MacBeth, Angus M. (2011) *The narrative compassion scale: development and validation of an interview measure of compassion and recovery in complex mental health difficulties.*
D Clin Psy thesis.

http://theses.gla.ac.uk/2875/

Glasgow Theses Service
http://theses.gla.ac.uk/
theses@gla.ac.uk

THE NARRATIVE COMPASSION SCALE - DEVELOPMENT AND VALIDATION OF AN INTERVIEW MEASURE OF COMPASSION AND RECOVERY IN COMPLEX MENTAL HEALTH DIFFICULTIES

& CLINICAL RESEARCH PORTFOLIO

VOLUME I

(Volume II bound separately)

Angus M. MacBeth

University of Glasgow
Academic Unit of Mental Health and Wellbeing
July 2011

Submitted in partial fulfilment of requirements for the Degree of
Doctorate in Clinical Psychology

VOLUME I

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

LAY SUMMARY OF MAJOR RESEARCH PROJECT:

The Narrative Compassion Scale – Development and validation of an interview measure of compassion and recovery in complex mental health difficulties.

Objectives: The extent to which individuals are able to integrate, minimise or become preoccupied by the impact of their experience of complex mental health problems has implications for recovery. An individual's ability to be kind and compassionate towards oneself and others at times of stress may also affect recovery. This study evaluated a coding framework for assessing an individual's recovery style and capacity to act compassionately at times of stress. Forty-Three individuals with complex mental health problems were interviewed, and the interviews were then coded according to the Narrative Compassion Scale (NCS).

Results: The interview identified three different patterns of recovery – integration, minimising and preoccupation. Higher levels of compassion were associated with better integration of the experience of mental health problems. Lower levels of compassion were associated with a greater tendency to minimise problems.

Conclusions: The NCS is a promising narrative measure of recovery and compassion. It can be used to improve psychological therapies that focus on developing compassion and being able to tolerate distress.

Faculty of Medicine Graduate School

"Declaration of Originality Form"

You have a responsibility to the University, the Faculty, your classmates, and most of all to yourself, to act with integrity in your academic work. In particular, the work that you submit for assessment, other than for team exercises, *must be your own.* Just as cheating in examinations is a serious offence, so any form of collusion or plagiarism in assessed exercises is dishonest and unacceptable to the University.

The following is an extract from the University's Statement on Plagiarism. Please read it carefully and sign the declaration below.

Plagiarism is defined as the submission or presentation of work, in any form, which is not one's own, without acknowledgement of the sources. Plagiarism can also arise from one student copying another student's work or from inappropriate collaboration. Allowing someone else to copy your work is just as bad as copying someone else's work yourself. It is vital that you do not allow anyone else to copy your work. Take care when discarding work and do not leave copies of your own files on a hard disk where others can access them. If you have any doubt as to what level of discussion is acceptable, you should consult your lecturer or the Course Director.

The incorporation of material without formal and proper acknowledgement (even with no deliberate intent to cheat) can constitute plagiarism.

With regard to essays, reports and dissertations, the rule is: if information or ideas are obtained from any source, that source must be acknowledged according to the appropriate convention in that discipline; and any direct quotation must be placed in quotation marks and the source cited. Any failure to acknowledge adequately or to properly cite sources of information in submitted work constitutes an act of plagiarism.

Plagiarism is considered to be an act of fraudulence and an offence against University discipline. Alleged plagiarism will be investigated and dealt with appropriately by the University.

The University Plagiarism statement is available from:
http://senate.gla.ac.uk/academic/plagiarism.html

Please complete the information below in BLOCK CAPITALS.

Name ANGUS MACBETH..

Matriculation Number....9903256..

Course Name..DOCTORATE IN CLINICAL PSYCHOLOGY...

Assignment Number/Name.......MRP AND RESEARCH PORTFOLIO.......................................

DECLARATION:
I am aware of the University's policy on plagiarism and certify that this assignment is my own work.

Signed…………………………………………………………..…….. Date………………………

UNIVERSITY OF GLASGOW

PhD, DDS, DSc, EngD, MD, MLitt (R), MPhil (R), MSc(R), MTh(R), MVM(R), MMus(R) THESIS ACCESS DECLARATION

Candidate's Name: ……………………………………………………………………
(BLOCK CAPITALS)
Registration number:………………………………………………………………………….
Thesis Title: ……………………………………………………………………………………
……………………………………………………………………………………………………
…………………………………………………………………………………………………….
College: ………………………………………………………………………………
School/Institute: ………………………………………………………………………………
Subject: ………………………………………………………………………………
Name of supervisor(s):……………………………………………………………………..

IMPORTANT NOTES

In the interests of scholarship, theses of the University of Glasgow are normally made freely available, for example for consultation in the University Library, or within another Library, immediately after deposit. Electronic copies are normally made available online to increase the access to, and visibility of, the University's research.

Candidates should consult http://theses.gla.ac.uk/restrict.html and talk to their supervisor before completing and signing this form to establish whether there is likely to be a valid reason for restricting access to their thesis for a limited period of time.

The Freedom of Information (Scotland) Act 2002 ("FOISA") and the Environmental Information (Scotland) Regulations 2004 ("EI(S)Rs") ensure access to any information held by the University of Glasgow, including theses, unless an exemption or exception applies.

Reasons for restricting access to a thesis should be derived from exemptions under FOISA or exceptions under EI(S)Rs. Further restrictions, as described below, can be applied to online availability of the electronic version.

Candidates should consult any sponsoring organisations that may hold intellectual property rights in a thesis before completing this form.

Candidates will be required to declare at the point of electronic deposit that the copy being deposited is the same in all respects as the print copy with the exception of any 3rd party copyright material removed because permission for its inclusion has not been granted.

Does any organisation other than the University of Glasgow have an interest in the intellectual property rights to your work? If yes, please specify the organisation and the nature of their interest:
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

Candidates who believe there is a valid reason to restrict access to both the hard copy and the electronic copy of their thesis should consult the list of exemptions permitted by the Freedom of Information (Scotland) Act 2002 and the list of exceptions permitted by the Environmental Information (Scotland) Regulations 2004 available at http://theses.gla.ac.uk and give specific details below of the relevant exemption/exception and why an exemption/exception is necessary (continue on an attached sheet of paper as necessary).

Please select <u>one</u> of the following two options:

□ No exemption/exception requested – make the thesis available immediately

□ Exemption/exception requested (please give details):…
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
_____

The following further reason may be applied to the electronic copy only. Please tick the box below if applicable.

□   The thesis contains material whose copyright belongs to a third party and the gaining of approval to publish the material electronically would be onerous or expensive; and the removal of the copyright material would compromise the thesis.
        …...………………………………………………….…………………………..

In normal circumstances any thesis to which access has been restricted will be made available after three years (this does not apply to theses restricted for reasons of copyright). Candidates who believe access to their thesis should be restricted for more than three years should state their reason here:
……………………………………………………………………………………………………
……………………………………………………………………………………………………
………………………………………………………………………………………..…………
……………………………………………………………………………………………………
…………………………………….……………………………………………………………

Please note that the University of Glasgow may be required to overturn any request for restricted access to any thesis.

To be completed by the student:

I confirm that the information I have given on this form is complete and accurate.

Signed (Author): ……………………………………………………………………..

Address (Author):……………………………………………………………………..
……………………………………………………………………………………………
……………………………………………………………………………………………
E-mail address (Author):……………………………………………………………

Date:…………………………………….

This section must be completed by your primary supervisor:

I confirm that I agree with the decision indicated on this form by the author of the thesis with respect to access to the thesis.

Signature (Supervisor):…………………………………………………………...

Date:………………………………………………………………………………

_____

Please return this form to your Graduate School Office.

For Graduate School use only:

Embargo granted   **Yes**   **No**

CHAPTER 1

SYSTEMATIC REVIEW

**Compassion and mental health:
A systematic review of clinical and analogue studies**

Angus M. MacBeth*
July 2011

* Institute of Health and Wellbeing
Academic Unit of Mental Health and Wellbeing
Academic Centre
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow
Scotland
United Kingdom
G12 0XH
+44 141 211 0607 (tel)
+44 141 357 4899 (fax)
angus.macbeth@googlemail.com

* Author for correspondence

Abstract

<u>**Background:**</u> Compassion has emerged as an important factor in studies of psychopathology and psychological therapy. Recent theoretical work has highlighted the role of evolutionary, attachment and holistic factors in compassion. However there has been no systematic review of the empirical literature.

<u>**Aims:**</u> The current review sought to review the application of compassion informed approaches in mental health, with specific reference to how compassion was measured; and to evaluate the strength of associations between compassion related and clinical variables.

<u>**Methods:**</u> A systematic search was conducted using PsycInfo, Medline, EMBASE, Google Scholar and hand search of identified studies. Articles were screened for inclusion by scrutiny of abstract and methodology. Findings were synthesised and effect sizes calculated.

<u>**Results:**</u> Twenty-Five studies were identified, all using a self report measure of compassion. Strong associations were noted between higher self-compassion and lower depressive and anxiety symptoms. Studies of psychological interventions demonstrated increases in self-compassion during treatment, but this could not be evaluated with regard to corresponding changes in psychopathology.

<u>**Applications:**</u> Compassion is an important explanatory variable in understanding psychopathology and resilience. Future work is needed to develop the evidence base for compassion in complex psychopathology, and explore causal links between compassion and psychopathology.

Keywords: Compassion, mental health, mindfulness, depression, anxiety

Introduction

Recent conceptual and technical developments in psychotherapy such as Acceptance and Commitment Therapy (ACT, Hayes, Strosahl and Wilson, 1999), Mindfulness Based Cognitive Therapy (MBCT, Segal, Williams & Teasdale, 2002), Dialectical Behavioural Therapy (DBT, Linehan, 1993) and Compassion Focussed Therapy (CFT, Gilbert, 2005, 2010) have been viewed as the 'third wave' of cognitive behavioural therapy. Theoretical and methodological differences notwithstanding, they share a focus on ameliorating psychological distress through generating a mindful, accepting, and compassionate stance toward one's self and one's difficulties. Third wave therapies also give greater prominence to warmth and positive affect in the therapeutic process than existing cognitive behavioural therapy schools.

A concise definition of compassion remains under debate, however it seems apparent that the underlying features of compassion concern one's ability to tolerate and act to alleviate distress. Goetz, Keltner & Simon-Thomas (2010) define compassion as "a distinct affective experience whose primary function is to facilitate cooperation and protection of the weak and those who suffer" (p.351). Gilbert (2010) conceptualises compassion in evolutionary terms, focussing on the interplay between threat, motivational and soothing psychobiological systems (Depue and Morrone-Strupinsky, 2005; Liotti and Gilbert, 2011). Here compassion has its roots in the capacity in humans for co-operation and engagement in kinship caring, and the formation of attachment bonds (Bowlby, 1973; Gilbert, 2005; Hrdy, 2009). This creates an evolutionary imperative from infancy, for humans to develop the capacity for understanding the intentions of others, but also for detecting feelings of warmth and safety. Access to soothing-based strategies is linked to increased compassion for self and

others, resilience and wellbeing. Gilbert (2010) argues that events and relationships that rupture this feeling of safeness precipitate a compensatory over-reliance on threat-based strategies to regulate one's feelings, in turn increasing vulnerability to self-critical thoughts, shame, anxiety and depression. Gilbert's model (2005, 2010) gives rise to CFT - a therapeutic model where the key components are care for the wellbeing of others, sensitivity to distress, sympathy, distress tolerance, empathy and a non-judgemental stance towards experiences.

Neff (2003a,b) advances a complementary position, arising from cross-cultural psychology and Eastern holistic traditions such as Buddhism, wherein compassion towards the self is given equal credence to compassion for others (Brach, 2003). In Neff's model (2003a,b), a self-compassionate frame of mind emerges from three overlapping components: self-kindness versus self-judgment, a sense of common humanity versus isolation, and mindfulness versus over-identification.

Systematic review and meta-analytic data have been published in support of the efficacy of ACT, MCBT, and DBT (e.g. Öst, 2008.). However, although there have been several narrative overviews of compassion in mental health (e.g. Neff, 2003; Gilbert, 2005, 2010) there has not been a systematic review of the validity of exploring compassion in mental health and wellbeing, despite calls for development of an evidence base (Gilbert, 2010). Nor has there been a systematic investigation of associations between compassion related variables, psychopathology variables, and clinical outcomes. Proponents of compassion influenced approaches have highlighted that CFT is not a school of therapy in itself, and instead should be viewed as a therapeutic orientation (Gilbert, 2010). Therefore, it has not been manualised in the way that ACT, MBCT and DBT have been. It has also been suggested that self-

4

compassion may be an underlying mechanism in mindfulness-based psychological interventions (Kuyken et al., 2010). Identification of the key components of compassion in mental health remains a work in progress. The current review sought to review the current literature on the application of compassion informed approaches in mental health. The specific questions the review wished to address are detailed below:

1) How is compassion measured in clinical and non-clinical samples where mental health is considered?

2) What, if any, are the strengths of association between compassion related and clinical variables?

Method

Data source, selection and extraction

A search strategy was used to identify potential articles. The search string was subject to refinement via addition and amendment of terms until an appropriate scope for the search was reached. The following search terms were used as keyword or heading searches, using a three component strategy. The first component established terms for the measurement of compassion; the second component established the scope of clinical variables; and the third component established which specific clinical problems were under investigation. Key words within each component were combined using the Boolean operator 'OR' and the two

components were combined using 'AND'. The finalised search strategy is summarised below:

Component 1: {COMPASSION or SELF-COMPASSION or SELF COMPASSION or COMPASSIONATE}

Component 2: {PSYCHOPATHOLOGY or DISORDER or SYMPTOMS}

Component 3: {DEPRESSSION or ANXIETY or PSYCHOSIS}.

Limits were then placed on the search to further refine the scope and ensure quality: databases were de-duplicated; searches limited to peer-reviewed articles; searches limited to human studies; searches limited to adult studies.

Relevant studies were initially identified by searching the following databases: EMBASE (1996 – 2011 Week 16), Ovid MEDLINE(R) (1966 – April, Week 3, 2011), and PsycINFO (January 1960 – April, Week 3, 2011). Reference lists of all relevant articles were screened by the trainee and reviewed by the supervisor to ensure no studies were overlooked. In addition, Google Scholar was used to search for peer-reviewed, in press, studies involving compassion available online but not yet indexed on the aforementioned databases. Where there was disagreement regarding the suitability of a study for inclusion, eligibility was resolved by review of the full article by the student and supervisor. Search sensitivity was

analysed by scrutiny of the reference lists of the relevant studies identified by the search strategy.

Studies were eligible for inclusion according to the following criteria:

1) Sample included a clearly defined self-report or interview-based measure of compassion

2) A validated self-report or interviewer rated measure of mental health or psychopathology was used (e.g. measure of depression, anxiety, general symptomatology).

Studies were excluded if:

1) They did not include a validated or standardised measure of compassion.

2) They were published in a language other than English.

3) They were not published in a peer-reviewed publication, e.g. conference abstracts, book chapters, dissertations.

To test reliability of the review process 12% of the articles in the final data set were reviewed by a second reviewer (also a clinical psychology trainee), independent of the author.

Data Synthesis

As compassion is an emerging area of clinical research with heterogenous study methodologies, established frameworks such as the Clinical Trials Assessment Measure (CTAM, Wykes et al., 2005) or PRISMA criteria (Moher et al., 2009) were considered

inappropriate for reviewing the quality of the data. Instead, their criteria were used to inform construction of a bespoke proforma identifying key methodological factors in the selected papers (Appendix 1.2).

Where possible, effect sizes were reported or calculated from the data set. Effect sizes for correlational data were reported using correlation coefficients (r), following Cohen's (1988) recommendations; whereby $r = 0.1$ to 0.23 is equivalent to a small effect size; $r = 0.24$ to 0.36 equivalent to a medium effect; and $r = 0.37$ or larger equivalent to a large effect size. Effect sizes for group differences were transformed using standardised mean differences (Cohen's d) or converted using Murphy and Myors' (2004) guidelines for deriving r^2 values from group comparisons. Reporting of effect size magnitude is consistent with Cohen (1988), where an effect size of $d = 0.2$ to 0.3 is considered a "small" effect, around 0.5 a "medium" effect and 0.8 upwards a "large" effect.

Results

Study selection, sampling and demographics

The initial search strategy generated 728 articles. After review of abstracts, 37 potentially fulfilled the eligibility criteria. After close scrutiny of the text of these publications, a further 12 papers were excluded. Therefore, 25 publications were eligible for review, representing twenty-eight participant samples (Neff, 2003b, Neff et al., 2007; Roemer et al., 2009 report data from two independent samples within one paper). See Figure 1 for a flowchart of the search process.

The twenty-five studies detailed in the review can be divided into two categories: cohort studies without evaluation of a psychological intervention; and treatment evaluations, either

within groups or comparing an intervention with a control group. Methodological features of the studies are summarised in Table 1 and a methodological critique of the studies is included in Appendix 1.3. The studies represent a total sample of n=4709; of which 70.4% (n=3314) were female. Mean age of participants was 31.38 years of age (s.d. = 12.52 years; range = 18.14 – 60.81). The median reported age was 25.66 years (IQR = 20.90 – 40.63). The total data set was normally distributed.

INSERT TABLE 1 HERE

Measurement of compassion

All studies used the Self Compassion Scale (SCS, Neff, 2003a). Gilbert et al., (2011) also used the Compassionate Love Scale (Sprecher & Fahr, 2005) a 21-item questionnaire that measures compassion towards others. It has good reported reliability (α = .95; Sprecher & Fahr, 2005). No interview measures of compassion were identified.

The SCS is a 26-item self-report measure of compassionate responding to oneself, with six subscales measuring three components of self-compassion (Neff, 2003a,b). These components consist of opposing pairs – the ability to treat oneself with kindness (Self-Kindness) vs. critical self judgement (Self-Judgement); seeing one's experiences as part of a common shared humanity (Common Humanity) vs. isolating one's experiences (Self-Isolation); and finally being able to hold one's thoughts in a balanced awareness (Mindfulness) vs. overidentifying with them (Over-Identification). Schoevers and Brandsma (2010) only used the Mindfulness and Over-Identification SCS subscales.

The majority of studies used the original SCS, although two studies reported data for a short form version (Raes, 2010, 2011). Two studies reported data from a translation of the SCS (Costa & Pinto Gouveia, 2011; Lee & Bang, 2010).   Estimates for reliability of the total SCS ranged from $\alpha = .85$ to $\alpha = .95$. Reliability of the total SCS was not reported in six studies (Shapiro et al., 2005; Neff et al., 2007, 2nd study; Abercrombie et al., 2007; Laithwaite et al., 2009; Kuyken et al., 2010; Rimes & Wingrove, 2011). Six studies reported reliability for SCS subscales ranging from $\alpha = .66$ to $\alpha = .93$ (Neff 2003a; Mill et al., 2007; Thompson & Waltz, 2008; Ying, 2009; van Dam et al., 2011; Costa & Pinto Gouveia, 2011). Gilbert et al., (2011) created subscales for self-compassion and self-coldness by combining the self-kindness, common humanity and mindfulness; and self-judgement, isolation and over-identification subscales respectively.

Gilbert et al., (2011) were also the only study to compare measures of compassion. For their student sample they reported a significant correlation of $r=.31$ (p<.01) for the association between self compassion and compassionate love for others. There was no significant correlation between self-compassion and compassionate love in their therapist sample (r=.21, p= n.s.) There was no correlation between self-coldness and compassionate love for others in either the student or therapist sample (r=.00; p=n.s.; r=-.04; p=n.s.). Neff et al., (2007) measured therapist ratings of participant compassion, but as this was not conducted using a standardised questionnaire the data were not appropriate for the current review.

<u>Compassion and depression</u>

For associations between self-compassion and clinical variables, data were available from 17 studies. Associations between self-compassion and depressive symptomatology were reported for 13 samples, equivalent to a medium to large effect size (summarised in Table 2).

Lower levels of self compassion associated with higher levels of depressive symptoms. Raes (2011) explored relationships between compassion and depressive symptom clusters, divided into cognitive, affective and somatic domains. The reported association between self-compassion and each domain of depression was equivalent to a small to medium effect size (d= 0.2 to 0.35).

