entrapment, and, subsequently, suicidality. Trauma-focused therapies such as Eye Movement Desensitisation and Reprocessing (Shapiro, 2014) and Trauma-Focused Cognitive Behavioural Therapy may help to reduce the negative effects of early life adversity, as well as addressing the negative effects of perfectionistic concerns (e.g., parental expectations) (Cohen et al., 2018; Cohen & Mannarino, 2015).

The findings highlight the role of individual differences (e.g., perfectionistic concerns, childhood trauma, self-discrepancies) and illustrate the importance of taking personalised approaches to the treatment of those who are suicidal. As suggested by Hewitt et al. (2006; 2017), focusing on the interpersonal components of perfectionism such as socially prescribed perfectionism (which is a core component of perfectionistic concerns) and fear of humiliation could be beneficial in enhancing the effectiveness of the therapy. The same approach may be applied to individuals with high actual vs. ideal discrepancy, and individuals with high actual vs. ought discrepancy. In addition, incorporating fear of humiliation, perfectionistic concerns, aspects of self-discrepancies, defeat, and entrapment into formulation-led psychosocial assessment tools may improve predictive validity. Furthermore, broadening the clinical scope by extending the research to acute clinical settings is crucial to see how these findings vary across clinical populations.

Policy Implications. Public health initiatives should expand their focus by integrating early identification of perfectionistic concerns (Hill et al., 2010), aspects of self-discrepancies, and early life adversities into their scope. In addition, implementing programmes to reduce the negative effects of perfectionistic concerns, self-discrepancies, ruminative flooding, and defeat at work and school settings might create a positive ripple effect among vulnerable individuals (Matos et al., 2022; Kotera & Van Gordon, 2021). Policies need to prioritise funding to develop and evaluate self-discrepancy-reduction interventions, aligning with the need for more suicide prevention strategies more widely (Mann et al., 2005).

6.4 Reflexivity

Conducting the research contained within this thesis study has provided me with invaluable insights into the complexities, advantages, and challenges of psychological research, particularly within the domain of suicide research. I really appreciated the iterative nature of the research process (e.g., how hypotheses and research questions were refined throughout the initial stages of the planning of the different studies). I have learned a lot about the importance of research integrity including complying with the General Data Protection Regulation requirements. Secondly, I have also learned about the importance of analytical rigour, especially when employing multiple mediation and moderation analyses to untangle multidimensional relationships among psychological variables. Thirdly, I learned that when it comes to human psychology, one should never deduce based solely on a single theory, cognitive biases, or heuristics. Human psychology is so complicated that it is vital to draw upon multiple perspectives (e.g., eight theories were drawn upon in Chapter 1) to explain any human behaviour including suicidal behaviour. On reflection, perhaps I engaged with too many theoretical frameworks. At times, I found it difficult to learn from eight distinct theories and to cognitively process so many variables. Although I was trying to provide a comprehensive overview of the theoretical landscape, if I had my time over again, it may have been more beneficial for me to focus on a smaller number of theories.

However, one of the most challenging aspects of this PhD was indeed managing the vast theoretical and empirical literature on suicide, self-harm, and the IMV model. Finding the balance between theoretical depth and breadth together with sufficient empirical precision was demanding and required long hours of reading and reflection. The statistical analyses, particularly multiple mediation and moderation analyses, academic writing, and reporting also required extensive learning and consultation with my supervisors. If I had a chance to redo aspects of the research, I would allocate more time to pilot-testing the study measures to ensure their robustness.

Overall, I found the research process deeply rewarding and it was an honour to be able to focus my efforts on understanding one of the darkest aspects of the human condition. I

was also incredibly fortunate to have the opportunity to work with international experts in suicide research and to learn from them, to contribute to underexplored areas of research, and to have discussions with peers which were personally fulfilling and contributed to my personal development immensely.

6.5 COVID-19

I started my PhD amid the COVID-19 pandemic, which affected the trajectory of my research both practically and psychologically. I arrived as an international student in the midst of the pandemic restrictions which meant that my meetings with my supervisors were online. Without question, the pandemic added stress, uncertainty, and loneliness, which impacted upon my mental health and productivity. Engaging in suicide research, in particular during a global crisis, was emotionally demanding as the pandemic heightened vulnerability to mental health issues worldwide. In terms of the impact on the findings of this thesis, having completely different life routines (e.g., social isolation, wearing masks all the time, requirements to stay at home) altered people's perceptions regarding life in general and their mental health specifically. As a result, some of the findings may have been affected, in part, by the pandemic. It would be important to replicate these studies in non-COVID times, to ensure that the findings are robust.

6.6 Strengths and Limitations

One of the key strengths of this thesis is its inclusion of Self-Discrepancy Theory, making a unique contribution to the operationalisation of the IMV model. This novel approach may contribute to theoretical enhancements in understanding additional cognitive-emotional pathways leading to suicide risk. Another strength was the application of robust statistical methods in a theory-driven framework with statistically powered samples, including multiple mediation and moderation analyses.

Across the thesis, there was further empirical support for the IMV model, including a focus on relatively underexplored risk factors in the model, such as fear of humiliation, ruminative flooding, and perfectionistic concerns. Finally, another strength was

providing empirical support for the effect of self-discrepancies through the backbone of the IMV model, namely through feelings of defeat and entrapment.

However, despite the strengths, the studies in this thesis had several limitations. Firstly, relying on self-report measures may have introduced biases such as recall errors and social desirability (Latkin et al., 2017). Future research should incorporate more objective measures where possible. For example, including behavioural measures of perfectionism and self-discrepancies may be a value focus of future research.

Secondly, the cross-sectional design of the empirical studies limited causal inferences. Partial and serial multiple analyses are suggestive of pathways from perfectionistic concerns, childhood trauma, and self-discrepancies to suicidal ideation through defeat, fear of humiliation, and internal/external/total entrapment; however, prospective and ecological momentary assessment designs are needed to determine whether these pathways are causal.

Additionally, even though our community samples were diverse, they were not representative of their target populations as evidenced by the over-presentation of people with mental health problems (more than 60% of the participants reported having previously diagnosed mental health issues). Furthermore, it would be important to explore some of the research questions in clinical populations of people at relatively higher risk of suicide. It would also be beneficial to adopt mixed-method approaches, incorporating interviews alongside quantitative research to provide richer data on participants' individual experiences.

6.7 Future Research

Future research should consider addressing several critical areas to build upon the findings of this thesis:

Longitudinal Studies. As mentioned previously, future research should employ prospective designs to allow for stronger inferences on causality across the study

variables and pathways tested (Oppenheimer et al., 2023). In particular, it would be interesting to determine how self-discrepancies fluctuate over time (spanning 3, 6 to 12 months with multiple assessment points) and to what extent they predict feelings of defeat, entrapment and suicidal ideation over similar timeframes. This approach would help researchers to clarify the temporal ordering and potential mediational pathways, for example, identifying whether self-discrepancies act as a predictor or a maintenance factor in the trajectory from feelings of defeat to suicide risk.

Cross-Cultural Examination. Hofstede's Cultural Dimensions Theory (2011) posits that the characteristics of individuals vary based on the cultural contexts they live in. Given that some aspects of perfectionism and self-discrepancy are shaped by normative influence (Hewitt et al., 2006; Higgins, 1987), examining these constructs across different cultural contexts would undoubtedly advance understanding of their roles in suicide risk globally (Goldsmith et al., 2002).

Intervention Studies. It would be important to focus on using the findings to inform the development of clinical interventions. However, we need to be cautious as our findings are all based on cross-sectional study designs. As noted already, we need more longitudinal and interventions-based work to clarify the extent to which these variables are amenable to treatment and predict suicide risk over time. A good place to start would be to tailor the aforementioned clinical approaches (see Section 6.3.4) and evaluate their effectiveness in reducing suicide risk via robust study designs (Melhem et al., 2023).

Qualitative Research. As noted above, even though the empirical studies in this thesis employed quantitative methods, qualitative research exploring individuals' subjective experiences (Braun & Clarke, 2023; Finlay, 2021) of self-discrepancies, perfectionistic concerns, defeat, fear of humiliation, rumination, entrapment, and suicidal ideation could provide deeper insights into the lived experiences of those who are at risk. Through in-depth interviews and narrative analyses, nuanced meanings, emotional backgrounds, and contextual factors can be captured. Such idiographic approaches will help us to better understand what these psychological constructs feel like and mean to the individual.

Biopsychosocial Integration. Future research could also integrate biological markers of emotional distress (e.g., heart rate variability, cortisol levels) accompanied by psychological measures to offer a more holistic approach to understanding suicide risk (O'Connor et al., 2020).

6.8 Conclusions

Across a systematic review and three empirical studies, this thesis has contributed to the growing body of psychological literature on suicide research. The findings underscore the importance of the key motivational precursors (i.e., defeat, fear of humiliation, and entrapment) of the IMV model but they also offer new insights into the cognitive-emotional pathways leading to suicidal ideation. Despite several limitations, this research provides a strong foundation for future research exploring cognitive-emotional and pre-motivational vulnerabilities to suicide risk. The integration of the Self-discrepancy Theory into the IMV model's framework advanced the theoretical understanding of suicide risk, as well as providing robust foundations for future clinical applications and endeavours in the suicide prevention field. Moving forward, interventions addressing the adverse effects of perfectionistic concerns, childhood trauma, and self-discrepancies may play crucial roles in mitigating feelings of defeat, entrapment, and suicidal ideation, thereby reducing suicide risk.

Appendices

Appendix 2.A

Table 2.1. *Cross-Sectional, Longitudinal, and Qualitative Studies Investigating Potential Mediator and Moderator Factors of the Relationship between Perfectionism and Suicide Risk (Suicidal Self-Harm, Non-Suicidal Self-harm, Suicide Ideation, Suicidal Behaviour)*

Study No	Author(s)	N	Sample Description	Gender & Age	Design	Assessment/Measure of Multidimensional Perfectionism	Assessment/Measure of Suicide Risk	Assessment/Measure of Additional Variables	Analyses	Findings	Mediators/Moderators
1	Oskouei et al. (2024)	277	Iranian Medical Residents	%30 Male (<i>Age</i> = 32.1, <i>SD</i> = 4.33)	CSS	Tehran Multidimensional Perfectionism Scale (TMPS)	Beck Scale for Suicidal Ideation	Depression, Anxiety, and Stress Scale (DASS-21) to measure psychological distress	Structural Equation Modelling with SPSS, and AMOS software (version 22). Model fit indices, bootstrapping, and correlation analysis were used to see the relationships within the model.	Psychological distress was a latent variable consisted of depression, anxiety and stress. There was no direct association between perfectionism and suicidal ideation. However, perfectionism indirectly influenced suicidal ideation via increased psychological distress (PD). PD mediated this relationship. This model explained %42 of the additional variance of suicidal ideation ($p < 0.01$).	1 mediator was found and defined as Psychological Distress
2	Brás et al. (2024)	224	Young adults from Portugal	74.1% female (<i>Age</i> = 22.71, <i>SD</i> = 3.43)	CSS	Hewitt Multidimensional Perfectionism Scale (HMPS) and the Short Almost Perfect Scale (SAPS) were used to measure adaptive and maladaptive perfectionism	Positive and Negative Suicidal Ideation Inventory (PANSI)	Difficulties in Emotion Regulation Scale (DERS) measured emotion regulation difficulties	Baron and Kenny's approach was utilised to assess the mediation effects. The study also employed correlation analysis, and linear regression.	The relationship between maladaptive perfectionism (discrepancy factor of the SAPS) and the suicidal ideation was fully mediated by difficulties in emotion regulation (DER) except awareness of one's own emotion (a subfactor of DER) which partially mediated the same relationship.	1 mediator was found and defined as Difficulties in Emotion Regulation (one of the components of this variable -awareness of one's own emotion-partially mediated the same relationship)
3	Zhao et al. (2024)	1483	Chinese university students	42.9% male (<i>Age</i> = 19.14, <i>SD</i> = 1.03)	CSS	Short-form of the Hewitt and Flett Multidimensional Perfectionism Scale (HMPS-SF)	A single item from the Frequency of Suicidal Ideation Inventory was used to measure suicidal ideation	UCLA Loneliness Scale (a single item to measure loneliness). 15-item ARS Scale (measured appearance-based rejection sensitivity -ARS-)	SPSS 26 was used for preliminary analyses, Mplus 8.3 was used for path analysis to test the mediation (with bootstrapping).	While the total effect of socially prescribed perfectionism (SPP) on suicidal ideation was significant, self-oriented perfectionism (SOP)'s was not. Loneliness mediated the relationship between SPP, SOP and suicidal ideation. However, appearance-based rejection sensitivity (ARS) did not mediate the same link when it was separately tested. In a serial multiple mediation model, ARS and loneliness serially	2 mediators were found and defined as Loneliness and Appearance-Based Rejection Sensitivity

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8	Zhou et al. (2023)	1748 and 1665	Adolescents from a Secondary school in Guangzhou, Guangdong Province, China	45% males, 55% females; (<i>Age</i> = 15.84 years, <i>SD</i> = 1.56)	Longitudinal. Data collected in 2 waves with 6 months follow up	Positive and Negative Perfectionism Scale-Chinese revised (Terry-Short et al., 1995; Zhou, 2012)	Beck Scale for Suicide Ideation (BSSI, Beck et al., 1997)	The Intolerance of Uncertainty Scale (IUS-12; Carleton et al., 2007), Anxiety Subscale of the short Depression Anxiety Stress Scales-Chinese revised (DASS-21; Wang et al., 2016), the Revised version of the Cognitive Affective Mindfulness Questionnaire (CAMS-R; Feldman et al., 2007)	Mediating effects of intolerance of uncertainty and anxiety symptoms in the relationship between negative perfectionism and suicidal ideation via serial multiple mediation analysis.	2 mediators have been identified: Intolerance of Uncertainty and Anxiety Symptoms.
9	Duncan-Plummer et al. (2023)	514	Australian university students	73.5% identified as female. Age group= 18-41 years, (<i>Age</i> = 21.15, <i>SD</i> = 2.40)	CSS	The Clinical Perfectionism Questionnaire (CPQ; Fairburn et al., 2003)	Inventory of Statements About Self Injury (ISAS; Klonsky & Glenn, 2009), participants were asked, "Have you ever engaged in non-suicidal self-injury?", to which they responded no (coded as 0) or yes (coded as 1).	The Brief Experiential Avoidance Questionnaire (BEAQ; Gámez et al., 2014), The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965), The Locus of Control of Behavior Scale (LCBS; Craig et al., 1984)	Multiple mediation and moderated mediation analyses.	1 mediator has been identified: Lower Self-esteem
10	You, Kwon & Kim (2022)	420	Korean College Students	64.3% Female, 21.63 years (<i>SD</i> = 2.61 years)	CSS	FMPS (Frost et al., 1990) and HMPS (Hewitt & Flett, 1991)	ASIQ (Reynolds, 1991)	RLSS-CS (Chon et al., 2000), SCS (Neff, 2003)	Based on the results of the structural equation modelling, Life stress mediated the relationship between maladaptive perfectionism and suicidal ideation. The mediation relationship with the outcome effect of life stress was stronger for the group with low-levels of self-stress ($\beta = .04$, $p < .05$). High compassion rather than those with levels of self-compassion higher-levels of self-compassion buffered the strength of the Self-compassion moderated the mediation effect of life stress on suicidal ideation.	1 mediator has been identified: Life stress. 1 Moderator has also been identified: Self-compassion

11	Tonta et al. (2022)	446	Undergraduate university students from Australia	110 Male, 336 Female, ($M = 21.54$, $SD = 2.44$), Age group= 18-23	CSS	FMPS-Brief (Burgess et al., 2016). They used total score to assess perfectionism.	ISAS (Klonsky & Glenn, 2009)	RTQ (McEvoy et al., 2014); PANAS (Watson et al., 1988), ACS (Derryberry & Reed, 2002)	A path model was tested (Mplus Version 8.2). According to results, there was an indirect relationship between perfectionism and odds of NSSI through rumination. There was also an indirect relationship between perfectionism and odds of NSSI through negative affect.	The relationship between overall perfectionism and Non-Suicidal Self Injury (NSSI) was mediated by rumination and negative affect in a significant manner.	2 mediators were identified: Rumination and Negative Affect
12	Gu, Hu & Wang (2022)	841	Adolescents from China	58.3% ($n = 490$) were female, Age group= 12-19, $M = 14.69$ ($SD = 1.58$)	CSS	Chinese version (Zi & Zhou, 2006) of the FMPS (Frost et al., 1990)	ISSI (Klonsky & Glenn, 2009)	Chinese version (Wang, Shi, et al., 2016) of The DASS-21 (Lovibond & Lovibond, 1995); Chinese version of the MAAS (Deng et al., 2012).	Results from bias-corrected bootstrapping (PROCESS-Model 4) for mediation analysis. Test of moderated relationship between perfectionism and NSSI. In addition, PROCESS. The conditional mindfulness significantly weakened indirect effect showed that the (buffered) the indirect effect of perfectionism on adolescent association between maladaptive NSSI via psychological perfectionism and NSSI. distress was moderated (buffered) by mindfulness.	Psychological Distress mediated the relationship between maladaptive perfectionism and NSSI. In addition, the conditional mindfulness significantly weakened the indirect effect of perfectionism on adolescent association between maladaptive NSSI via psychological perfectionism and NSSI. distress was moderated (buffered) by mindfulness.	1 mediator was identified: Psychological Distress. 1 moderator was also found: Mindfulness
13	Etherson, et al. (2022)	181	University Students from the UK	48.10% Female, $M_{(age)} = 20.34$ years, $SD = 3.25$)	Longitudinal. Data collected in 2 waves, over 6 weeks period.	15-item short-form of the HMPS (Hewitt & Flett, 1991), HF-MPS-SF (Hewitt et al., 2008)	(ASIQ, e.g., "I thought about killing myself". Reynolds, 1991)	GMS (Rosenberg & McCullough, 1981), AMS (Flett et al., 2022), CES-D-SF (Cole et al., 2004).	Based on a path analysis results (Mplus Version 8.0), the indirect effect of self-oriented perfectionism on suicide ideation via mattering and anti-mattering was non-significant. The indirect effect of socially prescribed perfectionism on suicide ideation via mattering and anti-mattering was also non-significant.	Mattering and anti-mattering did not mediate the relationship between perfectionism and suicide ideation. significant. The indirect effect of socially prescribed perfectionism on suicide ideation via mattering and anti-mattering was also non-significant.	Mattering and Anti-mattering were not significant mediators
14	Fernández-García et al.	1287	Students from Valencia University, Spain	74.6% of the sample were	CSS	Academic Perfectionism: The	Suicidal ideation: ("Have you ever been	For the Academic Performance, the	Following interactions were tested with logistic regression:	Interactions between perfectionism, academic performance, and Level of	Academic Performance, Level of

	(2022)			women and the remaining 25.4% were men. Age range was 18–21 years (58.3%), followed by 22–25 years (30.2%).		Study-related Perfectionism Scale (SPS)	so distressed that you have thought of death as liberation?" of dichotomous response (Yes/ No).	participants were asked: "What was your average grade in the last academic year?" with 10 options. For Level of Demand of the Degree: admission cut-off score was taken as measure. Psychological Well-being: The Brief Scale of Psychological Well-Being for Adolescents (BSPWB-A)	Academic perfectionism X performance, level of demand of the degree and gender were not predictive of suicidal ideation. Academic perfectionism X Level of demand of the degree, Academic perfectionism X Sex	Demand (of the degree), Gender were not significant moderators
15	Robinson, et al. (2021)	313	U.S. adults recruited through Qualtrics Panels	(74.4%) Female, Age group= 18-80, $M_{age}=40.08$, ($SD=16.83$)	CSS	PSPS (Hewitt et al., 2003), MPS (Hewitt & Flett, 1991)	DSI-SS (Metalsky & Joiner, 1997)	IHS (Tucker et al., 2018), BHS-SF (Yip & Cheung, 2006)	Based on the PROCESS Macro (bias-corrected The relationships between confidence interval based on perfectionistic self-presentation 5,000 bootstrap samples), [perfectionistic self-promotion (PSP), parallel multiple mediation non-display of imperfection (NDSI), analysis' results showed that non-disclosure of imperfection the indirect effect of (NDI)], socially prescribed interpersonal hopelessness was perfectionism (SPP), self-oriented found to be significant for all perfectionism (SOP) and suicide types of perfectionistic ideation were mediated by tendencies on suicidal ideation. interpersonal hopelessness. However, However, general hopelessness general hopelessness did not mediate wasn't a significant mediator the same relationships. for the same relationships.	1 mediator was identified: Interpersonal Hopelessness
16	de Jonge-Heesen et al. (2021)	273	Adolescents from Netherlands	120 Female, 153 Male. Age Group: 12-15, $M_{(age)}=13.54$, ($SD=0.58$)	CSS	FMPS (Frost et al. 1990)	VOZZ-Screen Task (Kerkhof et al. 2015)	CERQ (Garnefski et al. 2002)	Confirmatory Factor Analysis was used to test the moderators. Significance of moderation of maladaptive coping: ($\beta = .67$, $p < .05$) in a CFI model; RMSEA= .054, $p < .001$. Maladaptive Coping was observed as a significant moderator between all facets of perfectionism (perfectionistic concerns and strivings) and suicidality (as a latent variable contains suicidal thoughts, actions, self-harmful behaviours). It increased the likelihood of suicidality for both perfectionism styles. Additionally, adaptive coping was not found to be a significant moderator in the same relationships for both types of perfectionism.	1 moderator was identified: Maladaptive Coping
17	Brennan-Wydra et al. (2021)	226	Medical Students from U.S.A	120 female (53.1% of sample), 105 male, 1 other	CSS	SAPS (Rice, Richardson, Tueller, 2014)	SBQ-R (Lund, Nadorff, Galbraith, Thomas, 2019)	LIS (Leary, Patton, Orlando, Wagoner, 2000)	Mediation analysis using bootstrapping procedure with R yielded that the bootstrapped Impostor phenomenon was a unstandardized indirect effect significant mediator of the of the impostor phenomenon relationship between maladaptive perfectionism and suicidal ideation. perfectionistic discrepancies (maladaptive perfectionism)	1 mediator was identified: Impostor Phenomenon

										and suicide ideation was statistically significant.	
18	Zeifman, Antony, Kuo (2020)	130	Undergraduate Students from Canada	108 Female, 22 Male, Age Group: 17-57, $M_{(Age)}=21.04$ ($SD=6.30$)	CSS	HF-MPS (Hewitt & Flett, 1991), FMPS (Frost, Marten, Lahart, & Rosenblate, 1990)	BSS (Beck & Steer, 1991)	DERS (Gratz & Roemer, 2004)	Correlational Analyses was applied via SPSS. Mediation Analyses was applied via PROCESS Macro (Mainly Model 4).	Emotion Dysregulation was an indirect effect (mediator) of the associations between perfectionistic concerns and SI, as well as it was in the relationship between perfectionistic strivings and SI.	1 mediator was identified: Emotion Dysregulation
19	Pia et al. (2020)	336	Psychiatric Outpatients	64% female, 30.7% male, and 3% other. Age Group= 18-81, $M_{(Age)}=39.01$ ($SD=14.25$)	Longitudinal / Data collected in 2 waves with 1-month follow up	MPS (Frost et al., 1990)	SNI (Cohen et al., 2018), SCI (Galynker et al., 2016)	AIRS (Yaseen et al., 2012), BSI (Derogatis & Melisaratos, 1983), BDI (Beck et al., 1988), VAS on Social Connectedness (Appukuttan et al., 2014; Kalichman et al., 2009)	SPSS and PROCESS Macro were used for the analyses. The serial multiple mediation model was significant (Indirect = 0.007, 95% CI [0.003, 0.013]).	Entrapment, Affective Disturbance, Loss of Cognitive Control, Hyperarousal, Social Withdrawal (Factors of Suicide Crisis Syndrome), and Fear of Humiliation were mediators (serial mediations) between Perfectionism and Suicidal Thoughts and Behaviours.	6 mediators were identified: SCS factors (Entrapment, Affective Disturbance, Loss of Cognitive Control, Hyperarousal, Social Withdrawal) and Fear of Humiliation
20	Bloch-Elkouby et al. (2020)	223	Adult psychiatric inpatients from U.S.A	Female = 134 (60.1%), $M_{(Age)}=32.9$ ($SD=12.87$), Age Group= 18-65	Longitudinal. Between: January 2016 to February 2018. Suicidal outcomes assessed in 2 waves with 1 month follow up	MPS (Hewitt, Flett, Turnbull-Donovan & Mikail, 1991)	SNI (Cohen et al., 2019), SCI (Galynker et al., 2017), C-SSRS (Posner et al., 2011)	RSQ (Griffin and Bartholomew, 1994), CTQ-SF (Bernstein et al., 2003), UPPS-P (Whiteside et al., 2005), HI (Hartling and Luchette, 1999), DES (Griffiths et al., 2015), GAS (Griffiths et al., 2015), INQ (Van Orden et al., 2012)	Preliminary analyses via SPSS. SEM Analysis was applied to test the hypothesised model.	Interpersonal problems (IP), and goal orientation (GO) mediated the relationship between self-oriented perfectionism (SOP) and suicide crisis syndrome (SCS), and SCS mediated the relationship between IP, GO, and suicidal outcomes (suicidal ideation & suicidal behaviours) at intake, consecutively. At discharge, SCS only mediated the relationship between IP and suicidal outcomes. However, GO directly mediated the relationship between SOP and suicidal outcomes at discharge.	3 mediators have been identified: Interpersonal Problems, Goal Orientation, and Suicide Crisis Syndrome.
21	D'Agata & Holden (2018)	298	Adult U.S.A Residents	120 Female, 175 Male, 3 Unreported, $M_{(Age)}=34.24$ ($SD=10.42$)	CSS	PSPS (Hewitt et al., 2003)	BSS (Beck & Steer, 1993)	The Self-Concealment Scale (Larson & Chastain, 1990), The PAS (Holden et al., 2001), Modified-PAS updated by adding frequency (D'Agata, & Holden, 2018), MSPSS (Zimet et al., 1990)	Path analysis was applied with bootstrapping method. 10,000 samples were used to test the parameters. None of the 95% CI of the indirect effects straddled zero. This means mediation effects were significant.	Social support only mediated the relationship between nondisclosure of imperfection and suicide ideation. Secondly, concealment of psychache significantly mediated the relationship between perfectionistic self-presentations (nondisplay of imperfection, nondisclosure of imperfection) /self-concealment, and	2 mediators were identified: Social Support, Concealment of Psychache

								1988)	suicide ideation.	
22	Cohen et al. (2018)	207	Psychiatric Inpatients from U.S.A	66.2% Female; n = 137, $M_{(Age)}=36.63$ ($SD=13.8$)	CSS	YSQ-S3 (Young, 2005), EMS (Young, 2005)	C-SSRS (Posner et al., 2011), Pre-admission Suicidal Ideation and Attempt via electronic medical records, STS-3 (Yaseen et al., 2012).	SCID-I/P (First, Spitzer, Gibbon, & Williams, 1997), CTQ (Bernstein & Fink, 1998), CAGE-AID (Brown et al., 1998), BIS-11 (Patton, Stanford & Barratt 1995), RSQ (Griffin & Bartholomew, 1994), ISEL-SF (Payne et al., 2012)	A series of linear regressions results indicated that the Suicide Crisis Syndrome (SCS) was indirect effect of trait found as a significant mediator in the vulnerabilities on lifetime relationship between trait suicidal phenomena mediated perfectionism (based on EMS by SCS, was significant for all measure) and suicide risk (lifetime models -specifically for suicidal ideation and attempt). perfectionism-	1 mediator were identified : Suicide Crisis Syndrome
23	Chen, Hewitt, & Flett (2017)	240	Undergraduate Students from Canada	153 Female, 87 Male, Age Group: 17-29, $M_{(Age)}=18.9$	CSS	MPS (Frost et al., 1990)	BDI-II (Beck, Steer, & Brown, 1996), ASIQ (Reynolds, 1991), SSI (Beck, Steer, & Ranieri, 1988)	PI-III (Weiten, 1988)	SPSS was used for the preliminary and the hierarchical regression analyses. Based on ASIQ score Participant's "ethnicity" was found moderation model of ethnicity, as a moderator between MP (other-multidimensional oriented perfectionism) and suicide perfectionism (MP), and ideation (or concurrent suicidal risk). suicide ideation was found to be significant.	1 moderator was identified: Ethnicity
24	Abdollahi & Carlbring (2017)	547	Undergraduate Students from Iran	312 Female, 235 Male, Age Group: 19-24, $M_{(Age)}=20.18$	CSS	APS-R (Slaney, Rice, Mobley, Trippi, & Ashby, 2001)	BSSI (Beck et al. 1988)	CISS (Endler and Parker 1990)	SEM method was used to analyse the model. Data were divided into types of coping styles based on the mean splits. Significant regression results for moderations reported as follows: task-focused (Std Est= -.381, $p<.01$), emotion-focused (Std Est= .335, $p<.01$), avoidance coping (Std Est= .332, $p<.05$). Task-focused coping, avoidance coping and emotion focused coping were moderators between both dimensions of perfectionism and Suicide Risk (SI). While adaptive perfectionists engaged with task-focused coping style (buffer), maladaptive perfectionists showed a tendency for emotion-focused and avoidance coping styles (moderators that increase the likelihood of suicidal ideation), however, task-focused coping had a buffering effect for this group, as well.	3 moderators were identified: Task-focused Coping, Avoidance Coping, Emotion-Focused Coping,
25	Muyan and Chang (2015)	288	Turkish College Students	170 Female, 118 Male, Age Group: 18-40, $M_{(Age)}=21.33$ ($SD=1.98$)	CSS	FMPS (Frost et al. 1990)	BDI (Beck et al. 1961), FSII (Chang & Chang, 2015)	R-UCLA Loneliness Scale (R-UCLA; Russell et al. 1980).	Hierarchical regression was applied to analyse the hypothesis. Moderation reported as [F (9, 278) = 7.08, $p<.001$]. Loneliness acted as a moderator between perfectionism (i.e. doubts about actions and parental criticism factors) and suicidal ideation.	1 moderator was identified: Loneliness

26	Chester, Merwin, DeWall (2015)	88	Undergraduate Students from the U.S.A	%75 Female, 25% Male, $M_{(Age)} = 19.10$, ($SD = 1.21$)	CSS	APS-R (Slaney, Rice, Mobley, Trippi, & Ashby, 2001)	Voodoo doll task (DeWall et al., 2013)	PANAS (Watson, Clark, & Tellegen, 1988)	Multiple regression and poisson regression were used to test the models. Mediation of “negative affect” was reported as significant within 95% CI: 0.073-5.179.	Negative Affect acted as a mediator in the relationship between Maladaptive Perfectionism and Self Aggression (self-harm). Negative feedback was found to be a moderator between the same variables to intensify the relationship. The same models were not significant for adaptive perfectionists.	2 moderators were identified: Negative Affect and Negative Feedback
27	Hewitt, Caelian, Chen, Flett (2014)	55	Psychiatric adolescent inpatients/outpatients from Canada	41 Female, 14 Male, Age Group: 13-19, $M_{(Age)} = 15.53$ ($SD = 1.43$)	CSS	CAPS (Flett et al. 2002)	SIQ (Reynolds 1987), CASPI (Pfeffer et al. 2000), Prior Suicide Attempt: “Have you ever attempted to kill yourself?” and rated their response on a scale from 0 (never) to 3 (very often)	CLSI (Adrian and Hammen, 1991). CHS (Kanner et al. 1987). BDI-II (Beck et al. 1996), HSC (Kazdin et al., 1986)	Hierarchical regression was used to test the model. For moderate to high results reported as ($\beta = 0.14$, $t = 2.15$, $p < 0.05$) and ($\beta = 0.18$, $t = 2.84$, $p < 0.01$), respectively.	SPP interacted with daily hassles to buffer or heightening the suicide risk among adolescents. Daily hassles did not moderate the relationship between SOP and suicide risk. These results only applied to higher levels of daily hassles. Major stress (based on live events) was not found to be a significant moderator between perfectionistic tendencies and suicide risk for this specific group.	1 moderator: Daily Hassles
28	Kimanesh et al. (2014)	41	Informants regarding 6 suicide death cases	6 Male, Age Group: 22-58	Psychological Autopsy	Interviews	Interviews	Interviews	They reported that “findings revealed that the deceased failed to use positive coping strategies and adapt to the reality of life when they met major adversities. Poor and rigid problem-solving strategies may increase the risk of becoming entrapped and in the end being unable to escape except to death and lonely. They kept up a seemingly perfect façade by not communicating fully about their loneliness and showed that they “coped” by not opening up about painful experiences. ”	According to phenomenological analysis results, a model of suicide was proposed which shows that fear of failure, keeping up the perfect façade and rigidity may support the link between perfectionism and a suicide.	Even though potential mediators emerged via qualitative analysis, they cannot be labelled as mediators since they have not been tested quantitatively.

29	Roxborough et al. (2012)	152	Children and Adolescent Psychiatric Outpatients from Canada	69 Female, 83 Male, Age Group: 8-20, $M_{(Age)} = 12.87$ ($SD = 2.97$)	CSS	CAPS (Flett, Hewitt, Boucher, Davidson, & Munroe, 2000), PSPS-Jr. (Hewitt, Blasberg, et al., 2011)	CASPI (Pfeffer, Jiang, & Kakuma, 2000), "How likely is it that you will attempt suicide someday?" (Hewitt et al., 1994) They rated their response from 0 (not at all, likely) to 5 (very likely)	Ratings of Social Disconnection (Brunstein-Klomek, Marrocco, Kleinman, Shonfeld, & Gould, 2007; Hewitt et al., 1998)	They used bootstrap analysis to examine mediation effects with 95% CI. The mediation analyses results reported as significant with figures. None of the CIs contained zero.	The relationship between the PSP facets, particularly nondisplay of imperfections, and suicide outcomes were mediated by being-bullied. Additionally, the relationship between all interpersonal components of perfectionism and suicide risk was mediated by social hopelessness. Perfectionism Social Disconnection Model was also a mediator between Socially Prescribed Perfectionism and Perfectionistic Self Presentation and Suicide Behaviour.	2 mediators were identified: Being-bullied, Social Hopelessness (factors of Social Disconnection Model)
30	Rasmussen et al. (2012)	214	University Students from the U.K	57% Female, %43 Male, Age Group: 18-50, $M_{(Age)} = 20.11$	CSS	APS-R (Slaney, Rice, Mobley, Trippi, & Ashby, 2001)	DSI-SS (Metalsky & Joiner, 1997)	INQ (Van Orden et al., 2008), CES-D (Radloff, 1977)	Baron & Kenny's approach (1986) for mediation test. Significant finding reported as $[b = .03, t(211) = .47, p = .636]$.	Perceived Burdensomeness mediated the relationship between maladaptive perfectionism and suicidal ideation	1 mediator was identified: Perceived Burdensomeness
31	Rasmussen et al. (2008)	40	Self-harm Patients from the U.K	23 Female, 17 Male, Age Group: 18-60, $M_{(Age)} = 38$ ($SD = 10.6$)	CSS	MPS (Hewitt & Flett, 1991)	SPS (Cull & Gill, 1988). All patients were asked whether they had previously self-harmed.	AMT (Williams & Broadbent, 1986), BHS (Beck, Weissman, Lester, & Trexler, 1974), HADS (Zigmond & Snaith, 1983)	Based on hierarchical regression analyses significant result was reported as $(\beta = .44, t(39) = 2.79, p < .01)$.	Socially prescribed perfectionism interacted with overgeneral memory recall to predict suicidal ideation/depression: particularly overgeneralisation of the positive memories. Overgeneral Memory Recall acted as moderator between SPP and suicidal ideation.	1 moderator was identified: Overgeneral Memory Recall
32	O'Connor et al. (2007)	267	Patients from a general hospital following a self-harm episode (in the UK)	149 Female, 118 Male, Age Group: 16-78, $M_{(Age)} = 35.1$ ($SD = 13.3$)	Longitudinal / data collected in 2 waves with 2 months interval	MPS (Hewitt & Flett, 1991)	Suicidal ideation-T1 (Cull & Gill, 1988), A question to understand participants' suicidal intention, A question to understand if there is a history of self-harm	FTT (MacLeod et al., 1997), BHS (BHS-T1; Beck et al., 1974), (HADS; Zigmond & Snaith, 1983)	Preliminary analyses including correlation analysis. Hierarchical regression to test the moderation effect.	Positive Future Thinking acted as a moderator between Socially Prescribed Perfectionism and Self-harm.	1 moderator was identified: Positive Future Thinking

33	O'Connor & Forgan (2007)	255	Undergraduate Students from the UK	199 Female, 56 Male, Age Group: 17-59, $M_{(Age)}= 22$ ($SD = 6.6$)	CSS	MPS (Hewitt & Flett, 1991)	GHQ-28 (Goldberg & Williams, 1988), BIS/ BAS Scale (Carver & White, 1994), The goal adjustment scale (Wrosch et al., 2003)	Significant finding for the moderation effect of goal reengagement (GR) was reported based on the hierarchical regression. On the other hand, partial mediation effect was reported based on a Sobel test.	Goal Reengagement partially mediated and fully moderated the relationship between perfectionism and suicidal thinking. Goal reengagement mitigated the negative effects of socially prescribed perfectionism.	1 mediator and 1 moderator: Goal Reengagement	
34	O'Connor, O'Connor, Marshall (2007)	Time 1= 211, Time 2 =151	College and Non-college Populations in the UK	64% female, 30.7% male, and 3% other. Age Group= 17-54, $M_{(Age)}= 39.01$ ($SD = 14.25$)	Longitudinal / Data collected in 2 waves with 8 weeks follow up	MPS (Hewitt & Flett, 1991, 1996)	SPS (Cull & Gill, 1982) (Nolen-Hoeksema et al., 2003)	Hierarchical regression was used to test the model. Brooding rumination was a partial mediator ($\beta= 0.26$, mediated the relationship between p<0.1). (Sobel Test confirmed the mediation; $Z=2.84$, p<0.01). Additionally, mediated the relationship between confirmation of the full self-oriented perfectionism and SI. mediation also reported as ($Z=2.84$, p<0.01).	Brooding Rumination partially mediated the relationship between socially prescribed perfectionism and the mediation; $Z=2.84$, p<0.01). Additionally, mediated the relationship between self-oriented perfectionism and SI.	1 mediator was identified: Brooding Rumination	
35	Flamenbaum & Holden (2007)	264	Undergraduate Students from Canada	200 Female, 64 Male, Age Group: 16-44, $M_{(Age)}= 18.91$ ($SD = 3.34$)	CSS	MPS (Hewitt & Flett, 1991a)	BSSI (Beck & Steer, 1993), RASQ (Holden et al., 1998; Johns & Holden, 1997)	PNQ (Munchua, 2003), The PAS (Holden et al., 2001)	They reported relevant significant results; with 90% CI by exploring latent variables via the Structural Equation Modelling (SEM).	Psychache fully mediated the relationship between socially prescribed perfectionism and (SI). The same model was not significant for self-oriented perfectionism.	1 mediator was identified: Psychache
36	Blankstein, Lumley, Crawford (2007)	205	Undergraduate Students from Canada	144 Female, 61 Male, $M_{(Age)}= 22.21$ ($SD = 6.5$)	CSS	MPS (Hewitt and Flett, 1991)	A measure of suicide ideation developed specifically for the present study (Blankstein, 2004) was derived from factor analyses of items from Daughtry and Kunkel's (1993) concept mapping of the experience of depression in college students (4 Point Likert Scale)	EHS (Abramson and Metalsky, 1992), GASHSS (Blankstein & Flett, 1993), SEQ (Metalsky, 1992), LOT (Scheier & Carver, 1985), CSI (Amirkhan, 1990, 1994), MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988)	Based on the hierarchical regression results, significance moderated by optimism, coping level of the moderation effect of optimism reported as ($R^2=$ esteem, and hopelessness to amplify .14, $b=-.41$, $p<.01$). For self-esteem (in men): ($R^2=$.24, $p<.001$). Hassles as moderator in Problem-solving coping was also a men: ($R^2=$.17, $p<.001$), moderator between OOP and SI in whereas in women: ($R^2=$.08, women, which means that more $p<.05$). Social support as an engagement with problem solving moderator (in men): ($R^2=$.22, coping mitigated suicidal thoughts. $p<.05$), in women: ($R^2=$.16, Additionally, avoidance coping $p<.001$). Hopelessness (in worsen the negative effects of men): ($R^2=$.22, $p<.01$). socially prescribed perfectionism on Coping (in women): ($R^2=$.12, suicide risk among women.	Aspects of perfectionism were moderated by optimism, coping styles, social support, hassles, self-esteem, and hopelessness to amplify the link between perfectionism and suicide risk. Problem-solving coping was also a significant for self-oriented perfectionism.	7 moderators were identified: Optimism, Social Support, Hassles, Self-esteem, Hopelessness, and Coping Styles (Problem-solving Coping and Avoidance Coping)

										p<. .05). Problem Solving in women: (Ξ = -.26, p< .01).	
37	Chang et al. (2004)	300	Black and White American Female College Students from the U.S.A	Age Group: 18-23, $M_{(Age)}$ = 19.66	CSS	MPS (Frost et al., 1990)	ASIQ (Reynolds 1991)	PANAS (Watson et al.,1988), SLS (Diener et al., 1985), and PSS (Cohen et al. 1983)	Path analysis was used to test the model. For White women partial mediation reported as Stress was the mediator between (Sobel's statistic = 4.80, p < .001). For Black women full Suicidal Ideation mediation: (Sobel's statistic = 4.13, p < .001).	1 mediator was identified: Stress	
38	Beevers & Ivan (2004)	121	Psychiatric Patients from the U.S.A	90 Female (74.4%), Age Group: 18–65, $M_{(Age)}$ = 27.90 (SD = 12.99)	Longitudinal / Data collected in 2 waves with 6 months follow up	DAS-P (Imber et al., 1990) to measure a maladaptive form of perfectionism as it underscores “need for approval”	MSSI (Miller, Norman, Bishop, & Dow, 1986)	HS (Beck, Weiss, Lester &Trexler, 1974), CBQ (Krantz & Hammen, 1979), BDI (Beck et al., 1961)	Path Analysis revealed a poor model fit χ^2 (N = 100) = 11.33, p = .01, RMSEA = .17, relationship between inpatient p = 0.03, AGFI = .78, NFI = .88, NNFI = .66. The path month suicidal ideation. wasn't significant.	Hopelessness was not found to be significant as mediator	
39	Chang (2002)	371	College Students from U.S.A	299 Female, 72 Male, Age Group: 18-53, $M_{(Age)}$ = 23.5	CSS	MPS (Frost et al., 1990)	BDI (Beck, Ward, Mendelson, Mock & Erbaugh, 1961) and ASIQ (Reynolds, 1991a).	SPSI-R-SF (D’Zurilla et al., 2002)	The full regression model based on ASIQ scores was significant [ΔF (3, 367) = 63.33, p < .001].	Social Problem Solving moderated the relationship between general perfectionism and suicide ideation by mitigating the negative effects of perfectionism on suicidal ideation.	1 moderator was identified: Social Problem Solving
40	Dean & Range (1999)	132	Clinical Outpatients from the U.S.A	94 women, 37 men, $M_{(Age)}$ = 35.5 years (SD = 11.9)	CSS	MPS (Hewitt and Flett, 1991)	BSSI (Beck, Steer & Ranieri, 1988)	LEQ (Horowitz, Schaefer, Hiroto, Wilner & Levin, 1977), SDS (Zung, 1974), HS (Beck, Weissman, Lester & Trexler, 1974), BRFL (Ivanoff, Jang, Smyth, & Linehan, 1994)	Path Analysis with SEM (LISREL) showed that the hopelessness, hopelessness to both model had a strong overall reasons for living and suicide Goodness of Fit index [GFI = .96, χ^2 = (14, N = 130) = 26.14, p < .025], and a root mean square residual was .047.	Significant paths were observed from socially prescribed perfectionism to depression, depression to hopelessness, hopelessness to both reasons for living and suicide ideation. Depression, were the indirect predictors of the relationship between SPP and suicidal ideation.	3 mediators were identified: Depression, Hopelessness, Reasons for Living
41	Dean & Range (1996)	168	College Students from the U.S.A	116 Female, 52 Male, $M_{(Age)}$ = 21.9 (SD = 9.34)	CSS	MPS (Hewitt and Flett, 1991)	SBQ (Cole, 1988; Linehan & Nielsen, 1981)	SDS (Zung, 1974), HS (Beck, Weissman, Lester & Trexler, 1974), STAI (Spielberger, Gorsuch, Lushene & 1970)	Based on SEM Path Analysis, Reasons for living was indirect an indirect path was observed from socially prescribed perfectionism to reasons for living (β= .28, p<.05), and was not significant for self-oriented from reasons for living to perfectionism	1 mediator was identified: Reasons for Living	

Note: Mage= Mean Age; SD= Standard Deviation; p = p-value; CSS= Cross-sectional Study; TMPS= Tehran Multidimensional Perfectionism Scale; PANSI= Positive and Negative Suicidal Ideation Inventory; MPS= Multidimensional Perfectionism Scale; HMPS= Hewitt Multidimensional Perfectionism Scale; RLSS-CS= The Revised Life Stress Scale for College Students; SCS= The Self-Compassion Scale; CESD= Centre for Epidemiological Study - Depression Scale; HDSQ= Hopeless Depression Symptom Questionnaire; ERRI= The 20-item Event Related Rumination Inventory; ISAS= The Inventory of Statements About Self-Injury; FMPS-Brief= The Frost Multidimensional Perfectionism Scale—Brief; BEAQ= The Brief Experiential Avoidance Questionnaire; RTQ= Repetitive Thinking Questionnaire; ACS= Attentional Control Scale; ISSI= Inventory of Statements about Self-Injury; DASS-21= The Depression Anxiety Stress Scale-21; MAAS= Mindfulness Attention Awareness Scale; HF-MPS-SF= Hewitt-Flett Multidimensional Perfectionism Scale-Short Form; GMS= Rosenberg General Mattering Scale; AMS= Anti-Mattering Scale; HS= Interpersonal Hopelessness Scale; IUS-12= Intolerance of Uncertainty Scale; BHS-SF= Beck Hopelessness Scale-Short form; SAPS= Short form of the revised Almost Perfect Scale; LIS= Leary Impostor Scale; SBQ-R= Suicide Behaviours Questionnaire-Revised; C-SSRS= The Columbia Suicide-Severity Rating Scale; CES-D-SF= Centre for Epidemiological Studies Depression Scale; RSQ= The Relationship Scales Questionnaire; CTQ= Childhood Trauma Questionnaire; CTQ-SF= The Childhood Trauma Questionnaire-Short Form; LCBS= The Locus of Control of Behavior Scale; UPPS-P= The Urgency Premeditation Perseverance Sensation Seeking Impulsivity Scale; IHS= Interpersonal Hopelessness Scale; HI= Humiliation Inventory; GMS= General Mattering Scale (Rosenberg); DES= The Defeat and Entrapment Scale; RLSS-CS= The Revised Life Stress Scale for College Students; GAS= The Goal Adjustment Scale; RSE= Rosenberg Self-Esteem Scale; BSPWB-A= The Brief Scale of Psychological Well-Being for Adolescents; YSQ-S3= Young Schema Questionnaire-Short Form version 3; EMS= Unrelenting Standards of Early Maladaptive Schemas Scale; STS-3= Suicide Trigger Scale-3; SCID-I/P; Structured Clinical Interview for DSMIV-TR, Axis I Disorders, Patient Version with Psychotic Screen; CAGE-AID= Cut, Annoyed, Guilty, and Eye Questionnaire- Adapted to Include Drugs; BIS-11= Barratt Impulsivity Scale-11; ISEL-SF= Interpersonal Support Evaluation List—Short Form; MSSI= Modified Scale for Suicidal Ideation; DAS-P= Dysfunctional Attitudes Scale—Perfection; HS= Hopelessness Scale; CBQ= Cognitive Bias Questionnaire; BSSI= Beck Self-report Scale for Suicidal Ideation; LEQ= The Life Event Questionnaire; SDS= The Self-Rating Depression Scale; BRFL= The Brief Reasons for Living Inventory; FMPS= Frost Multidimensional Perfectionism Scale; HF-MPS= Hewitt-Frost Multidimensional Perfectionism Scale; APS-R= Almost Perfect Scale- Revised; CAPS= Child-Adolescent Perfectionism Scale; PSPS= Perfectionistic Self Presentation Scale; PSPS-Jr= Perfectionistic Self Presentation Scale-Junior; BHS= Beck Hopelessness Scale; SPS= Suicide Probability Scale; BDI= Beck Depression Inventory, ASIQ= Adult Suicide Ideation Scale; Suicidal Ideation-TI= Suicidal Ideation Subscale of the Suicide Probability Scale; GHQ-28= General Health Questionnaire-28-item; CASPI= Child and Adolescent Suicide Probability Inventory; DSI-SS= Depressive Symptom Inventory-Suicidality Subscale; BSSI= Beck Scale for Suicidal Ideation; RASQ= Reasons for Attempting Suicide Questionnaire; SIQ= Suicidal Ideation Questionnaire; CASPI = Child-Adolescent Suicide Potential Index; FSII= Frequency of Suicide Ideation Inventory; BDI-II= Beck Depression Inventory-II; SSI= Scale for Suicide Ideation; BSS= Beck Scale for Suicidal Ideation-19-item; VOZZ-Screen Task= Vragen over Zelfdoding en Zelfbeschadiging; SNI= Suicidal Narrative Inventory; SCI= Suicide Crisis Inventory; SLS= Satisfaction with Life Scale; PSS= The Perceived Stress Scale; SPSI-R-SF= The Social Problem-Solving Inventory-Revised-Short Form; PANAS= Positive and Negative Affectivity Scale; FTT= The Future Thinking Task; HADS= The Hospital Anxiety and Depression Scale; EHS= Extended Hopelessness Scale; GASHSS= General, Academic, and Social Hassles Scale for Students; SEQ= Self-Esteem Questionnaire; LOT= Life Orientation Test; CSI= The Coping Strategy Indicator; BIS/BAS= Behavioural Inhibition System (BIS) and Behavioural Activation System (BAS) Sensitivity; RSS= Ruminative Responses Scale; AMT= The Autobiographical Memory Task; INQ= Interpersonal Needs Questionnaire; CES-D= Centre for Epidemiologic Studies Depression Scale; PNQ= The Psychache Needs Questionnaire; PAS= The Psychache Scale; CLSI= Child Life Stress Interview; CHS= Children's Hassles Scale; HSC= Hopelessness Scale for Children; R-UCLA= Revised UCLA Loneliness Scale; PI-III= Pressure Inventory-III; CISS= Coping Inventory for Stressful Situations; MSPSS= The Multidimensional Scale of Perceived Social Support; CERQ= Cognitive Emotion Regulation Questionnaire; AIRS= Affective Intensity Rating Scale; VAS= Visual Analog Scale; DERS= Difficulties in Emotional Regulation Scale; SBQ= Suicidal Behaviours Questionnaire; STAI= State-Trait Anxiety Inventory; MP= Multidimensional Perfectionism; PS= Perfectionistic Strivings, PC= Perfectionistic Concerns, SI= Suicidal Ideation; SR= Suicide Risk.

Appendix 2.B

Table 2.S1. *Quality Assessment Scores of the Included Studies*

No	Author/Year	Design	Statistical Power	Was the number of participants calculated in advance for statistical power?	Suicide Risk/Behaviour Assessment	Measurement of Perfectionism	Measurement of Mediator or Moderator	Confounding Variables	Can the results be generalized outside the study context?	Score
1	Dean & Range (1996)	0	0	0	1	1	1	1	0	4
2	Dean & Range (1999)	0	0	0	1	1	1	1	0	4
3	Chang (2002)	0	0	0	2	1	1	0	0	4
4	Beevers & Ivan (2004)	2	0	0	1	1	1	1	0	6
5	Chang, Hudson-Banks & Watkins (2004)	0	0	0	1	1	1	1	0	4
6	Blankstein et al. (2007)	0	0	0	1	1	1	1	0	4
7	Flamenbaum & Holden (2007)	0	0	0	2	1	1	1	0	5
8	O'Connor, O'Connor & Marshall (2007)	0	0	0	1	1	1	1	1	5
9	O'Connor & Forgan (2007)	0	0	0	1	1	1	1	0	4
10	O'Connor, Whyte, Fraser, Masterton, Miles, MacHale (2007)	2	0	0	2	1	1	1	0	7
11	Rasmussen, O'Connor, & Brodie (2008)	0	0	0	1	1	1	1	1	5
12	Rasmussen, Sligh, Wingate, Davidson, Grant (2012)	0	0	0	2	1	1	1	0	5
13	Roxborough, Hewitt, Kaldas, Flett, Carmen, Caelian, Sherry & Sherry (2012)	0	0	0	2	1	1	2	0	6
14	Hewitt, Caelian, Chen, Flett (2014)	0	0	0	2	1	1	2	1	7
15	Chester, Merwin, DeWall (2015)	0	0	0	1	1	1	1	0	4
16	Muyan & Chang	0	0	0	1	1	1	1	0	4

	(2015)									
17	Abdollahi & Carlbring (2017)	0	0	0	2	1	1	2	0	6
18	Chen, Hewitt, & Flett (2017)	0	0	0	1	1	1	1	1	5
19	Cohen, Ardalani, Yaseen & Galynker (2018)	0	0	0	1	1	1	1	0	4
20	D'Agata & Holden (2018)	0	0	0	2	1	1	0	1	5
21	Bloch-Elkouby, Gorman, Lloveras, Wilkerson, Schuck, Barzilay, Calati, Schnur & Galynker (2020)	0	0	1	1	1	1	1	0	5
22	Pia, Galynker, Schuck, Sinclair, Ying, Calati (2020)	2	0	0	2	1	1	1	1	8
23	Zeifman, Antony & Kuo (2020)	0	0	0	1	1	1	1	0	4
24	Brennan-Wydra, Chung, Angoff, ChenFeng, Philips, Schreiber, Young, Wilkins (2021)	0	0	0	1	1	1	1	0	4
25	de Jonge-Heesen, Rasing, Vermulst, Engels, Creemers (2021)	0	0	0	1	1	1	1	0	4
26	Robinson, Moscardini, Tucker & Calamia (2021)	0	0	0	1	1	1	1	0	4
27	Fernández-García, Gil-Llario, Castro-Calvo, Morell-Mengual, Ballester-Arnal, Estruch-García (2022)	0	1	2	1	1	1	1	0	7
28	Etherson, Smith, Hill, Sherry, Curran, Flett & Hewitt (2022)	2	1	2	1	1	1	1	0	9

29	Gu, Hu & Wang (2022)	0	0	0	1	1	1	1	0	4
30	Tonta, Boyes, Howell, McEvoy, Johnson & Hasking (2022)	0	0	0	1	1	1	1	0	4
31	You, Kwon & Kim (2022)	0	0	0	1	1	1	1	0	4
32	Duncan-Plummer, Hasking, Tonta, Boyes (2023)	0	0	0	1	1	1	1	0	4
33	Zhou, Chen, Wu, Ying, Shen, Zhu, Zheng, Lin, You (2023)	2	0	0	1	1	1	1	0	6
34	Liu, Wang, Lian, Wu, Li & Qiao (2023)	2	0	0	1	1	1	1	0	6
35	Rosas-Fuentes et al. (2023)	0	0	0	2	2	2	1	0	7
36	Kleinhendler-Lustig et al. (2023)	0	0	0	2	2	2	1	0	7
37	Zhao et al. (2024)	0	0	0	1	2	1	1	0	5
38	Brás et al. (2024)	0	0	0	2	2	2	1	0	7
39	Oskouei et al. (2024)	0	0	0	2	2	2	1	0	7

Note: As the following studies have qualitative designs, they are not included in the table: Kimanesh et al. (2014); Peterson and Smith-Morris (2024). Design= 0 (Cross-sectional), 1 (Case-control), 2 (Prospective, Randomised Controlled Trials). Statistical Power= 0 (no mention of a power calculation), 1 (power calculation reported, but sufficient power not achieved), 2 (power achieved). Prior Power Analysis= 0 (no), 1 (yes). Suicide Risk/Behaviour Assessment= 0 (non-validated scale; self-report; single question), 1 (self-report items from validated diagnostic / rating scale), 2 (clinical interview; full validated scale -e.g., ISAS, SITBI, DSHI). Measurement of Perfectionism= 0 (non-validated scale; self-report; single question), 1 (validated scale/instrument). Measurement of Mediator or Moderator= 0 (non-validated scale; self-report; single question), 1 (validated scale/instrument). Confounding Variables= 0 (no attempt to control for confounding factors in recruitment or analyses), 1 (accounts for basic confounding variables either during recruitment or analysis. e.g., age, gender), 2 (Accounts for basic and additional confounding variables either during recruitment or analysis. [e.g., medication use/substance abuse, physical health, comorbid psychiatric conditions (depression, etc.)]). Can the results be generalized outside the study context? = 0 (no), 1 (yes). Ratings: 0-2: Low, 3-5: Medium, 6-8: High, 9-11: Excellent.