<div align="center">INSERT TABLE 2 HERE</div>

Four studies (Mills et al., 2007; Neff et al., 2008; van Dam et al., 2011; Costa & Pinto-Gouivaes 2011) reported associations between self-compassion subscales and depression, though the small number of studies and sampling heterogeneity limits the findings. All four studies reported an association between higher isolation and greater depression of medium to large effect size; with a similar effect size for the association of self-judgement subscales and greater depressive symptoms. Three studies (Neff et al., 2008; van Dam et al., 2011; Costa & Pinto-Gouivaes, 2011) reported medium to large effects for mindfulness and depression, with greater mindfulness associated with less depressive symptoms. The common humanity subscale appeared less consistently associated with depressive symptoms than the other 5 sub-scales of the SCS.

Gilbert et al., (2011) reported the association between self-coldness and depression was equivalent to a large effect size in their student sample, and a medium effect in the therapist sample. In both cases higher self-coldness associated with higher depression. They also reported an association between greater compassion for others and lower depression, equivalent to a medium effect in the therapist sample.

Several studies also noted associations between lower self-compassion and greater endorsement of putative cognitive risk factors for depressive symptoms such as ruminative responding (Neff, 2003a; Raes 2010), and self-criticism (Neff et al., 2007). Using mediational analysis and bootstrapped resampling, Raes (2010) reported brooding rumination partially mediated the relationship between self-compassion and depression. Neff (2003a) reported an association between higher self-compassion and greater self-acceptance (Berger Self Acceptance Scale, Berger 1952). Finally, Kuyken et al. (2011) reported that self-compassion may moderate the link between cognitive reactivity depressive symptoms, with post-treatment cognitive reactivity less strongly linked to outcome when participants had shown greater improvements in self-compassion across the treatment period (irrespective of treatment modality vis a vis MBCT or antidepressant medication).

Compassion and anxiety

Associations between self-compassion and anxiety were reported from 11 samples (summarised in Table 3). Nine samples reported associations between higher self-compassion and lower anxiety, of medium to large effect sizes. Six of these samples (Neff, 2003a, Studies i & ii; Neff et al., 2007, Studies i & ii; Neff et al., 2008; Raes 2010) used a form of the Stait-Trait Anxiety Inventory (Spielberger, 1983) indicative of measurement consistency across studies. Data for SCS subscales was more limited, with only two studies reporting associations with anxiety (van Dam et al., 2011; Costa & Pinto-Gouivaes, 2011). No clear pattern emerged from these data regarding the strength of associations.

INSERT TABLE 3 HERE

Gilbert et al. (2011) reported the association between self-coldness and anxiety was equivalent to a large effect size in their student sample, with higher self-coldness associating with higher anxiety. However, in their therapist sample no associations emerged between anxiety and self-coldness. These authors also report no correlation between other-oriented compassion and anxiety in either sample.

Roemer et al., (2009) reported two studies on Generalised Anxiety Disorder (GAD). Their first study reported a significant correlation between higher self-reported GAD symptoms and lower self-compassion, equivalent to a large effect size. However, when these data were entered into a hierarchical regression predicting GAD dimensional scores SCS scores emerged as a predictor of GAD scores of small effect size (Beta = -.13, p<.05; partial r = -.13; Effect Size f = .15). This may have been due to shared variance between the SCS and other emotional regulation/awareness measures (Brown & Ryan, 2000; Gratz & Roemer, 2004). Finally, in a study comparing individuals diagnosed with GAD with matched non-clinical controls, the GAD group had significantly lower SCS scores, equivalent to a large effect size.

Compassion and other symptoms

Data were more limited for other clinical variables (summarised in Table 4). Two studies (Raes, 2010; van Dam et al., 2011) reported associations between self-compassion and worry - both studies reporting higher self-compassion correlated with lower worry scores equivalent to a large effect size. van Dam et al., (2011) also reported associations between worry and SCS sub-scales, with higher levels of self judgement and isolation associating with higher worry. These data are consistent with aforementioned associations between depression and SCS subscales.

Thompson & Waltz (2008) conducted the only study of associations between self-compassion and PTSD symptomology, with a statistically significant association of medium effect size between self-reported PTSD avoidance cluster symptoms and SCS total score. Associations between self-compassion and both re-experiencing and hyperarousal PTSD symptoms were of small effect size. The singularity of this study limits the conclusions that can be drawn from the data. Mills et al., (2007) measured associations between self-compassion and paranoia in a non-clinical analogue sample. Small effect sizes were reported for associations between all 6 SCS subsales and self-reported paranoid ideation (Fenigstein & Vanable, 1992).

INSERT TABLE 4 HERE

Compassion and mental health/stress

Four studies reported data on global indices of mental health or stress (see Table 5), with large effect sizes reported for the association between higher self-compassion and higher mental health (Raque-Bogdan et al., 2011) or lower stress (Costa & Pinto Gouivaes, 2011). The latter authors also reported significant correlations between stress and SCS subscales, equivalent to a large effect size. Higher scores for Self-kindness, Common Humanity and Mindfulness were linked to lower stress; whereas higher scores for self-judgement, isolation and over-identification were linked to higher stress.

Gilbert et al., (2011) reported the association between self-coldness and stress was equivalent to a large effect size in their student sample, with higher self-coldness associating with higher stress. This pattern of association was repeated for therapists, though the effect size was small. These authors also report a small effect size for the correlation between higher

other-oriented compassion and lower stress in students, but a higher correlation (equivalent to a medium effect size) for therapists.

Birnie, Speca & Carlson (2010) reported associations between self compassion and stress both prior to, and after, their MBSR intervention. The association between self-compassion and stress before the intervention was equivalent to a medium effect, increasing to a large effect post treatment. This change may be attributable to the impact of the intervention upon self-compassion.

Compassion as a process variable: self-compassion measures in intervention studies

A second facet of the literature identified by the systematic review concerned intervention studies where both psychopathology and self-compassion were measured, with self-compassion used as a process variable. The review identified 11 studies that used self-compassion in this way, with four forms of intervention: MBCT (Kuyken et al., 2010; Rimes & Wingrove, 2010; Lee & Bang, 2010; Schroevers & Brandsma, 2010); Mindfulness Based Stress Reduction (MBSR; Shapiro et al., 2005; 2007; 2011; Abercrombie et al., 2007; Birnie et al., 2010); intensive mindfulness training (Orzech et al., 2009); and Compassionate Mind Training (CMT, Laithwaite et al., 2009).

INSERT TABLE 5 HERE

The studies utilised different methodologies (within subjects intervention evaluation; non-randomised treatment vs control; Randomised control trial (RCT)), however all but one study reported significant associations between the treatment condition and self-compassion. The majority of studies reported treatment comparisons of medium effect size

(either based on pre-post treatment comparisons or compared with controls). The one study that failed to demonstrate significant changes was based on a very small sample (n=8) and acknowledged substantial methodological difficulties (Abercrombie et al., 2007).

Data on the effect of treatment on SCS subscales were available for two studies (Schroever & Brandsma, 2010; Birnie et al., 2010). Schroever & Brandsma (2010) reported a significant small effect size for the Mindfulness subscale, and a moderate effect size for the over-identification subscale. Birnie et al., (2010) reported effect sizes of similar magnitude for the Mindfulness and Over-Identification subscales; with post-treatment scores being significantly higher than pre-treatment scores for mindfulness, and significantly lower for Over-Identification. They also reported a small effect size for increased Common Humanity, and moderate effect sizes post-treatment for increased Self-Kindness, decreased Self-Judgment and decreased Isolation.

The four RCT studies (Shapiro et al., 2005; 2011; Lee & Bang, 2010; Kuyken et al., 2010) all reported increased self-reported compassion post-treatment or at 1 month follow-up, equivalent to medium to large effect sizes. Shapiro and colleagues (2011) reported a large effect size for higher self rated self-compassion for MBSR treatment compared to waiting list controls, maintained at 2 month follow-up. At 12-month follow-up a significant difference was still evident between MBSR and controls, equivalent to a medium effect size. It is also of note that sampling for the four studies was relatively heterogenous; two studies recruited from a non-clinical population (Lee & Bang, 2010; Shapiro et al., 2011); one study concerned health professionals (Shapiro et al., 2005) and one recruited patients presenting with recurrent depression (Kuyken et al., 2010). It was not possible to evaluate the mediating effect of self-compassion upon associations between the interventions and clinical variables,

due to the paucity of data on associations between self-compassion and clinical variables in the treatment studies.

<u>Discussion</u>

<u>Summary: (Self) Compassion and its clinical correlates</u>

With regard to the first research question, all studies in the review used Neff's Self Compassion Scale (2003a), with the scale displaying robust reliability. Most studies reported the total score for this scale, but reporting of specific subscales was also identified. Gilbert et al., (2011) suggest an alternative strategy through combining subscales to give self-compassion and self-coldness scales. Given the difficulties in experiencing self-compassion in clinical problems, it may be advantageous to make more widespread use of this distinction in future studies, allowing a finer grained analysis of the data.

Turning to the second question of the review, the most robust associations were identified between compassion and depressive symptoms, consistent with theoretical predictions of the CFT literature (Gilbert 2005, 2010) and pilot clinical evaluations (e.g. Gilbert & Proctor, 2006), though it is notable that the literature only contained two studies of clinical populations (Kuyken et al., 2010; van Dam et al., 2011). Associations were also evident between rumination (Neff 2003a, Raes 2010), self-criticism (Neff et al., 2007) and low levels of compassion. This is consistent with Gilbert's (2010) theory, but also links the compassion literature to the broader literature on cognitive vulnerabilities to depression such as rumination (e.g. Nolen-Hoeksma, Larson & Gray 1999), shame (Gilbert & Proctor, 2006), and self-criticism (Gilbert, Baldwin, Irons, Baccus & Clark, 2006; Leary, Tate, Adams, Allen & Hancock, 2007). A pattern of association between lower self-compassion and increased anxiety was also evident, although the evidence was less robust. As with depression,

conclusions were limited by under-representation of clinical samples. Associations were also noted between low compassion and worry, itself a vulnerability factor for anxiety disorders (e.g. Borkovec, Alcaine & Behar, 2004; Wells, 2004).

The literature on other mental health difficulties was relatively limited. Several studies reported associations between self-compassion and stress/overall mental health (Birnie et al., 2010; Raque-Bogdan et al., 2011; Costa & Pinto-Gouvaies et al., 2011; Gilbert et al., 2011). However, it is unclear whether these findings represent independent associations or reflect the effect of the aforementioned associations between self-compassion, depression and anxiety. Thompson & Waltz (2008) present a promising preliminary finding associating PTSD avoidance symptomtology with reduced self compassion. This has parallel findings from ACT on the effect of experiential avoidance on PTSD severity (Marx & Sloan 2005). Despite existing small scale evidence of the effectiveness of CFT in voice-hearing and recovery from psychosis (Laithwaite et al., 2009; Mayhew & Gilbert, 2008), the identified literature on psychosis was disappointing, with small correlations evident.

Self-Compassion and treatment studies – a missed opportunity?

Eleven studies evaluated treatments (mainly MBCT and MBSR) measuring change self-compassion and clinical variables. The majority of these studies reported significant change in self-compassion either over the course of treatment or in treatment as against a control intervention. However, there was a paucity of data on whether self-compassion was associated with symptomatic improvement. In a notable exception, Kuyken et al. (2010) reported that self-compassion (and mindfulness) mediated the effect of MBCT for depression, with increased self-compassion during treatment significantly associated with lower depressive symptoms at follow-up. This raises the possibility, consistent with the

predictions of a CFT model (Gilbert, 2010) that increased self-compassion acts as a protective psychological buffer against depressogenic stressors. Consequently, these data highlight the need for considering the role of self-compassion as a mechanism of change in therapeutic interventions.

Limitations

Given the infancy of research in this field there are limitations with the identified studies. Firstly, the ubiquity of the SCS (Neff, 2003) enables clear comparisons across data sets, but limits exploration of the data to self-compassion. As Gilbert et al., (2011) note, this is only half the story, and these authors were the only study to measure other-oriented compassion. Further research is urgently needed to explore how compassion for others relates to clinical variables, but also how self- and other- related compassion interplay, perhaps in the form of a circumplex model, integrating high and low levels of both constructs.

Secondly, the literature is based wholly on self-reports. Neff et al., (2007) measured therapist ratings of compassionate responding, but in a non-standardised way, based on 'intuitive judgement'. Therefore, it would benefit the development of a robust research literature if an interview-based rating scale could be developed. An analogous situation occurs in attachment research, where development of self-report measures (e.g. Experiences in Close Relationships Scale; Brennan, Clark & Shaver, 1998) and a gold standard interview measure (Adult Attachment Interview, Main, Goldwyn & Hesse, 2002) has considerably enriched data on attachment in clinical samples (e.g. Steele & Steele, 2008; Shaver & Mikulincer, 2010).

Thirdly, the literature to date is heavily loaded towards analogue and non-clinical data. Useful as this is for hypothesis generation and establishing empirical evidence for the relevance of compassion to clinical problems, further studies in clinical samples are required to develop the strength of the literature. Finally, as will be discussed below the data is also characterised by over-representation of cross sectional data, placing limits on establishing causality.

Implications for Research

These limitations notwithstanding, the review identified a significant body of research on compassion and clinical problems. The oldest paper in the review was published in 2003, thus the studies span less than a decade. Challenges ahead include unpacking the implications of these data for elucidating specific relationships between facets of compassion, vulnerabilities to psychopathology and clinical disorders; and broadening the data on clinical samples. For instance, studies of compassion to date have tended to focus on wellbeing and resilience, areas largely outside the scope of this review (e.g. Crocker & Canevello, 2008, Crocker, Canevello, Breines & Flynn, 2010; Neff, Rude & Kirkpatrick, 2007b); although several treatment studies in the current review were initiated with a view towards enhancing wellbeing, rather than treating psychopathology (e.g. Shapiro et al., 2007; Orzech et al., 2009). Therefore, there is considerable scope for future studies to examine the constituent components of self-compassion, on one hand to establish associations between compassion and wellbeing, and on the other to measure associations between compassion difficulties and psychopathology.

The current data suggests potential for future studies to explore causality between compassion and clinical variables. Raque-Bogdan et al., (2011) demonstrated that self-

compassion mediated the relationship between attachment and mental health. Additionally, the popularity of the SCS facilitates the recruitment of relatively large samples, enabling the use of mediational analyses and structural equation modelling for data analysis.

Further potential lies in the area of complex psychopathology. A recent special issue of the International Journal for Cognitive Therapy (Gilbert, 2010) presented theoretical papers exploring the relevance of compassion influenced frameworks for understanding psychological interventions in eating disorders (Goss & Allen, 2010), psychosis (Gumley et al., 2010), and bipolar disorder (Lowens, 2010). However, the current review identified no published empirical data in these areas beyond case studies. There is also no literature on the relevance of compassion in borderline personality disorder, despite clear conceptual overlap between DBT (Linehan, 1993) and compassion related constructs. A final area for expansion of this research concerns possible neural correlates of compassionate responding in clinical groups. Preliminary evidence suggests that compassionate responding modulates neural activity in the medial Prefrontal Cortex (mPFC, Kim et al., 2009; Immordino-Yang et al., 2009). The activation of the mPFC links the literature on compassion to the contemporary research on theory of mind (e.g. Shamay-Tsoory, Aharaon-Peretz, & Levkovitz, 2007), emotional regulation (e.g. Decety & Jackson, 2004) and mentalisation (e.g. Lieberman, 2007). Furthermore, the putative position of oxytocin as a biomarker for compassion, although theoretically established (Liotti & Gilbert, 2011) requires empirical evidence. Studies in this vein would also link compassion to the literature on the neurobiology of attachment and mentalization (e.g. Fonagy, Luyten & Strathearn, 2011).

Implications for clinical practice

There are several implications for clinical practice. Firstly, the review suggests self-compassion is relevant not just to CFT, but also as a process variable in other third wave therapies, particularly MBCT and MBSR. Indeed, van Dam et al., (2011) suggest that self-compassion measured via the SCS has a consistent psychometric structure and cross-cultural validity (Neff et al., 2008), and greater predictive value for anxiety and depression than measures of mindfulness. Consequently, it would appear that self-compassion has considerable utility within clinical samples. None of the identified studies applied self-compassion measures to Acceptance and Commitment Therapy (Hayes et al., 1999), therefore it would be desirable for studies of ACT to include assessment of self-compassion.

The consistent relationship between compassion and mental health variables underscores the proposition that being able to access feelings of safeness and self-soothing is implicated in enhancing resilience. In contrast, difficulties in accessing self-compassion may confer vulnerability to psychopathology. Echoing the work of Gilbert (2005, 2010; Gilbert et al., 2011) the current review provides empirical backing for the proposition that psychological interventions that provide conditions for accessing increased self-compassion can be effective in enhancing wellbeing.

Conclusion

This systematic review provides the first survey of the literature on the relevance of compassion to clinical variables. It has established that the measurement of self-compassion, predominantly via the SCS (Neff, 2003a) provides robust, replicable findings linking increased self-compassion to a lower psychopathology, particularly depression and anxiety. Conversely, lower levels of self-compassion associate with higher levels of mental health

difficulties. In addition, self-compassion emerges as an important process variable in mindfulness and compassion-based psychological interventions. Future work will be invaluable in establishing the strength of these associations in clinical samples, developing the evidence base for compassion in complex psychopathology, and exploring causal links between compassion and psychopathology.

References

*= studies included in the systematic review sample

*Abercrombie, P.D., Zamora, A., Korn, A.P. (2007). Lessons Learned. Providing a mindfulness-based stress reduction program for low-income multiethnic women with abnormal pap smears. Holistic Nursing Practice. 21, 26 - 34.

Beck, A.T., Rush, A.J., Shaw, B.F., & Emery, G. (1979). Cognitive therapy of depression. New York: Guilford

Beck, A. T., & Steer, R. A. (1993). Beck Anxiety Inventory manual. San Antonio, TX: The Psychological Corporation.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). Beck Depression Inventory (2nd ed.). San Antonio, TX: The Psychological Corporation.

Berger, E. M. (1952). The relation between expressed acceptance of self and expressed acceptance of others. Journal of Abnormal Psychology, 47, 778–782.

*Birnie, K., Speca, M., & Carlson, LE. (2010) Exploring self-compassion and empathy in the context of mindfulness-based stress reduction (MBSR). Stress and Health, 26, 359 - 371.

Borkovec, T. D., Alcaine, O. M., & Behar, E. (2004). Avoidance theory of worry and generalized anxiety disorder. In R. G. Heimberg, C. L. Turk, & D. S. Mennin (Eds.),

Generalized anxiety disorders: Advances in research and practice (pp. 77–108). New York: Guilford Press

Bowlby, J. (1973). Attachment and loss Vol. 2: Separation, anger and anxiety. London: The Hogarth Press.

Brach, T. (2003). Radical acceptance: Embracing your life with the heart of a Buddha. New York: Bantam Books.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), Attachment theory and close relationships (pp. 46-76). New York: Guilford Press.

Brown, K. W., & Ryan, R. M. (2000). The benefits of being present: Mindfulness and its role in psychological well-being. Journal of Personality and Social Psychology, 84, 822–848.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Costa, J., & Pinto-Gouveia, J. (2008). Aceitação da Dor. Abordagem psicométrica do Chronic Pain Acceptance Questionnaire numa amostra portuguesa com dor crónica (unpublished data).

*Costa, J., & Pinto Gouveia, J. (2011) Acceptance of Pain, Self-Compassion and Psychopathology: Using the Chronic Pain Acceptance Questionnaire to Identify Patients' Subgroups. Clinical Psychology and Psychotherapy. 18, 292 – 302.DOI: 10.1002/cpp.718

Crocker, J., & Canevello, A. (2008). Creating and undermining social support in communal relationships: The role of compassionate and self-image goals. Journal of Personality

and Social Psychology, 95, 555–575.

Crocker, J., Canevello, A., Breines, J.G., Flynn, H. (2010). Interpesonal Goals and Change in Anxiety and Dysphoria in First-Semester College Students. Journal of Personality and Social Psychology, 98, 1009 - 1024.

Decety, J., & Jackson, P. L. (2004). The functional architecture of human empathy. Behavioral and Cognitive Neuroscience Reviews, 3, 71–100.