Appendix 3.A

Table 3.3. *Minimum/ Maximum Scores of the Measures*

No	Questionnaires	Variables Derived from the Questionnaires	Expected Minimum-Maximum Scores	Actual Minimum-Maximum Scores in the Data
1	Childhood Trauma Questionnaire-Short Form (CTQ-SF) (Bernstein & Fink, 1998) (5-point Likert)	Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect, Physical Neglect	28-140	34-121
2	Suicide Crisis Inventory (SCI) (Galynker et al., 2017) (5-point Likert)	Ruminative flooding, fear of dying, entrapment, panic disassociation, emotional pain	36-180	36-180
3	Brief Resilience Scale (BRF): 5-point Likert (Smith et al., 2008)	Resilience	6-30	6-30
4	Entrapment Scale-Short Form (E-SF) (De Beurs, Cleare, Wetherall, Eschle-Byrne, Ferguson, O'Connor & O'Connor, 2020)	Internal entrapment, external entrapment	4-20	4-20
5	ENRICH Social Support Instrument (ESSI) (Vaglio et al., 2004)	Social support	6-42	6-30
6	Suicide Probability Scale (SPS) – suicide ideation subscale, (Cull & Gill, 1982)	Suicide ideation	8-32	8-32
7	Adult Psychiatric Morbidity Survey (APMS) (McManus et al., 2014)	Suicide attempt, suicide ideation, self-harm attempt, self-harm ideation	Yes, no, would rather not say (wrns)	Answers were recoded as follows: yes (1), no (2), wrns (Missing value, initially it was 0)
8	Almost Perfect Scale-Revised (APS-R) -standards and discrepancy subscales (Slaney, Rice, Mobley, Trippi, & Ashby, 2001)	Perfectionistic strivings (personal standards), perfectionistic concerns (discrepancy)	19-133	26-133
9	Suicidal Narrative Inventory (SNI) (Cohen, Galynker et al., 2019)	Burdensomeness, belongingness, fear of humiliation, goal reengagement, goal disengagement, defeat	28-140	33-132
10	COVID-19 Questionnaire: 4 questions. Please indicate how much you agree or disagree with the following statements: (0-5 / 6-point Likert Scale)	Covid affect	4-24	4-24

Note: the expected minimum and maximum scores versus the actual scores in the dataset.

Appendix 3.B

Table 3.4. *Test of Reliability Scores of the Measures*

Scale	Cronbach's Alpha
Covid19	.82
Childhood Trauma Scale	.89
Suicide Crisis Scale	.97
Brief Resilience Scale	.89
Entrapment Scale Short Form	.89
Suicide Narrative Inventory	.91
Suicide Probability Scale (Ideation)	.91
Almost Perfect Scale-R	.94
ENRICHD Social Support Instrument	.91
APMS (Only 4 Items for Suicide and Self-Harm)	.71

Note: Cronbach's Alpha: the results of the Test of Reliability scores.

Appendix 3.C

Assessing the Data for Homogeneity/Homoscedasticity

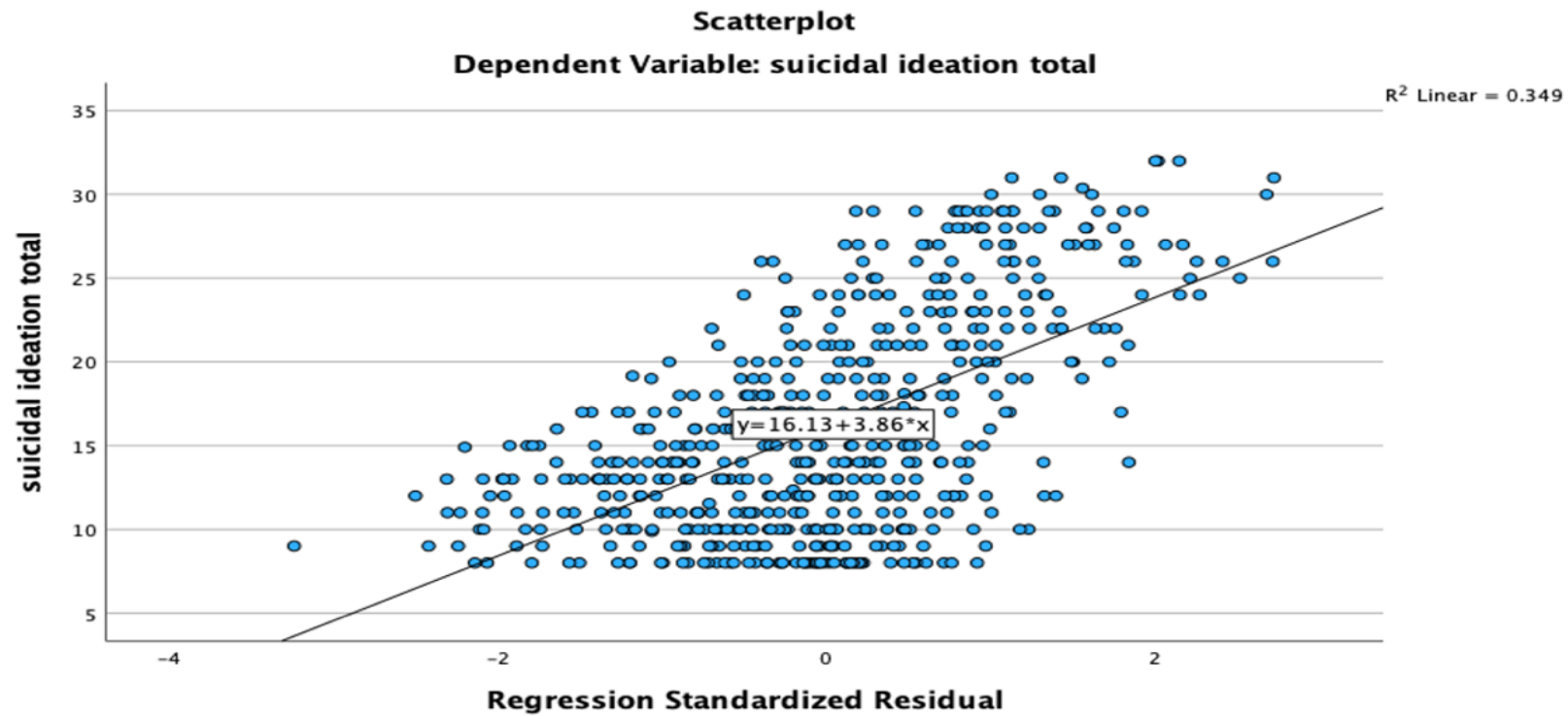


Figure 3.3. Scatter plot showing homogeneity/homoscedasticity.

Appendix 3.D

Assessing the Data for Multicollinearity

Coefficients ^a								
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
							Tolerance	VIF
1	(Constant)	-3.077	1.440		-2.137	.033		
	childhood trauma total	.013	.010	.036	1.278	.202	.766	1.306
	covid 19 affect total	-.081	.035	-.059	-2.289	.022	.925	1.081
	suicide crisis total	.032	.007	.177	4.574	<.001	.414	2.418
	resilience total	.005	.038	.004	.137	.891	.619	1.615
	entrapment total	.300	.055	.233	5.470	<.001	.342	2.927
	suicidal narrative inventory total	.147	.013	.469	11.223	<.001	.356	2.808
	overall perfectionism	.004	.008	.014	.514	.607	.809	1.236

a. Dependent Variable: suicidal ideation total

Figure 3.4. Statistics of Variance Inflation Factors showing there is no multicollinearity in the dataset.

Appendix 3.E

Table 3.5. *Regression Coefficients, Standard Errors, and Model Summary Information for the Internal Entrapment Parallel Multiple Mediator Model Depicted in Figure 3.5*

		Consequent										
		M_1 (defeat)			M_2 (fear of humiliation)			Y (internal entrapment)				
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (perfectionistic concerns)	a_1	0.18	0.013	<.001	a_2	0.14	0.012	<.001	c'	0.02	0.005	<.001
M_1 (defeat)		-	-	-		-	-	-	b_1	0.32	0.01	<.001
M_2 (fear of humiliation)		-	-	-		-	-	-	b_2	-0.02	0.01	.19
Constant	iM_1	3.52	0.84	<.001	iM_2	6.54	0.82	<.001	i_Y	0.31	0.28	.26
		$R^2= 0.26$				$R^2= 0.18$				$R^2= 0.62$		
		$F(1,567)= 206.22,$				$F(1,567)= 132.64,$				$F(3,565)= 312.28,$		
		$p <.001$				$p <.001$				$p <.001$		

Note: a_1 = path between X (independent variable) and M_1 (mediator 1). a_2 = path between X (independent variable) and M_2 (mediator 2). iM_1 = constant of the first model represents the intercepts of the regression equations of X and M_1 . iM_2 = constant of the second model represents the intercepts of the regression equations of X and M_2 . i_Y = constant of the overall model represents the intercepts of the regression equations of X, M_1 and M_2 . p = p -value. SE = Standard error. Coeff.= Beta coefficients for each variable. *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 3.F

Table 3.6. Regression Coefficients, Standard Errors, and Model Summary Information for the External Entrapment Parallel Multiple Mediator Model Depicted in Figure 3.6

		Consequent										
		M_1 (defeat)			M_2 (fear of humiliation)			Y (external entrapment)				
Antecedent		Coeff.	SE	p		Coeff.	SE	p		Coeff.	SE	p
X (perfectionistic concerns)	a_1	0.18	0.012	<.001	a_2	0.14	0.012	<.001	c'	0.02	0.004	<.001
M_1 (defeat)		-	-	-		-	-	-	b_1	0.24	0.03	<.001
M_2 (fear of humiliation)		-	-	-		-	-	-	b_2	0.03	0.01	.02*
Constant	iM_1	3.52	0.83	<.001	iM_2	6.54	0.82	<.001	i_Y	1.18	0.26	<.001
		$R^2= 0.26$			$R^2= 0.18$			$R^2= 0.58$				
		$F(1,567) = 206.22,$			$F(1,567) = 132.64,$			$F(3,565) = 262.90,$				
		$p <.001$			$p <.001$			$p <.001$				

Note: a_1 = path between X (independent variable) and M_1 (mediator 1). a_2 = path between X (independent variable) and M_2 (mediator 2). iM_1 = constant of the first model represents the intercepts of the regression equations of X and M_1 . iM_2 = constant of the second model represents the intercepts of the regression equations of X and M_2 . i_Y = constant of the overall model represents the intercepts of the regression equations of X, M_1 and M_2 . p = p-value. SE= Standard error. Coeff. = Beta coefficients for each variable. *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 3.G

Table 3.7. Regression Coefficients, Standard Errors, and Model Summary Information for the Internal Entrapment Parallel Multiple Mediator Model Depicted in Figure 3.9

Antecedent		Consequent										
		<i>M_I</i> (defeat)			<i>M₂</i> (fear of humiliation)			Y (internal entrapment)				
		Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>		
X (childhood trauma)	<i>a</i> ₁	0.12	0.013	<.001	<i>a</i> ₂	0.08	0.013	<.001	<i>c</i> ′	0.01	0.00	.01*
<i>M_I</i> (defeat)		-	-	-		-	-	-	<i>b</i> ₁	0.34	0.01	<.001
<i>M₂</i> (fear of humiliation)		-	-	-		-	-	-	<i>b</i> ₂	-0.00	0.01	.69
Constant	<i>iM_I</i>	7.56	0.87	<.001	<i>iM₂</i>	10.30	0.84	<.001	<i>i_Y</i>	.68	0.29	.02*
		<i>R</i> ² = 0.12				<i>R</i> ² = 0.07				<i>R</i> ² = 0.61		
		<i>F</i> (1,567) = 81.41,				<i>F</i> (1,567) = 44.72,				<i>F</i> (3,565) = 297.35,		
		<i>p</i> <.001				<i>p</i> <.001				<i>p</i> <.001		

Note. a_1 = path between X (independent variable) and M_1 (mediator 1). a_2 = path between X (independent variable) and M_2 (mediator 2). iM_1 = constant of the first model represents the intercepts of the regression equations of X and M_1 . iM_2 = constant of the second model represents the intercepts of the regression equations of X and M_2 . i_Y = constant of the overall model represents the intercepts of the regression equations of X, M_1 and M_2 . p = p-value. SE= Standard error. Coeff. = Beta coefficients for each variable. *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 3.H

Table 3.8. *Regression Coefficients, Standard Errors, and Model Summary Information for the External Entrapment Parallel Multiple Mediator Model Depicted in Figure 3.10*

Antecedent		Consequent										
		<i>M</i> ₁ (defeat)			<i>M</i> ₂ (fear of humiliation)			Y (external entrapment)				
		Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>		
X (childhood trauma)	<i>a</i> ₁	0.12	0.013	<.001	<i>a</i> ₂	0.08	0.013	<.001	<i>c</i> '	0.007	0.00	.07
<i>M</i> ₁ (defeat)		-	-	-		-	-	-	<i>b</i> ₁	0.26	0.01	<.001
<i>M</i> ₂ (fear of humiliation)		-	-	-		-	-	-	<i>b</i> ₂	0.04	0.01	<.001
Constant	<i>iM</i> ₁	7.56	0.87	<.001	<i>iM</i> ₂	10.30	0.84	<.001	<i>i</i> _Y	1.69	0.27	<.001
		<i>R</i> ² = 0.12				<i>R</i> ² = 0.07				<i>R</i> ² = 0.56		
		<i>F</i> (1,567) = 81.41, <i>p</i> <.001				<i>F</i> (1,567) = 44.72, <i>p</i> <.001				<i>F</i> (3,565) = 244.89, <i>p</i> <.001		

Note. *a*₁= path between X (independent variable) and *M*₁ (mediator 1). *a*₂= path between X (independent variable) and *M*₂ (mediator 2). *iM*₁= constant of the first model represents the intercepts of the regression equations of X and *M*₁. *iM*₂= constant of the second model represents the intercepts of the regression equations of X and *M*₂. *i*_Y= constant of the overall model represents the intercepts of the regression equations of X, *M*₁ and *M*₂. *p*= *p*-value. *SE*= Standard error. Coeff. = Beta coefficients for each variable. ****p*<.001, ***p*<.01, **p*<.05.

Appendix 3.I

Table 3.9. Results from a Regression Analysis Examining the Moderation of the Ruminative Flooding to Fear of Humiliation on Internal Entrapment Depicted in Figure 3.11

		Coeff.	SE	t	p
Intercept	i_1	-.504	0.73	-.68	.49
X (fear of humiliation)	b_1	0.13	0.04	2.79	.005**
M' (ruminative flooding)	b_2	0.21	0.02	7.49	<.001
fear of humiliation X ruminative flooding ($X'M'$)	b_3	-0.0019	0.0018	-1.06	.28
$R^2 = 0.42, MSE = 4.70$					
$F(3, 565) = 141.34, p < .001$					

Note. b_1 = path between X (independent variable) and Y (dependant variable), b_2 = path between M' (moderator variable) and Y (dependant variable), b_3 = interaction between X (independent variable) and M' (moderator variable) on Y (dependant variable), i_1 = the baseline value of the outcome variable (Y) when the predictors (X and M') are at zero, SE= Standard error, t= the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, p= p-value, R^2 = R-square change of the model, MSE= mean squared error, F= F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 3.J

Table 3.10. Results from the Regression Analysis Examining the Moderation of the Ruminative Flooding to Fear of Humiliation on External Entrapment Depicted in Figure 3.12 & 3.13

		Coeff.	SE	t	p
Intercept	i_1	-.25	0.63	-.40	.68
X (fear of humiliation)	b_1	0.21	0.04	5.17	<.001
M' (ruminative flooding)	b_2	0.20	0.02	8.27	<.001
fear of humiliation X ruminative flooding ($X'M'$)	b_3	-0.0039	0.001	-2.58	.01*
$R^2 = 0.43, MSE = 3.48$					
$F(3,565) = 146.34, p < .001$					

Note: b_1 = path between X (independent variable) and Y (dependant variable), b_2 = path between M' (moderator variable) and Y (dependant variable), b_3 = interaction between X (independent variable) and M' (moderator variable) on Y (dependant variable), i_1 = the baseline value of the outcome variable (Y) when the predictors (X and M') are at zero, SE= Standard error, t= the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, p= p-value, R^2 = R-square change of the model, MSE= mean squared error, F= F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 3.K

Table 3.11. Results from the Regression Analysis Examining the Moderation of the Ruminative Flooding to Defeat on Internal Entrapment Depicted in Figure 3.14

		Coeff.	SE	<i>t</i>	<i>p</i>
Intercept	i_1	-.71	0.52	-1.35	.1763
X (defeat)	b_1	.33	0.03	9.00	<.001
M' (ruminative flooding)	b_2	.92	0.18	5.10	<.001
defeat X ruminative flooding ($X'M'$)	b_3	-.0171	0.01	-1.58	.11
$R^2 = 0.64, MSE = 2.89$					
$F(3,565) = 347.67, p < .001$					

Note: b_1 = path between X (independent variable) and Y (dependant variable), b_2 = path between M' (moderator variable) and Y (dependant variable), b_3 = interaction between X (independent variable) and M' (moderator variable) on Y (dependant variable), i_1 = the baseline value of the outcome variable (Y) when the predictors (X and M') are at zero, SE= Standard error, t = the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, p = p-value, R^2 = R-square change of the model, MSE= mean squared error, F = F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 3.L

Table 3.12. Results from the Regression Analysis Examining the Moderation of the Ruminative Flooding to Defeat on External Entrapment Depicted in Figures 3.15 & 3.16

		Coeff.	SE	<i>t</i>	<i>p</i>
Intercept	<i>i₁</i>	.36	0.48	0.74	.457
X (defeat)	<i>b₁</i>	.31	0.035	9.02	<.001
<i>M</i> ' (ruminative flooding)	<i>b₂</i>	.11	0.02	5.58	<.001
defeat X ruminative flooding (<i>X</i> ' <i>M</i> ')	<i>b₃</i>	-.0032	0.01	-2.53	.01*
<i>R</i> ² = 0.59, <i>MSE</i> = 2.51					
<i>F</i> (3,565) = 276.06, <i>p</i> <.001					

Note: *b₁*= path between X (independent variable) and Y (dependant variable), *b₂*= path between *M*' (moderator variable) and Y (dependant variable), *b₃*= interaction between X (independent variable) and *M*' (moderator variable) on Y (dependant variable), *i₁*= the baseline value of the outcome variable (Y) when the predictors (X and *M*') are at zero, *SE*= Standard error, *t*= the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, *p*= p-value, *R*²= R-square change of the model, *MSE*= mean squared error, *F*= F-statistic for the overall significance of the model, ****p*<.001, ***p*<.01, **p*<.05.

Appendix 3.M

Chapter 3: *Questionnaire*

The Relationship between Personality, Cognition, Negative Life Events, and Social Factors in Understanding Suicide Risk

Page 1: Welcome

Dear Participant,

Thank you so much for your interest in participating in this study. We would like you to answer a series of questions about your childhood trauma, your cognitive state, personality and suicidal thoughts and feelings. Your answers to these questions will help us better understand suicide risk. Even if you have never had suicidal thoughts or feelings, your answers will still help us to better understand suicide.

Please download and read the [Participant Information](#) and [Consent Form](#) in detail to ensure that you are happy to take part.

How long will it take? It is essential to our work that you answer all the questions as best as you can. Please take your time and be prepared to spend about 15-20 minutes completing the survey. You will need to complete the survey in one sitting as answers cannot be saved as you go. So please start when you have the time to complete it. Remember, you are under no obligation to participate; doing so is entirely your own decision.

Accessing Support. Some of the questions asking you about your suicidal ideation or behaviours and childhood trauma, may be distressing. We are very sorry if you had these sorts of experiences and currently feel this pain. During the survey, we will provide contact details of the organizations who could provide support for you. Do not hesitate to call the numbers please, if you feel distressed.

What will happen to the results of the study? Findings will be shared with all key stakeholders involved in suicide prevention to help the people who had or might have similar experiences.

Get in touch. If you have any questions or concerns, please do not hesitate to contact me: Elvan Unlu, researcher, e.unlu.1@research.gla.ac.uk.

On the next pages, you will find the questions. Please read each set of directions carefully and answer the questions accordingly.

Thank you so much for your time and valuable contribution.

I confirm that I have read and understood the Participant Information Sheet version 1.1 dated July/2021.

I confirm that I have read and understood the Privacy Notice version 1.1 dated July/2021.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my legal rights being affected.

I confirm that I agree to the way my data will be collected and processed and that data will be stored for up to 10 years in university archiving facilities in accordance with relevant Data Protection policies and regulations.

I understand that all data and information I provide will be kept confidential and will be seen only by study researchers and regulators whose job it is to check the work of researchers.

I agree that my name, contact details and data described in the information sheet will be kept for the purposes of this research project.

I understand that if I withdraw from the study, my data collected up to that point will be retained and used for the remainder of the study.

I am 18 years of age or over.

Yes, I agree to take part in the study.

☐

No, I do not agree to take part in the study.

☐

Page 2: Background Information

1. What is your age?

2. What gender do you identify as?

- ☐ Male
- ☐ Female
- ☐ Non-binary / Gender-queer
- ☐ Prefer not to say

3. What is your ethnicity?

- ☐ White
- ☐ Black / African / Caribbean / Black British
- ☐ Asian / Asian British
- ☐ Arab / Arab British
- ☐ Mixed / Multiple ethnicities
- ☐ Other

4.a. If you selected Other, please specify:

4. What country do you live in?

5. What is your relationship status?

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Separated
- ☐ In a relationship
- ☐ Widowed
- ☐ Other

6.a. If you selected Other, please specify:

6. What is your level of education?

- ☐ I did not complete school Standard
- ☐ grades / GCSE / O Levels Higher / A
- ☐ Levels
- ☐ HNC / HND / NQ / SVQ / Other vocational qualification
- ☐ Undergraduate Degree
- ☐ Postgraduate Degree

7. What is your employment status?

- ☐ Employed full time
- ☐ Employed part time
- ☐ Unemployed and seeking work
- ☐ Unemployed due to disability/incapacity
- ☐ Stay at home parent

- ☐ Retired
- ☐ Student

8. Have you been diagnosed with a mental health issue?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

9.a. If yes and happy to do so, please state your diagnosis

9. Have you had COVID-19 (coronavirus)?

- ☐ Yes diagnosed and recovered
- ☐ Yes diagnosed and still ill
- ☐ Not formally diagnosed but suspected and recovered

- ☐ Not formally diagnosed but suspected and still ill
- ☐ Don't know
- ☐ No

10. Has anyone in your family or friends had COVID-19?

- ☐ Yes diagnosed and recovered
- ☐ Yes diagnosed and still ill
- ☐ Yes diagnosed and died
- ☐ Not formally diagnosed but suspected and recovered
- ☐ Not formally diagnosed but suspected and still ill
- ☐ Not formally diagnosed but suspected and died
- ☐ Don't know
- ☐ No

11. Please indicate how much you agree or disagree with the following statements:

	0 - no affect at all	1	2	3	4	5	6	7	8	9	10 - Severely affects my life
How much does Covid-19 affect your life?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much does Covid-19 affect your financial situation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much does Covid-19 affect your mental wellbeing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much does Covid-19 affect you emotionally?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Page 3: Childhood Trauma / Negative Life Events

Some of the following questions are about your childhood trauma. Please answer this section as honestly as you can. It deals with a difficult topic, but your answers will not be linked or traced back to you in any way. You do not have to answer any questions that may cause you distress.

If you feel that you require some support whilst or after completing this section, please utilise one of the support services below:

- **NHS:** www.nhs24.com - Tel: 111 or else contact NHS24 or in an emergency call 999.
- **Samaritans.** Samaritans are available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair, including those which may lead to suicide / www.samaritans.org.uk - Tel: 08457 9090 90 or call 116 123

18. The questions on this page want to explore your childhood trauma before you turned 18 years old. Read the following statements and please select the choice that can define your experience the most, in response to the statement: "When I was growing up..."

	(1) never true	(2) rarely true	(3) someti mes true	(4) often true	(5) very often true
1. I didn't have enough to eat					
2. I knew that there was someone to take care of me and protect me					
3. People in my family called me things like "stupid," "lazy," or "ugly."					
4. My parents were too drunk or high to take care of the family.					

5. There was someone in my family who helped me feel that I was important or special.					
6. I had to wear dirty clothes.					
7. I felt loved.					
8. I thought that my parents wished I had never been born.					
9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital.					
10. There was nothing I wanted to change about my family.					
11. People in my family hit me so hard that it left me with bruises or marks.					
12. I was punished with a belt, a board, a cord, or some other hard object.					

13. People in my family looked out for each other.					
14. People in my family said hurtful or insulting things to me.					
15. I believe that I was physically abused.					
16. I had the perfect childhood.					
17. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbour, or doctor.					
18. I felt that someone in my family hated me.					
19. People in my family felt close to each other.					
20. Someone tried to touch me in a sexual way or tried to make me touch them.					
21. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.					
22. I had the best family in the world.					
23. Someone tried to make me do sexual things or watch sexual things.					
24. Someone molested me.					
25. I believe that I was emotionally abused.					
26. There was someone to take me to the doctor if I needed it.					

27. I believe that I was sexually abused.					
28. My family was a source of strength and support.					

Page 4: Cognitive State

Some of the following questions are about your recent thoughts or behaviours. Please answer this section as honestly as you can. **You do not have to answer any questions that may cause you distress.**

If you feel that you require some support whilst or after completing this section, please utilise one of the support services below:

- **NHS:** www.nhs24.com - Tel: 111 or else contact NHS24 or in an emergency call 999.
- **Samaritans.** Samaritans are available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair, including those which may lead to suicide / www.samaritans.org.uk - Tel: 08457 9090 90 or call 116 123

19. In this section, we want you to respond the questions about how have you been feeling in the past several days? Please select the choice that can define your state the most. "In past several days, you"

	Not at all (0)	Slightly True (1)	Moderately True (2)	Very True (3)	Extremely True (4)
1. Woke up from sleep feeling tired and not refreshed					
2. Felt your thoughts were confused					
3. Had many thoughts in your head					
4. Became afraid that you would die					
5. Felt unusual physical sensations that you have never felt before					
6. Had a sense of inner pain that was too much to bear					
7. Felt your head could explode from too many thoughts					
8. Felt ordinary things looked strange or distorted					

9. Worried a lot of bad things might happen to you					
10. It was hard to stop worrying					
11. Had a decreased ability to think, concentrate or make decisions, due to too many thoughts					
12. Had trouble falling asleep because of thoughts that you could not control					
13. Feared for your life					
14. Felt the world was closing in on you					
15. Felt the world around you was different					
16. Felt relentless, agonizing emotional pain					
17. Felt suddenly frightened to such an extent that you developed physical symptoms or had a panic attack					
18. Expected the worst					
19. Felt strange sensations in your body or on your skin					
20. Felt something happening to your body					
21. Felt your thoughts were racing					
22. Felt bothered by thoughts that did not make sense					
23. Had sensations that you cannot describe					
24. Urge to Stop the Emotional Pain Overwhelmed All Other Thoughts					
25. Felt the blood rushing through your veins					
26. Felt sense of dread					
27. Felt ideas kept turning over and over in your mind and wouldn't go away					
28. Felt something was wrong with you physically					
29. Thought something, like a heart attack or accident, would suddenly kill you					
30. Felt a sense of inner pain that had to be stopped					

31. Wanted troubling thoughts to go away but they wouldn't					
32. Felt that your emotional pain was unbearable					
33. Felt something horrible was going to happen					
34. Felt pressure in your head from thinking too much					
35. Felt like you were getting a headache from too many thoughts in your head					
36. Felt urge to escape the pain was very hard to control					

20. In this section, we want you to read the questions and select one option for each statement to indicate how much you disagree or agree with each of the statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I tend to bounce back quickly after hard times.					
2. I have a hard time making it through stressful events.					
3. It does not take me long to recover from a stressful event.					
4. It is hard for me to snap back when something bad happens.					
5. I usually come through difficult times with little trouble.					
6. I tend to take a long time to get over setbacks in my life.					

21. In this section, we want you to read the questions and select one option for each statement to indicate how much it describes you, recently?

	Not at all like me (0)	A little bit like me (1)	Moderately like me (2)	Quite a bit like me (3)	Extremely like me (4)
1. I often have the feeling that I would just like to run away.					
2. I feel powerless to change things.					
3. I feel trapped inside myself.					
4. I feel I'm in a deep hole I can't get out of.					

22. Please read the following statements and rate how true the statement is for you, using the following scale.

		Not at all true 1	A little bit true 2	Somewhat true 3	Mostly true 4	Extremely true 5
1	If I have to stop pursuing an important goal in my life, I think about other new goals to pursue					
2	These days, I am fortunate to have many caring and supportive friends					
3	I fear being ridiculed					
4	These days, I am close to other people					
5	I fear being laughed at					
6	I stay committed to a goal for a long time					
7	I fear being harassed					
8	If I have to stop pursuing an important goal in my life, I convince myself that I have other meaningful goals to pursue					
9	I feel that I have given up					
10	I feel that my confidence has been knocked out of me					
11	These days, other people care about me					
12	These days, I think my death would be a relief to the people in my life					
13	If I have to stop pursuing an important goal in my life, I tell myself that I have a number of other new goals to draw on					

14	I am concerned about being called names or referred to in derogatory terms					
15	I feel down and out					
16	These days, I have at least one satisfying interaction every day					
17	These days, the people in my life would be happier without me					
18	I fear being bullied					
19	I can't let my goals go					
20	These days, I think I make things worse for the people in my life					
21	I find it difficult to stop trying to achieve a goal					
22	These days, I feel that there are people I can turn to in times of need					
23	I feel defeated by life					
24	If I have to stop pursuing an important goal in my life, I seek other meaningful goals					
25	If I have to stop pursuing an important goal in my life, I start working on other new goals					
26	These days, I think the people in my life wish they could be rid of me					
27	I feel completely knocked out of action					
28	These days, the people in my life would be better off if I were gone					

Page 5: Personality

23. The following items are designed to measure attitudes people have toward themselves, their performance, and toward others. There are no right or wrong answers. Please select the items reflecting your views the most by using your first impression, do not spend too much time on individual items in responding.

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Neutral (4)	Slightly Agree (5)	Agree (6)	Strongly Agree (7)
1. I have high standards for my performance at work or at school.							
2. I often feel frustrated because I can't meet my goals.							
3. If you don't expect much out of yourself, you will never succeed.							
4. My best just never seems to be good enough for me.							
5. I have high expectations for myself.							
6. I rarely live up to my high standards.							
7. Doing my best never seems to be enough.							
8. I set very high standards for myself.							
9. I am never satisfied with my accomplishments.							
10. I expect the best from myself.							
11. I often worry about not measuring up to my own expectations.							

12. My performance rarely measures up to my standards.							
13. I am not satisfied even when I know I have done my best.							
14. I try to do my best at everything I do.							
15. I am seldom able to meet my own high standards of performance.							
16. I am hardly ever satisfied with my performance.							
17. I hardly ever feel that what I've done is good enough.							
18. I have a strong need to strive for excellence.							
19. I often feel disappointment after completing a task because I know I could have done better.							

Page 6: Social Support

24. In this section, we want you to read the following questions and choose the response that most closely describes your current situation.

	None of the Time (1)	A little of the Time (2)	Some of the Time (3)	Most of the Time (4)	All of the Time (5)
1. Is there someone available to you whom you can count on to listen to you when you need to talk?					
2. Is there someone available to give you good advice about a problem?					
3. Is there someone available to you who shows you love and affection?					
4. Is there someone available to help you with daily chores?					
5. Can you count on anyone to provide you with emotional support (talking over problems or helping you make a difficult decision)?					
6. Do you have as much contact as you would like with someone you feel close to, someone in whom you can trust and confide?					
7. Are you currently married or living with a partner?	Yes			No	

Page 7: Suicide

Some of the following questions are about suicidal thoughts or behaviours. Please answer this section as honestly as you can. It deals with a difficult topic, but your answers will not be linked or traced back to you in any way. You do not have to answer any questions that may cause you distress.

If you feel that you require some support whilst or after completing this section, please utilise one of the support services below:

- **NHS:** www.nhs24.com - Tel: 111 or else contact NHS24 or in an emergency call 999.
- **Samaritans.** Samaritans are available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair, including those which may lead to suicide / www.samaritans.org.uk - Tel: 08457 9090 90 or call 116 123

25. Please read the following questions and respond accordingly.

1A	Have you ever seriously thought of taking your life, but not actually attempted to do so? 1) Yes 2) No 3) Would rather not say
B	When did you last <u>think</u> about taking your life? 1) The past week 2) The past year 3) Longer ago 4) Would rather not say
C	And, how many times has this occurred? ____ Would rather not say
D	And, how old were you the first time you had this thought? ____ Would rather not say
2A	Have you ever made an attempt to take your life, by taking an overdose of tablets or in some other way? 1) Yes 2) No 3) Would rather not say
B	When did you last attempt to take your life? 1) The past week

	2) The past year 3) Longer ago 4) Would rather not say
D	And, how many times have you made an attempt to take your life? ____
E	And, how old were you the first time you made an attempt? ____ Would rather not say
3A	Have you ever seriously thought about trying to deliberately harm yourself but not with the intention of killing yourself but not actually done so? 1) Yes 2) No 3) Would rather not say
B	When did you last think about trying to harm yourself in this way? 1) The past week 2) The past year 3) Longer ago 4) Would rather not say
C	And, how many times has this occurred? ____ Would rather not say
D	And, how old were you the first time you had this thought? ____ Would rather not say
4A	Have you ever deliberately harmed yourself in any way but not with the intention of killing yourself? (i.e., self-harm) 1) Yes 2) No 3) Would rather not say
B	When did this last occur? 1) The past week 2) The past year 3) Longer ago 4) Would rather not say
C	And, how many times has this occurred? ____ Would rather not say
D	And, how old were you the first time you harmed yourself? ____ Would rather not say

26. Please read the following statements and determine how often these statements are true for you.

	None or a little of the time (0)	Some of the time (1)	Good part of the time (2)	Most or all of the time (3)
1. I think of things too bad to share with others.				
2. In order to punish others, I think of suicide				
3. I feel I need to punish myself for things I have done or thought				
4. I feel the world is not worth continuing to live in				
5. I feel people would be better off if I were dead				
6. I feel it would be less painful to die than to keep living the way things are.				
7. I have thought of how to do myself in				
8. I think of suicide				

Page 8: Accessing Support

Thinking about suicide can be painful and difficult. If you are currently having suicidal thoughts and feelings support are available from several organisations including: NHS.

- You can call the NHS support line on Tel: 111 or visit their website: www.nhs24.com
- Samaritans. The Samaritans is a confidential emotional support line for people who are experiencing feelings of distress or despair. They are available 24 hours a day on Tel: 08457 90 90 90 and 116 123 or visit www.samaritans.org.uk
- CALM. CALM (campaign against living miserably) is a registered charity, which exists to prevent male suicide in the UK. Their helpline is free, anonymous, and confidential. It is open 7 days a week from 5 p.m. to midnight. Call 0800 58 58 58 / Email info@thecalmzone.net / Webchat www.thecalmzone.net/help/webchat/

Thank you so much for taking the time to complete this survey.
You have provided valuable input towards our work to increase understanding of suicide risk. Should you require any further information, please contact Elvan Unlu on e.unlu.1@research.gla.ac.uk.

The Relationship between Personality, Cognition, Negative Life Events, and Social Factors in Understanding Suicide Risk

Page 1: Welcome

Dear Participant,

Thank you so much for your interest in participating in this study. We would like you to answer a series of questions about your childhood trauma, your cognitive state, personality and suicidal thoughts and feelings. Your answers to these questions will help us better understand suicide risk. Even if you have never had suicidal thoughts or feelings, your answers will still help us to better understand suicide.

Please download and read the [Participant Information](#) and [Consent Form](#) in detail to ensure that you are happy to take part.

How long will it take? It is essential to our work that you answer all the questions as best as you can. Please take your time and be prepared to spend about 15-20 minutes completing the survey. You will need to complete the survey in one sitting as answers cannot be saved as you go. So please start when you have the time to complete it. Remember, you are under no obligation to participate; doing so is entirely your own decision.

Accessing Support. Some of the questions asking you about your suicidal ideation or behaviours and childhood trauma, may be distressing. We are very sorry if you had these sorts of experiences and currently feel this pain. During the survey, we will provide contact details of the organizations who could provide support for you. Do not hesitate to call the numbers please, if you feel distressed.

What will happen to the results of the study? Findings will be shared with all key stakeholders involved in suicide prevention to help the people who had or might have similar experiences.

Get in touch. If you have any questions or concerns, please do not hesitate to contact me: Elvan Unlu, researcher, e.unlu.1@research.qla.ac.uk.

On the next pages, you will find the questions. Please read each set of directions carefully and answer the questions accordingly.

Thank you so much for your time and valuable contribution.

I confirm that I have read and understood the Participant Information Sheet version 1.1 dated July/2021.

I confirm that I have read and understood the Privacy Notice version 1.1 dated July/2021.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my legal rights being affected.

I confirm that I agree to the way my data will be collected and processed and that data will be stored for up to 10 years in university archiving facilities in accordance with relevant Data Protection policies and regulations.

I understand that all data and information I provide will be kept confidential and will be seen only by study researchers and regulators whose job it is to check the work of researchers.

I agree that my name, contact details and data described in the information sheet will be kept for the purposes of this research project.

I understand that if I withdraw from the study, my data collected up to that point will be retained and used for the remainder of the study.

I am 18 years of age or over.

Yes, I agree to take part in the study.

☐

No, I do not agree to take part in the study.

☐

Page 2: Background Information

1. What is your age?

2. What gender do you identify as?

- ☐ Male
- ☐ Female
- ☐ Non-binary / Gender-queer
- ☐ Prefer not to say

3. What is your ethnicity?

- ☐ White
- ☐ Black / African / Caribbean / Black British
- ☐ Asian / Asian British
- ☐ Arab / Arab British
- ☐ Mixed / Multiple ethnicities
- ☐ Other

4.a. If you selected Other, please specify:

4. What country do you live in?

5. What is your relationship status?

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Separated
- ☐ In a relationship
- ☐ Widowed
- ☐ Other

6.a. If you selected Other, please specify:

6. What is your level of education?

- ☐ I did not complete school Standard
- ☐ grades / GCSE / O Levels Higher / A
- ☐ Levels
- ☐ HNC / HND / NQ / SVQ / Other vocational qualification
- ☐ Undergraduate Degree
- ☐ Postgraduate Degree

7. What is your employment status?

- ☐ Employed full time
- ☐ Employed part time
- ☐ Unemployed and seeking work
- ☐ Unemployed due to disability/incapacity
- ☐ Stay at home parent

- ☐ Retired
- ☐ Student

8. Have you been diagnosed with a mental health issue?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

9.a. If yes and happy to do so, please state your diagnosis

9. Have you had COVID-19 (coronavirus)?

- ☐ Yes diagnosed and recovered
- ☐ Yes diagnosed and still ill
- ☐ Not formally diagnosed but suspected and recovered

- ☐ Not formally diagnosed but suspected and still ill
- ☐ Don't know
- ☐ No

10. Has anyone in your family or friends had COVID-19?

- ☐ Yes diagnosed and recovered
- ☐ Yes diagnosed and still ill
- ☐ Yes diagnosed and died
- ☐ Not formally diagnosed but suspected and recovered
- ☐ Not formally diagnosed but suspected and still ill
- ☐ Not formally diagnosed but suspected and died
- ☐ Don't know
- ☐ No

11. Please indicate how much you agree or disagree with the following statements:

	0 - no affect at all	1	2	3	4	5	6	7	8	9	10 - Severely affects my life
How much does Covid-19 affect your life?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much does Covid-19 affect your financial situation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much does Covid-19 affect your mental wellbeing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much does Covid-19 affect you emotionally?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Page 3: Childhood Trauma / Negative Life Events

Some of the following questions are about your childhood trauma. Please answer this section as honestly as you can. It deals with a difficult topic, but your answers will not be linked or traced back to you in any way. You do not have to answer any questions that may cause you distress.

If you feel that you require some support whilst or after completing this section, please utilise one of the support services below:

- **NHS:** www.nhs24.com - Tel: 111 or else contact NHS24 or in an emergency call 999.
- **Samaritans.** Samaritans are available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair, including those which may lead to suicide / www.samaritans.org.uk - Tel: 08457 9090 90 or call 116 123

18. The questions on this page want to explore your childhood trauma before you turned 18 years old. Read the following statements and please select the choice that can define your experience the most, in response to the statement: "When I was growing up..."

	(1) never true	(2) rarely true	(3) someti mes true	(4) often true	(5) very often true
1. I didn't have enough to eat					
2. I knew that there was someone to take care of me and protect me					
3. People in my family called me things like "stupid," "lazy," or "ugly."					
4. My parents were too drunk or high to take care of the family.					

5. There was someone in my family who helped me feel that I was important or special.					
6. I had to wear dirty clothes.					
7. I felt loved.					
8. I thought that my parents wished I had never been born.					
9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital.					
10. There was nothing I wanted to change about my family.					
11. People in my family hit me so hard that it left me with bruises or marks.					
12. I was punished with a belt, a board, a cord, or some other hard object.					

13. People in my family looked out for each other.					
14. People in my family said hurtful or insulting things to me.					
15. I believe that I was physically abused.					
16. I had the perfect childhood.					
17. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbour, or doctor.					
18. I felt that someone in my family hated me.					
19. People in my family felt close to each other.					
20. Someone tried to touch me in a sexual way or tried to make me touch them.					
21. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.					
22. I had the best family in the world.					
23. Someone tried to make me do sexual things or watch sexual things.					
24. Someone molested me.					
25. I believe that I was emotionally abused.					
26. There was someone to take me to the doctor if I needed it.					

27. I believe that I was sexually abused.					
28. My family was a source of strength and support.					

Page 4: Cognitive State

Some of the following questions are about your recent thoughts or behaviours. Please answer this section as honestly as you can. **You do not have to answer any questions that may cause you distress.**

If you feel that you require some support whilst or after completing this section, please utilise one of the support services below:

- **NHS:** www.nhs24.com - Tel: 111 or else contact NHS24 or in an emergency call 999.
- **Samaritans.** Samaritans are available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair, including those which may lead to suicide / www.samaritans.org.uk - Tel: 08457 9090 90 or call 116 123

19. In this section, we want you to respond the questions about how have you been feeling in the past several days? Please select the choice that can define your state the most. "In past several days, you"

	Not at all (0)	Slightly True (1)	Moderately True (2)	Very True (3)	Extremely True (4)
1. Woke up from sleep feeling tired and not refreshed					
2. Felt your thoughts were confused					
3. Had many thoughts in your head					
4. Became afraid that you would die					
5. Felt unusual physical sensations that you have never felt before					
6. Had a sense of inner pain that was too much to bear					
7. Felt your head could explode from too many thoughts					
8. Felt ordinary things looked strange or distorted					

9. Worried a lot of bad things might happen to you					
10. It was hard to stop worrying					
11. Had a decreased ability to think, concentrate or make decisions, due to too many thoughts					
12. Had trouble falling asleep because of thoughts that you could not control					
13. Feared for your life					
14. Felt the world was closing in on you					
15. Felt the world around you was different					
16. Felt relentless, agonizing emotional pain					
17. Felt suddenly frightened to such an extent that you developed physical symptoms or had a panic attack					
18. Expected the worst					
19. Felt strange sensations in your body or on your skin					
20. Felt something happening to your body					
21. Felt your thoughts were racing					
22. Felt bothered by thoughts that did not make sense					
23. Had sensations that you cannot describe					
24. Urge to Stop the Emotional Pain Overwhelmed All Other Thoughts					
25. Felt the blood rushing through your veins					
26. Felt sense of dread					
27. Felt ideas kept turning over and over in your mind and wouldn't go away					
28. Felt something was wrong with you physically					
29. Thought something, like a heart attack or accident, would suddenly kill you					
30. Felt a sense of inner pain that had to be stopped					

31. Wanted troubling thoughts to go away but they wouldn't					
32. Felt that your emotional pain was unbearable					
33. Felt something horrible was going to happen					
34. Felt pressure in your head from thinking too much					
35. Felt like you were getting a headache from too many thoughts in your head					
36. Felt urge to escape the pain was very hard to control					

20. In this section, we want you to read the questions and select one option for each statement to indicate how much you disagree or agree with each of the statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I tend to bounce back quickly after hard times.					
2. I have a hard time making it through stressful events.					
3. It does not take me long to recover from a stressful event.					
4. It is hard for me to snap back when something bad happens.					
5. I usually come through difficult times with little trouble.					
6. I tend to take a long time to get over setbacks in my life.					

21. In this section, we want you to read the questions and select one option for each statement to indicate how much it describes you, recently?

	Not at all like me (0)	A little bit like me (1)	Moderately like me (2)	Quite a bit like me (3)	Extremely like me (4)
1. I often have the feeling that I would just like to run away.					
2. I feel powerless to change things.					
3. I feel trapped inside myself.					
4. I feel I'm in a deep hole I can't get out of.					

22. Please read the following statements and rate how true the statement is for you, using the following scale.

		Not at all true 1	A little bit true 2	Somewhat true 3	Mostly true 4	Extremely true 5
1	If I have to stop pursuing an important goal in my life, I think about other new goals to pursue					
2	These days, I am fortunate to have many caring and supportive friends					
3	I fear being ridiculed					
4	These days, I am close to other people					
5	I fear being laughed at					
6	I stay committed to a goal for a long time					
7	I fear being harassed					
8	If I have to stop pursuing an important goal in my life, I convince myself that I have other meaningful goals to pursue					
9	I feel that I have given up					
10	I feel that my confidence has been knocked out of me					
11	These days, other people care about me					
12	These days, I think my death would be a relief to the people in my life					
13	If I have to stop pursuing an important goal in my life, I tell myself that I have a number of other new goals to draw on					

14	I am concerned about being called names or referred to in derogatory terms					
15	I feel down and out					
16	These days, I have at least one satisfying interaction every day					
17	These days, the people in my life would be happier without me					
18	I fear being bullied					
19	I can't let my goals go					
20	These days, I think I make things worse for the people in my life					
21	I find it difficult to stop trying to achieve a goal					
22	These days, I feel that there are people I can turn to in times of need					
23	I feel defeated by life					
24	If I have to stop pursuing an important goal in my life, I seek other meaningful goals					
25	If I have to stop pursuing an important goal in my life, I start working on other new goals					
26	These days, I think the people in my life wish they could be rid of me					
27	I feel completely knocked out of action					
28	These days, the people in my life would be better off if I were gone					

Page 5: Personality

23. The following items are designed to measure attitudes people have toward themselves, their performance, and toward others. There are no right or wrong answers. Please select the items reflecting your views the most by using your first impression, do not spend too much time on individual items in responding.

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Neutral (4)	Slightly Agree (5)	Agree (6)	Strongly Agree (7)
1. I have high standards for my performance at work or at school.							
2. I often feel frustrated because I can't meet my goals.							
3. If you don't expect much out of yourself, you will never succeed.							
4. My best just never seems to be good enough for me.							
5. I have high expectations for myself.							
6. I rarely live up to my high standards.							
7. Doing my best never seems to be enough.							
8. I set very high standards for myself.							
9. I am never satisfied with my accomplishments.							
10. I expect the best from myself.							
11. I often worry about not measuring up to my own expectations.							

12. My performance rarely measures up to my standards.							
13. I am not satisfied even when I know I have done my best.							
14. I try to do my best at everything I do.							
15. I am seldom able to meet my own high standards of performance.							
16. I am hardly ever satisfied with my performance.							
17. I hardly ever feel that what I've done is good enough.							
18. I have a strong need to strive for excellence.							
19. I often feel disappointment after completing a task because I know I could have done better.							

Page 6: Social Support

24. In this section, we want you to read the following questions and choose the response that most closely describes your current situation.

	None of the Time (1)	A little of the Time (2)	Some of the Time (3)	Most of the Time (4)	All of the Time (5)
1. Is there someone available to you whom you can count on to listen to you when you need to talk?					
2. Is there someone available to give you good advice about a problem?					
3. Is there someone available to you who shows you love and affection?					
4. Is there someone available to help you with daily chores?					
5. Can you count on anyone to provide you with emotional support (talking over problems or helping you make a difficult decision)?					
6. Do you have as much contact as you would like with someone you feel close to, someone in whom you can trust and confide?					
7. Are you currently married or living with a partner?	Yes			No	

Page 7: Suicide

Some of the following questions are about suicidal thoughts or behaviours. Please answer this section as honestly as you can. It deals with a difficult topic, but your answers will not be linked or traced back to you in any way. You do not have to answer any questions that may cause you distress.

If you feel that you require some support whilst or after completing this section, please utilise one of the support services below:

- **NHS:** www.nhs24.com - Tel: 111 or else contact NHS24 or in an emergency call 999.
- **Samaritans.** Samaritans are available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair, including those which may lead to suicide / www.samaritans.org.uk - Tel: 08457 9090 90 or call 116 123

25. Please read the following questions and respond accordingly.

1A	<p>Have you ever seriously thought of taking your life, but not actually attempted to do so?</p> <p>1) Yes 2) No 3) Would rather not say</p>
B	<p>When did you last <u>think</u> about taking your life?</p> <p>1) The past week 2) The past year 3) Longer ago 4) Would rather not say</p>
C	<p>And, how many times has this occurred? ____ Would rather not say</p>
D	<p>And, how old were you the first time you had this thought? ____ Would rather not say</p>
2A	<p>Have you ever made an attempt to take your life, by taking an overdose of tablets or in some other way?</p> <p>1) Yes 2) No 3) Would rather not say</p>
B	<p>When did you last attempt to take your life?</p> <p>1) The past week</p>

	2) The past year 3) Longer ago 4) Would rather not say
D	And, how many times have you made an attempt to take your life? ____
E	And, how old were you the first time you made an attempt? ____ Would rather not say
3A	Have you ever seriously thought about trying to deliberately harm yourself but not with the intention of killing yourself but not actually done so? 1) Yes 2) No 3) Would rather not say
B	When did you last think about trying to harm yourself in this way? 1) The past week 2) The past year 3) Longer ago 4) Would rather not say
C	And, how many times has this occurred? ____ Would rather not say
D	And, how old were you the first time you had this thought? ____ Would rather not say
4A	Have you ever deliberately harmed yourself in any way but not with the intention of killing yourself? (i.e., self-harm) 1) Yes 2) No 3) Would rather not say
B	When did this last occur? 1) The past week 2) The past year 3) Longer ago 4) Would rather not say
C	And, how many times has this occurred? ____ Would rather not say
D	And, how old were you the first time you harmed yourself? ____ Would rather not say

26. Please read the following statements and determine how often these statements are true for you.

	None or a little of the time (0)	Some of the time (1)	Good part of the time (2)	Most or all of the time (3)
1. I think of things too bad to share with others.				
2. In order to punish others, I think of suicide				
3. I feel I need to punish myself for things I have done or thought				
4. I feel the world is not worth continuing to live in				
5. I feel people would be better off if I were dead				
6. I feel it would be less painful to die than to keep living the way things are.				
7. I have thought of how to do myself in				
8. I think of suicide				

Page 8: Accessing Support

Thinking about suicide can be painful and difficult. If you are currently having suicidal thoughts and feelings support are available from several organisations including: NHS.

- You can call the NHS support line on Tel: 111 or visit their website: www.nhs24.com
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- CALM. CALM (campaign against living miserably) is a registered charity, which exists to prevent male suicide in the UK. Their helpline is free, anonymous, and confidential. It is open 7 days a week from 5 p.m. to midnight. Call 0800 58 58 58 / Email info@thecalmzone.net / Webchat www.thecalmzone.net/help/webchat/

Thank you so much for taking the time to complete this survey.
You have provided valuable input towards our work to increase understanding of suicide risk. Should you require any further information, please contact Elvan Unlu on e.unlu.1@research.gla.ac.uk.

Appendix
3.N



15/9/21

Dear Professor Rory O'Connor,

MVLS College Ethics Committee

Project Title: The Relationship between Personality, Cognition, Negative Life Events, and Social Factors in Understanding Suicide Risk

Project No: 200200176

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project, subject to the following conditions:

- Project end date: As stated in application
- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research: https://www.gla.ac.uk/media/media_490311_en.pdf
- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.
- For projects requiring the use of an online questionnaire, the University has an Online Surveys account for research. To request access, see the University's application procedure at <https://www.gla.ac.uk/research/strategy/ourpolicies/useofonlinesurveystoolforresearch/>.

Yours sincerely

Jesse Dawson
MD, BSc (Hons), FRCP, FESO
Professor of Stroke Medicine
NRS Stroke Research Champion / Clinical Lead for Scottish Stroke
Research Network
Chair MVLS Research Ethics Committee

Institute of Cardiovascular and Medical Sciences
College of Medical, Veterinary & Life Sciences
Room M0.05
Office Block
Queen Elizabeth University Hospital
Glasgow
G51 4TF
Tel – 0141 451 5868



15/9/21

Dear Professor Rory O'Connor,

MVLS College Ethics Committee

Project Title: The Relationship between Personality, Cognition, Negative Life Events, and Social Factors in Understanding Suicide Risk

Project No: 200200176

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Yours sincerely

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G51 4TF
Tel – 0141 451 5868

Note: Ethics approval of the study in Chapter 3.

Appendix 3.O

Data Screening & Preparation

Out of 579 participants, 7 were excluded for not responding. The Little's MCAR test yielded a significant result (Chi-Square = 6109.528, DF = 5294, Sig. = .000), suggesting that the missing values are not random. However, the overall proportion of missing values was only 0.218%, which is considered negligible as it is less than 1% (Jakobsen, Gluud, Wetterslev & Winkel, 2017). In other words, out of 79,335 values, only 173 were missing (0.218 %). The complete summary of missing values can be found in **Figure 3.2** below.

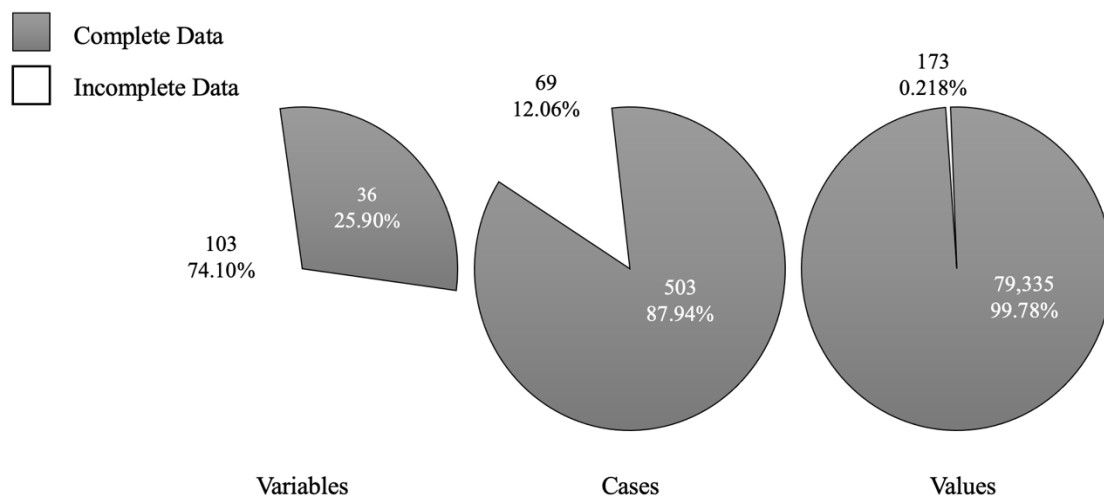


Figure 3.2. Summary of missing values.