Depue, R.A. & Morrone-Strupinsky, J.V. (2005). A neurobehavioral model of affiliative bonding. Behavioral and Brain Sciences, 28, 313-395

Fenigstein, A., & Vanable, P.A. (1992). Paranoia and selfconsciousness. Journal of Personality and Social Psychology, 62, 129–138.

Fonagy, P., Luyten, P., Strathearn, L. (2011). Borderline personality disorder, mentalization, and the neurobiology of attachment. Infant Mental Health Journal, 32(1), 47-69 doi:10.1002/imhj.20283.

Gater, R., Tansella, M., Korten, A., Tiemens, B.G., Mavreas, V.G., & Olatawura, M.O. (1998) Sex differences in the prevalence and detection of depressive and anxiety disorders in general health care settings. Archives of General Psychiatry, 55, 405 - 413.

Gilbert, P. (2005) Compassion and cruelty: A biopsychosocial approach. In P. Gilbert. (ed.). Compassion: Conceptualisations, Research and Use in Psychotherapy (pp. 9-74). London: Routledge.

Gilbert, P. (2010). An Introduction to Compassion Focused Therapy in Cognitive Behavior Therapy. *Journal of Cognitive Psychotherapy*.3, 97 – 112,

Gilbert, P. & Proctor, S. (2006) Compassionate mind training for people with high shame and self criticism: A pilot study of a group therapy approach. *Clinical Psychology and Psychotherapy.* **13**, 353 - 379.

Gilbert, P., Baldwin, M., Irons, C., Baccus, J. & Clark, M. (2006). Self-criticism and self-warmth: An imagery study exploring their relation to depression. Journal of Cognitive Psychotherapy: An International Quarterly. 20, 183-200

Gilbert, P., McEwan, K., Matos, M., Rivis, A. (2011). Fears of compassion: Development of three self-report measures. *Psychology & Psychotherapy: Theory, Research and Practice.* DOI: 10.1348/147608310X526511

Goetz. J.L., Keltner, D., & Simon-Thomas, E. (2010) Compassion: An evolutionary analysis and empirical review. Psychological Review, 136, 351 – 374.

Goss, K., & Allen, S. (2010). Compassion focused therapy for eating disorders. International Journal of Cognitive Therapy, 3(2), 141-158.

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. Journal of Psychopathology and Behavioral Assessment, 26, 41–54.

Gumley, A., Braehler, C., Laithwaite, H., MacBeth, A. & Gilbert, P. (2010). A compassion focused model of recovery after psychosis. International Journal of Cognitive Therapy, 3(2), 186-201

Hayes, S.C., Strosahl, K.D., & Wilson, K.G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change.* New York: Guilford.

Hrdy, S. (2009) Mothers and others: The evolutionary origins of mutual understanding. Cambridge, MA: Belknapp, Harvard.

Immordino-Yang, M. H., McColl, A., Damasio, H., & Damasio, A. (2009). Neural correlates of admiration and compassion. Proceedings of the National Academy of Sciences, USA, 106, 8021–8026

Jay, M., & John, O. (2004). A depressive symptom scale for the California Psychological Inventory: Construct validation of the CPI-D. Psychological Assessment, 16, 299-309.

Kessler, R.C., McGonagle, K.A., Swartz, M., Blazer, D.G., & Nelson, C.B. (1993) Sex and depression in the National Comorbidity Survey: I. Lifetime prevalence, chronicity, and recurrence. Journal of Affective Disorders. 29, 85 - 96.

Kim, K.E., Yi, G.D., Cho, Y.R., Chai, S.H., & Lee, W.K. (2008). The validation study of the Korean version of the Self-Compassion Scale. Korean Journal of Health Psychology, 13(4), 1023–1044.

Kim, J. W., Kim, S.-E., Kim, J.-J., Jeong, B., Park, C.-H., Son, A. R.,Song,. J.E.& Ki, S. W. (2009). Compassionate attitude towards others' suffering activates the mesolimbic neural system. *Neuropsychologia, 47,* 2073– 2081.

Kuyken, W., Byford, S., Taylor, R. S., Watkins, E., Holden, E., White, K., et al. (2008). Mindfulness-based cognitive therapy to prevent relapse in recurrent depression. Journal of Consulting and Clinical Psychology, 76, 966-978.

*Kuyken, W., Watkins, E., Holden, E., White, K., Taylor, R. S., Byford, S., et al. (2010). How does mindfulness-based cognitive therapy work? Behaviour Research and Therapy, 48, 1105–1112.

*Laithwaite H., O'Hanlon, M., Collins, P., Doyle, P., Abraham L., Porter S. & Gumley A. (2009) Recovery After Psychosis (RAP): A compassion focused programme for

individuals with psychosis residing in high secure accommodation. *Behavioural and Cognitive Psychotherapy, 37*, 511–526.

Leary, M. R., Tate, E. B., Adams, C. E., Allen, A. B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. Journal of Personality and Social Psychology, 92, 887-904.

Leckie, M.S., & Thompson, E. (1979). Symptoms of stress inventory. Seattle, WA: University of Washington.

*Lee, W.K., & Bang, H.J. (2010) The Effects of Mindfulness-Based Group Intervention on the Mental Health of Middle-Aged Korean Women in Community. Stress and Health, 26, 341 - 348.

Lieberman, M. D. (2007). Social cognitive neuroscience: A review of core processes. Annual Review of Psychology, 58, 259–289.

Linehan, M.B. (1993). *Cognitive behavioural treatment of borderline personality disorder*, New York: Guilford.

Liotti, G. and Gilbert, P. (2011), Mentalizing, motivation, and social mentalities: Theoretical considerations and implications for psychotherapy. Psychology and Psychotherapy: Theory, Research and Practice, 84: 9–25.

Lovibond, S. H., & Lovibond, P. F. (1995). Manual for the Depression Anxiety Stress Scales, 2nd ed. Sydney: Psychology Foundation of Australia.

Lowens, I. (2010). Compassion focused therapy for people with bipolar disorder. International Journal of Cognitive Therapy, 3(2), 172-185.

Marx, B. P., & Sloan, D. M. (2005). Peritraumatic dissociation and experiential avoidance as predictors of posttraumatic stress symptomatology. Behavior Research and Therapy, 43, 569–583.

Mayhew, S.L. & Gilbert, P. (2008). Compassionate Mind Training with People Who Hear Malevolent Voices: A Case Series Report. *Clinical Psychology & Psychotherapy*, 15, 113 - 138.

Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn state worry questionnaire. Behaviour Research and Therapy, 28, 487–495

*Mills, A., Gilbert, P. Bellew, R., McEwan, K., Gale, C. (2007). Paranoid beliefs and self-criticism in students. *Clinical Psychology and Psychotherapy*, 14, 358 - 364.

Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting Items for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. *BMJ*, 339, b2535-b2535.

Murphy, K.R., Myors, B. *Statistical Power Analysis (2nd Ed.)* 2004. Mahnah, N.J.: LEA.

*Neff, K. D. (2003a). Development and validation of a scale to measure self-compassion. *Self and Identity, 2,* 223-250.

Neff, K. D. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity, 2,* 85-102.

* Neff, K. D., Hseih, Y., & Dejitthirat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and Identity, 4,* 263–287.

* Neff, K. D., Kirkpatrick, K. & Rude, S. S. (2007a). Self-compassion and its link to adaptive psychological functioning. *Journal of Research in Personality, 41,* 139-154.

Neff, K. D., Rude, S. S., & Kirkpatrick, K. (2007b). An examination of self-compassion in relation to positive psychological functioning and personality traits. Journal of Research in Personality, 41, 908–916.

* Neff, K. D., Pisitsungkagarn, K., & Hseih, Y. (2008). Self-compassion and self-construal in the United States, Thailand, and Taiwan. *Journal of Cross-Cultural Psychology.* 39, 267 – 285.

Newman, M. G., Zuellig, A. R., Kachin, K. E., Constantino, M. J., Przeworski, A., Erickson, T., & Cashman-McGrath, L. (2002). Preliminary reliability and validity of the Generalized Anxiety Disorder Questionnaire-IV: A revised self- report diagnostic measure of generalized anxiety disorder. Behavior Therapy, 33, 215–233.

Nolen-Hoeksema, S., Larson, J., & Grayson, C. (1999). Explaining the gender difference in depressive symptoms. Journal of Personality and Social Psychology, 77, 1061–1072.

*Orzech, K.M., Shapiro, S.L., Brown, K.W., & McKay, M. (2009). Intensive mindfulness training-related changes in cognitive and emotional experience. *Journal of Positive Psychology*, 4, 212 - 222.

Öst, L-G. (2008). Efficacy of the third wave of behavioral therapies: A systematic review and meta-analysis. *Behaviour Research and Therapy*, 46, 296-321.

Radloff, L.S. (1977). The CES-D scale: A new self-report depression scale for research in the general population. Applied Psychological Measurement, 1, 385–401.

* Raes, F. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences*, 48, 757 - 761.

* Raes, F. (2011). The Effect of Self-Compassion on the Development of Depression Symptoms in a Non-clinical Sample . *Mindfulness*, 2, 33 - 36.

* Raque-Bogdan, T.L., Ericson, S.K., Jackson, J., Martin, H.M., Bryan, N.A. (2011). Attachment and Mental and Physical Health: Self Compassion and Mattering as Mediators . *Journal of Counselling Psychology*, 58, 272 - 278.

van Rijsoort, S., Emmelkamp, P., & Vervaeke, G. (1999). The Penn state worry questionnaire and the worry domains questionnaire. Clinical Psychology and Psychotherapy, 6, 297–307.

*Rimes, K.A., Wingrove, J. (2011). Pilot Study of Mindfulness-Based Cognitive Therapy for Trainee Clinical Psychologists. *Behavioural and Cognitive Psychotherapy*, 39, 25 - 241.

*Roemer, L., Lee, J. K., Salters-Pedneault, K., Erisman, S. M., Orsillo, S. M., & Mennin, D. S. (2009). Mindfulness and emotion regulation difficulties in generalized anxiety disorder: Preliminary evidence for independent and overlapping contributions. *Behavior Therapy, 40,* 142-154.

*Schroevers, M. J., Brandsma, R. (2010) Is learning mindfulness associated with improved affect after mindfulness-based cognitive therapy? *British Journal of Psychology*, 101, 95–107.

Shamay-Tsoory, S. G., Aharon-Peretz, J., & Levkovitz, Y. (2007). The neuroanatomical basis of affective mentalizing in schizophrenia: Comparison of patients with schizophrenia and patients with localized prefrontal lesions. Schizophrenia Research, 90, 274–283.

*Shapiro, S.L., Astin, J.A., Bishop, S.R., Cordova, M. (2005). Mindfulness-Based Stress Reduction for Health Care Professionals: Results From a Randomized Trial. International Journal of Stress Management. 12, 164 - 176.

*Shapiro, S.L., Brown, K.W., & Biegel, G.W. (2007). Teaching Self-Care to Caregivers: Effects of Mindfulness-Based Stress Reduction on the Mental Health of Therapists in Training. Training and Education in Professional Psychology. 1, 105 - 115.

*Shapiro, S.L., Brown, K.W., Thoresen, C., Plante, T.G. (2011). The moderation of mindfulness-based stress reduction effects by trait mindfulness: Results from a randomized controlled trial. Journal of Clinical Psychology. 67, 267 - 277.

Shaver, P.R. & Mikulincer, M. (2010) Attachment in adulthood: Structure, dynamics and change. New York: Guilford Press.

Segal, Z.V. Williams, J.M.G., & Teasdale, J.D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to relapse prevention*. New York: Guilford.

Spielberger, C. D. (1983). Manual for the state-trait anxiety inventory (STAI). Palo Alto, CA: Consulting Psychologists Press

Sprecher, S., & Fehr, B. (2005). Compassionate love for close others and humanity. Journal of Social and Personal Relationships, 22, 629–652. doi:10.1177/0265407505056439.

Steele, H., & Steele, M. (Eds.) (2008) Clinical applications of the Adult Attachment Interview. New York: Guilford Press.

*Thompson, B.L., Waltz, J. (2008) Self-Compassion and PTSD severity, *Journal of Traumatic Stress*, 21, 556 - 558.

*van Dam, N.T. Sheppard, S.C., Forsyth, J.P., & Earleywine, M. (2011). Self-compassion is a better predictor than mindfulness of symptom severity and quality of life in mixed anxiety and depression. Journal of Anxiety Disorders. 25, 123 - 130.

Van der Ploeg, H. M. (2000). Manual of the self-assessment questionnaire – A Dutch revision of the Spielberger state-trait anxiety inventory. Lisse, The Netherlands: Swets Test Publishers.

Ware, J. E., Kosinski, M., & Keller, S. D. (1996). A 12-item short-form health survey. Medical Care, 34, 220–233. doi:10.1097/00005650- 199603000-00003

Wells, A. (2004). A cognitive model of GAD: Metacognitionsand pathological worry. In R. G. Heimberg, C. L. Turk, & D. S. Mennin (Eds.), Generalized anxiety disorders: Advances in research and practice (pp. 164–186). New York: Guilford Press.

White, K., Holden, E. R., Byng, R., Mullan, E., & Kuyken, W. (2007). Under/over-recruitment to mental health trials. Acta Psychiatrica Scandinavica, 116, 158.

Williams, J. B. W. (1988). A structured interview guide for the Hamilton depression rating-scale. Archives of General Psychiatry, 45, 742e747

Wykes, T., Steel, C., Everitt, B., & Tarrier, N. (2008). Cognitive Behavior Therapy for Schizophrenia: Effect Sizes, Clinical Models, and methodological rigor. *Schizophrenia Bulletin*, **34**, 523 – 537.

*Ying, Y. (2008). Contribution of self-compassion to competence and mental health in social work students. Journal of Social Work Education, 45, 309 - 323.

Figure 1

 Flow diagram of review strategy
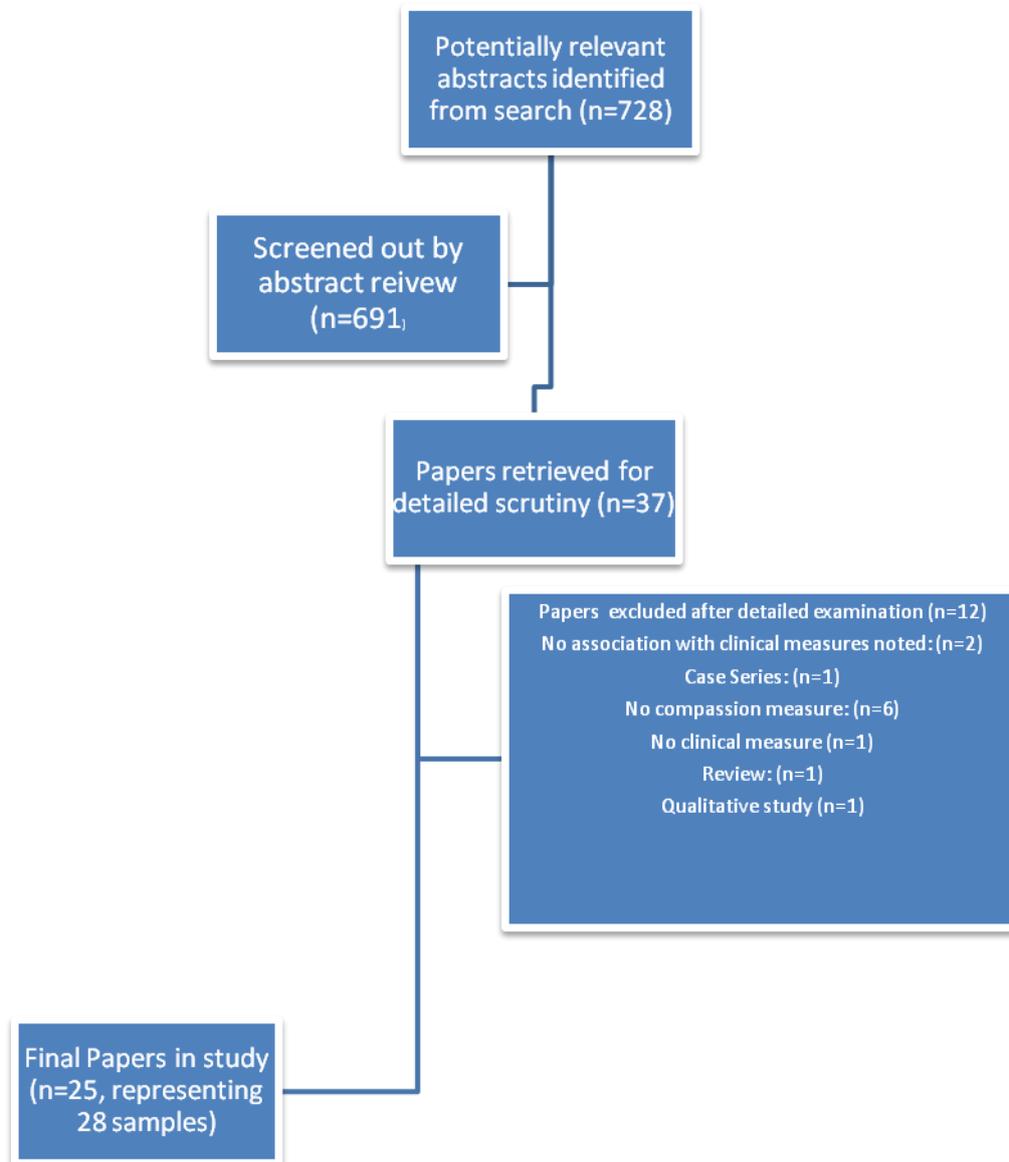
Table 1: Study characteristics

Study	Study design	Participants	Sample n	Gender ratio	Mean Age (S.D.)	Compassion Measure	Compassion reliability
Cohort studies							
Raque-Bogdan, et al., 2011.	Cross sectional	Students	208	153 Female/44 Male/ 11 no response	20 (1.6)	SCS[1]	α =.92
Raes, 2010	Cross sectional	Students	271	214 Female/ 57 Male	18.14 (1.25)	SCS-SF[2]	α =.90
Mills et al., 2007	Cross sectional	Students	131	83 Female/ 48 Male	22.10 (6.00)	SCS	α =.75 - .80 for subscales
Neff et al., 2007Study i	Cross sectional	Students	91	69 Female/22 Male	20.9 (1.5)	SCS	α =.94
Neff, et al., 2007 Study ii	Cross sectional	Students	40	38 Female/ 2 Male	21.05 (1.05)	SCS	N/R
Neff et al., 2005	Cross sectional	Students	222	138 Female/84 Male	20.94 (2.03)	SCS	α =.94
Neff et al., 2008	Cross sectional	Students (USA; Thai and Taiwanese)	568	337 Female/231 Male	USA: 21.4 Thai: 19.8 Taiwanese: 20.5 (no s.d's reported)	SCS	α =.86 - .95 Subscales: α =.60 - .86
Gilbert et al., 2011	Cross sectional	Students	222	168 Female/54 Male	22.7 (7.07)	SCS (recoded into self-compassion	N/R for either scale

					and self-coldness)	
		Therapists	59	49 Female/10 Male	39.52 (10.99)	Compassionate Love Scale (Sprecher & Fahr, 2005)	
Thompson & Waltz, 2008	Cross sectional	Students	210	131 Female/ 79 Male	19[3] (range 18 - 53)	SCS	α =.90; Subscales α =.66 - .85.
Neff, 2003; Study i	Cross sectional	Students	391	225 Female/ 166 Male	20.91 (2.27)	SCS	CFI =.92; subscales CFI =.75 - .81
Neff, 2003; Study ii	Cross sectional	Students	232	145 Female/87 Male	21.31 (3.17)	SCS	CFI =.93
Ying, 2009	Cross sectional cohort	Social work students	65	58 Female/ 7 Male	28.12 (5.4)	SCS	Subscales: subscales α =.75 - .84
Van Dam et al., 2011	Cross sectional cohort	Clinical sample self-referring with depression and/or anxiety	504	396 Female/ 108 Male	38.2 (11.1)	SCS	α =.92; subscales α =.72 - .83.
Costa & Pinto-Gouivaes (2011)	Cross Sectional cohort	Patients with a >6 month history of non-malignant pain	103	82 Female/21 Male	60.81 (13.24)	SCS[4]	α =.95; subscales α =.76 - .93
Roemer et al., 2010; Study 1	Cross Sectional Cohort	Students	395	253 Female/142 Male	23.2 (no s.d. given)	SCS	α =.95;

Roemer et al., 2010; Study 2	Cross Sectional Cohort	Participants with a diagnosis of Generalized Anxiety Disorder (GAD) vs. non-clinical controls	32 (16 in each group)	22 Female/10 Male	GAD group: 32.75 (11.86) Controls: 31.38 (9.06)	SCS	α =.97
Raes 2011	Longitudinal follow-up	Students	439	373 Female/66 Male	18.37 (1.83)	SCS-SF	Test α =.84; Retest α =.87.
Treatment Evaluations							
Rimes & Wingrove, 2011	W/in subj tx evaluation MBCT[6]	Trainee clinical psychologists	20	20 Female	Not recorded	SCS	N/R
Orzech et al., 2009	W/in subj tx evaluation of mindfulness training	General population attendees at a 4-week mindfulness course	69	49 Female/ 20 Male	53.3 (no s.d. reported)	SCS	α =.85
Abercrombie et al., (2007)	W/in subj tx evaluation of MBSR[7] (pilot – n=8)	Low Income women with abnormal PAP smears	8	8 Female	39 (no s.d. reported)	SCS	N/R
Laithwaite et al., 2009	W/in subj tx evaluation of CMT[8]	Clinical – forensic psychosis	18	18 Male	36.9 (9.09)	SCS	N/R

Shapiro et al., 2007	Non Randomised cohort control of MBSR	Masters counselling psychology students	54	48 Female/6 male	29.2 (9.07)	SCS	α =.94
Shapiro et al., 2005	RCT of MBSR	Health care professionals	38	Not recorded	Not recorded	SCS	N/R
Lee & Bang 2010	RCT of MBCT	General population	60	60 Female	Mindfulness: 41.46 (5.41) Control: 40.36 (6.17)	SCS[5]	α =.87[5]
Shapiro et al., 2011	RCT of MBSR	Students	30	26 Female/4 Male	18.73 (1.29)	SCS	α =.94
Kuyken et al, 2010	RCT of MBCT with 15 month follow-up	Clinical - Recurrent depression referred by GP	114	88 Female/26 Male	Mindfulness:50 (10.64) Control: 49 (11.84)	SCS	N/R
Schroevers & Brandsma (2010)	Cohort treatment evaluation	General population	64	46 Female/18 Male	43.23 years (8.93)	SCS (O.I. & Mind. subscales)	OI: α =.84 Mind: α =.88
Birnie et al., 2010	Cohort treatment evaluation	General population	51	35 Female/ 16 Male	47.4 (10.87)	SCS	Subscale Reliability: S-K α =.78 S-J:α =.77 CH:α =.80 Isol:α =.79 Mind:α =.75 OI: α =.81

[1]SCS = Self Compassion Scale, (Neff, 2003a); [2] SCS-SF = Short Form Self Compassion Scale (Raes, 2010); [3] Median and range reported. [4] Portuguese translation of the SCS (Pinto-Gouveia & Catilho, 2006); [5] Korean translation of the SCS (Lee et al, 2008); [6] MBCT = Mindfulness based CognitiveTherapy; [7]MBSR = Mindfulness Based Stress Reduction; [8] CFT = Compassionate Mind Training; W/in Subj. Tx = Within Subjects Treatment; RCT = Randomized Controlled Trial; S-K = Self Kindness; S-J = Self-Judgement; CH = Common Humanity; Isol = Isolation; Mind = Mindfulness; OI = Over-Identification; N/R = Not Reported

Table 2: Strength of association between compassion and depressive symptoms

Study	Measure	Statistics	Effect Size
Neff, 2003 Study i	Beck Depression Inventory (BDI; Beck et al., 1979)	r=-.51; p<.01	Large
Neff, 2003 Study ii	Zung Self-Rating Depression Scale (ZSDS; Zung, 1965)	r=-.55; p<.01	Large
Neff et al., 2007 Study ii	BDI	Zero order r=-.31; p<.05	Medium
Neff et al., 2008	ZSDS	USA: Total: r=-.54, p<.01 S-K: r=-.43; p<.01 S-J: r=.53; p<.01 CH: r=-.31; p<.01 Isol: r=.52; p<.01 Mind: r=-.38; p<.01 OI: r=.49; p<.01 Thailand: Total: r=-.53, p<.01 S-K: r=-.24; p<.01 S-J: r=.46; p<.01 CH: r=-.08; p=n.s. Isol: r=.54; p<.01 Mind: r=-.34; p<.01 OI: r=.44; p<.01 Taiwan: Total: r=-.61, p<.01 S-K: r=-.44; p<.01 S-J: r=.43; p<.01 CH: r=-.24; p<.01 Isol: r=.51; p<.01 Mind: r=-.42; p<.01 OI: r=.49; p<.01	Total: Large S--K: Large S-J: Large CH: Medium Isol: Large Mind: Large OI: Large Total: Large S-K: Medium S-J: Large CH: Small Isol: Large Mind: Medium OI: Large Total: Large S-K: Large S-J: Large CH: Medium Isol: Large Mind: Large OI: Large
Mills et al., 2007	Centre for Epidemiological Studies of Depression Scale (Radloff, 1977)	S-K: r=-.38; p<.01 CH: r=-.18; p<.05	S-K: Large CH: Small

		Mind: r=-.19; p<.05 S-J: r=.52; p<.01 Isol: r=.61; p<.01 OI: r=-.49; p<.01	Mind: Small S-J: Large Isol: Large OI: Large
Ying, 2009	California Psychological Inventory Depression Scale (Jay & John, 2004)	$\Delta R'$=.34, p<.001, d=.63 (contribution of all subscales to model)	Medium to Large
Raes, 2010	Beck Depression Inventory-II (BDI-II; Beck, Steer & Brown, 1996)	r=-.55; p<.001	Large
Van Dam et al., 2011	BDI	Total sr^2=.256, p<.01; d=1.17 S-K: sr^2=.009, p<.01; d=0.19 CH: sr^2=.000, p= n.s. d=0.02 Mind: sr^2=.013, p<.001, d=0.77 S-J: sr^2=.036, p<.001, d=1.5 Isol: sr^2=.013, p<.01, d=0.77 OI: sr^2=.002, p=n.s, d=0.08	Total: Large S-K: Small CH: Negligible Mind: Medium to Large S-J: Large Isol :Medium to Large OI: Small
Costa & Pinto-Gouivaes (2011)	Depression, Anxiety and Stress Scale (DASS, Portuguese version; Pais-Ribeiro, Honrado, & Leal, 2004)	Total r=-.609; p<.001 S-K: r=-.440; p<.001 CH: r=-.474; p<.001 Mind: r=-.621; p<.001 S-J: r=.339; p<.01 Isol: r=.602; p<.001 OI: r=.470; p<.001	Total: Large S-K: Large CH: Large Mind: large S-J: Medium Isol: Large OI: Large
Raes 2011	BDI-II	BDI-II Somatic Symptoms: r^2=0.03; p<0.01.; d=0.35	Effect on Somatic Symptoms: Small to Medium

		BDI-II Affective Symptoms $r^2=0.03$; $p<0.01$. $d=0.35$	Effect on Affective Symptoms: Small to Medium
		BDI-II Cognitive Symptoms $r^2=0.01$; $p=0.072$. $d=0.2$	Effect on Cognitive Symptoms: Small
Roemer et al, 2009; Study 1	Depression, Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995)	$r=.54$; $p<.001$ (Bonferroni adjustment)	Large
Gilbert et al., 2011	DASS	Students Self Compassion (S-K, CH & Mind) $r=.-27$; $p<.01$	Medium
		Self Coldness (S-J; Iso; OI): $r=.52$ $p<.01$	Large
		Compassionate Love: $r=.03$ $p=$n.s.	Negligible
		Therapists Self Compassion (S-K, CH & Mind): $r=.-36$; $p<.01$	Medium
		Self Coldness (S-J; Iso; OI):$r=.33$ $p<.05$	Medium
		Compassionate Love: $r=.-30$ $p<.05$	Medium
Kuyken et al, 2010	Hamilton Rating Scale for Depression (Williams, 1988)	Change from treatment to rating at 15 month follow-up ΔSCS: $B=-1.73$; beta $= -.25$; $t=2.59$; $p<.01$	Medium

Table 3: Association of self-compassion and anxiety

Study	Measure	Statistical reporting	Effect Size
Neff, 2003; Study i	Spielberger State-Trait Anxiety Inventory - Trait form (STAI-T; Spielberger, 1983)	r=-.65; p<.01	Large
Neff, 2003; Study ii	STAI-T	r=-.66; p<.01	Large
Neff et al., 2005	STAI-T	r=-.66; p<.01	Large
Neff et al., 2007; Study i	STAI-T	r=-.21; p<.05 (after experimental task concerning considering one's own weakness)	Small
Neff et al., 2007; Study ii	STAI-T	Zero order r=-.61; p<.01	Large
Raes, 2010	STAI-T – Dutch translation (Spielberger, 1983; Van der Ploeg, 2000)	r=-.75; p<.001	Large
Roemer et al, 2009; Study 1	DASS	r=.39; p<.001 (Bonferroni adjustment)	Large
	Generalized Anxiety Disorder Questionnaire-IV (GAD-Q-IV; Newman et al., 2002	r=.46; p<.001 (Bonferroni adjustment)	Large
Gilbert et al., 2011	DASS	Students	
		Self Compassion (S-K, CH & Mind)	Medium
		r=.-25; p<.01 Self Coldness (S-J; Iso; OI):	Large
		r=.37 p<.01 Compassionate Love: r=..09 p=n.s.	Negligible
		Therapists	
		Self Compassion (S-K, CH & Mind)	Negligible

		r=.-09; p=n.s.	Negligible
		Self Coldness (S-J; Iso; OI):r=.09 p=n.s	Negligible
		Compassionate Love: r=.02 p=n.s.	
Van Dam et al.,, 2011	Beck Anxiety Inventory (Beck & Steer 1993)	Total sr^2=.099, p<.01; d=0.66	Total: Medium to large
		S-K: sr^2=.000, p=n.s.; d=0.02	S-K: Negligible
		CH: sr^2=.000, p= n.s. d=0.02	CH: Negligible
		Mind: sr^2=.003, p=n.s., d=0.11	Mind: Small
		S-J: sr^2=.007, p<.05, d=0.17	S-J: Small
		Isol: sr^2=.015, p<.01, d=0.27	Isol: Small
		OI: sr^2=.01, p<.05, d=0.20	OI: Small
Costa & Pinto-Gouivaes (2011)	DASS (Portuguese version)	Total: r=-.373; p<.001	Total: Large
		S-K: r=-.310; p<.01	S-K: Medium
		CH: r=-.229; p<.05	CH: Small
		Mind: r=-.349; p<.001	Mind: Medium
		S-J: r=.270; p<.01	S-J: Medium
		Isol: r=.342; p<.01	Isol: Medium
		OI: r=.315; p<.001	OI:Medium
Roemer et al, 2009; Study 2	Comparison between diagnosed GAD and non-clinical controls	$F(1,30)$ = 34.40; p<.001; η^2_p=.53; Effect Size f=1.06	Large

S-K = Self Kindness; S-J = Self-Judgement; CH = Common Humanity; Isol = Isolation; Mind = Mindfulness; OI = Over-Identification.

Table 4: Association of self-compassion and other clinical variables

Study	Measure	Statistical reporting	Effect Size
Overall Mental Health			
Raque-Bogdan et al, 2011	SF-12v2 Mental Health Summary (Ware, Kosinski, & Keller, 1996)	$r= .547$; $p<.01$	Large
Stress			
Costa & Pinto-Gouivaes (2011)	DASS (Portuguese version)	Total Score: $r=-.588$; $p<.001$	Total Score= Large
		S-K: $r=-.370$; $p<.001$ CH: $r=-.450$; $p<.001$ Mind: $r=-.552$; $p<.001$ S-J: $r=.487$; $p<.001$ Isol: $r=.521$; $p<.01$ OI: $r=.551$; $p<.001$	S-K: Large CH: Large Mind: Large S-J: Large Isol: Large OI: Large
Gilbert et al., 2011	DASS	Students	
		Self Compassion (S-K, C-H & Mind): $r=.-29$; $p<.01$	Medium
		Self Coldness (S-J; Iso; OI): $r=.55$ $p<.01$	Large
		Compassionate Love: $r=.08$ $p=$n.s.	Small
		Therapists	
		Self Compassion (S-K, C-H & Mind): $r=.-17$; $p=$n.s.	Small
		Self Coldness (S-J; Iso; O/I): $r=.16$ $p=$n.s.	Small
		Compassionate Love: $r=.-33$ $p<.05$	Medium
Birnie et al.,(2010)	Symptoms of Stress Inventory (SOSI; Leckie & Thompson, 1979)	Pre-intervention: $r=-.0315$, $p<0.05$ Post Intervention: $r = 0.627$, $p<.01$ Change Score $r=-.308$, $p<.05$	Pre-Intervention: Medium Post Intervention: Large Change Score: Medium

Paranoia

Mills et al., 2007	Fenigstein Paranoia Scale (Fenigstein & Vanable, 1992)	S-K: r=-.23; p<.05 CH: r=-.16; p=n.s. Mind: r=-.12; p=n.s. S-J: r=.20; p<.05 Isol: r=.25; p<.01 OI: r=-.17; p<.05	S-K: Small CH: Small Mind: Small S-J: Small Isol: Small OI:Small

Post Traumatic Stress Disorder

Thompson & Waltz, 2008	Posttraumatic stress diagnostic scale (Foa, Cashman, Jaycox & Perry, 1997)	SCS Total with PTSD Avoidance : r=-.24; p<.005	Avoidance = Medium
		SCS Total PTSD Re-experiencing: r=-.16, p=n.s.	Re-Experiencing: Small
		SCS with PTSD Hyperarousal: r=-.20, n.s.	Hyperarousal: Small
		No significant correlations with subscales after controlling for false positive rates	

Worry

Raes, 2010	Penn State Worry Questionnaire – Dutch Translation (PSWQ; Meyer, Miller, Metzger & Borkovec, 1990; van Rijsoort, Emmelkamp & Vervaeke, 1999)	r=-.62; p<.001	Large
Van Dam et al., 2011	PSWQ	Total sr^2=.227, p<.01; d=1.17	Large
		S-K: sr^2=.001, p<.01; d=0.06 CH: sr^2=.000, p= n.s. d=0.02 Mind: sr^2=.001, p=n.s., d=0.06 S-J: sr^2=.026, p<.001, d=0.32 Isol: sr^2=.052, p<.001, d=0.47 OI: sr^2=.002, p=n.s, d=0.08	S-K: Small CH: Negligible Mind: Small S-J: Medium Isol: Medium OI: Small

Table 5: Change in Compassion as a function of psychological interventions

Study	Intervention	Follow-up period	Statistics	Effect Size
Kuyken et al 2010	MBCT vs. maintenance anti-depressant medication	1 month	$F_{(1,106)} = 6.73$, $p < .02$, Cohen's d= .50	Medium
Shapiro et al, 2005	MBSR vs. Waiting List Control	Post Treatment	$F(2, 24) = 9.85$, $p = .004$ $r^2=0.45$	Medium
Rimes & Wingrove (2010)	MBCT, no control group	Post Treatment	$t = 3.1$, $p = .016$; d=0.49	Small to Medium
Laithwaite et al., 2009	CFT	Post Treatment and 6 week-follow-up	ES calculated on Wilcoxon signed ranks: Pre-treatment to end of treatment $r = 0.22$ Pre-treatment to 6-week follow-up $r = 0.28$	End of Treatment: Small 6-week follow-up: Medium
Shapiro et al, 2007	MBSR vs. W/L Control	Post Treatment	Treatment group d=0.73 W/L control d=0.04	Treatment: Medium to Large Control: Negligible
Lee & Bang (2010)	MBCT vs W/L Control	Post Treatment	$F = 47.48$, $p < .01$ Effect size=0.672	Medium to large
Abercrombie et al (2007)	MBSR, no control	Post Treatment	No significant reduction in self-compassion scores	Not calculable
Orzech et al (2009)	Intensive mindfulness training vs. W/L control	1 month Follow-up	d=0.52	Medium
Birnie et al.,(2010)	MBSR, no control	Post Treatment	Total: $t=-5.32$ $p<0.0001$; $d = 0.65$	Total: Moderate

			S-K: t=-.5.34 p<0.0001; d = 0.70	S-K: Moderate to Large
			S-J t=-.4.37 p<0.0001; d = 0.63	S-J: Moderate
			CH: t=-3.05 p<0.004; d = 0.37	CH: Small to Moderate
			Isol: t=-.5.62, p<0.0001; d = 0.61	Isol: Moderate
			Mind: t=-2.97 p<0.005; d = 0.36	Mind: Small
			OI: t=-3.72 p<0.001; d = 0.56	OI: Moderate
Schroever & Brandsma, 2010	MBCT, no control	Post Treatment	Mind: t=-1.22 p=n.s.; d = 0.15	Mindfulness: Small
			OI: t=-3.80 p<.001; d = 0.54	OI: Moderate
Shapiro et al, 2011	MBSR vs W/L Control	Post Treatment, 2 month and 12 month follow-up	Treatment	Treatment
			Post treatment r=.47; 2 month follow-up: r=.42; 12 month follow-up, r=.27	Post Treatment: Large 2 month Follow-up: Large 12 month follow up: Medium
			Control	Control
			Post treatment r=.15; 2 month follow-up: r=.06; 12 month follow-up, r=-.05	Post Treatment: Small 2 month Follow-up: Small 12 month follow up: Small

W/L Control = Waiting List Control.

CHAPTER 2

MAJOR RESEARCH PROJECT

Narrative Compassion Scale: Development and validation of an interview measure of compassion and recovery in complex mental health difficulties.

Angus M. MacBeth*
July 2011

* Institute of Health and Wellbeing
Academic Unit of Mental Health and Wellbeing
Academic Centre
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow
Scotland
United Kingdom
G12 0XH
+44 141 211 0607 (tel)
+44 141 357 4899 (fax)
angus.macbeth@googlemail.com

* Author for correspondence

Abstract

Objectives: The ability to regulate affect in the face of stress has implications for recovery and chronicity in complex mental health problems such as schizophrenia and borderline personality disorder. In addition to adaptive integrating and maladaptive sealing over recovery styles it may be possible to delineate a further maladaptive recovery style of "ruminative preoccupation". In addition, the capacity to compassionately relate to self and others may be linked to an recovery trajectories. The current study presents data on the utility of a Narrative Compassion Scale for recovery in a mixed clinical sample of individuals with diagnoses of psychotic disorder (with or without interpersonal violence) and Borderline Personality Disorder

Design: A cross-sectional mixed methods design was used with a within subjects condition and three between subjects groups

Methods: Forty-Three individuals were interviewed and transcripts coded with the Narrative Compassion Scale (NCS). Self-report measures of compassion, attachment, interpersonal problems and symptoms were completed. Symptomatology was also measured.

Results: Three recovery styles were identified. Compassion was strongly positively correlated with Integration; and negatively correlated with Sealing Over. NCS compassion was unrelated to self-reported compassion, symptoms, interpersonal problems or attachment. Differential patterns of recovery emerged between clinical groups, with lower preoccupation and higher sealing-over in the psychosis with history of interpersonal violence group.

Conclusions: The NCS is a promising narrative measure of recovery and compassionate responding. Implications are discussed in terms of a transdiagnostic understanding of recovery processes.

Keywords: Schizophrenia; Psychosis; Borderline Personality Disorder; metacognition; affect regulation.

INTRODUCTION

Dysregulated affect has long been recognised as a core component of Borderline Personality disorder (BPD)[1], whereas schizophrenia and the psychoses have traditionally been viewed as 'non-affective'[2]. However, recent evidence has lent credence to Bleuler's[3] assertion that affective dysregulation is a key determinant of chronicity and recovery in psychosis[4,5]. Studies of early signs of relapse in psychosis also highlight that relapse is preceded by emotionally driven early signs of increasing fear, anxiety, helplessness, behavioural sequelae such as poor sleep, irritability and social withdrawal; leading to increasing fragmentation of psychological well-being, loss of agency, and finally the (re)–emergence of frank psychotic symptoms[6,7]. Therefore, an individual's capacity to regulate affect in the presence of stressors may act as a marker of the individual's recovery trajectory or vulnerability to relapse.