All scales, except the Adult Psychiatric Morbidity Scale, were used in the estimation maximisation process (EM maximisation) for dealing with missing values. After this, the scales were arranged based on the question directions and reverse-coding was applied. Only the Childhood Trauma Questionnaire (questions 2, 5, 7, 13, 19), Suicidal Narrative Inventory (questions 1, 2, 4, 8, 11, 13, 16, 22, 24, 25), and Resilience Scale (questions 2, 4, 6) had reverse questions.

Additionally, questions 18, 19, 20, and 21 of the Adult Morbidity Scale (related to suicidal ideation and self-harm) were transformed into different variables by recoding the "Would rather not say" options to "System Missing Values". Subsequently, all potential variables based on the scales were created. We verified the accuracy of the data by comparing the expected minimum and maximum scores with the actual scores. **Table 3.3** (Appendix 3.A) presents the expected minimum and maximum scores versus the actual scores in the dataset.

Following these procedures, Test of Reliability was applied for each scale, and the results were reported in the **Table 3.4** (Appendix 3.B).

Before testing the data for regression assumptions, the first step was to identify multivariate outliers. After obtaining the Mahalanobis Distance (MD) Analysis results, we checked the probability of the MD in order to assess how likely it was that the analysis results were identifying true outliers [cumulative distribution function of chi-square distribution $[1 - \text{CDF of } \chi^2(\text{MD}_1/\text{df})]$]. If the probability results were below 0.001, it was recommended to consider removing those outliers (Tabachnick & Fidell, 2007). In our case, we found 3 outliers with probabilities of .00026, .00034, and .00060, respectively. These outliers were subsequently removed from the sample, leaving us with a total of 569 cases. Following this, we proceeded to test the regression assumptions prior to conducting the hypotheses testing, as we planned to use regression-based analyses.

Normality: We assessed the normality, skewness, and kurtosis using the Shapiro–Wilk test and the explore function and histograms. The data did not follow a normal distribution for all variables, so some of the correlations did not exhibit a linear pattern. This led to rejecting the null hypothesis. Only SNI and Covid19 scores demonstrated a close-to-normal distribution. On the other hand, resilience, suicidal ideation, childhood trauma total score, and suicide crisis total scores were

positively skewed, while perfectionism, entrapment, and social support were negatively skewed. Although bootstrapping does not assume normal distribution, we decided to keep the data as is but planned to check for multicollinearity and homoscedasticity.

Additivity / no multicollinearity: In order to assess multicollinearity, the variance inflation factor (VIF) should be 10 or higher (Vatcheva & Lee, 2016; Neter, Kutner, Nachtsheim, & Wasserman, 1997). Our data showed no multicollinearity (see **Figure 3.4** -Appendix 3.D). We also checked the bivariate correlations to ensure that our variables are significantly correlated to each other as expected, but none of them are perfectly correlated (1). You can find all the relevant results in the correlation table (**Table 3.2**).

Homogeneity/ Homoscedasticity: Regarding homogeneity/homoscedasticity, the scatterplot and fitted line plot indicated that the data were evenly distributed on both sides of zero. Thus, we can assume that similar variances exist in the different groups being compared (the degree of error was consistent for every value of X across the distribution) (see **Figure 3.3** -Appendix 3.C).

Appendix 3.P

Table 3.13. Regression Coefficients, Standard Errors, and Model Summary Information for the Internal Entrapment Parallel Multiple Mediator Model Depicted in Figure 3.7

		Consequent										
		<i>M</i> ₁ (defeat)			<i>M</i> ₂ (fear of humiliation)			Y (internal entrapment)				
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (perfectionistic strivings)	a ₁	-0.01	0.03	.55	a ₂	0.08	0.02	.003**	<i>c</i> ′	0.006	0.008	.46
<i>M</i> ₁ (defeat)		-	-	-		-	-	-	b ₁	0.35	0.01	<.001
<i>M</i> ₂ (fear of humiliation)		-	-	-		-	-	-	b ₂	-0.003	0.01	.84
Constant	i <i>M</i> ₁	15.84	1.23	<.001	i <i>M</i> ₂	12.40	1.15	<.001	iY	0.93	0.40	.02*
		<i>R</i> ² = 0.0006 <i>F</i> (1,567) = 0.34, <i>p</i> =.55						<i>R</i> ² = 0.01 <i>F</i> (1,567) = 8.65, <i>p</i> =.0034				<i>R</i> ² = 0.60 <i>F</i> (3,565) = 292.18, <i>p</i> <.001

Note. *a*₁= path between X (independent variable) and *M₁* (mediator 1). *a*₂= path between X (independent variable) and *M₂* (mediator 2). *iM₁*= constant of the first model represents the intercepts of the regression equations of X and *M₁*. *iM₂*= constant of the second model represents the intercepts of the regression equations of X and *M₂*. *i_Y*= constant of the overall model represents the intercepts of the regression equations of X, *M₁* and *M₂*. *p*= *p*-value. *SE*= Standard error. Coeff. = Beta coefficients for each variable. ****p*<.001, ***p*<.01, **p*<.05.

Appendix 3.R

Table 3.14. Regression Coefficients, Standard Errors, and Model Summary Information for the External Entrapment Parallel Multiple Mediator Model Depicted in Figure 3.8

Antecedent		Consequent										
		<i>M</i> ₁ (defeat)			<i>M</i> ₂ (fear of humiliation)			Y (external entrapment)				
		Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>		
X (perfectionistic strivings)	<i>a</i> ₁	-0.01	0.03	.55	<i>a</i> ₂	0.08	0.02	.003**	<i>c</i> ′	0.002	0.008	.75
<i>M</i> ₁ (defeat)		-	-	-		-	-	-	<i>b</i> ₁	0.27	0.01	<.001
<i>M</i> ₂ (fear of humiliation)		-	-	-		-	-	-	<i>b</i> ₂	0.04	0.01	<.001
Constant	<i>iM</i> ₁	15.84	1.23	<.001	<i>iM</i> ₂	12.40	1.15	<.001	<i>i</i> _Y	1.90	0.37	<.001
		<i>R</i> ² = 0.0006 <i>F</i> (1,567) = 0.34, <i>p</i> =.55				<i>R</i> ² = 0.01 <i>F</i> (1,567) = 8.65, <i>p</i> =.0034				<i>R</i> ² = 0.56 <i>F</i> (3,565) = 242.59, <i>p</i> <.001		

Note: *a*₁= path between X (independent variable) and *M*₁ (mediator 1). *a*₂= path between X (independent variable) and *M*₂ (mediator 2). *iM*₁= constant of the first model represents the intercepts of the regression equations of X and *M*₁. *iM*₂= constant of the second model represents the intercepts of the regression equations of X and *M*₂. *i_Y*= constant of the overall model represents the intercepts of the regression equations of X, *M*₁ and *M*₂. *p*= *p*-value. *SE*= Standard error. Coeff. = Beta coefficients for each variable. ****p*<.001, ***p*<.01, **p*<.05.

Appendix 4.A

Table 4.1. *Minimum/ Maximum Scores of the Measures*

N	Questionnaires	Variables Derived from the Questionnaires	Expected Minimum-Maximum Scores	Actual Minimum-Maximum Scores in the Data
1	Entrapment Scale-Short Form (E-SF) (De Beurs, Wetherall, Eschle-Byrne, Ferguson, O'Connor & O'Connor, 2020)	Internal entrapment, external entrapment	4-20	4-20
2	Suicide Probability Scale (SPS) – suicide ideation subscale, (Cull & Gill, 1982)	Suicide ideation	8-32	8-32
3	Almost Perfect Scale-Revised (APS-R) -standard discrepancy subscales (Slaney, Rice, Mobley, Tripp, & Ashby, 2001)	Perfectionistic strivings (personal standards), perfectionistic concerns (discrepancy)	19-133	26-133
4	Suicidal Narrative Inventory (SNI) (Cohen, Galynski, & Gidycz, 2019)	Burdensomeness, belongingness, fear of humiliation, goal reengagement, goal disengagement, defeat	28-140	38-92

Note: the expected minimum and maximum scores versus the actual scores in the dataset.

Appendix 4.B

Table 4.2. *Test of Reliability Scores of the Measures*

Scale	Cronbach's Alpha
Entrapment Scale Short Form	.89
Suicide Narrative Inventory	.91
Suicide Probability Scale (Ideation)	.91
Almost Perfect Scale-R	.94

Note: Cronbach's Alpha: the results of the Test of Reliability scores.

Appendix 4.C

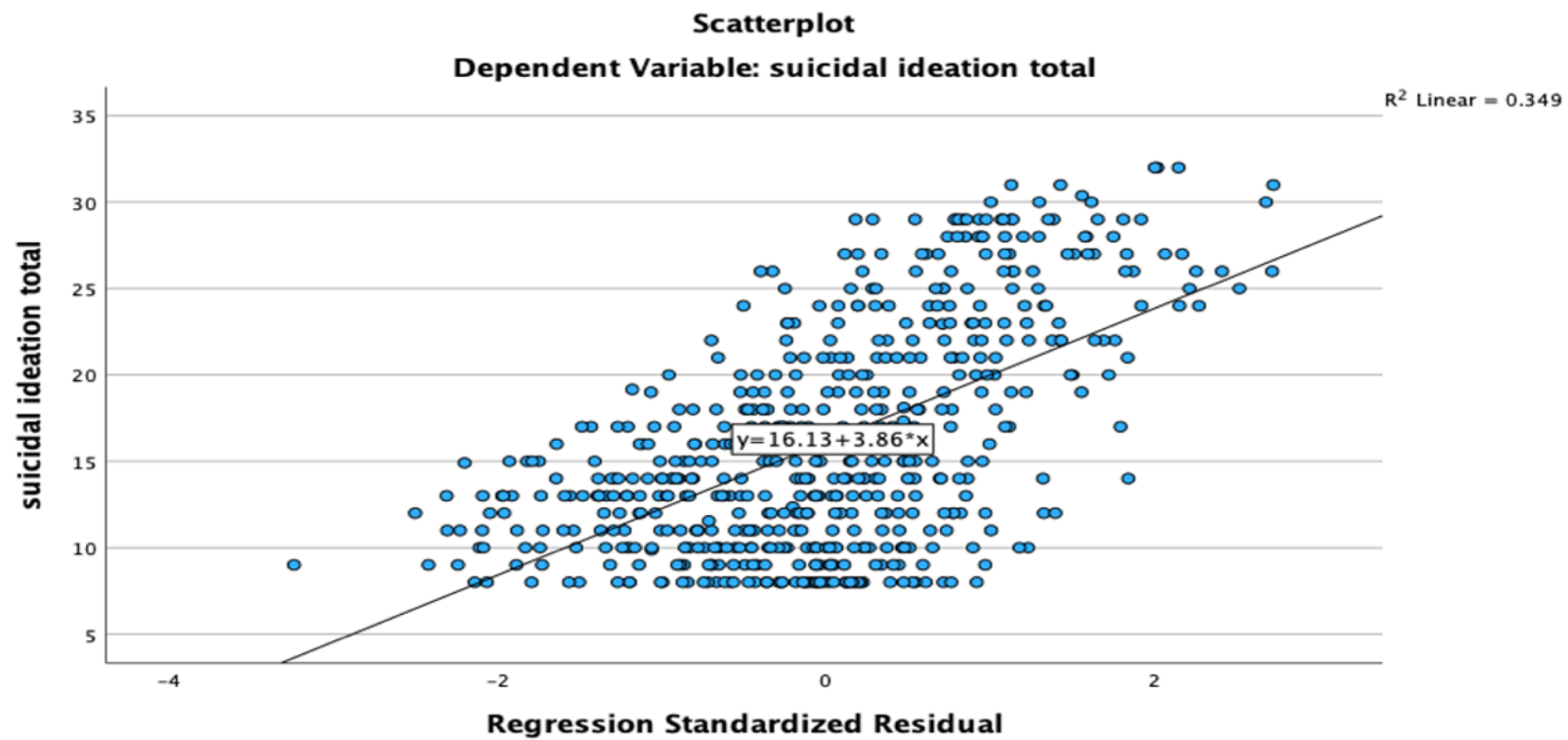


Figure 4.3. Scatter plot showing homogeneity/homoscedasticity. The same result which was depicted in Chapter 3.

Appendix 4.D

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-3.077	1.440		-2.137	.033		
	childhood trauma total	.013	.010	.036	1.278	.202	.766	1.306
	covid 19 affect total	-.081	.035	-.059	-2.289	.022	.925	1.081
	suicide crisis total	.032	.007	.177	4.574	<.001	.414	2.418
	resilience total	.005	.038	.004	.137	.891	.619	1.615
	entrapment total	.300	.055	.233	5.470	<.001	.342	2.927
	suicidal narrative inventory total	.147	.013	.469	11.223	<.001	.356	2.808
	overall perfectionism	.004	.008	.014	.514	.607	.809	1.236

a. Dependent Variable: suicidal ideation total

Figure 4.4. Statistics of Variance Inflation Factors showing there is no multicollinearity in the data.

Appendix 4.E

Table 4.3. *Overall Correlations of the Risk and Protective Factors*

	si	ie	ee	gd	gr	tbe	pbu	hu
si	1							
ie	.697**	1						
ee	.639**	.788**	1					
gd	.022	.038	.056	1				
gr	.010	.028	.037	-.439**	1			
tb	.373**	.402**	.337**	-.028	.025	1		
pl	.792**	.605**	.553**	-.029	-.002	.431**	1	
hu	.437**	.378**	.449**	-.049	.076	.203**	.369**	1
d	.739**	.780**	.744**	-.028	.022	.430**	.710**	.487**

Note: si: suicidal ideation total, ie: internal entrapment, ee: external entrapment, gd: goal disengagement, gr: goal reengagement, tbe: thwarted belongingness, pbu: perceived burdensomeness, hu: fear of humiliation, d: defeat, (**): correlation is significant at the 0.01 level (2-tailed), (*): correlation is significant at the 0.05 level (2-tailed).

Appendix 4.F

Table 4.4. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation-Mediator Model Depicted in Figure 4.5

		Consequent						
		<i>M</i> (internal entrapment)			<i>Y</i> (suicidal ideation)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (fear of humiliation)	<i>a</i> ₁	0.18	0.01	<.001	<i>c</i> ′	0.22	0.03	<.001
<i>M</i> (internal entrapment)		-	-	-	<i>b</i> ₁	1.40	0.07	<.001
Constant	<i>iM_I</i>	3.63	0.31	<.001	<i>i_Y</i>	3.50	0.50	<.001
		<i>R</i> ² = 0.14			<i>R</i> ² = 0.52			
		<i>F</i> (1,567) = 94.41, <i>p</i> <.001			<i>F</i> (2,566) = 308.22, <i>p</i> <.001			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p-value, *SE*= Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, *F*= F-statistic for the overall significance of the model.*** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.G

Table 4.5. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation-Mediator Model Depicted in Figure 4.6

		Consequent						
		<i>M</i> (external entrapment)			<i>Y</i> (suicidal ideation)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (fear of humiliation)	a_1	0.18	0.01	<.001	c'	0.20	0.03	<.001
<i>M</i> (external entrapment)		-	-	-	b_1	1.45	0.09	<.001
Constant	iM_1	3.88	0.26	<.001	i_Y	2.98	0.68	<.001
		$R^2 = 0.20$			$R^2 = 0.43$			
		$F(1,567) = 143.43, p < .001$			$F(2,566) = 219.63, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_1 = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p-value, *SE*= Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, *F*= F-statistic for the overall significance of the model. *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.H

Table 4.6. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation-Mediator Model Depicted in Figure 4.7

		Consequent						
		<i>M</i> (internal entrapment)			<i>Y</i> (suicidal ideation)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (defeat)	a_1	0.35	0.01	<.001	c'	0.51	0.04	<.001
<i>M</i> (internal entrapment)		-	-	-	b_1	0.69	0.09	<.001
Constant	iM_I	1.16	0.19	<.001	i_Y	3.85	0.46	<.001
		$R^2 = 0.60$			$R^2 = 0.58$			
		$F(1,567) = 878.30, p < .001$			$F(2,566) = 397.25, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = *p*-value, *SE*= Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, *F*= F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.I

Table 4.7. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation-Mediator Model Depicted in Figure 4.8

		Consequent						
		<i>M</i> (external entrapment)			<i>Y</i> (suicidal ideation)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (defeat)	a_1	0.29	0.01	<.001	c'	0.60	0.04	<.001
<i>M</i> (external entrapment)		-	-	-	b_1	0.52	0.10	<.001
Constant	iM_I	2.42	0.18	<.001	i_Y	3.39	0.53	<.001
		$R^2 = 0.55$			$R^2 = 0.56$			
		$F(1,567) = 701.35, p < .001$			$F(2,566) = 367.16, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p -value, SE = Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, F = F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.J

Table 4.8. Results from the Regression Analysis Examining the Moderation of the Goal Reengagement to Internal Entrapment on Suicidal Ideation Depicted in Figure 4.9

		Coeff.	SE	<i>t</i>	<i>p</i>
Intercept	<i>i₁</i>	5.12	1.26	4.04	<.001
X (internal entrapment)	<i>b₁</i>	1.72	0.18	9.54	<.001
<i>M</i> ' (goal reengagement)	<i>b₂</i>	0.05	0.08	0.62	.53
internal entrapment X goal reengagement (<i>X</i> ' <i>M</i> ')	<i>b₃</i>	-0.01	0.01	-0.84	.39
<i>R</i> ² = 0.48, <i>MSE</i> = 21.73					
<i>F</i> (3,565) = 178.65, <i>p</i> <.001					

Note: *b₁*= path between X (independent variable) and Y (dependant variable), *b₂*= path between *M*' (moderator variable) and Y (dependant variable), *b₃*= interaction between X (independent variable) and *M*' (moderator variable) on Y (dependant variable), *i₁*= the baseline value of the outcome variable (Y) when the predictors (X and *M*') are at zero, *SE*= Standard error, *t*= the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, *p*= p-value, *R*²= R-square change of the model, *MSE*= mean squared error, *F*= F-statistic for the overall significance of the model, ****p*<.001, ***p*<.01, **p*<.05.

Appendix 4.K

Table 4.9. Results from the Regression Analysis Examining the Moderation of the Goal Reengagement to External Entrapment on Suicidal Ideation Depicted in Figure 4.10

		Coeff.	SE	<i>t</i>	<i>p</i>
Intercept	i_1	4.27	1.58	2.69	<.001
X (external entrapment)	b_1	1.76	0.21	8.09	<.001
M' (goal reengagement)	b_2	0.03	0.10	0.28	.77
external entrapment X goal reengagement ($X'M'$)	b_3	-0.0070	0.01	-0.47	.63
$R^2 = 0.40$, $MSE = 25.02$					
$F(3,565) = 130.41$, $p < .001$					

Note: b_1 = path between X (independent variable) and Y (dependant variable), b_2 = path between M' (moderator variable) and Y (dependant variable), b_3 = interaction between X (independent variable) and M' (moderator variable) on Y (dependant variable), i_1 = the baseline value of the outcome variable (Y) when the predictors (X and M') are at zero, SE= Standard error, t = the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, p = p-value, R^2 = R-square change of the model, MSE= mean squared error, F = F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.L

Table 4.10. Results from the Regression Analysis Examining the Moderation of the Goal Disengagement to Internal Entrapment on Suicidal Ideation Depicted in Figure 4.11

		Coeff.	SE	<i>t</i>	<i>p</i>
Intercept	i_1	6.27	1.38	4.52	<.001
X (internal entrapment)	b_1	1.53	0.20	7.65	<.001
M' (goal disengagement)	b_2	-0.04	0.14	-0.31	.75
internal entrapment X goal disengagement ($X'M'$)	b_3	0.0056	0.02	0.27	.78
$R^2 = 0.48, MSE = 21.76$					
$F(3,565) = 178.17, p < .001$					

Note: b_1 = path between X (independent variable) and Y (dependant variable), b_2 = path between M' (moderator variable) and Y (dependant variable), b_3 = interaction between X (independent variable) and M' (moderator variable) on Y (dependant variable), i_1 = the baseline value of the outcome variable (Y) when the predictors (X and M') are at zero, SE= Standard error, t = the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, p = p-value, R^2 = R-square change of the model, MSE= mean squared error, F = F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.M

Table 4.11. Results from the Regression Analysis Examining the Moderation of the Goal Disengagement to External Entrapment on Suicidal Ideation Depicted in Figure 4.12

		Coeff.	SE	<i>t</i>	<i>p</i>
Intercept	<i>i₁</i>	3.42	1.74	1.95	.0507
X (external entrapment)	<i>b₁</i>	1.90	0.24	7.71	<.001
<i>M</i> ' (goal disengagement)	<i>b₂</i>	0.13	0.17	0.76	.44
external entrapment X goal disengagement (<i>X</i> ' <i>M</i> ')	<i>b₃</i>	-0.02	0.02	-1.00	.31
<i>R</i> ² = 0.41, <i>MSE</i> = 24.99					
<i>F</i> (3,565) = 130.85, <i>p</i> <.001					

Note: *b₁*= path between X (independent variable) and Y (dependant variable), *b₂*= path between *M*' (moderator variable) and Y (dependant variable), *b₃*= interaction between X (independent variable) and *M*' (moderator variable) on Y (dependant variable), *i₁*= the baseline value of the outcome variable (Y) when the predictors (X and *M*') are at zero, *SE*= Standard error, *t*= the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, *p*= p-value, *R*²= R-square change of the model, *MSE*= mean squared error, *F*= F-statistic for the overall significance of the model, ****p*<.001, ***p*<.01, **p*<.05.

Appendix 4.N

Table 4.12. Results from the Regression Analysis Examining the Moderation of Belongingness to Internal Entrapment on Suicidal Ideation Depicted in Figure 4.13

		Coeff.	SE	<i>t</i>	<i>p</i>
Intercept	i_1	5.63	1.33	4.23	<.001
X (internal entrapment)	b_1	1.29	0.20	6.4	<.001
M' (thwarted belongingness)	b_2	0.05	0.09	0.51	.60
internal entrapment X belongingness ($X'M'$)	b_3	0.01	0.01	0.96	.33
		$R^2 = 0.49$, $MSE = 21.29$			
		$F(3,565) = 186.20$, $p < .001$			

Note: b_1 = path between X (independent variable) and Y (dependant variable), b_2 = path between M' (moderator variable) and Y (dependant variable), b_3 = interaction between X (independent variable) and M' (moderator variable) on Y (dependant variable), i_1 = the baseline value of the outcome variable (Y) when the predictors (X and M') are at zero, SE= Standard error, t = the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, p = p-value, R^2 = R-square change of the model, MSE= mean squared error, F = F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.O

Table 4.13. Results from the Regression Analysis Examining the Moderation of Belongingness to External Entrapment on Suicidal Ideation Depicted in Figure 4.14

		Coeff.	SE	t	p
Intercept	i_1	4.31	1.66	2.50	<.009**
X (external entrapment)	b_1	1.25	0.23	5.25	<.001
M' (belongingness)	b_2	0.08	0.11	0.72	.47
external entrapment X belongingness ($X'M'$)	b_3	0.01	0.01	1.18	.23
		$R^2 = 0.43, MSE = 23.8$			
		$F(3,565) = 146.81, p < .001$			

Note: b_1 = path between X (independent variable) and Y (dependant variable), b_2 = path between M' (moderator variable) and Y (dependant variable), b_3 = interaction between X (independent variable) and M' (moderator variable) on Y (dependant variable), i_1 = the baseline value of the outcome variable (Y) when the predictors (X and M') are at zero, SE= Standard error, t= the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, p= p-value, R^2 = R-square change of the model, MSE= mean squared error, F= F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.P

Table 4.14. Results from the Regression Analysis Examining the Moderation of Perceived Burdensomeness to Internal Entrapment on Suicidal Ideation Depicted in Figure 4.15

		Coeff.	SE	t	p
Intercept	i_1	5.62	0.77	7.21	<.001
X (internal entrapment)	b_1	0.62	0.11	5.51	<.001
M' (perceived burdensomeness)	b_2	0.45	0.09	4.80	<.001
internal entrapment X burdensomeness ($X'M'$)	b_3	0.01	0.01	1.73	.08
$R^2 = 0.70, MSE = 12.56$					
$F(3,565) = 446.59, p < .001$					

Note: b_1 = path between X (independent variable) and Y (dependant variable), b_2 = path between M' (moderator variable) and Y (dependant variable), b_3 = interaction between X (independent variable) and M' (moderator variable) on Y (dependant variable), i_1 = the baseline value of the outcome variable (Y) when the predictors (X and M') are at zero, SE= Standard error, t= the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, p= p-value, R^2 = R-square change of the model, MSE= mean squared error, F= F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.R

Table 4.15. Results from the Regression Analysis Examining the Moderation of Perceived Burdensomeness to External Entrapment on Suicidal Ideation Depicted in Figure 4.16

		Coeff.	SE	t	p
Intercept	i_1	4.86	0.89	5.43	<.001
X (external entrapment)	b_1	0.61	0.12	4.89	<.001
M' (perceived burdensomeness)	b_2	0.51	0.10	4.88	<.001
external entrapment X burdensomeness ($X'M'$)	b_3	0.01	0.01	1.40	.16
$R^2 = 0.68$, $MSE = 13.28$					
$F(3,565) = 412.12$, $p < .001$					

Note: b_1 = path between X (independent variable) and Y (dependant variable), b_2 = path between M' (moderator variable) and Y (dependant variable), b_3 = interaction between X (independent variable) and M' (moderator variable) on Y (dependant variable), i_1 = the baseline value of the outcome variable (Y) when the predictors (X and M') are at zero, SE= Standard error, t= the t-statistic for the significance of each coefficient, Coeff. = Beta coefficients for each variable, p= p-value, R^2 = R-square change of the model, MSE= mean squared error, F= F-statistic for the overall significance of the model, *** $p < .001$, ** $p < .01$, * $p < .05$.

Appendix 4.S

Data Screening & Data Preparation

The overall proportion of missing values was only 0.218%, which is considered negligible as it is less than 1% (Jakobsen, Gluud, Wetterslev & Winkel, 2017). In other words, out of 79,335 values, only 173 were missing (0.218 %). The complete summary of missing values can be found in **Figure 4.2** below (also see Chapter 3).

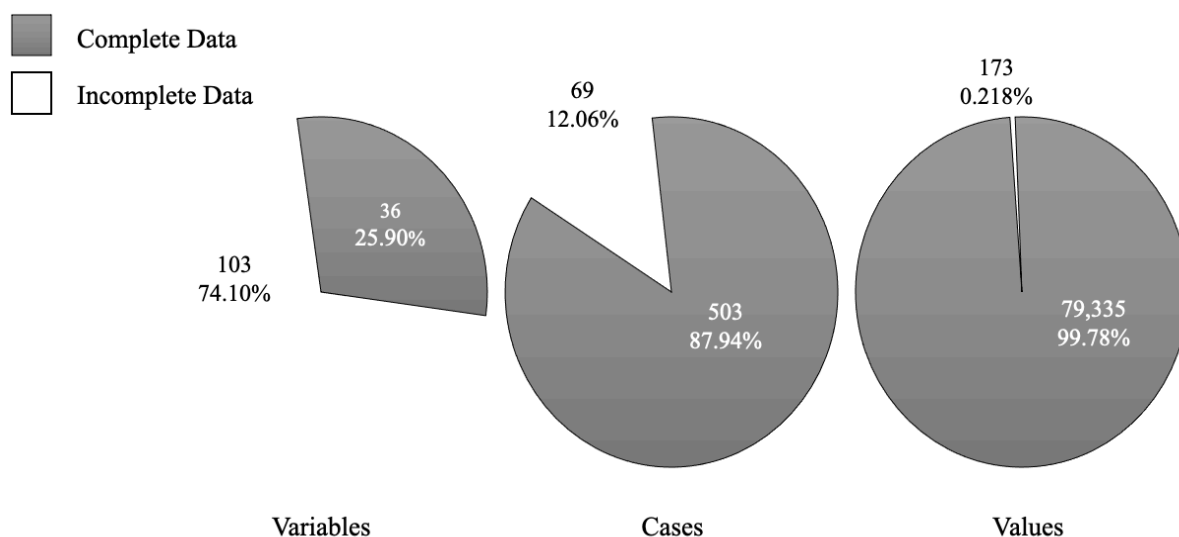


Figure 4.2. Summary of missing values.