Recovery Styles in Psychosis

McGlashan, Levy and Carter[8] used narrative interviews to delineate two *"clinically distinct recovery styles from schizophrenia"*, located on a dichotomous scale originally formulated with reference to psychodynamic and interpersonal models of complex psychopathology[9 - 11]. In an "integrating" recovery style, the individual articulates a coherent narrative of the onset, experience and recovery from psychosis, acknowledges distress while exploring opportunities for the expression of resilience, incorporating the experience of psychosis within a broader behavioural and relational context. In contrast, "Sealing Over" delineates a pattern whereby the individual isolates psychotic experiences from the broader context, whilst maintaining an awareness of the negative consequences of the disorder. Mayer-Gross[9] hypothesised two further recovery modes: a lack of recovery mode (i.e remaining acutely

51

psychotic), and a mode where the future is denied or considered to be hopeless, consistent with contemporary formulations of post-psychotic depression[4].

Initial findings suggested that recovery style was not associated with functional outcome at 1-year follow-up[12]. However, at 15-year follow-up greater integration was significantly correlated with better functional outcome[13]; the latter study reporting data from a mixed sample of patients with schizophrenia spectrum, unipolar depressive, and BPD diagnoses. Tait et al.[14, 15] reported results for a continuum self-report scale (sealing over to integration) in a mixed psychosis sample. They reported that sealing over was unrelated to severity of psychotic symptoms or insight, but was indicative of poorer engagement with services, compared with those with an integrative stance. Sealing over and integration were not mutually exclusive. However, sealing over at 3 months after onset of treatment predicted poor engagement with health services at 6 months.

Tait et al. [15] also reported that higher sealing over was associated with greater recall of negative early experiences and an insecure attachment style. However, although they replicated the association between early experiences and attachment, Mulligan and Lavender[16] did not find these variables associated with recovery style. These authors suggested that an insecure-avoidant attachment style may distort responses to self-report scales. This is consistent with predictions from attachment theory, whereby individuals with an avoidant/dismissing attachment organisation adopt a response style that minimises the affective or interpersonal impact of stressors, similar to the Sealing Over stance. Studies in adults with complex psychopathology suggest that a dismissing attachment organisation

was associated with less self-reported symptomatology[17] and less engagement with treatment[18, 19].

Therefore, the implication is that recovery style, if measured in greater depth, may be influenced by an individual's developmental history and interpersonal context. Indeed, there appears conceptual overlap between the definition of Integration - emphasising development of a coherent, accepting understanding of the disorder – and that of secure attachment organisation - whereby one adopts a coherent, reflective narrative of one's stance towards relational stressors. Secure attachment has been identified in first episode psychosis samples[19]. Attachment theory also suggests that some individuals display a preoccupied, hyperactivating attachment organisation. This typology has been identified in BPD groups[20, 21], and to a lesser extent in psychosis[19, 22]. However, there are no data on whether these patterns could be mirrored in terms of recovery style.

<u>Developmental roots of recovery</u>

Evidence is accumulating that psychodevelopmental regulatory systems such as attachment and mentalization, already implicated in BPD[23] are also relevant in schizophrenia and psychosis.[19, 24, 25] Acknowledging the links between mentalization, attachment, and affect regulation in psychopathology, Liotti and Gilbert[26] presented an evolutionary formulation of mentalization that related the construct to the interplay between threat and safeness based social mentalities. High levels of perceived threat represent a barrier to the emergence of reflexive mentalization, secure attachment and the ability to tolerate negative emotion (consistent with recovery difficulties). Conversely, safeness permits the emergence of secure

attachment and mentalizing capacity. Liotti and Gilbert[26] also highlight the importance of compassion both towards the self and others in creating the conditions for safeness to emerge. Indeed, Gilbert[27] has proposed a multimodal model of compassion emphasising: care for the wellbeing of others, sensitivity to distress, sympathy, tolerance of one's own distress, empathy and a non-judgemental stance towards experiences. This model echoes the integrating recovery style discussed above.

Therefore, a narrative based measure of recovery, separating the integration and sealing typologies, and adding a third preoccupied typology, could allow a more fine-grained understanding of the psychological processes underlying recovery in complex mental health difficulties. In addition, measurement of compassion would be desirable. Indeed, given the absence of data on compassion in complex mental health difficulties (see Chapter 1), data on compassion and it's correlates would be highly relevant. Furthermore, a robust self-report measure of compassion is available[28], and in conjunction with measures of interpersonal problems and attachment allows for the assessment of the convergent and divergent validity of a narrative measure of recovery and compassion.

Aims and hypotheses

The primary aim of the study was to investigate the utility of a narrative based measure of recovery and compassion compared to self-report measures of compassion. The secondary aim was to explore associations between compassion, recovery, attachment, interpersonal functioning and clinical symptoms in a mixed clinical sample of individuals with psychosis (including individuals with a history of interpersonal violence) and BPD. Firstly, it was

hypothesised there would be a negligible correlation between self-reported and narrative coded measures of compassion; the null hypothesis being a modest correlation between self report and narrative measures of compassion. Secondly, it was hypothesised lower levels of narrative coded compassion would be correlated with lower self-rated attachment anxiety and avoidance. Thirdly, it was hypothesised that lower narrative coded compassion would correlate with higher self-rated interpersonal problems. Fourthly, it was hypothesised lower levels of compassion would be correlated with higher self-rated symptomatology. Fifthly, it was hypothesised that individuals with BPD diagnoses would have higher levels of preoccupied recovery than individuals with a psychotic diagnosis. Finally, it was hypothesised that individuals with psychosis and a history of interpersonal violence would have lower levels of compassion than individuals with psychosis and no history of violence, or individuals with BPD.

METHOD

Participants

Participants were under the care of NHS Greater Glasgow and Clyde (NHS GG&C) mental health services, with recruitment throughout the NHS GG&C area. Recruitment sites included community mental health teams, psychotherapy departments, outpatient clinical psychology departments, inpatient psychiatric services, specialist trauma teams and forensic mental health services. Participation was voluntary, participants were fully informed as to the aims and procedures involved in the study and all participants gave informed consent. Eligible participants were identified in collaboration with keyworkers and Responsible Medical Officers. The researcher visited potential participants to discuss consent in the context of a routine visit or appointment (Appendices 2.4 & 2.5). Ethical approval was

granted by the NHS West of Scotland Research Ethics Committee (Appendix 2.2; Ref: 10/S0703/67). Managerial approval was obtained from NHS GG & C Research and Development (Appendix 2.3).

Inclusion and Exclusion Criteria

Participants were recruited from three clinical groups. Firstly, a psychosis group, recruited from Community Mental Health Teams (recruited by the author) comprising individuals meeting DSM-IV criteria for an affective or non-affective psychotic disorder with a diagnosis of psychotic disorder[29], with no history of interpersonal violence. A second group comprised individuals with a diagnosis of BPD confirmed using the SCID interview[30]. These individuals were recruited from community mental health teams, psychotherapy departments, outpatient clinical psychology departments, inpatient psychiatric services, specialist trauma teams and forensic mental health services. Finally, a 'Forensic' Psychosis group was recruited, comprising individuals with a confirmed history of interpersonal violence, confirmed diagnosis of psychotic disorder and who were receiving treatment from forensic mental health services (indicating significant risk for interpersonal violence towards others). The latter groups were recruited by two researchers involved in studies of metacognition in clinical samples (ER and LM). For all three groups, individuals were between 18 and 64 years of age, and were excluded if substance misuse, head injury or organic disorder was adjudged the primary cause of the individual's symptomatology. Individuals were judged by the clinical team as able to exercise capacity to consent. Patients legally detained in hospital were eligible to be considered for participation.

Measures

Narrative Compassion Interview (NCI; MacBeth and Gumley, Unpublished manuscript)

The NCI is a recorded 30-45 minute semi-structured interview (see Appendix 2.7). The interview explores facets of recovery self-self and self-other related compassion. Interviewees were asked to discuss sources of social support, providing an interpersonal context for the discussion of recovery and compassion. The interview structure was designed to access recovery/compassion related thoughts, feelings and behaviours by providing an opportunity for the interviewee to discuss autobiographical memories and reflections of potentially stressful interpersonal experiences. The researcher took a non-directive stance within the interview. To maximise engagement and rapport it was made clear that the interviewee was not expected to give a detailed account of a traumatic or highly distressing experience, nor were interviewees obliged to reflect on their responses. The interview was transcribed and anonymised, according to guidelines developed for the Adult Attachment Interview (Main, Goldwyn and Hesse, unpublished manuscript).

Narrative Compassion Scale (NCS, Gumley & MacBeth, unpublished manuscript; see Appendix 2.8)

The NCS coding frame permits coding of manuscripts via bottom-up analysis of features of the narrative structure; and top-down analysis of the interview themes. In the current study the NCI was used to generate transcripts. The NCS coding frame has three distinct components. The first of these - "Inferred experiences" - yields scores on a 9-point scale for two sub-scales: Experiences of Kindness and Experiences of Interpersonal Threat. The second component – "Recovery" – yields scores on a 9-point scale for three subscales: Integration, Avoidance/Sealing Over and Ruminative Preoccupation. Finally, the

"Compassion" component yields scores for Self-Oriented Compassion, Other-Oriented Compassion and an Overall Compassion rating. The Compassion component is scored from -1 to +9 to allow for a rating of "Anti-compassionate (-1)". For all components of the NCS a rating of "NI" can be assigned if there is no information available; and "CR (Cannot Rate)" if there is insufficient evidence for convincing assignment of a rating. In the coding framework it is accepted that, particularly for the "Inferred Experience" scales the "CR" rating may be required. For the present study the inter-rater reliability of all subscales was excellent (r_{range} 0.90 to 0.95). An earlier version of the NCS coding frame has been piloted (Braehler, Gumley, Wallace, Harper and Gilbert; Under Review). The NCS coding frame is not currently available in the public domain. The coding framework is bound in Volume 2 of this research portfolio, or available on request from Professor Andrew Gumley.

Self Compassion Scale (SeCS)[28].

A self-report measure exploring self-compassion in individuals, this 26-item scale gives a total score for self-compassion. Gilbert, McEwan, Matos & Rivis[31] reported results for two subscales summing items measuring self-compassion (13 items) and items measuring self-coldness (13 items). In the present study internal consistency for total score was acceptable (α = .76), and internal reliability for the self-compassion and self-coldness subscales were excellent (α = .89 and α = .93).

Relationship Styles Questionnaire (RSQ[32])

A 30-item self-report scale concerning 'feelings about close relationships', measuring attachment avoidance and attachment anxiety. The RSQ has been used in psychosis research

as an attachment measure[33]. In the present study internal consistency for the Attachment anxiety was acceptable (α = .76) but internal consistency for the Attachment avoidance subscale was low (α = .55). Therefore results for the attachment avoidance subscale should be viewed with caution.

Inventory of Interpersonal Problems - Short Form (IIP-32) [34].

A 32-item self-report questionnaire measuring affect regulation in social settings. Following the protocol of MacBeth et al.,[33] scale scores are combined to give an overall score for Distancing interpersonal problems and an overall score for Affiliating interpersonal problems. Internal consistencies for the Distancing and Affiliating subscales were excellent (α = .87; α = .93, respectively).

Brief Symptom Inventory (BSI)[35].

A 53-item self-report measure covering nine symptom dimensions (Somatization, Obsession-Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic anxiety, Paranoid ideation and Psychoticism) and three global indices of distress (Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total). The scale has good internal consistency[36] and has been used to measure symptomatology and distress in samples with diagnoses of psychosis[37] and BPD[38].

Positive and Negative Syndrome Scale (PANSS)[39]

The PANSS is a 30 item semi-structured interview of psychotic symptomatology, yielding

interviewer rated scores on three factors: positive symptoms, negative symptoms, and general psychopathology. Each item is on a Likert scale from minimal (1) to extreme (7). The PANSS has good inter-rater reliability and high concurrent validity[40].

Procedures

A cross-sectional mixed methods design was used with a within subjects condition and three between subjects groups. After informed consent each participant met with a researcher on two occasions, for approximately 2 hours in total. In the first session the narrative interview for the assessment of compassion was administered and the interview recorded using a digital recording device. At the second meeting the PANSS interview and self-report measures were administered. The second session also presented an opportunity to debrief participants regarding the compassion interview, and address any concerns participants may have had regarding material discussed in the sessions. All participant interviews were conducted at the relevant clinical base or ward for each participant.

Justification of sample size

This is the first study to directly compare an interview/narrative measure of compassion with a self-report measure of compassion. Consistent with the reported lack of association between self-report and narrative measures of attachment[41], the experimental hypothesis was that comparison of self-reported and narrative measures of compassion would yield non-significant correlations. A null hypothesis was adopted that there would be a modest correlation of $r= 0.5$, with an experimental hypothesis of a negligible correlation of $r= 0.1$. Adopting a conventional significance level of alpha= .05 and a power of 0.8, sensitivity

analyses estimated a sample size of n=42 would be required to adequately evaluate the primary experimental hypothesis.

Data Analysis

Data were analysed using SPSS version 18. All variables were checked for normality using the Kolmogorov-Smirnov (K-S) test and parametric/non-parametric analyses of within-subjects characteristics (e.g. gender, age) were conducted accordingly. Relationships between variables were examined using Pearson or Spearman correlations; and ANOVAs or Kruskal-Wallis tests. Associations between categorical variables were investigated using Chi-Square tests.

RESULTS

Demographics

A total of 67 individuals were approached for consent, of which 24 declined to take part, leaving a total sample of 43 individuals, indicating a 64% consent rate. Based on recruitment, participants were divided into three clinical groups – 11 individuals comprised the psychosis group; (all psychiatric outpatients from community mental health settings); 18 individuals comprised the forensic psychosis group (managed within local forensic services); and 14 individuals comprised a borderline personality disorder group (recruited from a variety of adult mental health services). Demographic and treatment data are given in Table 1. There was a significant difference between the three groups on gender (χ^2=24.77, p<.001), attributable to the relative greater proportion of males in the forensic psychosis group, and females in the BPD group. There was a significant difference between the groups

on length of period since diagnosis (F=15.53, df=42, p<.01), post hoc Scheffe analysis confirming that the forensic psychosis and psychosis groups had a significantly longer period of time since diagnosis compared with BPD group (mean difference =10.98 years and 6.64 years respectively). There was no significant difference in time since diagnosis between the psychosis and forensic psychosis groups.

Insert Table 1 Here

Insert Table 2 Here

There were multiple differences between the groups on clinical and psychological self-report variables. These are displayed in Table 2. All variables were normally distributed (K-S Z; p >.05), with the exception of BSI Positive Symptom distress (K-S Z= 2.62; p <.0001) and BSI Positive Symptom Total (K-S Z= 1.42; p=.035). As can be seen from Table 2, there were significant group differences on all clinical and psychological variables except for the BSI Somatization scale score. With regards to the SCS, there were significant between groups differences on total score (F=35.69, df=41, p<.001), self-compassion subscale (16.90, p<.001) and the self-coldness subscale (23.93, p<.001). Post Hoc Scheffe analyses indicated the BPD group had significantly lower total compassion and self compassion than the psychosis and forensic psychosis groups (mean differences = .72 and 1.32 for total compassion; 2.64 and 3.58 for self compassion; all p values<.01). The psychosis group also had significantly lower total compassion than the forensic psychosis group (mean difference = .60, p<.01). With regard to the self-coldness scale the forensic psychosis group had significantly lower reports

of self-coldness than the psychosis and BPD groups (mean differences = 3.18 and 1.57; p≤.001).

Properties of the Narrative Compassion Scale

Descriptive scores for the Narrative Compassion Scale for overall sample and the three groups are presented in Table 3. As discussed in the Method section data for the Experience scales are limited due to the frequent assignment of the "CR" rating (n=23 and 25). The Experiences of Kindness scale was non-normally distributed (K-S Z = 1.50; p=.022), although the Experiences of Threat Scale was normally distributed (K-S Z = .892, p=.404). The median rating for Experiences of Kindness was 3 (IQR = 2 – 3) equivalent to mild indications of support. The mean score for Experiences of Interpersonal Threat was 5.24 (S.D = 1.94) equivalent to an inferred level of Moderately Threatening experiences. There were no significant differences between groups on either scale.

Insert Table 3 Here

With regard to the Recovery scales, data were available from the full sample (n=43). The data were normally distributed. The mean score for the Integration score was 3.05 (s.d. = 1.62) equivalent to minimal integration. There were no significant differences between groups.

The mean score for the Avoidance/Sealing Over scale, was 3.16 (s.d. = 2.02), equivalent to Minimal Sealing Over/Avoidance. There was a significant difference between groups (F=8.51, df=42 p=.001), with post hoc Scheffe tests indicating the forensic psychosis group had significantly higher mean scores than the BPD and psychosis groups (Mean Difference = 2.09; p = .007 and Mean Difference = 2.35; p = .004 respectively). There was no difference between the BPD and psychosis groups.

The mean score for the Ruminative Preoccupation scale, was 4.49 (s.d. = 2.58), with the nearest anchor point on the scale denoting Moderately ruminative discourse. There was a significant difference between groups (F=7.89, df=42 p=.001). Post hoc Scheffe tests indicated the forensic psychosis group had significantly lower mean scores than the BPD group (Mean Difference = -3.05; p = .002). There was no difference in Ruminative Preoccupation between the BPD and psychosis groups; or between the psychosis and forensic psychosis groups.

The mean scores for the three compassion scales ranged from 2.23 (s.d. = 1.61) to 2.56 (s.d. = 1.87), suggesting minimal but present levels of compassionate responding. There were no significant differences between groups. With regard to demographics age, education, and ethnicity were not associated with NCS subscales. However, males scored significantly higher on Sealing Over than females (mean score = 3.70 vs 2.25; F=5.779, df=42; p=.021), while females had significantly higher Preoccupation scores than males (mean score = 5.62 vs 3.81; F=5.491, df=42; p=.024).

Insert Table 4 here

Table 4 lists the scale inter-correlations for the Recovery and Compassion scales. Given the smaller data set, correlations are not reported for the Experience scales. There was a very high degree of correlation between the Integration scale and the three NCS compassion scales (r=.732 to .807). The NCS compassion scales were also highly inter-correlated (r = .911 to .950). Sealing Over/Avoidance scale was negatively correlated with the Integration scale (r=-.453) and with the Ruminative Preoccupation scale (r=-.454). There were also strong negative correlations between the compassion scales and Sealing Over/Avoidance scales (r=-.427 to r=-.699).

<u>Associations between the NCS and self-report psychological scales</u>

Table 5 lists correlations between the NCS and relevant psychological scales. As predicted there was no correlation between the NCS compassion scales and Total score on the SCS, or the SCS self-compassion scale. However, a significant negative correlation was noted between NCS Self-Oriented compassion and SCS self-coldness (r=-.315, p<.05). NCS Compassion was unrelated to self-reported attachment style or interpersonal problems.

Insert Table 5 here

There were no significant correlations between Integration and SCS self-compassion, however Ruminative Preoccupation was significantly negatively correlated with total SCS score (r=-.390, p<.05) and positively correlated with SCS self-coldness (r=.459, p<.01). However, when these correlation analyses were repeated within each of the three clinical

groups (psychosis, forensic psychosis and BPD), there were no significant correlations between Ruminative Preoccupation and SCS total score, or between Ruminative Preoccupation and SCS self-coldness. Sealing Over/Avoidance was associated with SCS total score (r=.307, P<.05) and SCS self-compassion (r=.307, p<.05). However when correlation analyses were repeated within each of the three clinical groups (psychosis, forensic psychosis and BPD) there were no significant correlations between Sealing Over, SCS total score and SCS self-compassion, for any of the three clinical groups. Ruminative Preoccupation was significantly associated with Attachment Anxiety (r=.423, p<.01), Attachment Avoidance (r=.546, p<.001), and Interpersonal Affiliating problems (r=.388, P<.05). When these associations were explored by clinical group, the only significant association to emerge was between higher attachment avoidance and higher preoccupation in the Psychosis group (rho=.646; p=.032).

NCS and Clinical Variables

Correlations between the NCS and clinical variables (PANSS and BSI) are listed in Table 6. The only significant correlation involving the compassion scales was between self-oriented compassion and PANSS general psychopathology (r=-.340), with greater self-compassion being associated with lower general psychopathology.

Insert Table 6 here

The Integration Scale was significantly negatively correlated with positive psychotic (r=-.340, p<.05) and negative symptoms (r=-.347, p<.05). Sealing Over was positively correlated with negative symptoms (r=.305, p<.05), while also being negatively correlated with BSI depression (r=-.306, p<.05), BSI Anxiety (r=-.340, p<.05), BSI Paranoid ideation (r=-.331, p<.05) and BSI Global severity (r=-.310, p<.05). The Ruminative Preoccupation scale was positively correlated with general psychopathology (r=.378, p<.05), BSI depression (r=.327, p<.05), BSI anxiety (r=.391, p<.05), BSI Hostility (r=.336, p<.05), BSI Paranoid Ideation (r=.426, p<.01), BSI Psychoticism (r=.344, p<.05), BSI Global Severity (r=.380, p<.05) and BSI Positive Symptom Distress (r=.431, p<.01).

DISCUSSION

Summary of results

The data presented in this study suggest the Narrative Compassion Scale is an interview-based measure of recovery and compassion with promising validity and utility. As hypothesised, the NCS compassion scales were generally non-significantly correlated with self-reported compassion, apart from a negative correlation between NCS self-compassion and SCS self-coldness. The hypotheses that compassion would be correlated with attachment style and interpersonal problems were not supported, suggesting divergent validity between these measures. The fourth hypothesis, that lower compassion would be correlated with higher self-rated symptomatology was not supported. Indeed the only significant correlation between compassion and symptoms was an association between higher NCS self-compassion and lower interview rated general psychopathology.

The results for the Recovery component of the NCS were also instructive with regard to the scale's utility. The fifth study hypothesis, that individuals with a diagnosis of BPD would have higher levels of preoccupation was partially supported, as there was significantly, higher preoccupation scores in the BPD group compared with the forensic/interpersonal violence group. However, there was no difference in preoccupation between the BPD and psychosis groups. This may reflect the previously un-noted presence of preoccupation in the psychosis group. Contrary to the study hypothesis, there were no group differences in NCS compassion, with relatively low scores across all three clinical groups. Scores on the Integration recovery scale, also did not differ between the three groups. However significant differences emerged for the Sealing Over scale, with the Forensic Psychosis group having significantly higher scores than the other two groups. Consistent with a theoretical model linking integration, greater attachment security and compassion the pattern of correlations between the NCS Compassion and Integration scales was notably high, indicating possible co-dependency. Conversely, the ruminative preoccupation scale was negatively correlated with self-compassion, and positively correlated with self-coldness.

This pattern of results for the recovery scale supports a link between a self-reported ability to tolerate one's distress and suffering with a more coherent understanding of recovery, whereas rumination on one's experience of mental health difficulties is related to a more broader difficulty in tolerating one's own distress. There was a significant negative correlation between the compassion and sealing over subscales, suggesting low levels of compassion were associated with a higher reliance on a recovery style that downplays the affective impact of experience. In contrast, the compassion and ruminative preoccupation scales were very weakly correlated.

It is of note that attachment and interpersonal problems were not associated with the Integration and Sealing Over scales, whereas the ruminative preoccupation scale was significantly correlated with higher levels of attachment anxiety, attachment avoidance and affiliating problems. However, the Integration scale was associated with lower positive and negative symptoms. Contrary to Tait et al.[14], higher sealing over was associated with more negative symptoms, although it is of note that this was a mixed clinical sample, as opposed to Tait et al's[14] psychosis sample. Differential patterns of association were also evident in the associations between NCS subscales and clinical variables in each subgroup, for instance in the community psychosis sample, higher compassion scores were correlated with lower negative symptoms, but not positive symptoms, whereas the reverse pattern held for the forensic group. Further studies are needed to explore the robustness of these patterns of association.

Implications for recovery style

The current study has several implications for conceptualising recovery style. By using a narrative scale, the NCS permits development of a more detailed understanding of an individual's capacity to relate and reflect on their experiences of illness and recovery, compared to a self-report scale. This seems close in spirit to the original conception of the recovery styles, arising from a psychodynamic conceptualization of recovery as a tension between synthesis of experience and disintegrative splitting[8]. The current study also has parallels with psychotherapeutic approaches to recovery that highlight the development of a coherent , affectively valenced narrative of one's lived experience as a key task of recovery and staying well [e.g. 21, 42 - 44]. Indeed, the high degree of association between Integration and

NCS Compassion suggests that the ability to develop a coherent narrative around one's experience of illness accesses the same psychological capacity as tolerance or compassionate responding to one's own and other's distress; and vice versa. This has parallels with Liotti and Gilbert's[26] assertion that a sense of psychological 'safeness' permits the restitution or emergence of secure attachment and mentalizing capacity. In addition, it is also of note that the current study delineates a third recovery style of preoccupied rumination, independent to integration and recovery. Not only does this appear to reprise Mayer-Gross's[9] 'denied future' and Gumley, Schwannauer, MacBeth & Read's [45] 'thwarted recovery', it has clear parallels with studies of post-psychotic depression, [e.g. 4] where psychosis precipitates chronic difficulties via the perceived loss of autonomy, social role, and entrapment within the disorder. Ruminative preoccupation also appeared to correlate with heightened attachment anxiety and avoidance and general psychopathology, suggesting that this group may be particularly sensitive to the impact of the interpersonal context on their ability to tolerate distress.

Implications of narrative compassion

The development of a narrative measure of compassion also has important implications for conceptualising compassion in complex mental health difficulties. As mentioned, it creates a framework that permits detailed examination of the construct, akin to the Metacognitive Assessment Scale[46] and Reflective Function Scale[20] for metacognitive processes, and the Adult Attachment Interview (Main, Goldwyn & Hesse, Unpublished manuscript) for the measurement of attachment. The lack of correlation between the NCS compassion scales and self-report compassion also is consistent with the observed tendency for lack of correlation between self-report and interview measures where psychological processes pertaining to the

self and others are implicated[41]. This is not to say that self-report compassion measures do not have a place, indeed as the previous systematic review demonstrates, the SCS scale[28] is the ubiquitous measure of self-compassion. However, when the measurement of compassion is used for assessing ability to engage with psychological treatment, or monitor change, a more fine-grained measure may be merited.

Furthermore, the NCS compassion measure establishes that compassion is a relevant construct in complex mental health difficulties, positioning it within the emergent transdiagnostic literature on metacognition, attachment and affect regulation in complex mental health difficulties[e.g. 23, 44, 47]. Future research could explore the relationship of the NCS to these constructs. It is also of note that the sample in question was in middle age, and with regard to the psychosis groups, had been diagnosed for a number of years. Future studies could focus on a given diagnostic group or explore compassion and recovery at an earlier stage of difficulties, e.g. subsequent to a first episode of psychosis. It may also be of benefit to explore the utility of the NCS as a measure of therapeutic change, particularly where therapy is based on improving self-other functioning[21, 48].

Limitations

There are several limitations to the study. Firstly, a non-clinical comparison group was not recruited, thus normative data on the properties of the NCS is unavailable. However, the scale was designed with the intention of capturing recovery and compassion related discourse in clinical samples, therefore it is similar to measures such as the Metacognitive Assessment Scale[46]. Secondly, it is of note that there are very high correlations between the

Integration subscale and the three Compassion subscales. As will be discussed below, the high correlation with the Integration scale is of less concern, however, future versions of the NCS scale and NCI interview would benefit from a clearer delineation of self- and other-oriented compassion. Gilbert et al.[31] have developed self-report measures to tap into these different aspects of compassion, which could be used to inform a revision of the NCS compassion sub-scales. Thirdly, there was a degree of diagnostic heterogeneity inherent in the decision to use three clinical samples. However, it was decided a-priori to choose three clinical groups that could be reasonably hypothesised to have mental health difficulties that would be reflected in their compassion and recovery narratives. There is also a growing body of evidence detailing the prevalence of psychotic experiences in BPD presentations[49, 50]. Furthermore, consistent with contemporary literature on metacognition and mentalization it seems most appropriate to view compassion and recovery narratives as constructs with transdiagnostic applicability[47]. Fourthly, the author was also the interviewer for the psychosis group, which may have introduced bias into the coding of these transcripts. Finally, the results for the Experiences of Kindness and Threat subscales were limited by the high incidence of "Cannot Rate" scores, due to lack of information in the interview. This raises a question regarding the extent to which the interview structure of the NCS permitted activation of threat and safeness-related mentalities. Future versions of the NCI could be improved by asking questions about social support under stress that have a "demand" quality, maximising opportunity for interviewees to give an autobiographical response that contains evidence of the presence or absence of these qualities.

In conclusion, the NCS represents a promising measure of recovery and compassion in complex mental health problems. Future refinements of the scale will aim to deliver a more

detailed understanding of the individuals' perception, explore possible psychodevelopmental factors, and further improve the delineation of the self and other-related compassion. However, it is hoped that it already represents a useful tool in the armamentarium of clinicians and researchers in the field of complex psychopathology.

REFERENCES

1. Reisch T, Ebner-Priemer UW, Tschache, W, Bohus M., Linehan, MM. Sequences of emotions in patients with borderline personality disorder. *Acta Psychiatr Scand* 2008; 118: 42–48.

2. Kraepelin E. *Dementia Praecox and Paraphrenia: Psychiatrie (Vol. 8)*. Edinburgh: E.S., Livingstone; 1919.

3. Bleuler E. *Dementia Praecox or the Group of Schizophrenias* (translated by J. Zinkin). Madison, CT: International Universities Press; 1911/1950.

4. Birchwood M, Iqbal Z, Chadwick P, Trower P. Cognitive approach to depression and suicidal thinking in psychosis. I: Ontogeny of post-psychotic depression. *Brit J Psychiatry* 2000; 177: 516 – 528.

5. Gumley A, O'Grady M, Power K, Schwannauer, M. Negative beliefs about self and illness: a comparison of individuals with or without comorbid social anxiety disorder. *Aust N Z J Psychiatry* 2004; 38: 960-964

6. Docherty JP, Van Kammen, DP, Siris SG, Marder SR. Stages of onset of schizophrenic psychosis. *Am J Psychiatry* 1978; 135:420 – 426.

7. Birchwood M, Smith J, Macmillan F, et al. Predicting relapse in schizophrenia: the development of implication of an early signs monitoring system using patient and families as observers: A preliminary investigation. *Psychol Med* 1989; 19: 649-656.

8. McGlashan TH, Levy ST, Carpenter WT. Integration and sealing over: Clincally distinct recovery styles from schizophrenia. *Arch Gen Psychiatry* 1975; 32: 1269-1272.

9. Mayer-Gross W. Uber die Stellungnahme zur abgelaufenen akuten Psychose. *Z Neurologie Psychiatrie* 1920; 60: 160 – 212.

10. Searles, HF. Integration and differentiation in schizophrenia: An overall view. *Brit J Med Psychol* 1959; 32: 261 – 281.

11. Semrad EV, Grinspoon, L, Fienberg SE. Development of an ego profile scale. *Arch Gen Psychiatry* 1973; 28: 70 – 77.

12. McGlashan TH, Carpenter WT. Does attitude toward psychosis relate to outcome? *Am J Psychiatry* 1981; 138: 797 – 801.

13. McGlashan TH. Recovery style from mental illness and long-term outcome. *J. Nerv Men. Dis* 1987; 175: 681-685

14. Tait L, Birchwood M, Trower P. Predicting engagement with services for psychosis: insight, symptoms and recovery style. *Brit J Psychiatry 2003;* 182: 123- 128.

15. Tait L, Birchwood M, Trower, P. Adapting to the challenge of psychosis: Personal resiliance and the use of sealing-over (avoidant) coping strategies. *Brit J Psychiatry*2004; 185: 410-415.

16. Mulligan A, Lavender T, An investigation into the relationship between attachment, gender and recovery from psychosis in a stable community-based sample. *Clin Psychol Psychother 2010;* 17: 269–284

17. Dozier M, Lee SW. Discrepancies between self- and other- report of psychiatric symptomatology: Effects of dismissing attachment strategies. *Dev Psychopathol* 1995; 7: 217 – 226.

18. Dozier M. Attachment organization and the treatment use for adults with serious psychopathological disorders. *Dev Psychopathol* 1990; 2: 47–60.

19. MacBeth A, Gumley A, Schwannauer M, Fisher R. Attachment states of mind, mentalization, and their correlates in a first-episode psychosis sample. *Psychol Psychother* 2011; 84: 42–57.

20. Fonagy P, Leigh T, Steele M, et al. The relation of attachment status, psychiatric classification, and response to psychotherapy. *J Consult Clin Psychol* 1996; 64: 22-31.

21. Levy KN, Meehan KB, Kelly KM et al. Change in Attachment Patterns and Reflective Function in a Randomized Control Trial of Transference-Focussed Psychotherapy for Borderline Personality Disorder. *J Consult Clin Psychol* 2006; 74: 1027 – 1040.

22. Coutoure S, Lecomte T, Leclerc C. Personality characteristics and attachment in first episode psychosis: Impact on social functioning. *J. Nerv Men. Dis* 2007; 195: 631–639.

23. Fonagy   P, Luyten P. A developmental,mentalization-based approach to the understanding and treatment of borderline personality disorder. *Dev Psychopathol* 2009 ; 21 : 1355–1381. doi:10.1017/S0954579409990198

24. Lysaker PH, Carcione A, Dimaggio G et al. Metacognition amidst narratives of self and illness in schizophrenia: associations with neurocognition, symptoms, insight and quality of life. *Acta Psychiatr Scand* 2005; 112: 64–71.

25. Lysaker PH, Warman DM, Dimaggio G, et al.. Metacognition in schizophrenia: Associations with multiple assessments of executive function. *J. Nerv Men. Dis* 2008; 196: 384–389.

26. Liotti G, Gilbert P. Mentalizing, motivation, and social mentalities: Theoretical considerations and implications for psychotherapy. *Psychol Psychother* 2011; 84: 9–25.

27. Gilbert P. Introducing compassion-focussed therapy. *Adv Psychiatr Treat* 2009; 15: 199 – 208.

28. Neff KD.. The development and validation of a scale to measure self-compassion. *Self Identity 2003;* 2: 223–250.

29. American Psychiatric Association. *Diagnostic & Statistical Manual of Mental Disorders (4th Edition)*, Washington, D.C.: APA; 1994.

30. First MB, Gibbon M, Spitzer RL, Williams JBW, Benjamin L. *Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II), Version 2.0*. New York: Biometrics Research Department, New York State Psychiatric Institute; 1994.

31. Gilbert P, McEwan K, Matos M, Rivis A. July 27th 2011. Fears of compassion: Development of three self-report measures. *Psychol Psychother*; DOI: 10.1348/147608310X526511

32. Griffin DW, Bartholomew K. The metaphysics of measurement: The case of adult attachment. In: K. Bartholomew & D. Perlman, eds, *Attachment processes in adulthood* (Vol. 5). London: Jessica Kingsley; 1994: 17 - 52.

33. MacBeth A, Schwannauer M,. Gumley A. Attachment style, social mentalities and paranoid ideation: An analogue study. *Psychol Psychother* 2008; 81:79 – 93.

34. Horowitz LM, Alden LE, Wiggins JS, Pincus AL. *IIP: Inventory of Interpersonal Problems*. San Antonio, TX, The Psychological Corporation, 2000.

35. Derogatis LR, Spencer PM.. *BSI Administration and procedures: Manual-I.* Baltimore, MD: John Hopkins University; 1982.

36. Croog SH, Levine S, Testa MA, et al. The effects of antihypertensive therapy on quality of life. *NE J Med* 1986; 314: 1657-1664.

37. Preston NJ, Harrison TJ. The brief symptom inventory and the positive and negative syndrome scale: discriminate validity between a self-reported and observational measure of psychopathology. *Compr Psychiatry 2003;* 44: 220-226.

38. Davidson K, Norrie J, Tyrer P, et al. The effectiveness of cognitive behaviour therapy for borderline personality disorder: results from the BOSCOT trial. *J Personal Disord 2006;* 20: 450-465.

39. Kay SR., Fiszbein A, Opler, LA. The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophr Bull* 1987; 13: 261 -276.

40. Peralta V, Cuesta M.. Psychometric properties of the Positive and Negative Syndrome Scale (PANSS) in schizophrenia. *Psychiatry Res* 1994; 53: 31 – 40.

41. Riggs SA, Paulson A, Tunnell E, Sahl G, Atkison, H, Ross CA. Attachment, personality, and psychopathology among adult inpatients: Self-reported romantic attachment style versus Adult Attachment Interview states of Mind. *Dev Psychopathol 2007;* 19: 263 – 291.

42. Lysaker PH, Buck KD, Ringer J. The recovery of metacognitive capacity in schizophrenia across thirty two months of individual psychotherapy: A case study. *Psychother Res* 2007; 17: 713 – 720.

43, Lysaker PH, Buck KD, Carcione A, et al. Addressing metacognitive capacity for self reflection in the psychotherapy for schizophrenia: A conceptual model of the key tasks and processes. *Psychol Psychother* 2011; 84: 58-69.

44. Gumley A, Braehler, C, Laithwaite H, MacBeth A, Gilbert, P. A Compassion focussed model of recovery after psychosis. *J Cogn Psychother 2010;* 3: 186 – 201.

45. Gumley A, Schwannauer M, MacBeth A, Read J. Emotional recovery and Staying well after psychosis: An Attachment-based conceptualisation*. Attachment: New Directions in Psychotherapy and Relational Psychoanalysis* 2008; 2: 127 – 148.

46. Semerari A, Carcione A, Dimaggio G, et al. How to evaluate metacognitive functioning in psychotherapy? The Metacognitive Assessment Scale and its applications. *Clin Psychol Psychother* 2003; 10: 238-261.

47. Lysaker PH, Gumley A, Dimaggio G.. Metacognitive disturbances in persons with severe mental illness: Theory, correlates with psychopathology and models of psychotherapy. *Psychol Psychother* 2011; 84: 1-8.

48. Bateman AW, Fonagy P.. Randomized Controlled trial of Outpatient Mentalization-based treatment versus Structured clinical management for Borderline Personality Disorder. *Am J Psychiatry* 2009; 166: 1355 – 1364.

49. Gunderson JG, Carpenter WT Jr, Strauss JS (1975) Borderline and schizophrenic patients: A comparative study. *Am J Psychiatry*. 132:1257–1264.

50. Kingdon, D.G., Ashcroft, K., Bhandari, B., et al. Schizophrenia and Borderline Personality Disorder. Similarities and differences in the experience of auditory hallucinations, paranoia and childhood trauma. *Journal of Nervous and Mental Disease* 2010; 198: 399 – 403.

Table 1: Descriptive table of sample demographics and diagnostics

(n=43)	Overall Sample	Psychosis group	Borderline PD group	Forensic Psychosis group	ANOVA F value/Pearson X²
Age (mean years, s.d.)	39.14 (10.35)	41 (9.51)	35.93 (10.87)	40.5 (10.41)	1.007
Gender (Male/Female)	27/16	7/4	2/12	18/0	X²=24.77***
Ethnicity					X²=3.23
White Scots	40	10	13	17	
Asian Pakistani	2	1	0	1	
Mixed Race	1	0	1	0	
Marital Status					X²=7.06
Single	29	8	9	12	
Married	7	1	4	2	
Divorced	6	2	0	4	
Widowed	1	0	1	0	
Highest Educational Status					X²=16.82
Left School before 16/No qualifications	16	2	3	11	
Standard Grades	9	2	4	3	
Highers	2	0	0	2	
College	10	4	4	2	
University	5	2	3	0	
Not Available	1	1	0	0	
Primary Diagnosis					
Schizophrenia	23	7	0	16	
Persistent Delusional Disorder	1	1	0	0	
Schizoaffective Disorder	4	2	0	2	
Unspecified Non-Organic Psychosis	1	1	0	0	
Borderline Personality Disorder[a]	14	0	14	0	
Secondary Diagnosis					
None	28	10	9	9	
Dissocial PD	9	0	1	8	
Epilepsy	1	0	0	1	
Depression	2	1	1	0	
Anxiety	1	0	1	0	
Schizophrenia	1	0	1	0	
Bipolar Disorder	1	0	1	0	
Tertiary Diagnosis					
None	39	0	12	16	
Psychopathic PD	1	0	0	1	
Schizoid PD	1	0	0	1	
Depression	1	0	1	0	
Anxiety	1	0	1	0	
Years since diagnosed (mean, s.d.)	9.64 (7.23)	10.00 (7.10)	3.36 (4.20)	14.3 (5.48)	15.53**

* = Significant difference between using groups using ANOVA at p<.05; ** = Significant difference between using groups using ANOVA at p<.01; ***= Significant difference between using groups using ANOVA at p<.001. [a] Diagnosis confirmed for study using SCID-DSM-IV Axis II assessment (APA, 1994). N.B. PD: Personality Disorder

Table 2: Descriptive data for clinical and psychological measures.