After dealing with the missing values with expectation-maximisation method, the scales were arranged based on the question directions and reverse-coding was applied where necessary. Specific to this study, only the Suicidal Narrative Inventory had reverse items (questions 6, 19, 21). Subsequently, all potential variables based on the scales were created. We verified the accuracy of the data by comparing the expected minimum and maximum scores with the actual scores. **Table 4.1** (Appendix 4.A) presents the expected minimum and maximum scores versus the actual scores in the dataset.

Following these procedures, Test of Reliability was applied for each scale which we used, and the results were shown in **Table 4.2** (Appendix 4.B).

Multivariate outliers had been removed previously in Chapter 3.

Normality: We assessed the normality, skewness, and kurtosis using the Shapiro–Wilk test and the explore function and histograms. The data did not follow a normal distribution for all variables. Only the scores of the SNI demonstrated a close-to-normal distribution. On the other hand, suicidal ideation scores were positively skewed, while perfectionism and entrapment were negatively skewed. We kept the data as is as we planned to apply bootstrap sampling but also planned to check the data for homoscedasticity.

Homogeneity/ Homoscedasticity: Regarding homogeneity/homoscedasticity, the scatterplot (which was prepared including all the relevant variables in this chapter) and fitted line plot indicated that the data were evenly distributed on both sides of zero. Thus, we can assume that similar variances exist in the different groups being compared (the degree of error is consistent for every value of X across the distribution) (see **Figure 4.3** -Appendix 4.C).

Additivity / no multicollinearity: In order to assess multicollinearity, the variance inflation factor (VIF) should be 10 or higher (Vatcheva & Lee, 2016; Neter, Kutner, Nachtsheim, & Wasserman, 1997). Our data shows no multicollinearity (see **Figure 4.4** -Appendix 4.D). We also checked the bivariate correlations to ensure that our variables are significantly correlated to each other as expected, but none of them are perfectly correlated (1). You can find all the relevant results in the correlation table (**Table 4.3** -Appendix 4.E).

Appendix 5.A

Table 5S.2. *Participants that were deleted via the Listwise Deletion Method and their Missing Value Ratios based on the Self-Discrepancies Scale (S-DS)*

<i>n</i>	<i>Participant No</i>	<i>% of the Missing Values</i>
1	1	100
2	2	50
3	10	50
4	17	50
5	19	50
6	43	50
7	59	100
8	70	100
9	78	100
10	108	50
11	117	100
12	154	100
13	193	50
14	213	100
15	216	50
16	218	50
17	221	100
18	229	100
19	232	50
20	233	100
21	253	100
22	257	50
23	258	100
24	263	50
25	273	50
26	277	50
27	292	100
28	294	50
29	297	50
30	298	100
31	319	50

32	324	50
33	325	50
34	334	50
35	350	50
36	362	75
37	363	100
38	364	100
39	366	50
40	369	100
41	371	50
42	381	100
43	389	100
44	390	100
45	391	50
46	398	50
47	401	50
48	417	50
49	424	100
50	428	50
51	433	50
52	434	100
53	447	50
54	448	50
55	450	50
56	451	100
57	465	50
58	469	50
59	482	50
60	485	100
61	493	100
62	509	50
63	511	50
64	517	50
65	521	50
66	525	100

Note: n = column number of deleted cases, % = percentage.

Appendix 5.B

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.592	1.098		1.450	.148		
	perfectionistic strivings	-.015	.026	-.018	-.566	.572	.763	1.311
	perfectionistic concerns	.011	.017	.028	.694	.488	.484	2.064
	humiliation	.111	.036	.101	3.057	.002	.725	1.379
	defeat	.195	.050	.201	3.918	<.001	.300	3.331
	fear of dying	.444	.091	.154	4.887	<.001	.796	1.257
	entrapment total	.361	.067	.273	5.415	<.001	.310	3.223
	anxiety	.035	.117	.011	.304	.761	.561	1.781
	depression	.634	.141	.206	4.494	<.001	.374	2.673
	discrepancy total	.067	.040	.060	1.693	.091	.636	1.572

a. Dependent Variable: suicide ideation

Figure 5.3a. Beta coefficients and Variance Inflation Factors (VIF) related to the Collinearity Diagnostics.

Appendix 5.C

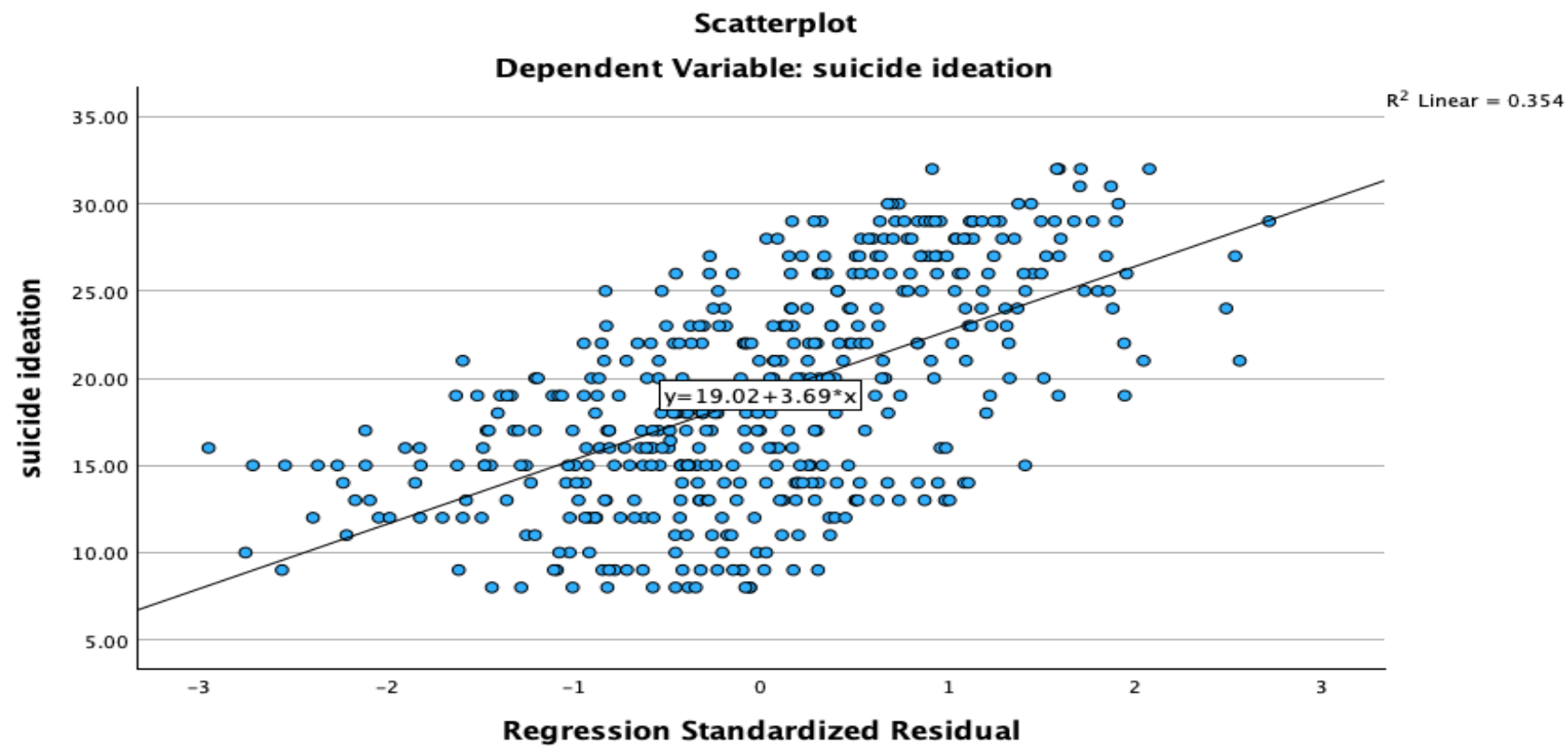


Figure 5.4. The scatterplot shows the values of the models that are compared to the residuals of the fitted values.

Appendix 5.D

Table 5.3. *Minimum and Maximum Scores of the Measures*

<i>No</i>	Questionnaires	Variables Derived from the Questionnaires	Expected Minimum-Maximum Scores	Actual Minimum-Maximum Scores in the Data
1	Suicide Crisis Inventory (SCI) (Galynker et al., 2017) (5-point Likert)	Fear of dying	0-10	2-10
2	Entrapment Scale-Short Form (E-SF) (De Beurs, Cleare, Wetherall, Eschle-Byrne, Ferguson, O'Connor & O'Connor, 2020)	Internal entrapment, external entrapment	4-20	4-20
3	Suicide Probability Scale (SPS) – suicide ideation subscale, (Cull & Gill, 1982)	Suicide ideation	8-32	8-32
4	Almost Perfect Scale-Revised (APS-R) -standards and discrepancy subscales (Slaney, Rice, Mobley, Trippi, & Ashby, 2001)	Perfectionistic strivings (personal standards), perfectionistic concerns (discrepancy)	19-133	34-133
5	Suicidal Narrative Inventory (SNI) (Cohen, Galynker et al., 2019)	Fear of humiliation and Defeat	10-50	10-50
6	The 4-Item Patient Health Questionnaire for Anxiety and Depression (PHQ-4) (Kroenke et al., 2009)	Anxiety and Depression	4-16	4-16
7	The Self-Discrepancies Scale (S-DS)	Ideal/Actual discrepancy and Ought/Actual discrepancy	4-28	4-28

Appendix 5.E

Table 5.4. *Regression Coefficients, Standard Errors, and Model Summary Information for the Defeat-Mediation Model Depicted in Figure 5.5*

		Consequent						
		<i>M</i> (defeat)			<i>Y</i> (entrapment)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X(perfectionistic concerns)	a_1	0.23	0.01	<.001	c'	0.06	0.01	<.001
<i>M</i> (defeat)		-	-	-	b_1	0.49	0.02	<.001
Constant	iM_I	1.70	1.11	.1263	i_Y	2.25	0.49	<.001
		$R^2 = 0.29$			$R^2 = 0.62$			
		$F(1,456) = 194.23, p < .001$			$F(2,455) = 385.42, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p -value, SE = Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, F = F-statistic for the overall significance of the model, ** $p < .01$, * $p < .05$, τ = significant based on bootstrapped confidence intervals.

Appendix 5.F

Table 5.5. *Regression Coefficients, Standard Errors, and Model Summary Information for the Defeat-Mediation Model Depicted in Figure 5.6*

		Consequent						
		<i>M</i> (defeat)			<i>Y</i> (total entrapment)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (actual vs ideal discrepancy)	a_1	1.11	0.87	<.001	c'	0.25	0.05	<.001
<i>M</i> (defeat)		-	-	-	b_1	0.50	0.02	<.001
Constant	iM_I	6.21	0.08	<.001	i_Y	3.48	0.48	<.001
		$R^2 = 0.26$			$R^2 = 0.62$			
		$F(1,456) = 163.41, p < .001$			$F(2,455) = 373.05, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p -value, SE = Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, F = F-statistic for the overall significance of the model, ** $p < .01$, * $p < .05$, τ = significant based on bootstrapped confidence intervals.

Appendix 5.G

Table 5.6. *Regression Coefficients, Standard Errors, and Model Summary Information for the Defeat-Mediation Model Depicted in Figure 5.7*

		Consequent						
		<i>M</i> (defeat)			<i>Y</i> (total entrapment)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (actual vs ought discrepancy)	a_1	0.95	0.08	<.001	c'	0.24	0.04	<.001
<i>M</i> (defeat)		-	-	-	b_1	0.51	0.02	<.001
Constant	iM_I	8.20	0.83	<.001	i_Y	3.55	0.46	<.001
		$R^2 = 0.20$			$R^2 = 0.62$			
		$F(1,456) = 117.73, p < .001$			$F(2,455) = 375.57, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p -value, SE = Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, F = F-statistic for the overall significance of the model, ** $p < .01$, * $p < .05$, τ = significant based on bootstrapped confidence intervals.

Appendix 5.H

Table 5.7. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation Serial Multiple Mediators Model Depicted in Figure 5.8

		Consequent										
		M_1 (defeat)			M_2 (internal entrapment)			Y (suicidal ideation)				
Antecedent		Coeff.	SE	p		Coeff.	SE	p		Coeff.	SE	p
X (actual vs ideal discrepancy)	a_1	1.11	0.087	<.001	a_2	0.15	0.03	<.001	c'	0.12	0.07	.1095
M_1 (defeat)		-	-	-	d	0.29	0.01	<.001	b_1	0.36	0.04	<.001
M_2 (internal entrapment)		-	-	-		-	-	-	b_2	0.89	0.11	<.001
Constant	iM_1	6.21	0.87	<.001	iM_2	0.83	0.28	<.003**	i_Y	5.16	0.68	<.001
		$R^2 = 0.26$				$R^2 = 0.61$				$R^2 = 0.57$		
		$F(1,456) = 163.41,$				$F(2,455) = 362.08,$				$F(3,454) = 208.94,$		
		$p < .001$				$p < .001$				$p < .001$		

Note. a_1 = path between X (independent variable) and M_1 (mediator 1). a_2 = path between X (independent variable) and M_2 (mediator 2). iM_1 = constant of the first model represents the intercepts of the regression equations of X and M_1 . iM_2 = constant of the second model represents the intercepts of the regression equations of X and M_2 . i_Y = constant of the overall model represents the intercepts of the regression equations of X, M_1 and M_2 . p = p-value. SE= Standard error. Coeff. = Beta coefficients for each variable. ** $p < .01$, * $p < .05$, τ = significant based on bootstrapped confidence intervals.

Appendix 5.I

Table 5.8. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation Serial Multiple Mediators Model Depicted in Figure 5.9

		Consequent										
		M_1 (defeat)			M_2 (external entrapment)			Y (suicidal ideation)				
Antecedent		Coeff.	SE	p		Coeff.	SE	p		Coeff.	SE	p
X (actual vs ideal discrepancy)	a_1	1.11	0.08	<.001	a_2	0.10	0.03	=.001**	c'	0.18	0.07	.017*
M_1 (defeat)		-	-	-	d	0.21	0.01	<.001	b_1	0.46	0.04	<.001
M_2 (external entrapment)		-	-	-		-	-	-	b_2	0.75	0.11	<.001
Constant	iM_1	6.21	0.87	<.001	iM_2	2.64	0.28	<.001	i_Y	3.89	0.75	<.001
		$R^2 = 0.26$				$R^2 = 0.46$				$R^2 = 0.56$		
		$F(1,456) = 163.41,$				$F(2,455) = 195.33,$				$F(3,454) = 194.42,$		
		$p < .001$				$p < .001$				$p < .001$		

Note. a_1 = path between X (independent variable) and M_1 (mediator 1). a_2 = path between X (independent variable) and M_2 (mediator 2). iM_1 = constant of the first model represents the intercepts of the regression equations of X and M_1 . iM_2 = constant of the second model represents the intercepts of the regression equations of X and M_2 . i_Y = constant of the overall model represents the intercepts of the regression equations of X, M_1 and M_2 . p = p-value. SE= Standard error. Coeff. = Beta coefficients for each variable. ** $p < .01$, * $p < .05$, τ = significant based on bootstrapped confidence intervals.

Appendix 5.J

Table 5.9. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation Serial Multiple Mediators Model Depicted in Figure 5.11

		Consequent										
		M_1 (defeat)			M_2 (internal entrapment)			Y (suicidal ideation)				
Antecedent		Coeff.	SE	p		Coeff.	SE	p		Coeff.	SE	p
X (actual vs ought discrepancy)	a_1	0.95	0.08	<.001	a_2	0.12	0.02	<.001	c'	0.25	0.07	<.001
M_1 (defeat)		-	-	-	d	0.30	0.01	<.001	b_1	0.35	0.04	<.001
M_2 (internal entrapment)		-	-	-		-	-	-	b_2	0.85	0.10	<.001
Constant	iM_1	8.20	0.83	<.001	iM_2	1.02	0.27	<.001	i_Y	4.51	0.65	<.001
		$R^2 = 0.20$				$R^2 = 0.60$				$R^2 = 0.58$		
		$F(1,456) = 117.73,$				$F(2,455) = 353.29,$				$F(3,454) = 217.42,$		
		$p < .001$				$p < .001$				$p < .001$		

Note. a_1 = path between X (independent variable) and M_1 (mediator 1). a_2 = path between X (independent variable) and M_2 (mediator 2). iM_1 = constant of the first model represents the intercepts of the regression equations of X and M_1 . iM_2 = constant of the second model represents the intercepts of the regression equations of X and M_2 . i_Y = constant of the overall model represents the intercepts of the regression equations of X, M_1 and M_2 . p = p-value. SE= Standard error. Coeff. = Beta coefficients for each variable. ** $p < .01$, * $p < .05$, τ = significant based on bootstrapped confidence intervals.

Appendix 5.K

Table 5.10. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation Serial Multiple Mediators Model Depicted in Figure 5.12

		Consequent										
		M_1 (defeat)			M_2 (external entrapment)			Y (suicidal ideation)				
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (actual vs ought discrepancy)	a_1	0.95	0.08	<.001	a_2	0.12	0.02	<.001	c'	0.27	0.07	<.001
M_1 (defeat)		-	-	-	d	0.21	0.01	<.001	b_1	0.46	0.04	<.001
M_2 (external entrapment)		-	-	-		-	-	-	b_2	0.71	0.11	<.001
Constant	iM_1	8.20	0.83	<.001	iM_2	2.52	0.26	<.001	i_Y	3.59	0.72	<.001
		$R^2=0.20$				$R^2=0.47$				$R^2=0.57$		
		$F(1,456)=117.73,$				$F(2,455)=203.31,$				$F(3,454)=200.73,$		
		$p<.001$				$p<.001$				$p<.001$		

Note. a_1 = path between X (independent variable) and M_1 (mediator 1). a_2 = path between X (independent variable) and M_2 (mediator 2). iM_1 = constant of the first model represents the intercepts of the regression equations of X and M_1 . iM_2 = constant of the second model represents the intercepts of the regression equations of X and M_2 . i_Y = constant of the overall model represents the intercepts of the regression equations of X, M_1 and M_2 . p = p -value. SE = Standard error. Coeff. = Beta coefficients for each variable. ** $p < .01$, * $p < .05$, τ = significant based on bootstrapped confidence intervals.

Appendix 5.L



University of Glasgow

Investigating the Roles of Self-discrepancies and Perfectionism in Suicide Risk

Page 1: Thank you so much for considering taking part in this research project.

This study aims to explore sensitive topics and so it is crucial you feel comfortable about taking part and with sharing your experiences. This information sheet is to help you to make an informed decision about whether you want to participate. It will give you an overview of the purpose of the research, what your participation will involve and your right to withdraw at any time. Given the emotional nature of the research, you may have further questions or concerns prior to taking part. Please feel free to contact me to discuss anything in more detail.

My email is: e.unlu.1@research.gla.ac.uk

This study will be open for responses between October 2023 and February 2024. Please take your time reading this information sheet, don't feel rushed and remember, there is no obligation to take part. At the end of the survey, there will be another separate link that leads you to a prize draw **(for £200 worth of an Amazon Voucher)** asking your contact information and name you wish to be known as (these will also be confidential), if you would like to join. If you want to join the draw, your responses and demographic information will remain anonymous.

- [Participant Information Sheet](#)
- [Privacy Notice & Consent Clause](#)
- [Accessing Support](#)

Thank you & Best wishes,

Page 2: Information for Participants

What is the purpose of this study? The present research aims to investigate the relationship between self-discrepancies (between our ideal-selves, ought-selves, and actual representations), perfectionistic tendencies, and suicide risk.

Why have I been invited to participate? You responded to an advert about the research, and you are an adult living in the UK.

Do I have to take part? You are under no obligation to take part in this study; doing so is completely your own decision.

What will happen to me if I take part? For this study, you will be required to complete an online questionnaire, which will take approximately **15-20 minutes**. You can complete this on any internet-enabled device in a place and time of your choosing. You will need to complete the survey in one sitting as answers cannot be saved as you go. So please start when you think you will have the time to complete it.

What are the possible benefits of taking part? This study aims to provide a more detailed understanding of the factors associated with suicide risk. It is also hoped that this research will inform the researchers for enhancing psychological models regarding suicide risk. Findings will be made available to the general public and shared with key stakeholders involved in suicide prevention in the UK.

What are the possible disadvantages and risks of taking part? Given the nature of the study, some of the questions may be upsetting especially if you are currently experiencing suicidal feelings. During the survey, we will provide contact details of organisations who could provide support for you - these are also listed at the bottom of this information sheet. Also, please remember you can withdraw from the study at any stage (without giving a reason) and you do not have to answer any questions that you do not wish to.

Will my taking part in this study be kept confidential? All the responses that you provide will be kept strictly confidential. No identifying information will be collected beyond simple demographic data, and you cannot be recognised from your responses. All data will be collected in electronic format and will be stored on secure password-protected computers. No one outside of the research team or appropriate governance staff will be able to find out your responses. At the end of the survey, there will be another separate link that leads you to a prize draw asking your contact information and name you wish to be known as (these will also be confidential), if you would like to join. If you want to join the draw, your responses and demographic information will remain anonymous.

What will happen to my data? All responses to the questionnaire will be stored in a password protected Microsoft Excel spreadsheet, in a password-protected ".ris" file, and maybe in an RStudio script securely on the University of Glasgow network. All study data will be held in accordance with the General Data Protection Regulation (2018). Nobody outside of the research team or the lab members of the SBRL will have access to this data, and it will be stored in archiving facilities in line with the University of Glasgow retention policy of up to 10 years. After this period, further retention may be agreed, or your data will be securely destroyed in accordance with the relevant standard procedures.

What will happen to the results of the study? The results of the study will be used for the researcher's PhD research, shared with people involved in suicide prevention research work and submitted for publication in peer-reviewed journals.

Who is organising and funding the study? The study is being organised by Elvan Unlu (principal researcher) and supervised by Professor Rory O'Connor & Dr Jack Melson. It is not being funded by any company, charity, organisation, or research council.

Who has reviewed the study? The study has been reviewed by the College of Medical, Veterinary & Life Sciences Ethics Committee.

Contact for Further Information. If you have any questions or require more information, please contact Elvan Unlu at e.unlu.1@research.gla.ac.uk.

Please also read the Participant Information Sheet for more detail.

Thank you for taking the time to read this information sheet.

Page 3: Consent

- I confirm that I have read and understood the Participant Information Sheet & Privacy Notices.
- I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my legal rights being affected.
- I agree that other researchers can have access to my anonymised data, with appropriate scientific and ethical approval, and agree to preserve the confidentiality of this information as set out in this form.
- I confirm that I agree to the way my data will be collected and processed, and that data will be stored for up to 10 years in university archiving facilities in accordance with relevant Data Protection policies and regulations.
- I understand that all data and information I provide will be kept confidential and will be seen only by study researchers and regulators whose job it is to check the work of researchers.
- I agree that my name, contact details and data described in the information sheet will be kept for the purposes of this research project.
- I understand that if I withdraw from the study, my data collected up to that point will be retained and used for the remainder of the study.
- I am **18 years of age or over**.

Please choose the relevant answer whether you would like to participate. ☐ *Required*

- ☐ Yes, I agree to take part in the study.
- ☐ No, I do not agree to take part in the study.

Page 4: Background Information

What is your age?

What gender do you identify as?

- ☐ Female
- ☐ Male
- ☐ Nonbinary/Genderqueer
- ☐ Other
- ☐ Prefer not to say

What is your ethnicity?

- ☐ White (British, Irish, Scottish, Welsh)/ Any other White Background
- ☐ Mixed or Multiple Ethnicity/ White and Black Caribbean/ White and Black African/ White and Asian/ Any other Mixed Background
- ☐ Asian/ Asian British/ Indian/ Pakistani/ Bangladeshi/ Any other Asian Background
- ☐ Black or Black British/ Black Caribbean/ Black African/ Any other Black Background
- ☐ Chinese or Chinese British/ Any other Chinese Background
- ☐ Arab or Arab British/ Any other Arab Background
- ☐ Other Background

If you selected Other, please specify:

Please enter a response that only contains letters.

What country do you live in?

What is your relationship status?

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Separated
- ☐ In a relationship
- ☐ Widowed
- ☐ Other

If you selected Other, please specify:

Please enter a response that only contains letters.

What is your level of education?

- ☐ I did not complete school
- ☐ Standard grades / GCSE / O Levels
- ☐ Higher / A Levels
- ☐ HNC / HND / NQ / SVQ / Other vocational qualification
- ☐ Undergraduate Degree
- ☐ Postgraduate Degree

What is your employment status?

- ☐ Employed full time
- ☐ Employed part time
- ☐ Unemployed and seeking work
- ☐ Unemployed due to disability/incapacity
- ☐ Stay at home parent
- ☐ Retired
- ☐ Student

Have you ever been diagnosed with a mental health issue?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

If yes and happy to do so, could you state your diagnosis please?

Please enter a response that only contains letters.

The following items are designed to measure attitudes people have toward themselves, their performance, and toward others. There are no right or wrong answers. Please select the items reflecting your views the most by using your first impression, do not spend too much time on individual items in responding.

Please don't select more than 1 answer(s) per row.

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I have high standards for my performance at work or at school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I often feel frustrated because I can't meet my goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. If you don't expect much out of yourself, you will never succeed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. My best just never seems to be good enough for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I have high expectations for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I rarely live up to my high standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Doing my best never seems to be enough.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I set very high standards for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. I am never satisfied with my accomplishments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I expect the best from myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I often worry about not measuring up to my own expectations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. My performance rarely measures up to my standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I am not satisfied even when I know I have done my best.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I try to do my best at everything I do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I am seldom able to meet my own high standards of performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I am hardly ever satisfied with my performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I hardly ever feel that what I've done is good enough.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I have a strong need to strive for excellence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. I often feel disappointment after completing a task because I know I could have done better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Please read the following statements and rate how true the statement is for you, using the following scale. 1: not at all true, 2: a little bit true 3: somewhat true, 4: mostly true, 5: extremely true

Please don't select more than 1 answer(s) per row.

	Not at all true	A little bit true	Somewhat true	Mostly true	Extremely true
I feel that I have given up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel that my confidence has been knocked out of me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel down and out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel defeated by life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel completely knocked out of action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please read the following statements and rate how often these statements are true for you.

Please don't select more than 1 answer(s) per row.

	None or a little of the time	Some of the time	Good part of the time	Most or all of the time
1. I think of things too bad to share with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. In order to punish others, I think of suicide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I feel I need to punish myself for things I have done or thought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I feel the world is not worth continuing to live in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I feel people would be better off if I were dead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I feel it would be less painful to die than to keep living the way things are	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I have thought of how to do myself in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I think of suicide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In this section, we want you to read the questions and select one option for each statement to indicate how much it describes you, recently?

Please don't select more than 1 answer(s) per row.

	Not at all like me	A little bit like me	Moderately like me	Quite a bit like me	Extremely like me
1. I often have the feeling that I would just like to run away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I feel powerless to change things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I feel trapped inside myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I feel I'm in a deep hole I can't get out of.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Think for a moment and choose the 6 features you would like to possess ideally and 6 of those you definitely don't want to have (whether or not you think to possess them).