(n=43) means, s.d's	Overall Sample	Psychosis group	Borderline PD group	Forensic Psychosis group	ANOVA F value
Attachment Anxiety	10.10 (4.50)	12.54 (2.98)	12.93 (3.58)	6.18 (2.92)	21.85***
Attachment Avoidance	21.86 (7.14)	24.45 (2.98)	27.07 (5.82)	15.88 (5.58)	20.15***
IIP Distancing	20.02 (13.81)	25.36 (7.85)	28.00 (14.13)	10.00 (10.31)	11.56***
IIP Affiliating	30.95 (17.52)	40.64 (8.34)	43.78 (10.88)	14.12 (11.70)	35.94***
Self Compassion Scale Total Score	2.83 (.71)	2.83 (.43)	2.11 (.46)	3.43 (.40)	35.69***
Self Compassion	7.39 (2.32)	7.89 (1.39)	5.24 (1.27)	8.82 (2.20)	16.90***
Self-Coldness	8.38 (2.84)	9.14 (1.17)	10.71 (1.79)	5.96 (2.41)	23.93***
PANSS Positive Psychotic Symptoms	11.72 (3.31)	13.82 (3.31)	12.07 (2.84)	10.12 (2.99)	5.01*
PANSS Negative Psychotic Symptoms	12.42 (5.13)	14.54 (4.72)	9.29 (1.90)	13.55 (6.06)	4.71*
PANSS General Psychotic Symptoms	29.42 (8.90)	34.19 (8.30)	34.21 (5.44)	22.78 (7.21)	13.94*
BSI Somatization Scale	1.02 (.87)	.83 (.82)	1.40 (.87)	.82 (.85)	2.103
BSI Obsessive Compulsive Scale	1.81 (1.22)	1.83 (.72)	3.00 (.79)	.82 (.89)	28.80***
BSI Interpersonal Sensitivity	1.71 (1.34)	1.68 (.96)	2.96 (.97)	.71 (.92)	21.81***
BSI Depression	1.77 (1.31)	1.76 (.58)	2.96 (.93)	.80 (1.12)	20.06***
BSI Anxiety	1.55 (1.23)	1.71 (1.12)	2.39 (.99)	.74 (1.00)	10.03***
BSI Hostility	1.13 (1.27)	.51 (.41)	2.50 (1.03)	.40 (.85)	28.34***
BSI Phobic anxiety	1.38 (1.36)	1.58 (1.20)	2.35 (1.37)	.46 (.76)	11.32***
BSI Paranoia	1.45 (1.24)	1.65 (1.15)	2.44 (.90)	.50 (.80)	16.78***
BSI Psychoticism	1.69 (1.28)	1.62 (.69)	2.84 (.89)	.79 (1.11)	18.117***
BSI Global Severity	1.42 (.98)	1.41 (.52)	2.32 (.65)	.69 (.84)	20.45***
BSI Positive symptom Distress	16.46 (21.12)	2.18 (.50)	45.57 (6.01)	1.71 (.86)	717.75***
BSI Positive Symptom Total	16.45 (16.00)	33.81 (6.70)	2.93 (.63)	16.35 (16.04)	25.06***

* = Significant difference between using groups using ANOVA at p<.05; ** = Significant difference between using groups using ANOVA at p<.01; ***= Significant difference between using groups using ANOVA at p<.001

Table 3: Properties of Narrative Compassion Scale Descriptive scores

	Overall Sample	Psychosis group	Borderline PD group	Forensic Psychosis group	Statistical Test; Significance [c,d]
Experiences of Kindness Score	3 (2 – 3)	3 (1-5)	3 (2-4)	3 (2-4)	X^2=1.977, n.s.
Experiences of threat	5.24 (1.94)	4.17 (1.72)	6.00 (1.94)	5 (1.85)	F=1.96 n.s.
Recovery: Integration Score	3.05 (1.62)	3.18 (1.40)	2.86 (1.89)	3.11 (2.00)	F=.143, n.s.
Recovery Sealing Over/Avoidance scale	3.16 (2.02)	2.09 (1.45)	2.36 (1.55)	4.44 (2.00)	F=8.509, p=.001
Recovery: Ruminative Preoccupation Scale	4.49 (2.58)	5.09 (2.21)	6.00 (2.35)	2.94 (2.15)	F=7.895, p.001
Self-Oriented Compassion Scale	2.23 (1.61)	2.82 (1.89)	1.64 (1.28)	2.33 (1.61)	F=1.750, p= n.s.
Other-Oriented Compassion Scale	2.56 (1.87)	3.73 (1.42)	2.14 (1.91)	2.87 (1.85)	F=3.198, p=.051
Overall Compassion Scale	2.37 (1.86)	3.36 (1.70)	1.79 (1.76)	2.22 (1.90)	F=2.466 p=n.s.

[a] for Experiences of Kindness Scale Total n=23 (Psychosis group n = 9, Borderline PD group n= 7 and Forensic Psychosis group n=7). For this scale data are given as Medians and IQR

[b] for Experiences of Interpersonal Threat Scale Total n=25 (Psychosis group n = 16, Borderline PD group n= 11 and Forensic Psychosis group n=8)..

[c] for Experiences of Kindness scale Kruskal-Wallis tests are used.

[d] for Experiences of Threat, Recovery and Compassion scales ANOVA's were conducted, with F-values reported accordingly.

Table 4: Narrative Compassion Interview: Inter-correlations of subscales

	Recovery: Integration Score	Recovery Sealing Over/Avoidance scale	Recovery: Ruminative Preoccupation Scale	Self-Oriented Compassion Scale	Other-Oriented Compassion Scale	Overall Compassion Scale
Recovery: Integration Score	1	-.453**	-.34	.752***	.732***	.807***
Recovery Sealing Over/Avoidance scale	-.453**	1	-.454**	-.427**	-.699***	-.585***
Recovery: Ruminative Preoccupation Scale	-.34	-.454**	1	-.079	.001	-.059
Self-Oriented Compassion Scale	.752***	-.427**	-.079	1	.808***	.911***
Other-Oriented Compassion Scale	.732***	-.699***	.001	.808***	1	.950***
Overall Compassion Scale	.807***	-.585***	-.059	.911***	.950***	1

All correlations Pearson's *r*, * = p<.05; ** = p<.01; p = <.001

Table 5: Correlations between Narrative Compassion Scale, self-reported compassion and psychological variables

(N=42)	Self Compassion Scale Total Score	Self Compassion	Self-Coldness	RSQ Anxiety	RSQ Avoidance	IIP Affiliating	IIP Distancing
Recovery: Integration Score	.213	.140	-.187	-.163	-.146	-.137	-.005
Recovery Sealing Over/Avoidance scale	.307*	.307*	-.201	-.227	-.263	-.313	-.189
Recovery: Ruminative Preoccupation Scale	-.390*	-.203	.459**	.423**	.546***	.388*	.151
Self-Oriented Compassion Scale	.273	.167	-.315*	-.119	-.190	-.179	-.133
Other-Oriented Compassion Scale	.080	.024	-.128	-.044	-.120	.007	-.019
Overall Compassion Scale	.207	.127	-.241	-.105	-.168	-.098	-.068

All correlations Pearson's *r*, * = p<.05; ** = p<.01; ***p = <.001

Table 6: Correlations between Narrative Compassion Scale and clinical variables

(N=42)	PANSS +ve symptoms	PANSS – ve Symptoms	PANSS General Symptoms	BSI depression	BSI Anxiety	BSI Hostility	BSI Paranoid Ideation	BSI Psychoticism	BSI Global Severity	BSI Positive Symptom Distress	BSI Positive Symptom Total
Recovery: Integration Score	-.340*	-.347*	-.263	-.246	-.229	-.152	-.171	-.246	-.231	-.073	-.205
Recovery Sealing Over/Avoidance scale	.234	.305*	-.167	-.306*	-.340*	-.205	-.331*	-.264	-.310*	-.260	.023
Recovery: Ruminative Preoccupation Scale	.231	-.122	.378*	.327*	.391*	.336*	.426**	.344*	.380*	.431**	-.120
Self-Oriented Compassion Scale	-.250	-.170	-.340*	-.227	-.261	-.251	-.201	-.299	-.266	-.252	.080
Other-Oriented Compassion Scale	-.247	-.162	-.085	-.074	-.019	-.200	-.047	-.104	-.093	-.177	.112
Overall Compassion Scale	-.291	-.154	-.242	-.207	-.170	-.277	-.159	-.257	-.221	-.242	.083

All correlations Pearson's *r*, * = p<.05; ** = p<.01; ***p = <.001

CHAPTER 3

REFLECTIVE CRITICAL ACCOUNT, ADVANCED PRACTICE I

(ABSTRACT ONLY)

"The most important part of our job is being a therapist"

Introduction

The account focuses on my reaction to a short discussion with a colleague on whether the most important part of a clinical psychologist's job is to be a therapist. This conversation triggered a strong emotional reaction on my part, precipitating a critical review of my own thoughts and feelings regarding how we communicate psychological theory to service-users and fellow professionals.

Reflective Review

Fonagy and Target's (1998) criteria for Reflective Function (RF) are used as a framework to guide reflection. The relevance of four constructs for moderate/high reflective function are used to scaffold exploration of my own understanding of the clinical psychologists role, my understanding of colleagues appraisals of our role, and the development of my thinking over training.

Conclusion

The account is presented as a reflective essay, ending with a rapprochement between my initial reaction to the conversation of interest and the response developed through use of the RF model.

CHAPTER 4

REFLECTIVE CRITICAL ACCOUNT, ADVANCED PRACTICE II

(ABSTRACT ONLY)

From where to here? Personal reflections on the position of research in Clinical Psychology.

Introduction

The account focuses on the development of my feelings regarding the position of research within the field of Clinical Psychology. Having a strong research background prior to training, my initial belief in the importance of a synergy between clinical practice and clinically relevant research has not wavered over the 3 years of training, but my emotional response to this issue has become more nuanced. The account is set against the context of the current economic uncertainties in the health and academic sectors.

Reflective Review

I have drawn on two professional experiences to inform the review. Firstly, the observation of the implementation of a service level audit on clinical placement; and secondly my responses to a colleague's discussion of how to utilise research skills in a busy clinical setting. The account makes use of my "bottom-up" cognitive and affective responses to these experiences; married to a 'top down' appreciation of the policy drivers around the changing role of the Clinical Psychologist.

Conclusion

The account concludes with an appreciation of the role Clinical training has played in shaping my commitment to both clinical practice and clinical research.
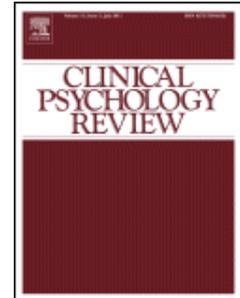
CLINICAL PSYCHOLOGY REVIEW

TABLE OF CONTENTS

DESCRIPTION

Clinical Psychology Review publishes substantive reviews of topics germane to clinical psychology. Its purpose is to help clinical psychologists keep up-to-date on relevant issues outside of their immediate areas of expertise by publishing scholarly but readable reviews. Papers cover diverse issues including: psychopathology, psychotherapy, behavior therapy, behavioral medicine, community mental health, assessment, and child development.

Reviews on other topics, such as psychophysiology, learning therapy, and social psychology, often appear if they have a clear relationship to research or practice in clinical psychology. Integrative literature reviews and summary reports of innovative ongoing clinical research programs are also sometimes published. Reports on individual research studies are not appropriate.

AUDIENCE

Psychologists and Clinicians in Psychopathy

IMPACT FACTOR

2010: 5.882 © Thomson Reuters Journal Citation Reports 2011

ABSTRACTING AND INDEXING

BIOSIS
Behavioral Medicine Abstracts
Current Contents/Social & Behavioral Sciences
EMBASE
PsycINFO Psychological Abstracts
PsycLIT
Psyscan CP
Research Alert
Scopus
Social Sciences Citation Index
Social and Behavioural Sciences

EDITORIAL BOARD

GUIDE FOR AUTHORS

BEFORE YOU BEGIN

Ethics in Publishing

For information on Ethics in Publishing and Ethical guidelines for journal publication see http://www.elsevier.com/publishingethics and http://www.elsevier.com/ethicalguidelines.

Conflict of interest

All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations within three years of beginning the submitted work that could inappropriately influence, or be perceived to influence, their work. See also http://www.elsevier.com/conflictsofinterest.

Submission declaration

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere including electronically in the same form, in English or in any other language, without the written consent of the copyright-holder.

Changes to authorship

This policy concerns the addition, deletion, or rearrangement of author names in the authorship of accepted manuscripts:
Before the accepted manuscript is published in an online issue: Requests to add or remove an author, or to rearrange the author names, must be sent to the Journal Manager from the corresponding author of the accepted manuscript and must include: (a) the reason the name should be added or removed, or the author names rearranged and (b) written confirmation (e-mail, fax, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed. Requests that are not sent by the corresponding author will be forwarded by the Journal Manager to the corresponding author, who must follow the procedure as described above. Note that: (1) Journal Managers will inform the Journal Editors of any such requests and (2) publication of the accepted manuscript in an online issue is suspended until authorship has been agreed.
After the accepted manuscript is published in an online issue: Any requests to add, delete, or rearrange author names in an article published in an online issue will follow the same policies as noted above and result in a corrigendum.

Copyright

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (for more information on this and copyright see http://www.elsevier.com/copyright). Acceptance of the agreement will ensure the widest possible dissemination of information. An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.
Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations (please consult http://www.elsevier.com/permissions). If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases: please consult http://www.elsevier.com/permissions.

Retained author rights

As an author you (or your employer or institution) retain certain rights; for details you are referred to: http://www.elsevier.com/authorsrights.

Role of the funding source

You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the paper for publication. If the funding source(s) had no such involvement then this should be stated. Please see http://www.elsevier.com/funding.

Funding body agreements and policies

Elsevier has established agreements and developed policies to allow authors whose articles appear in journals published by Elsevier, to comply with potential manuscript archiving requirements as specified as conditions of their grant awards. To learn more about existing agreements and policies please visit http://www.elsevier.com/fundingbodies.

Open access

This journal offers you the option of making your article freely available to all via the ScienceDirect platform. To prevent any conflict of interest, you can only make this choice after receiving notification that your article has been accepted for publication. The fee of $3,000 excludes taxes and other potential author fees such as color charges. In some cases, institutions and funding bodies have entered into agreement with Elsevier to meet these fees on behalf of their authors. Details of these agreements are available at http://www.elsevier.com/fundingbodies. Authors of accepted articles, who wish to take advantage of this option, should complete and submit the order form (available at http://www.elsevier.com/locate/openaccessform.pdf). Whatever access option you choose, you retain many rights as an author, including the right to post a revised personal version of your article on your own website. More information can be found here: http://www.elsevier.com/authorsrights .

Language and language services

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who require information about language editing and copyediting services pre- and post-submission please visit http://webshop.elsevier.com/languageediting or our customer support site at http://support.elsevier.com for more information.

Submission

Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts source files to a single PDF file of the article, which is used in the peer-review process. Please note that even though manuscript source files are converted to PDF files at submission for the review process, these source files are needed for further processing after acceptance. All correspondence, including notification of the Editor's decision and requests for revision, takes place by e-mail removing the need for a paper trail.

PREPARATION

Use of wordprocessing software

It is important that the file be saved in the native format of the wordprocessor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the wordprocessor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: http://www.elsevier.com/guidepublication). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic illustrations.
To avoid unnecessary errors you are strongly advised to use the "spell-check" and "grammar-check" functions of your wordprocessor.

Article structure

Manuscripts should be prepared according to the guidelines set forth in the Publication Manual of the American Psychological Association (6th ed., 2009).

Manuscripts should ordinarily not exceed 50 pages. Exceptions may be made with prior approval of the Editor in Chief for manuscripts including extensive tabular or graphic material, or appendices.

Appendices
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information

Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible. **Note: The title page should be the first page of the manuscript document indicating the author's names and affiliations and the corresponding author's complete contact information.**

Author names and affiliations. Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name, and, if available, the e-mail address of each author within the cover letter.

Corresponding author. Clearly indicate who is willing to handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that telephone and fax numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address.**

Present/permanent address. If an author has moved since the work described in the article was done, or was visiting at the time, a "Present address"' (or "Permanent address") may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Abstract

A concise and factual abstract is required (not exceeding 200 words). This should be typed on a separate page following the title page. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separate from the article, so it must be able to stand alone. References should therefore be avoided, but if essential, they must be cited in full, without reference to the reference list.

Graphical abstract
A Graphical abstract is optional and should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online. Authors must provide images that clearly represent the work described in the article. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. See http://www.elsevier.com/graphicalabstracts for examples.

Highlights
Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate file in the online submission system. Please use 'Highlights' in the file name and include 2 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). See http://www.elsevier.com/highlights for examples.

Keywords
Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, "and", "of"). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements
Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article, using superscript Arabic numbers. Many wordprocessors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

Table footnotes
Indicate each footnote in a table with a superscript lowercase letter.

Electronic artwork
General points
• Make sure you use uniform lettering and sizing of your original artwork.
• Save text in illustrations as "graphics" or enclose the font.
• Only use the following fonts in your illustrations: Arial, Courier, Times, Symbol.
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files.
• Provide captions to illustrations separately.
• Produce images near to the desired size of the printed version.
• Submit each figure as a separate file.

A detailed guide on electronic artwork is available on our website:
http://www.elsevier.com/artworkinstructions
You are urged to visit this site; some excerpts from the detailed information are given here.
Formats
Regardless of the application used, when your electronic artwork is finalised, please "save as" or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
EPS: Vector drawings. Embed the font or save the text as "graphics".
TIFF: color or grayscale photographs (halftones): always use a minimum of 300 dpi.
TIFF: Bitmapped line drawings: use a minimum of 1000 dpi.
TIFF: Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply "as is".
Please do not:
• Supply files that are optimised for screen use (like GIF, BMP, PICT, WPG); the resolution is too low;
• Supply files that are too low in resolution;
• Submit graphics that are disproportionately large for the content.

Color artwork
Please make sure that artwork files are in an acceptable format (TIFF, EPS or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color on the Web (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. **For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article.** Please indicate your preference for color in print or on the Web only. For further information on the preparation of electronic artwork, please see http://www.elsevier.com/artworkinstructions.
Please note: Because of technical complications which can arise by converting color figures to "gray scale" (for the printed version should you not opt for color in print) please submit in addition usable black and white versions of all the color illustrations.

Figure captions
Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (**not** on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables

Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

References

Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Sixth Edition, ISBN 1-4338-0559-6, copies of which may be ordered from http://books.apa.org/ books.cfm?id=4200067 or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK. Details concerning this referencing style can also be found at http://humanities.byu.edu/linguistics/Henrichsen/APA/APA01.html

Citation in text
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either "Unpublished results" or "Personal communication" Citation of a reference as "in press" implies that the item has been accepted for publication.

Web references
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

References in a special issue
Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference management software
This journal has standard templates available in key reference management packages EndNote (http://www.endnote.com/support/enstyles.asp) and Reference Manager (http://refman.com/support/rmstyles.asp). Using plug-ins to wordprocessing packages, authors only need to select the appropriate journal template when preparing their article and the list of references and citations to these will be formatted according to the journal style which is described below.

Reference style

References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication. **References should be formatted with a hanging indent (i.e., the first line of each reference is flush left while the subsequent lines are indented).**

Examples: Reference to a journal publication: Van der Geer, J., Hanraads, J. A. J., & Lupton R. A. (2000). The art of writing a scientific article. *Journal of Scientific Communications,* 163, 51-59.

Reference to a book: Strunk, W., Jr., &White, E. B. (1979). *The elements of style.* (3rd ed.). New York: Macmillan, (Chapter 4).

Reference to a chapter in an edited book: Mettam, G. R., & Adams, L. B. (1994). How to prepare an electronic version of your article. In B.S. Jones, & R. Z. Smith (Eds.), *Introduction to the electronic age* (pp. 281-304). New York: E-Publishing Inc.