- ☐ Aggressive
- ☐ Agreeable
- ☐ Ambitious
- ☐ Artist
- ☐ Authoritarian
- ☐ Slanderous
- ☐ Benevolent
- ☐ Brilliant
- ☐ Calculating
- ☐ Calm
- ☐ Careful
- ☐ Childish
- ☐ Clair-sighted
- ☐ Clever
- ☐ Comic
- ☐ Compulsive
- ☐ Conformist
- ☐ Contemptuous
- ☐ Cordial
- ☐ Crafty
- ☐ Creative
- ☐ Credulous
- ☐ Cultivated
- ☐ Curious
- ☐ Deceitful
- ☐ Delicate
- ☐ Disagreeable
- ☐ Disdainful
- ☐ Discreet
- ☐ Disinterested

☐ Disorderly
☐ Disrespectful
☐ Domineering
☐ Effective
☐ Energetic
☐ Entertaining
☐ Enthusiastic
☐ Envious
☐ Exuberant
☐ Fashionable
☐ Frivolous
☐ Funny
☐ Grateful
☐ Hard
☐ Helpful
☐ Humble
☐ Honest
☐ Imitator
☐ Independent
☐ Indiscreet
☐ Ingenious
☐ Insensitive
☐ Kind
☐ Lazy
☐ Liar
☐ Lively
☐ Logic
☐ Loudmouth
☐ Lucid
☐ Methodical
☐ Moderate
☐ Modern
☐ Modest
☐ Moral

☐ Nasty
☐ Neurotic
☐ Nice
☐ Nonchalant
☐ Normal
☐ Obedient
☐ Obstinate
☐ Open-minded
☐ Painful
☐ Perceptive
☐ Pessimistic
☐ Philosopher
☐ Reliable
☐ Radical
☐ Refined
☐ Reasonable
☐ Shabby
☐ Selfish
☐ Sensible
☐ Sentimental
☐ Serious
☐ Shy
☐ Simple
☐ Solitary
☐ Spiritual
☐ Spiteful
☐ Stable
☐ Stingy
☐ Submissive
☐ Sweet
☐ Tolerant
☐ Ungracious
☐ Uncultivated
☐ Unmethodical

Ideal Self: For each desirable feature, indicate the extent to which you possess these 6 features - the ideal being 100%. For example, if you have a generosity ideal and that you think to actually possess this characteristic at 80% of your ideal, please choose "80%-100%" option.

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I feel very close to this ideal	2	3	4 I feel moderately close to this ideal	5	6	7 I feel very far away to this ideal
How big is globally the discrepancy between this ideal and the way you perceive yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I don't feel distress about this discrepancy	2	3	4 I feel a moderate distress about this discrepancy	5	6	7 I feel an important distress about this discrepancy
How strong is the distress caused by this discrepancy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ideal Self: For each **undesirable** feature, indicate the extent to which you possess this feature -the ideal being 0%. For example, if you dislike stinginess and that you think to possess this feature at 20%, please choose "10%-20%" option.

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I feel very close to this ideal	2	3	4 I feel moderately close to this ideal	5	6	7 I feel very far away to this ideal
How big is globally the discrepancy between this ideal and the way you perceive yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I don't feel distress about this discrepancy	2	3	4 I feel a moderate distress about this discrepancy	5	6	7 I feel an important distress about this discrepancy
How strong is the distress caused by this discrepancy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Think for a moment and choose the 6 features that are expected from you by your relatives (regardless of whether or not you think you possess them).

☐ Calm
☐ Careful
☐ Childish
☐ Clair-sighted
☐ Clever
☐ Comic
☐ Compulsive
☐ Conformist
☐ Contemptuous
☐ Cordial
☐ Crafty
☐ Creative
☐ Credulous
☐ Cultivated
☐ Curious
☐ Deceitful
☐ Delicate
☐ Disagreeable
☐ Disdainful
☐ Discreet
☐ Disinterested
☐ Disorderly
☐ Disrespectful
☐ Domineering
☐ Effective
☐ Energetic
☐ Entertaining
☐ Enthusiastic
☐ Envious
☐ Exuberant
☐ Fashionable
☐ Frivolous
☐ Funny
☐ Grateful

☐ Hard
☐ Helpful
☐ Humble
☐ Honest
☐ Imitator
☐ Independent
☐ Indiscreet
☐ Ingenious
☐ Insensitive
☐ Kind
☐ Lazy
☐ Liar
☐ Lively
☐ Logic
☐ Loudmouth
☐ Lucid
☐ Methodical
☐ Moderate
☐ Modern
☐ Modest
☐ Moral
☐ Nasty
☐ Neurotic
☐ Nice
☐ Nonchalant
☐ Normal
☐ Obedient
☐ Obstinate
☐ Open minded
☐ Painful
☐ Perceptive
☐ Pessimistic
☐ Philosopher
☐ Reliable

☐ Radical
☐ Refined
☐ Reasonable
☐ Shabby
☐ Selfish
☐ Sensible
☐ Sentimental
☐ Serious
☐ Shy
☐ Simple
☐ Solitary
☐ Spiritual
☐ Spiteful
☐ Stable
☐ Stingy
☐ Submissive
☐ Sweet
☐ Tolerant
☐ Ungracious
☐ Uncultivated
☐ Unmethodical
☐ Unpredictable
☐ Unreliable
☐ Unwise
☐ Vain
☐ Vivacious
☐ Wise

Ought Self: For each desirable feature (people in my close circle think that I should have), indicate the extent to which you possess these 6 features -the ideal being 100%. For example, if you have a generosity ideal and that you think to actually possess this characteristic at 80% of your ideal, please choose "80%-100%" option.

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I feel very close to this ideal	2	3	4 I feel moderately close to this ideal	5	6	7 I feel very far away to this ideal
How big is globally the discrepancy between this ought-self and the way you perceive yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I don't feel distress about this discrepancy	2	3	4 I feel a moderate distress about this discrepancy	5	6	7 I feel an important distress about this discrepancy
How strong is the distress caused by this discrepancy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ought Self: For each **undesirable** feature (people in my close circle think that I should not have), indicate the extent to which you possess this feature -the ideal being 0%. For example, if you dislike stinginess and that you think to possess this feature at 20%, please choose "10%-20%" option.

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I feel very close to this ideal	2	3	4 I feel moderately close to this ideal	5	6	7 I feel very far away to this ideal
How big is globally the discrepancy between this ought-self and the way you perceive yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I don't feel distress about this discrepancy	2	3	4 I feel a moderate distress about this discrepancy	5	6	7 I feel an important distress about this discrepancy
How strong is the distress caused by this discrepancy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Accessing Support

Thinking about suicide can be painful and difficult. If you are currently having suicidal thoughts and feelings support are available from several organisations including:

NHS. You can call the NHS support line on Tel: 111 or visit their website: www.nhs24.com

•

Samaritans. The Samaritans is a confidential emotional support line for people who are experiencing feelings of distress or despair. They are available 24 hours a day on Tel: 08457 90 90 90 and 116 123 or visit www.samaritans.org.uk

CALM. CALM (campaign against living miserably) is a registered charity, which exists to prevent male suicide in the UK. Their helpline is free, anonymous, and confidential. It is open 7 days a week from 5 p.m. to midnight. Call 0800 58 58 58 / Email info@thecalmzone.net / Webchat www.thecalmzone.net/help/webchat/

1. SUPPORT FOR PEOPLE EXPERIENCING SUICIDAL THOUGHTS AND FEELINGS.

At some time in all of our lives, we feel down, depressed or low. If you are feeling down or are worried about something and would like to speak to someone, please see the list of organisations below. You may also wish to contact your GP or another healthcare professional.

If you think your life or someone's life is in danger you should visit an emergency department or call an ambulance by dialling 999.

NHS 24. Health Information and Self Care Advice

NHS 24 provides comprehensive up-to-date health information and self-care advice. If your GP surgery is closed and you can't wait until it opens, you can call NHS 24. They will direct you to the right care for you or the person you are calling for. This may be to your local Health Board's out of hours services, Accident and Emergency department, or the Ambulance Service. If appropriate, they may recommend some steps you can take to look after yourself at home.

<https://www.nhs.uk> - Tel: 111

Samaritans

Samaritans is a support service available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair, including those which may lead to suicide.

<https://www.samaritans.org/> - Tel: 08457 90 90 90 & **116 123 (from everywhere)**

CALM (campaign against living miserably)

CALM is leading a movement against suicide, with a particular focus on men who are often more at risk. They have a national helpline, webchat and online resources for support

www.thecalmzone.net Helpline 0800 58 58 58 - London 080 802 58 58 OPEN 7 days a week 17.00-00.00

Email info@thecalmzone.net - Webchat www.thecalmzone.net/help/webchat/

PAPYRUS

This is a national charity which helps to stop young suicide. They run HOPELineUK. HOPELineUK give practical advice and information to: children, teenagers and young people up to the age of 35 who are worried about how they are feeling, and anyone who is concerned about a young person.

<https://www.papyrus-uk.org> - Telephone: 0800 068 41 41 (open Mon-Fri: 10am to 10pm, weekends: 2pm to 10pm & bank holidays: 2pm to 5pm) - SMS: 07786 209697 - Email: pat@papyrus-uk.org

The Mix

They offer a free, confidential helpline service for young people under 25.

Telephone: 0808 808 4994 (Open 11am – 11pm 7 days a week) E-mail: www.getconnected.org.uk/email-us/

Webchat: [through the website: www.getconnected.org.uk](http://www.getconnected.org.uk)

Men's Minds Matter

Men's Minds Matter is a not-for-profit organisation dedicated to the prevention of male suicide by building psychological resilience and emotional strength. The website has many resources and guides relating to male suicide including anger, stress, depression and how to support a man in crisis.

Website: <https://www.mensmindsmatter.org/>

Andy's Club

Andy's Club are talking clubs for men. They have numerous clubs across the country and a national online group for those outside of current club catchment areas.

Website: <https://andysmanclub.co.uk/>

2. ADDITIONAL SUPPORT LINES**Alcohol Change**

Alcohol Change UK is a UK alcohol charity. Their website links to a wide range of support services should you wish to speak to or get advice about your drinking.
<https://alcoholchange.org.uk/>

Smokeline

Smokeline is Scotland's national stop smoking helpline, open every day from 8am-10pm. They have helped thousands of people and can help you too. Smokeline advisers can guide you through what's helped other smokers, and help you work out what's most likely to work for you.

<http://www.canstopsmoking.com/> - Tel: 0800 848 84 84

National Debtline

Provides free, independent, confidential advice on a self-help basis. You can contact them over the telephone, by e-mail or letter.

www.nationaldebtline.org - Telephone: 0808 808 4000 Monday to Friday 9am-8pm and Saturday 9.30am-1pm

Email: visit website to use email contact form

Switchboard – LGBT + Helpline

Switchboard gives practical and emotional support for lesbian, gay, bisexual or transgender people. You can talk to them about any issue.

Webchat: through the website - www.switchboard.lgbt - Telephone: 0300 330 0630 (open 10am – 11pm)

E-mail: chris@switchboard.lgbt

3. SUPPORT FOR PEOPLE BEREAVED BY SUICIDE. Survivors of Bereavement by Suicide (SOBS)

SOBS offers support for those bereaved or affected by suicide through a helpline answered by trained volunteers who have been bereaved by suicide and a network of local support groups.

www.uk-sobs.org.uk / Helpline 0300 111 5065 Everyday 9.00-21.00 / Email sobs.support@hotmail.com

Help is at Hand

Produced by the Department of Health, this is a resource for people bereaved by suicide and other sudden, traumatic death in England and Wales. The booklet can be read online at:

www.supportaftersuicide.org.uk/support-guides/help-is-at-hand/ or printed copies can be ordered

by phoning 0300 123 1002 quoting 2901502/Help is at Hand.

The Compassionate Friends

This service supports bereaved parents and their families. They have a Shadow of Suicide (SOS) group that can put parents in touch with other parents who have lost a child to suicide.

Telephone: 0345 123 2304 (10am-4pm & 7pm-10pm daily) / Email: helpline@tcf.org.uk / Website: www.tcf.org.uk

Cruse Bereavement Care

Cruse offer free, confidential help to bereaved people.

Telephone: 0844 477 9400 (9.30am-5pm, Monday-Friday – excludes bank holidays, with extended hours until 8pm Tuesdays, Wednesdays and Thursdays) / Email: helpline@cruse.org.uk / Website: www.cruse.org.uk

Final Page

End of questions! Thank you for your participation. Your time and views are extremely appreciated and will help us to better understand suicide risk. If you haven't already done so, please save a copy of the following study documents, should you wish to refer to them at a later point, or wish to discuss any of the topics of the study.

[Consent Form & Privacy Notice](#)

[Participant Information Sheet](#)

[Support Services Sheet](#)

As a thank you for your time, we would like to invite you to enter our prize draw for **£200 worth of an Amazon Voucher**.

To enter the prize draw please [click here](#).

We wish you safe and healthy days to come!

Suicidal Behaviour Research Laboratory



University of Glasgow

Investigating the Roles of Self-discrepancies and Perfectionism in Suicide Risk

Page 1: Thank you so much for considering taking part in this research project.

This study aims to explore sensitive topics and so it is crucial you feel comfortable about taking part and with sharing your experiences. This information sheet is to help you to make an informed decision about whether you want to participate. It will give you an overview of the purpose of the research, what your participation will involve and your right to withdraw at any time. Given the emotional nature of the research, you may have further questions or concerns prior to taking part. Please feel free to contact me to discuss anything in more detail.

My email is: e.unlu.1@research.gla.ac.uk

This study will be open for responses between October 2023 and February 2024. Please take your time reading this information sheet, don't feel rushed and remember, there is no obligation to take part. At the end of the survey, there will be another separate link that leads you to a prize draw (**for £200 worth of an Amazon Voucher**) asking your contact information and name you wish to be known as (these will also be confidential), if you would like to join. If you want to join the draw, your responses and demographic information will remain anonymous.

- [Participant Information Sheet](#)
- [Privacy Notice & Consent Clause](#)
- [Accessing Support](#)

Thank you & Best wishes,

Page 2: Information for Participants

What is the purpose of this study? The present research aims to investigate the relationship between self-discrepancies (between our ideal-selves, ought-selves, and actual representations), perfectionistic tendencies, and suicide risk.

Why have I been invited to participate? You responded to an advert about the research, and you are an adult living in the UK.

Do I have to take part? You are under no obligation to take part in this study; doing so is completely your own decision.

What will happen to me if I take part? For this study, you will be required to complete an online questionnaire, which will take approximately **15-20 minutes**. You can complete this on any internet-enabled device in a place and time of your choosing. You will need to complete the survey in one sitting as answers cannot be saved as you go. So please start when you think you will have the time to complete it.

What are the possible benefits of taking part? This study aims to provide a more detailed understanding of the factors associated with suicide risk. It is also hoped that this research will inform the researchers for enhancing psychological models regarding suicide risk. Findings will be made available to the general public and shared with key stakeholders involved in suicide prevention in the UK.

What are the possible disadvantages and risks of taking part? Given the nature of the study, some of the questions may be upsetting especially if you are currently experiencing suicidal feelings. During the survey, we will provide contact details of organisations who could provide support for you - these are also listed at the bottom of this information sheet. Also, please remember you can withdraw from the study at any stage (without giving a reason) and you do not have to answer any questions that you do not wish to.

Will my taking part in this study be kept confidential? All the responses that you provide will be kept strictly confidential. No identifying information will be collected beyond simple demographic data, and you cannot be recognised from your responses. All data will be collected in electronic format and will be stored on secure password-protected computers. No one outside of the research team or appropriate governance staff will be able to find out your responses. At the end of the survey, there will be another separate link that leads you to a prize draw asking your contact information and name you wish to be known as (these will also be confidential), if you would like to join. If you want to join the draw, your responses and demographic information will remain anonymous.

What will happen to my data? All responses to the questionnaire will be stored in a password protected Microsoft Excel spreadsheet, in a password-protected ".ris" file, and maybe in an RStudio script securely on the University of Glasgow network. All study data will be held in accordance with the General Data Protection Regulation (2018). Nobody outside of the research team or the lab members of the SBRL will have access to this data, and it will be stored in archiving facilities in line with the University of Glasgow retention policy of up to 10 years. After this period, further retention may be agreed, or your data will be securely destroyed in accordance with the relevant standard procedures.

What will happen to the results of the study? The results of the study will be used for the researcher's PhD research, shared with people involved in suicide prevention research work and submitted for publication in peer-reviewed journals.

Who is organising and funding the study? The study is being organised by Elvan Unlu (principal researcher) and supervised by Professor Rory O'Connor & Dr Jack Melson. It is not being funded by any company, charity, organisation, or research council.

Who has reviewed the study? The study has been reviewed by the College of Medical, Veterinary & Life Sciences Ethics Committee.

Contact for Further Information. If you have any questions or require more information, please contact Elvan Unlu at e.unlu.1@research.gla.ac.uk.

Please also read the Participant Information Sheet for more detail.

Thank you for taking the time to read this information sheet.

Page 3: Consent

- I confirm that I have read and understood the Participant Information Sheet & Privacy Notices.
- I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my legal rights being affected.
- I agree that other researchers can have access to my anonymised data, with appropriate scientific and ethical approval, and agree to preserve the confidentiality of this information as set out in this form.
- I confirm that I agree to the way my data will be collected and processed, and that data will be stored for up to 10 years in university archiving facilities in accordance with relevant Data Protection policies and regulations.
- I understand that all data and information I provide will be kept confidential and will be seen only by study researchers and regulators whose job it is to check the work of researchers.
- I agree that my name, contact details and data described in the information sheet will be kept for the purposes of this research project.
- I understand that if I withdraw from the study, my data collected up to that point will be retained and used for the remainder of the study.
- I am **18 years of age or over**.

Please choose the relevant answer whether you would like to participate. ☐ *Required*

- ☐ Yes, I agree to take part in the study.
- ☐ No, I do not agree to take part in the study.

Page 4: Background Information

What is your age?

What gender do you identify as?

- ☐ Female
- ☐ Male
- ☐ Nonbinary/Genderqueer
- ☐ Other
- ☐ Prefer not to say

What is your ethnicity?

- ☐ White (British, Irish, Scottish, Welsh)/ Any other White Background
- ☐ Mixed or Multiple Ethnicity/ White and Black Caribbean/ White and Black African/ White and Asian/ Any other Mixed Background
- ☐ Asian/ Asian British/ Indian/ Pakistani/ Bangladeshi/ Any other Asian Background
- ☐ Black or Black British/ Black Caribbean/ Black African/ Any other Black Background
- ☐ Chinese or Chinese British/ Any other Chinese Background
- ☐ Arab or Arab British/ Any other Arab Background
- ☐ Other Background

If you selected Other, please specify:

Please enter a response that only contains letters.

What country do you live in?

What is your relationship status?

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Separated
- ☐ In a relationship
- ☐ Widowed
- ☐ Other

If you selected Other, please specify:

Please enter a response that only contains letters.

What is your level of education?

- ☐ I did not complete school
- ☐ Standard grades / GCSE / O Levels
- ☐ Higher / A Levels
- ☐ HNC / HND / NQ / SVQ / Other vocational qualification
- ☐ Undergraduate Degree
- ☐ Postgraduate Degree

What is your employment status?

- ☐ Employed full time
- ☐ Employed part time
- ☐ Unemployed and seeking work
- ☐ Unemployed due to disability/incapacity
- ☐ Stay at home parent
- ☐ Retired
- ☐ Student

Have you ever been diagnosed with a mental health issue?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

If yes and happy to do so, could you state your diagnosis please?

Please enter a response that only contains letters.

The following items are designed to measure attitudes people have toward themselves, their performance, and toward others. There are no right or wrong answers. Please select the items reflecting your views the most by using your first impression, do not spend too much time on individual items in responding.

Please don't select more than 1 answer(s) per row.

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I have high standards for my performance at work or at school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I often feel frustrated because I can't meet my goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. If you don't expect much out of yourself, you will never succeed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. My best just never seems to be good enough for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I have high expectations for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I rarely live up to my high standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Doing my best never seems to be enough.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I set very high standards for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. I am never satisfied with my accomplishments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I expect the best from myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I often worry about not measuring up to my own expectations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. My performance rarely measures up to my standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I am not satisfied even when I know I have done my best.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I try to do my best at everything I do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I am seldom able to meet my own high standards of performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I am hardly ever satisfied with my performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I hardly ever feel that what I've done is good enough.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I have a strong need to strive for excellence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. I often feel disappointment after completing a task because I know I could have done better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Please read the following statements and rate how true the statement is for you, using the following scale. 1: not at all true, 2: a little bit true 3: somewhat true, 4: mostly true, 5: extremely true

Please don't select more than 1 answer(s) per row.

	Not at all true	A little bit true	Somewhat true	Mostly true	Extremely true
I feel that I have given up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel that my confidence has been knocked out of me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel down and out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel defeated by life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel completely knocked out of action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please read the following statements and rate how often these statements are true for you.

Please don't select more than 1 answer(s) per row.

	None or a little of the time	Some of the time	Good part of the time	Most or all of the time
1. I think of things too bad to share with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. In order to punish others, I think of suicide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I feel I need to punish myself for things I have done or thought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I feel the world is not worth continuing to live in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I feel people would be better off if I were dead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I feel it would be less painful to die than to keep living the way things are	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I have thought of how to do myself in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I think of suicide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In this section, we want you to read the questions and select one option for each statement to indicate how much it describes you, recently?

Please don't select more than 1 answer(s) per row.

	Not at all like me	A little bit like me	Moderately like me	Quite a bit like me	Extremely like me
1. I often have the feeling that I would just like to run away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I feel powerless to change things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I feel trapped inside myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I feel I'm in a deep hole I can't get out of.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Think for a moment and choose the 6 features you would like to possess ideally and 6 of those you definitely don't want to have (whether or not you think to possess them).

- ☐ Aggressive
- ☐ Agreeable
- ☐ Ambitious
- ☐ Artist
- ☐ Authoritarian
- ☐ Slanderous
- ☐ Benevolent
- ☐ Brilliant
- ☐ Calculating
- ☐ Calm
- ☐ Careful
- ☐ Childish
- ☐ Clair-sighted
- ☐ Clever
- ☐ Comic
- ☐ Compulsive
- ☐ Conformist
- ☐ Contemptuous
- ☐ Cordial
- ☐ Crafty
- ☐ Creative
- ☐ Credulous
- ☐ Cultivated
- ☐ Curious
- ☐ Deceitful
- ☐ Delicate
- ☐ Disagreeable
- ☐ Disdainful
- ☐ Discreet
- ☐ Disinterested

- ☐ Disorderly
- ☐ Disrespectful
- ☐ Domineering
- ☐ Effective
- ☐ Energetic
- ☐ Entertaining
- ☐ Enthusiastic
- ☐ Envious
- ☐ Exuberant
- ☐ Fashionable
- ☐ Frivolous
- ☐ Funny
- ☐ Grateful
- ☐ Hard
- ☐ Helpful
- ☐ Humble
- ☐ Honest
- ☐ Imitator
- ☐ Independent
- ☐ Indiscreet
- ☐ Ingenious
- ☐ Insensitive
- ☐ Kind
- ☐ Lazy
- ☐ Liar
- ☐ Lively
- ☐ Logic
- ☐ Loudmouth
- ☐ Lucid
- ☐ Methodical
- ☐ Moderate
- ☐ Modern
- ☐ Modest
- ☐ Moral

☐ Nasty
☐ Neurotic
☐ Nice
☐ Nonchalant
☐ Normal
☐ Obedient
☐ Obstinate
☐ Open-minded
☐ Painful
☐ Perceptive
☐ Pessimistic
☐ Philosopher
☐ Reliable
☐ Radical
☐ Refined
☐ Reasonable
☐ Shabby
☐ Selfish
☐ Sensible
☐ Sentimental
☐ Serious
☐ Shy
☐ Simple
☐ Solitary
☐ Spiritual
☐ Spiteful
☐ Stable
☐ Stingy
☐ Submissive
☐ Sweet
☐ Tolerant
☐ Ungracious
☐ Uncultivated
☐ Unmethodical

Ideal Self: For each desirable feature, indicate the extent to which you possess these 6 features - the ideal being 100%. For example, if you have a generosity ideal and that you think to actually possess this characteristic at 80% of your ideal, please choose "80%-100%" option.

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I feel very close to this ideal	2	3	4 I feel moderately close to this ideal	5	6	7 I feel very far away to this ideal
How big is globally the discrepancy between this ideal and the way you perceive yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I don't feel distress about this discrepancy	2	3	4 I feel a moderate distress about this discrepancy	5	6	7 I feel an important distress about this discrepancy
How strong is the distress caused by this discrepancy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ideal Self: For each **undesirable** feature, indicate the extent to which you possess this feature -the ideal being 0%. For example, if you dislike stinginess and that you think to possess this feature at 20%, please choose "10%-20%" option.

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I feel very close to this ideal	2	3	4 I feel moderately close to this ideal	5	6	7 I feel very far away to this ideal
How big is globally the discrepancy between this ideal and the way you perceive yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I don't feel distress about this discrepancy	2	3	4 I feel a moderate distress about this discrepancy	5	6	7 I feel an important distress about this discrepancy
How strong is the distress caused by this discrepancy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Think for a moment and choose the 6 features that are expected from you by your relatives (regardless of whether or not you think you possess them).

☐ Calm
☐ Careful
☐ Childish
☐ Clair-sighted
☐ Clever
☐ Comic
☐ Compulsive
☐ Conformist
☐ Contemptuous
☐ Cordial
☐ Crafty
☐ Creative
☐ Credulous
☐ Cultivated
☐ Curious
☐ Deceitful
☐ Delicate
☐ Disagreeable
☐ Disdainful
☐ Discreet
☐ Disinterested
☐ Disorderly
☐ Disrespectful
☐ Domineering
☐ Effective
☐ Energetic
☐ Entertaining
☐ Enthusiastic
☐ Envious
☐ Exuberant
☐ Fashionable
☐ Frivolous
☐ Funny
☐ Grateful

☐ Hard
☐ Helpful
☐ Humble
☐ Honest
☐ Imitator
☐ Independent
☐ Indiscreet
☐ Ingenious
☐ Insensitive
☐ Kind
☐ Lazy
☐ Liar
☐ Lively
☐ Logic
☐ Loudmouth
☐ Lucid
☐ Methodical
☐ Moderate
☐ Modern
☐ Modest
☐ Moral
☐ Nasty
☐ Neurotic
☐ Nice
☐ Nonchalant
☐ Normal
☐ Obedient
☐ Obstinate
☐ Open minded
☐ Painful
☐ Perceptive
☐ Pessimistic
☐ Philosopher
☐ Reliable

☐ Radical
☐ Refined
☐ Reasonable
☐ Shabby
☐ Selfish
☐ Sensible
☐ Sentimental
☐ Serious
☐ Shy
☐ Simple
☐ Solitary
☐ Spiritual
☐ Spiteful
☐ Stable
☐ Stingy
☐ Submissive
☐ Sweet
☐ Tolerant
☐ Ungracious
☐ Uncultivated
☐ Unmethodical
☐ Unpredictable
☐ Unreliable
☐ Unwise
☐ Vain
☐ Vivacious
☐ Wise

Ought Self: For each desirable feature (people in my close circle think that I should have), indicate the extent to which you possess these 6 features -the ideal being 100%. For example, if you have a generosity ideal and that you think to actually possess this characteristic at 80% of your ideal, please choose "80%-100%" option.

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I feel very close to this ideal	2	3	4 I feel moderately close to this ideal	5	6	7 I feel very far away to this ideal
How big is globally the discrepancy between this ought-self and the way you perceive yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I don't feel distress about this discrepancy	2	3	4 I feel a moderate distress about this discrepancy	5	6	7 I feel an important distress about this discrepancy
How strong is the distress caused by this discrepancy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ought Self: For each **undesirable** feature (people in my close circle think that I should not have), indicate the extent to which you possess this feature -the ideal being 0%. For example, if you dislike stinginess and that you think to possess this feature at 20%, please choose "10%-20%" option.

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I feel very close to this ideal	2	3	4 I feel moderately close to this ideal	5	6	7 I feel very far away to this ideal
How big is globally the discrepancy between this ought-self and the way you perceive yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the below question based on the answers you have given above.

Please don't select more than 1 answer(s) per row.

	1 I don't feel distress about this discrepancy	2	3	4 I feel a moderate distress about this discrepancy	5	6	7 I feel an important distress about this discrepancy
How strong is the distress caused by this discrepancy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Accessing Support

Thinking about suicide can be painful and difficult. If you are currently having suicidal thoughts and feelings support are available from several organisations including:

NHS. You can call the NHS support line on Tel: 111 or visit their website: www.nhs24.com

•

Samaritans. The Samaritans is a confidential emotional support line for people who are experiencing feelings of distress or despair. They are available 24 hours a day on Tel: 08457 90 90 90 and 116 123 or visit www.samaritans.org.uk

CALM. CALM (campaign against living miserably) is a registered charity, which exists to prevent male suicide in the UK. Their helpline is free, anonymous, and confidential. It is open 7 days a week from 5 p.m. to midnight. Call 0800 58 58 58 / Email info@thecalmzone.net / Webchat www.thecalmzone.net/help/webchat/

1. SUPPORT FOR PEOPLE EXPERIENCING SUICIDAL THOUGHTS AND FEELINGS.

At some time in all of our lives, we feel down, depressed or low. If you are feeling down or are worried about something and would like to speak to someone, please see the list of organisations below. You may also wish to contact your GP or another healthcare professional.

If you think your life or someone's life is in danger you should visit an emergency department or call an ambulance by dialling 999.

NHS 24. Health Information and Self Care Advice

NHS 24 provides comprehensive up-to-date health information and self-care advice. If your GP surgery is closed and you can't wait until it opens, you can call NHS 24. They will direct you to the right care for you or the person you are calling for. This may be to your local Health Board's out of hours services, Accident and Emergency department, or the Ambulance Service. If appropriate, they may recommend some steps you can take to look after yourself at home.

<https://www.nhs.uk> - Tel: 111

Samaritans

Samaritans is a support service available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair, including those which may lead to suicide.

<https://www.samaritans.org/> - Tel: 08457 90 90 90 & **116 123 (from everywhere)**

CALM (campaign against living miserably)

CALM is leading a movement against suicide, with a particular focus on men who are often more at risk. They have a national helpline, webchat and online resources for support

www.thecalmzone.net Helpline 0800 58 58 58 - London 080 802 58 58 OPEN 7 days a week 17.00-00.00

Email info@thecalmzone.net - Webchat www.thecalmzone.net/help/webchat/

PAPYRUS

This is a national charity which helps to stop young suicide. They run HOPELineUK. HOPELineUK give practical advice and information to: children, teenagers and young people up to the age of 35 who are worried about how they are feeling, and anyone who is concerned about a young person.

<https://www.papyrus-uk.org> - Telephone: 0800 068 41 41 (open Mon-Fri: 10am to 10pm, weekends: 2pm to 10pm & bank holidays: 2pm to 5pm) - SMS: 07786 209697 - Email: pat@papyrus-uk.org

The Mix

They offer a free, confidential helpline service for young people under 25.

Telephone: 0808 808 4994 (Open 11am – 11pm 7 days a week) E-mail: www.getconnected.org.uk/email-us/

Webchat: [through the website: www.getconnected.org.uk](http://www.getconnected.org.uk)

Men's Minds Matter

Men's Minds Matter is a not-for-profit organisation dedicated to the prevention of male suicide by building psychological resilience and emotional strength. The website has many resources and guides relating to male suicide including anger, stress, depression and how to support a man in crisis.

Website: <https://www.mensmindsmatter.org/>

Andy's Club

Andy's Club are talking clubs for men. They have numerous clubs across the country and a national online group for those outside of current club catchment areas.

Website: <https://andysmanclub.co.uk/>

2. ADDITIONAL SUPPORT LINES

Alcohol Change

Alcohol Change UK is a UK alcohol charity. Their website links to a wide range of support services should you wish to speak to or get advice about your drinking.

<https://alcoholchange.org.uk/>

Smokeline

Smokeline is Scotland's national stop smoking helpline, open every day from 8am-10pm. They have helped thousands of people and can help you too. Smokeline advisers can guide you through what's helped other smokers, and help you work out what's most likely to work for you.

<http://www.canstopsmoking.com/> - Tel: 0800 848 84 84

National Debtline

Provides free, independent, confidential advice on a self-help basis. You can contact them over the telephone, by e-mail or letter.

www.nationaldebtline.org - Telephone: 0808 808 4000 Monday to Friday 9am-8pm and Saturday 9.30am-1pm

Email: visit website to use email contact form

Switchboard – LGBT + Helpline

Switchboard gives practical and emotional support for lesbian, gay, bisexual or transgender people. You can talk to them about any issue.

Webchat: through the website - www.switchboard.lgbt - Telephone: 0300 330 0630 (open 10am – 11pm)

E-mail: chris@switchboard.lgbt

3. SUPPORT FOR PEOPLE BEREAVED BY SUICIDE. Survivors of Bereavement by Suicide (SOBS)

SOBS offers support for those bereaved or affected by suicide through a helpline answered by trained volunteers who have been bereaved by suicide and a network of local support groups.

www.uk-sobs.org.uk / Helpline 0300 111 5065 Everyday 9.00-21.00 / Email sobs.support@hotmail.com

Help is at Hand

Produced by the Department of Health, this is a resource for people bereaved by suicide and other sudden, traumatic death in England and Wales. The booklet can be read online at:

www.supportaftersuicide.org.uk/support-guides/help-is-at-hand/ or printed copies can be ordered

by phoning 0300 123 1002 quoting 2901502/Help is at Hand.

The Compassionate Friends

This service supports bereaved parents and their families. They have a Shadow of Suicide (SOS) group that can put parents in touch with other parents who have lost a child to suicide.

Telephone: 0345 123 2304 (10am-4pm & 7pm-10pm daily) / Email: helpline@tcf.org.uk / Website: www.tcf.org.uk

Cruse Bereavement Care

Cruse offer free, confidential help to bereaved people.

Telephone: 0844 477 9400 (9.30am-5pm, Monday-Friday – excludes bank holidays, with extended hours until 8pm Tuesdays, Wednesdays and Thursdays) / Email: helpline@cruse.org.uk / Website: www.cruse.org.uk

Final Page

End of questions! Thank you for your participation. Your time and views are extremely appreciated and will help us to better understand suicide risk. If you haven't already done so, please save a copy of the following study documents, should you wish to refer to them at a later point, or wish to discuss any of the topics of the study.

[Consent Form & Privacy Notice](#)

[Participant Information Sheet](#)

[Support Services Sheet](#)

As a thank you for your time, we would like to invite you to enter our prize draw for **£200 worth of an Amazon Voucher**.

To enter the prize draw please [click here](#).

We wish you safe and healthy days to come!

Suicidal Behaviour Research Laboratory

Appendix 5.M



Page 1&2 are Privacy Notices

Page 3 is the Consent Clause

Privacy Notice for the research: Investigating the Roles of Self-Discrepancy and Perfectionism in Suicide Risk.

Your Personal Data

The University of Glasgow, the research supervisory team and the principal researcher will be what's known as the "Joint Data Controllers" of your personal data processed in relation to the research study "**Investigating the Roles of Self-Discrepancy and Perfectionism in Suicide Risk.**" This privacy notice will explain how the joint controllers will process your personal data.

Why we need it

We are collecting your data such as your email address/name/surname, age, marital status, gender identification, education level, employment status, suicidal experience, current suicidal ideation, specific disabilities, ethnicity, and other health-relevant data in order to understand the nature of the suicidal thoughts and behaviours better and to enhance psychological models for the people who had or having suicidal experiences. We will only need data specific to our mentioned purposes.

Legal basis for processing your data

We must have a legal basis for processing all personal data. As this processing is for Academic Research, we will be relying upon *Task in the Public Interest* to process the personal data you provide. For any *Special Categories* of data collected, we will depend upon *Tasks carried out for Public Interest, Scientific or Historical Research Purposes*. We will also ask for your *Consent* to participate in the study for *Ethical Considerations*.

What we do with it and who we share it with

- All the personal data you submit is processed by staff responsible for your data governance at the University of Glasgow in the United Kingdom. Your data will be held on University Servers in the UK and thus will be subject to appropriate organisational and technical safeguards.
- We will ask you to complete an online survey for the study. If you would like to participate in the prize (£200 of an Amazon voucher) draw, you will be directed to a separate URL which cannot be link to your survey answers.
- Your data will be anonymised.
- Your anonymised data will be used as part of the researcher's project and in scientific papers, which will be submitted to peer-reviewed journals.

V 1 18.09.2023

Regarding prize draw

- Files will be password-protected. At the end of the survey, we will ask you whether you wish to join the prize draw for £200 worth of Amazon vouchers, and if you wish to join, you'll be directed to another page by which we need you to provide your nickname/name and your e-mail address for communication purposes in case you win the draw. Your participation in the prize draw is voluntary and the information you provide for the prize draw will be kept confidential and will be seen only by study researchers and regulators whose job it is to check the work of researchers. This is a separate web page which will not be linked to your responses and the link and its content, including your data, will be deleted after we finalise the prize draw to mitigate a potential information security breach risk.

How long do we keep it for

The University will retain your data for up to ten years for the sole purpose of this research project and any linked research papers. After this time, data will be securely deleted.

What are your rights?

You can request access to the information we process about you at any time. Suppose at any point you believe that the information we process relating to you is incorrect. In that case, you can request to see this information and may in some instances, request to have it restricted, corrected or erased. You may also have the right to object to the processing of data and the right to data portability. You also have the right to withdraw your consent at any time. However, if you want to withdraw from the study after, all the necessary data have already been collected. In that case, the relevant data collected up to that point will be retained and used anonymously for the remainder of the study.

If you wish to exercise any of these rights, please submit your request via the [webform](#) or contact dp@gla.ac.uk.

**Please note that the ability to exercise these rights will vary and depend on the legal basis on which the processing is being carried out.*

Complaints

If you wish to raise a complaint on how we have handled your personal data, you can contact the University Data Protection Officer who will investigate the matter.

Our Data Protection Officer can be contacted at dataprotectionofficer@glasgow.ac.uk

If you are not satisfied with our response or believe we are not processing your personal data in accordance with the law, you can complain to the Information Commissioner's Office (ICO) <https://ico.org.uk/>

The Consent

[This consent form will be presented to you at the beginning of the online survey which is the first step of our data collection procedure. If you choose "Yes, I agree to take part in this study" option during the online survey, you will automatically agree to your personal information being used for scientific research purposes.]

- I confirm that I have read and understood the Participant Information Sheet & Privacy Notices.
- I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my legal rights being affected.
- I agree that other researchers can have access to my anonymised data, with appropriate scientific and ethical approval, and agree to preserve the confidentiality of this information as set out in this form.
- I confirm that I agree to the way my data will be collected and processed and that data will be stored for up to 10 years in university archiving facilities in accordance with relevant Data Protection policies and regulations.
- I understand that all data and information I provide will be kept confidential and will be seen only by study researchers and regulators whose job it is to check the work of researchers.
- I agree that my name, contact details and data described in the information sheet will be kept for the purposes of this research project.
- I understand that if I withdraw from the study, my data collected up to that point will be retained and used for the remainder of the study.
- I understand that my participation in the prize draw is voluntary and the information I provide for the prize draw will be kept confidential and will be seen only by study researchers and regulators whose job it is to check the work of researchers.
- I am 18 years of age or over.

☐ Yes, I agree to take part in the study.

☐ No, I do not agree to take part in the study.

V 1 18.09.2023

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- I am 18 years of age or over.

☐ Yes, I agree to take part in the study.

☐ No, I do not agree to take part in the study.

V 1 18.09.2023

Appendix 5.N



24th November 2024

Dear Prof O'Connor

MVLS College Ethics Committee

Project Title: Investigating the Roles of Self-Discrepancy and Perfectionism in Suicide Risk
Project No: 200230036

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project, subject to the following conditions:

- A DPIA should be completed as you are storing emails.
- Project end date: End March 2024
- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research: https://www.gla.ac.uk/media/media_490311_en.pdf
- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.
- For projects requiring the use of an online questionnaire, the University has an Online Surveys account for research. To request access, see the University's application procedure at <https://www.gla.ac.uk/research/strategy/ourpolicies/useofonlinesurveystoolforresearch/>.

Yours sincerely

Jesse Dawson
MD, BSc (Hons), FRCP, FESO
Professor of Stroke Medicine
Chair MVLS Research Ethics Committee

Institute of Cardiovascular and Medical Sciences
College of Medical, Veterinary & Life Sciences
Room M0.05
Office Block
Queen Elizabeth University Hospital
Glasgow
G51 4TF
Tel – 0141 451 5868
jesse.dawson@glasgow.ac.uk



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Yours sincerely

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Professor of Stroke Medicine
Chair MVLS Research Ethics Committee

Institute of Cardiovascular and Medical Sciences
College of Medical, Veterinary & Life Sciences
Room M0.05
Office Block
Queen Elizabeth University Hospital
Glasgow
G51 4TF
Tel – 0141 451 5868
jesse.dawson@glasgow.ac.uk

Note: The first version of the relevant ethics approval had to be changed because a typo in the document caused a discrepancy between the approval date and the end date.



25th March 2024

Dear Prof O'Connor

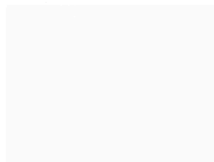
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25th March 2024

Dear Prof O'Connor

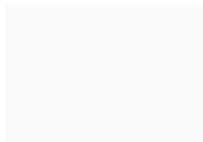
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Yours sincerely



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jesse.dawson@glasgow.ac.uk

Note: The updated version of the relevant ethics approval.

Appendix 5.O



PARTICIPANT INFORMATION SHEET

(Appendix A)

Study title:

Investigating the Roles of Self-Discrepancy and Perfectionism in Suicide Risk

Researcher:

Elvan Unlu (PGR), Suicidal Behaviour Research Lab., School of Health and Wellbeing, University of Glasgow

Supervisors:

Professor Rory O'Connor and Dr Jack Melson

Thank you so much for considering taking part in this research study. Before you decide whether you wish to take part, it is important to understand the nature of this research, why it is being done and what it will involve. Please take time to read the following information carefully. This information sheet will give you an overview of the purpose of the research, what your participation will involve and your right to withdraw at any time.

How long will it take? This online survey will take approximately 15-20 minutes to complete.

What is the purpose of the study?

This research aims to better understand the role of perfectionism and self-discrepancy among people who have had suicidal experiences. This research will help us to understand how self-discrepancies have been experienced in the context of perfectionism and suicide risk relationship. It may also contribute to future efforts to develop/enhance new models regarding suicide risk.

Why have I been invited to participate?

You responded to an advert about this research, and you are an adult living in the UK who has had suicidal experiences.

Do I have to take part?

No, it is up to you to decide whether to take part. If you do decide to take part you will be given this information sheet, a privacy notice, and a consent form to keep. If you decide to participate, you are also free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

For this study, you will be required to complete an online survey, which will take between 15-20 minutes. You can complete this survey on any internet-enabled device in a place and time of your choosing. You will need to complete the survey in one sitting as answers cannot be saved as you go. So please start when you think you will have the time to complete it. At the end of the survey, there will be another *separate link* that leads you to a prize draw asking your contact information and name you wish to be known as (these will also be confidential), if you would like to join. If you want to join the draw, your responses and demographic

information will remain anonymous. The prize will be **£200 worth of Amazon vouchers** which will go to the winner.

What are the possible disadvantages and risks of taking part?

Some of the questions asked in this survey may be upsetting or triggering for you, especially if you are currently experiencing suicidal feelings. So, please note that even if you agree to take part, you have the right to withdraw at any stage (without giving a reason), and you do not have to answer any of the questions you do not wish to. In addition, we will provide you with a list of organisations (at the beginning and the end of this survey) who provide support if you are feeling down.

What are the possible benefits of taking part?

Although the study may not have any direct benefit for you, the information you will provide will help us to understand the nature of suicidal thoughts and behaviours better and may also contribute towards improved psychological models for people experiencing suicidal thoughts and behaviours.

Will my taking part in this study be kept confidential?

All information collected about you, or responses you provide, during the course of the research, will be kept strictly confidential. Your information will be anonymised and identified by an ID number so that you cannot be recognised.

The participant's data will be anonymised (will be coded with ID numbers, and email addresses will be collected via a separate link, therefore it will not be possible (even for the researcher) to match your answers with your personal information. Other researchers in the research team will only have access to the anonymised data. No identifying information (e.g., voice record, video record, name/surname) will be collected beyond simple demographic data, and you cannot be recognised from your responses.

All the anonymous data in electronic format will be stored in encrypted files on secure password-protected computers of the research team and the principal researcher's secure OneDrive account provided by the University of Glasgow. So, no one will be able to find out your information which could identify you.

What will happen to my data?

All study data will be held in accordance with the General Data Protection Regulation (2018). The information you will provide might be shared with people who check that the study is done properly and, if you agree, anonymously with other organisations or universities to carry out research to improve scientific understanding. Your data will form part of the study results that will be published in scientific journals, presentations, student dissertations/theses and on the internet for other researchers to use. We may keep anonymous data for 10 years in accordance with the University of Glasgow retention policy. If a participant withdraws from the study after commencing data collection, the relevant data collected up to that point will be retained and used for the remainder of the study.

What will happen to the results of the research study?

The anonymised results of the study will be used for the PhD research of the principal researcher and will be submitted for publication in peer-reviewed journals.

Who is organising and funding the research?

The study is being organised by Elvan Unlu (principal researcher-PR; postgraduate research student at the University of Glasgow) and supervised by Professor Rory O'Connor (University of Glasgow) and Dr Jack Melson (University of Glasgow). It is not being funded by any company, charity, organisation, or research council. The incentive mentioned above (£200 of an Amazon voucher) is funded by Professor O'Connor.

Who has reviewed the study?

This study has been reviewed by the College of Medical, Veterinary & Life Sciences Ethics Committee of the University of Glasgow.

Contact for Further Information

If you have any questions or require more information, please contact Elvan Unlu on e.unlu.1@research.gla.ac.uk.

Thank you for reading this Information Sheet.

PARTICIPANT INFORMATION SHEET

(Appendix A)

Study title:

Investigating the Roles of Self-Discrepancy and Perfectionism in Suicide Risk

Researcher:

Elvan Unlu (PGR), Suicidal Behaviour Research Lab., School of Health and Wellbeing, University of Glasgow

Supervisors:

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Although the study may not have any direct benefit for you, the information you will provide will help us to understand the nature of suicidal thoughts and behaviours better and may also contribute towards improved psychological models for people experiencing suicidal thoughts and behaviours.

Will my taking part in this study be kept confidential?

All information collected about you, or responses you provide, during the course of the research, will be kept strictly confidential. Your information will be anonymised and identified by an ID number so that you cannot be recognised.

The participant's data will be anonymised (will be coded with ID numbers, and email addresses will be collected via a separate link, therefore it will not be possible (even for the researcher) to match your answers with your personal information. Other researchers in the research team will only have access to the anonymised data. No identifying information (e.g., voice record, video record, name/surname) will be collected beyond simple demographic data, and you cannot be recognised from your responses.

All the anonymous data in electronic format will be stored in encrypted files on secure password-protected computers of the research team and the principal researcher's secure OneDrive account provided by the University of Glasgow. So, no one will be able to find out your information which could identify you.

What will happen to my data?

All study data will be held in accordance with the General Data Protection Regulation (2018). The information you will provide might be shared with people who check that the study is done properly and, if you agree, anonymously with other organisations or universities to carry out research to improve scientific understanding. Your data will form part of the study results that will be published in scientific journals, presentations, student dissertations/theses and on the internet for other researchers to use. We may keep anonymous data for 10 years in accordance with the University of Glasgow retention policy. If a participant withdraws from the study after commencing data collection, the relevant data collected up to that point will be retained and used for the remainder of the study.

What will happen to the results of the research study?

The anonymised results of the study will be used for the PhD research of the principal researcher and will be submitted for publication in peer-reviewed journals.

Who is organising and funding the research?

The study is being organised by Elvan Unlu (principal researcher-PR; postgraduate research student at the University of Glasgow) and supervised by Professor Rory O'Connor (University of Glasgow) and Dr Jack Melson (University of Glasgow). It is not being funded by any company, charity, organisation, or research council. The incentive mentioned above (£200 of an Amazon voucher) is funded by Professor O'Connor.

Who has reviewed the study?

This study has been reviewed by the College of Medical, Veterinary & Life Sciences Ethics Committee of the University of Glasgow.

Contact for Further Information

If you have any questions or require more information, please contact Elvan Unlu on e.unlu.1@research.gla.ac.uk.

Thank you for reading this Information Sheet.

Appendix 5.P

Table 5.11. *Regression Coefficients, Standard Errors, and Model Summary Information for the Defeat-Mediation Model*

		Consequent						
		<i>M</i> (defeat)			<i>Y</i> (internal entrapment)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (perfectionistic concerns)	a_1	0.23	0.01	<.001	c'	0.03	0.06	<.001
<i>M</i> (defeat)		-	-	-	b_1	0.28	0.01	<.001
Constant	iM_I	1.70	1.11	.1263	i_Y	0.30	0.35	.39
		$R^2 = 0.29$			$R^2 = 0.61$			
		$F(1,456) = 194.23, p < .001$			$F(2,455) = 363.94, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p -value, *SE*= Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, F = F-statistic for the overall significance of the model, ** $p < .01$, * $p < .05$.

Appendix 5.R

Table 5.12. *Regression Coefficients, Standard Errors, and Model Summary Information for the Defeat-Mediation Model*

		Consequent						
		<i>M</i> (defeat)			<i>Y</i> (external entrapment)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (perfectionistic concerns)	a_1	0.23	0.01	<.001	c'	0.02	0.006	<.001
<i>M</i> (defeat)		-	-	-	b_1	0.20	0.01	<.001
Constant	iM_I	1.70	1.11	.1263	i_Y	1.95	0.34	<.001
		$R^2 = 0.29$			$R^2 = 0.47$			
		$F(1,456) = 194.23, p < .001$			$F(2,455) = 205.60, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p -value, SE = Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, F = F-statistic for the overall significance of the model, ** $p < .01$, * $p < .05$.

Appendix 5.S

Table 5.13. *Regression Coefficients, Standard Errors, and Model Summary Information for the Defeat-Mediation Model*

		Consequent						
		<i>M</i> (defeat)			<i>Y</i> (internal entrapment)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (actual vs ideal discrepancy)	a_1	1.11	0.08	<.001	c'	0.15	0.03	<.001
<i>M</i> (defeat)		-	-	-	b_1	0.29	0.01	<.001
Constant	iM_I	6.21	0.87	<.001	i_Y	0.83	0.28	.003*
		$R^2 = 0.26$			$R^2 = 0.61$			
		$F(1,456) = 163.41, p < .001$			$F(2,455) = 362.08, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p-value, *SE*= Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, *F*= F-statistic for the overall significance of the model, ** $p < .01$, * $p < .05$.

Appendix 5.T

Table 5.14. *Regression Coefficients, Standard Errors, and Model Summary Information for the Defeat-Mediation Model*

		Consequent						
		<i>M</i> (defeat)			<i>Y</i> (external entrapment)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (actual vs ideal discrepancy)	a_1	1.11	0.08	<.001	c'	0.10	0.03	.001*
<i>M</i> (defeat)		-	-	-	b_1	0.21	0.01	<.001
Constant	iM_I	6.21	0.87	<.001	i_Y	2.64	0.28	<.001
		$R^2 = 0.26$			$R^2 = 0.46$			
		$F(1,456) = 163.41, p < .001$			$F(2,455) = 195.33, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p -value, *SE*= Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, F = F-statistic for the overall significance of the model, ** $p < .01$, * $p < .05$.

Appendix 5.U

Table 5.15. *Regression Coefficients, Standard Errors, and Model Summary Information for the Defeat-Mediation Model*

		Consequent						
		<i>M</i> (defeat)			<i>Y</i> (internal entrapment)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (actual vs ought discrepancy)	a_1	0.95	0.08	<.001	c'	0.12	0.02	<.001
<i>M</i> (defeat)		-	-	-	b_1	0.30	0.01	<.001
Constant	iM_I	8.20	0.83	<.001	i_Y	1.02	0.27	<.001
		$R^2 = 0.20$			$R^2 = 0.60$			
		$F(1,456) = 117.73, p < .001$			$F(2,455) = 353.29, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p -value, *SE*= Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, F = F-statistic for the overall significance of the model, ** $p < .01$, * $p < .05$.

Appendix 5.W

Table 5.16. *Regression Coefficients, Standard Errors, and Model Summary Information for the Defeat-Mediation Model*

		Consequent						
		<i>M</i> (defeat)			<i>Y</i> (external entrapment)			
Antecedent		Coeff.	<i>SE</i>	<i>p</i>		Coeff.	<i>SE</i>	<i>p</i>
X (actual vs ought discrepancy)	a_1	0.95	0.08	<.001	c'	0.12	0.02	<.001
<i>M</i> (defeat)		-	-	-	b_1	0.21	0.01	<.001
Constant	iM_I	8.20	0.83	<.001	i_Y	2.52	0.26	<.001
		$R^2 = 0.20$			$R^2 = 0.47$			
		$F(1,456) = 117.73, p < .001$			$F(2,455) = 203.31, p < .001$			

Note: a_1 = path between *X* (independent variable) and *M* (mediator), b_1 = path between *M* (mediator) and *Y* (dependant variable), c' = direct effect of *X* on *Y*, iM_I = constant of the first model represents the intercepts of the regression equations of *X* and *M*, i_Y = constant of the overall model represents the intercepts of the regression equations of *X* and *M*, p = p -value, SE = Standard error, Coeff. = Beta coefficients for each variable, R^2 = R-square change of the model, F = F-statistic for the overall significance of the model, ** $p < .01$, * $p < .05$.

Appendix 5.V

Table 5.17. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation Serial Multiple Mediators Model Depicted in Figure table 5.9

		Consequent										
		M_1 (defeat)			M_2 (total entrapment)			Y (suicidal ideation)				
Antecedent		Coeff.	SE	p	Coeff.	SE	p	Coeff.	SE	p		
X (actual vs ideal discrepancy)	a_1	1.11	0.08	<.001	a_2	0.25	0.05	<.001	c'	0.11	0.07	.1251
M_1 (defeat)	-	-	-	-	d	0.50	0.02	<.001	b_1	0.34	0.04	<.001
M_2 (external entrapment)	-	-	-	-	-	-	-	-	b_2	0.56	0.06	<.001
Constant	iM_1	6.21	0.87	<.001	iM_2	3.48	0.48	<.001	i_Y	3.94	0.70	<.001
		$R^2 = 0.26$				$R^2 = 0.62$				$R^2 = 0.58$		
		$F(1,456) = 163.41,$				$F(2,455) = 373.05,$				$F(3,454) = 217.22,$		
		$p < .001$				$p < .001$				$p < .001$		

Note. a_1 = path between X (independent variable) and M_1 (mediator 1). a_2 = path between X (independent variable) and M_2 (mediator 2). iM_1 = constant of the first model represents the intercepts of the regression equations of X and M_1 . iM_2 = constant of the second model represents the intercepts of the regression equations of X and M_2 . i_Y = constant of the overall model represents the intercepts of the regression equations of X, M_1 and M_2 . p = p-value. SE= Standard error. Coeff. = Beta coefficients for each variable. ** $p < .01$, * $p < .05$, τ = significant based on bootstrapped confidence intervals.

Appendix 5.Y

Table 5.18. Regression Coefficients, Standard Errors, and Model Summary Information for the Suicidal Ideation Serial Multiple Mediators Model Depicted in Figure 5.13

		Consequent										
		M_1 (defeat)			M_2 (external entrapment)			Y (suicidal ideation)				
Antecedent		Coeff.	SE	p		Coeff.	SE	p		Coeff.	SE	p
X (actual vs ought discrepancy)	a_1	.95	0.08	<.001	a_2	0.24	0.04	<.001	c'	0.22	0.07	.001*
M_1 (defeat)		-	-	-	d	0.51	0.02	<.001	b_1	0.33	0.04	<.001
M_2 (external entrapment)		-	-	-		-	-	-	b_2	0.53	0.06	<.001
Constant	iM_1	8.20	0.83	<.001	iM_2	3.55	0.46	<.001	i_Y	3.47	0.67	<.001
		$R^2= 0.20$				$R^2= 0.62$				$R^2= 0.59$		
		$F(1,456) = 117.73,$				$F(2,455) = 375.57,$				$F(3,454) = 223.72,$		
		$p <.001$				$p <.001$				$p <.001$		

Note. a_1 = path between X (independent variable) and M_1 (mediator 1). a_2 = path between X (independent variable) and M_2 (mediator 2). iM_1 = constant of the first model represents the intercepts of the regression equations of X and M_1 . iM_2 = constant of the second model represents the intercepts of the regression equations of X and M_2 . i_Y = constant of the overall model represents the intercepts of the regression equations of X, M_1 and M_2 . p = p-value. SE= Standard error. Coeff. = Beta coefficients for each variable. ** $p < .01$, * $p < .05$, τ = significant based on bootstrapped confidence intervals.

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