Video data

Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the files in one of our recommended file formats with a preferred maximum size of 50 MB. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect: http://www.sciencedirect.com. Please supply 'stills' with your

files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages at http://www.elsevier.com/artworkinstructions. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

Supplementary data

Elsevier accepts electronic supplementary material to support and enhance your scientific research. Supplementary files offer the author additional possibilities to publish supporting applications, high-resolution images, background datasets, sound clips and more. Supplementary files supplied will be published online alongside the electronic version of your article in Elsevier Web products, including ScienceDirect: http://www.sciencedirect.com. In order to ensure that your submitted material is directly usable, please provide the data in one of our recommended file formats. Authors should submit the material in electronic format together with the article and supply a concise and descriptive caption for each file. For more detailed instructions please visit our artwork instruction pages at http://www.elsevier.com/artworkinstructions.

Submission checklist

The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.
Ensure that the following items are present:
One Author designated as corresponding Author:
• E-mail address
• Full postal address
• Telephone and fax numbers
All necessary files have been uploaded
• Keywords
• All figure captions
• All tables (including title, description, footnotes)
Further considerations
• Manuscript has been "spellchecked" and "grammar-checked"
• References are in the correct format for this journal
• All references mentioned in the Reference list are cited in the text, and vice versa
• Permission has been obtained for use of copyrighted material from other sources (including the Web)
• Color figures are clearly marked as being intended for color reproduction on the Web (free of charge) and in print or to be reproduced in color on the Web (free of charge) and in black-and-white in print
• If only color on the Web is required, black and white versions of the figures are also supplied for printing purposes
For any further information please visit our customer support site at http://support.elsevier.com.

AFTER ACCEPTANCE

Use of the Digital Object Identifier

The Digital Object Identifier (DOI) may be used to cite and link to electronic documents. The DOI consists of a unique alpha-numeric character string which is assigned to a document by the publisher upon the initial electronic publication. The assigned DOI never changes. Therefore, it is an ideal medium for citing a document, particularly 'Articles in press' because they have not yet received their full bibliographic information. The correct format for citing a DOI is shown as follows (example taken from a document in the journal *Physics Letters B*):
doi:10.1016/j.physletb.2010.09.059
When you use the DOI to create URL hyperlinks to documents on the web, they are guaranteed never to change.

Proofs

One set of page proofs (as PDF files) will be sent by e-mail to the corresponding author (if we do not have an e-mail address then paper proofs will be sent by post) or, a link will be provided in the e-mail so that authors can download the files themselves. Elsevier now provides authors with PDF proofs which can be annotated; for this you will need to download Adobe Reader version 7 (or higher) available free from http://get.adobe.com/reader. Instructions on how to annotate PDF files will accompany the proofs (also given online). The exact system requirements are given at the Adobe site: http://www.adobe.com/products/reader/tech-specs.html.

If you do not wish to use the PDF annotations function, you may list the corrections (including replies to the Query Form) and return them to Elsevier in an e-mail. Please list your corrections quoting line number. If, for any reason, this is not possible, then mark the corrections and any other comments (including replies to the Query Form) on a printout of your proof and return by fax, or scan the pages and e-mail, or by post. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. We will do everything possible to get your article published quickly and accurately – please let us have all your corrections within 48 hours. It is important to ensure that all corrections are sent back to us in one communication: please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility. Note that Elsevier may proceed with the publication of your article if no response is received.

Offprints

The corresponding author, at no cost, will be provided with a PDF file of the article via e-mail. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. The PDF file is a watermarked version of the published article and includes a cover sheet with the journal cover image and a disclaimer outlining the terms and conditions of use.

AUTHOR INQUIRIES

For inquiries relating to the submission of articles (including electronic submission) please visit this journal's homepage. Contact details for questions arising after acceptance of an article, especially those relating to proofs, will be provided by the publisher. You can track accepted articles at http://www.elsevier.com/trackarticle. You can also check our Author FAQs (http://www.elsevier.com/authorFAQ) and/or contact Customer Support via http://support.elsevier.com.

Appendix 1.2

Variables used in proforma construction

<u>Design</u>

- What was the study design?
- What was the sample composition?
- Which demographics were reported and how?
- What were the participant Recruitment and drop-out rates?

<u>Measures</u>

- Which compassion measure was used?
  - Was it a standardised measure?
- Reporting of reliability for compassion measure
- How was the clinical variable measured?
- Was a diagnostic interview or measure used?
- What were the outcome measures?

<u>Results Reporting</u>

- Were associations between compassion and clinical variables reported?
  - What was the strength of the association
- Were covariates considered?

Appendix 1.3

Methodological considerations of reviewed studies

Sampling and generalisability

The identified studies represent a heterogeneous sample, both in terms of demographic factors and population. Firstly, there is a clear gender skew in the literature, with female participants representing over 70% of the sample, limiting generalisability to the general population. However, the data are consistent with the relatively higher prevalence of depressive disorders (Kessler et al., 1993) and anxiety disorders (Gater et al, 1998) in females. Three papers identified in the review reported gender as a potential covariate, with men generally reporting higher self-compassion scores than women (Neff 2003a; Neff, et al., 2005; Raes 2010). However, Raque-Bogdan et al., (2011) and Neff et al., (2007) reported gender did not have a significant effect on the results. The majority of the studies identified did not report associations with gender. Both studies by Neff (2003a) reported associations with subscales - women reporting significantly higher levels of self-judgement, isolation and over-identification; and lower mindfulness than men.

A second methodological difficulty concerns sample age range. The mean age of the sample was 32.3 years, however it was not possible to stratify the sample by age group. This leaves unanswered the question of whether an individual's orientation to self-compassion changes over time, or whether self-compassion amongst young adults differs from middle aged adults.

Thirdly, the studies identified in the review were heterogenous in their sample composition. This is understandable given the relatively recent emergence of compassion as a factor for consideration in psychological difficulties, suggesting that compassion is a construct with

relatively broad clinical and theoretical importance to research and practice. Consistent with the emergent nature of the field the greatest subset of identified studies (14 studies) were analogue studies, utilising student samples. This is appropriate for the infancy of compassion research in clinical areas, allowing for the testing of associations between compassion and psychopathological variables using an ethically appropriate methodology.

Four studies (Orzech et al., 2009; Birnie et al., 2010, Lee & Bang, 2010; Schoevers & Brandsma, 2010) recruited from the general population, in the context of treatment evaluations of MBSR/MBCT programmes. These studies took a prophylactic or salutogenic approach to mental health, with the intention that participation would buffer the participant against stressors. Abercrombie and colleagues (2007) recruited from a specific healthcare sample - low income female participants with abnormal PAP smears.

Five studies (Ying, 2008; Rimes & Wingrove, 2011; Shapiro et al, 2005 & 2007, Gilbert et al, 2011) recruited partial complete samples from trainee or qualified professionals in the health and social care professions. Here two rationales appeared prominent. Firstly, emphasing mindfulness and compassion as a proactive, protective strategy to prevent staff burnout under conditions of high stress (Shapiro et al., 2005, 2007; Ying, 2008, Rimes & Wingrove, 2011). Secondly, Rimes and Wingrove (2011) report an explicit decision to deliver MBCT to Trainee Clinical Psychologists (using compassion as a covariate) to promote an experiential approach to therapeutic intervention, whereby trainees not only delivered the intervention to service-users, but also had direct experience of the intervention.

The remaining five studies concerned clinical groups, recruiting participants with self reported anxiety and/or depression (Van Dam et al., 20011), chronic pain (Costa & Pinto-Gouvaies, 2011), Generalised Anxiety Disorder (Roemer et al., 2009), Forensic psychosis

(Laithwaite et al., 2009) and recurrent depression (Kuyken, et al., 2010). Therefore, although consistencies did emerge with regards to depressive and anxiety symptoms the samples were markedly heterogenous.

<u>Recruitment and retention</u>

Given the heterogeneity of sampling, recruitment of participants varied across studies, with consequent increased risk of sampling bias and threats to external validity. Several studies included in the review acknowledged use of convenience sampling (Raque-Bogdan et al., 2011; Raes, 2010, 2011; Ying, 2008; Mills et al., 2007; Neff et al., 2007a; Thompson & Waltz, 2008). The studies reported by Neff and colleagues (2003a, 2005) used subjects were recruited at random from a University subject pool. The studies by Rimes & Wingrove (2011), Orzech et al., (2009), Shapiro et al., (2005), Kuyken et al, 2010; and Birnie et al, (2010) reported participants were invited to take part in the study as part of a participation in a treatment programme. Costa and Gouivaes-Pinto (2011) reported initial contact for their sample was initiated by the participant's GP or Rheumatologist. Roemer et al., (Study 2; 2009) recruited self-referring, treatment-seeking patients. Van Dam et al. (2011) reported that "Participants were recruited online from a variety of self help and mental health websites and listservs and directed to the study website"(p.125). Lee and Bang (2010), Schrovers & Brandsma (2010) and Roemer et al., (control group; 2009) used a media or internet based recruitment strategy.

Course credits were used as a recruitment incentive in two studies (Raque-Bogdan et al, 2011; Raes 2010), introducing potential bias. Four studies (Ying, 2008; Roemer et al., Study 1 and Study 2 controls, 2009; Shapiro et al., 2011) reported that participants were paid a fee ($5 - $50) for participation. Schroevers & Brandsma (2010) reported that participants in the

MBCT intervention had paid to participate in the intervention. Several studies reported clear indicators that voluntary informed consent was obtained from participants (e.g. Mills et al., 2007; Van Dam et al., 2011; Costa & Gouivaes-Pinto, 2011; Roemer et al., 2009; Laithwaite et al., 2009; Rimes & Wingrove, 2011; Kuyken et al., 2010).

Nine studies provided clear reporting of attrition rate and drop-out (Shapiro et al., 2005, 2007; 2011; Abercrombie et al., 2007; Orzech et al, 2009; Lee & Bang, 2010; Kuyken et al., 2010; Schroevers & Brandsma, 2010; Raes, 2011;). Abercrombie et al., (2007) reported significant difficulties in recruitment and retention in their treatment study, leading to a drop-out rate of 84%. Birnie et al., (2010) also reported concerns regarding a 51% post intervention drop-out rate, with corresponding limitations to the power of the data analysis. No other studies reported the impact of drop-out or attrition on the data analyses.

Exclusion and inclusion criteria

There was also considerable variation in the utilisation of inclusion and exclusion criteria. Six studies reported Inclusion and Exclusion criteria (Shapiro et al, 2005; Abercrombie et al, 2007; Roemer et al., Study 2, 2009; Lee & Bang, 2010; Kuyken et al., 2010; Costa & Pinto-Gouvaies, 2011;). Schreovers and Brandsma (2010) were the only authors to explicitly report that they did not have exclusion criteria. Costa and Pinto-Gouvaies (2011) reported that two initial participants were excluded due to severe psychopathology. Lee and Bang (2010), although recruiting from the general population, did not exclude participants who reported depressed mood, although they did exclude individuals with a psychiatric diagnosis or those prescribed anti-depressant medication. Indeed both their MBCT and control groups reported pre-treatment scores consistent with a mild (though sub-clinical) level of depressed

mood (pre-treatment mean for MBCT group = 12.53; pre-treatment mean for control group = 14.07).

Assessment of covariates

Given the number of studies identified in the review it is not pragmatic to present an exhaustive list of potential covariates. Indeed, given the infancy of the compassion literature it would be more appropriate to assess the identified studies in terms of their identification of potential covariates for future study. In this respect there are several important covariates that were identified by some of the studies. Firstly, as noted above, there are results differ regarding the impact of gender on compassion, particularly with respect to lower self-reported compassion reported by females. However, the paucity of data in this regard is a clear weakness of the literature. Secondly, reporting of age as a potential covariate was inconsistent. Only one study included age as a covariate, reporting no effect of age (Raque-Bogdan et al, 2011). Therefore, at present it is not possible to comment on the impact of age differences on the data.

Control groups

Control groups were not utilised in the non-treatment studies, with the exception of Roemer et al., (Study 2, 2009), where the sample was drawn from a larger treatment sample. The majority of treatment studies included a control group. Where a control group was not included the exploratory nature of the study was made clear in the reporting (Laithwaite et al, 2009; Orzech et al, 2009; Schroevers & Brandsma, 2010; Birnie et al., 2010; Rimes & Wingrove, 2011) Lee and Bang (2010) presented study flow in the form of CONSORT diagram and detailed randomization via a number table. Similarly, Kuyken et al., (2010) make reference to the CONSORT diagram and randomization reported in earlier papers (Kuyken et al., 2008; White, Holden, Byng, Mullan & Kuyken, 2007). Shapiro et al., (2011)

described randomisation via computer software. Although described as a randomized controlled trail, Shapiro et al., (2005) did not report the method used to randomize participants.

<u>Power and analysis strategies</u>

Reporting of power and analytical strategies varied between papers. Clear reporting of sampling, and adequate powering for the proposed analysis was only reported in one study (Raque-Bogdan et al., 2011). Reporting of appropriateness of parametric and non-parametric data handling also varied across studies, with clear and unambiguous reporting of data preparation recorded in 10 studies (Mills et al., 2007;; Roemer et al., 2009; Orzech et al., 2009; Laithwaite et al., 2009;; Kuyken et al., 2010; Schroevers & Brandsma, 2010, Raque-Bogdan et al., 2011; Costa & Pinto-Gouvaies, 2011; Gilbert et al., 2011; Shapiro, et al., 2011). Both Lee & Bang (2010), and Roemer et al., (Study 2; 2009) used Bonferroni correction to reduce the probability of a Type I error. Several studies noted the limitations of small samples (e.g. Shapiro et al., 2005, 2007; Roemer et al., Study 2, 2009; Rimes & Wingrove, 2011). In addition, 4 studies (Laithwaite et al., 2009, Birnie at al., 2010; Lee & Bang, 2010; Shapiro et al, 2011) explicitly stated that they did not correct for multiple comparisons, acknowledging the increased likelihood of Type I errors. None of the studies identified reported non-significant data trends, thus reducing concerns regarding Type II errors.

<u>Issues of Causality</u>

As above, the considerable variation in methodologies and sampling in the studies impacted upon the inference of causality reported in the data. It would be reasonable to expect that the studies that only reported correlational data would be conservative in their discussion of directionality of associations. Indeed, most studies made cautious interpretations of their findings (e.g. Neff, Studies 1 and 2, 2003a; Neff et al., Studies 1 and 2, 2007; Thompson &

Waltz, 2008; Roemer et al, Studies 1 and 2, 2009; Schroevers & Brandsma, 2010; Costa & Pinto-Gouvaies, 2011). In addition, 5 studies used advanced data analytic strategies (e.g. mediational analyses, bootstrapping) to make a more qualified assessment of causality in the data (e.g. Ying, 2009; Kuyken et al., 2010; Raes, 2010; Raque-Bogdan et al., 2011; van Dam et al., 2011).

Appendix 2.1

Submission Guidelines for Schizophrenia Bulletin, retrieved 18th July 2011.

MANUSCRIPT PREPARATION

All manuscripts are submitted and reviewed via the journal's web-based manuscript submission system accessible at http://mc.manuscriptcentral.com/szbltn. New authors should create an account prior to submitting a manuscript for consideration. Manuscripts submitted to *Schizophrenia Bulletin* should be prepared following the *American Medical Association Manual of Style*, 10th edition. The manuscript text (including tables) should be prepared using a word processing program and saved as an .rtf or .doc file. Other file formats will not be accepted. Figures must be saved as individual .tif files and should be numbered consecutively (i.e., Figure 1.tif, Figure 2.tif, etc.). The text must be double-spaced throughout and should consist of the sections described below.

Title Page

This page should consist of (i) the complete title of the manuscript, (ii) a running title not to exceed 50 characters including spaces, (iii) the full name of each author and the authors' institutional affiliations, (iv) name, complete address, telephone, fax, and e-mail address of the corresponding author, and (v) separate word counts of the abstract and text body.

Manuscript Length

Manuscripts should be concisely worded and should not exceed 6,000 words for invited articles for theme issues, 4,500 words for regular articles, or 2,500 words for invited special features. The word count should include the abstract, text body, figure legends, and acknowledgments and must appear together with the abstract word count on the title page of the manuscript. Supplementary data, including additional methods, results, tables, or figures will be published online.

Abstract

Provide a summary of no more than 250 words describing why and how the study, analysis, or review was done, a summary of the essential results, and what the authors have concluded from the data. The abstract should not contain unexplained abbreviations. Up to six key words that do not appear as part of the title should be provided at the end of the abstract.

Main Text

Unsolicited original manuscripts reporting novel experimental findings should be comprised of these sections, in this order: Abstract, Introduction, Methods, Results, Discussion, Acknowledgments, References, and Figure Legends. Review articles must contain an abstract; however, the body of the text can be organized in a less structured format. Authors of review articles are encouraged to use section headers to improve the readability of their manuscript.

Number pages consecutively beginning with the title page. Spelling should conform to that used in *Merriam-Webster's Collegiate Dictionary*, eleventh edition. Clinical laboratory data may be expressed in conventional rather than Système International (SI) units.

Acknowledgments

These should be as brief as possible but include the names of sources of logistical support.

References

Authors are encouraged to be circumspect in compiling the reference section of their manuscripts and to adhere to the following guidelines: Invited article for a theme: up to 50 references; Regular article: up to 40 references; Theme introduction and Special features: up to 25 references. Authors who anticipate submitting a manuscript with additional citations are encouraged to contact the editorial office before proceeding.

Each reference should be cited in consecutive numerical order using superscript arabic numerals, and reference style should follow the recommendations in the *American Medical Association Manual of Style*, 10th edition, with one exception: in the reference list, the name of all authors should be given unless there are more than 6, in which case the names of the first 3 authors are used, followed by "et al."

- Book: Talairach J, Tournoux P. *Co-planar stereotaxic atlas of the human brain*. New York, NY: Thieme Medical Publishers; 1998.

- Book chapter: Goldberg TE, David A, Gold JM. Neurocognitive deficits in schizophrenia. In: Hirsch SR, Weinberger DR, eds. *Schizophrenia*. Oxford, England: Blackwell Science; 2003:168-184.

- Journal article: Thaker GK, Carpenter WT. Advances in schizophrenia. *Nat Med* 2001;7:667-671.

- Journal article with more than 6 authors: Egan MF, Straub RE, Goldberg TE, et al. Variation in GRM3 affects cognition, prefrontal gluatamate, and risk for schizophrenia. *Proc Natl Acad Sci USA* 2004;101:12604-12609.

- Article published on Advance Access only: Gilad, Y. and Lancet, D. March 5, 2003. Population Differences in the Human Functional Olfactory Repertoire. *Mol Biol Evol* doi:10.1093/molbev/msg013.

- Article first published on Advance Access: Gilad, Y. and Lancet, D. 2003. Population Differences in the Human Functional Olfactory Repertoire *Mol Biol Evol* 2003;20:307-314. First published on March 5, 2003, doi:10.1093/molbev/msg013.

Journal names should be abbreviated in accordance with *Index Medicus* (www.nlm.nih.gov/tsd/serials/lji.html).

Manuscripts in which the references do not follow this format will be returned for retyping. References to meeting abstracts, material not yet accepted for publication, or personal

communications are not acceptable as listed references and instead should be listed parenthetically in the text. It is the authors' responsibility for obtaining the necessary permissions from colleagues to include their work as a personal communication.

Note: In the online version of *Schizophrenia Bulletin* there are automatic links from the reference section of each article to cited articles in Medline. This is a useful feature for readers, but is only possible if the references are accurate. It is the responsibility of the author to ensure the accuracy of the references in the submitted article. Downloading references directly from Medline is highly recommended.

Figures and Tables

Full length manuscripts including regular and invited theme articles should contain no more than a combined total of 5 tables and figures. Theme introductions and special features are limited to 2 tables or figures (total). Figures and tables must be referred to using arabic numbers in order of their appearance in the text (e.g., Figure 1, Figure 2, Table 1, Table 2, etc.).

Tables should be created with the table function of a word processing program; spreadsheets are not acceptable. Include only essential data, and format the table in a manner in which it should appear in the text. Each table must fit on a single manuscript page and have a short title that is self-explanatory without reference to the text. Footnotes can be used to explain any symbols or abbreviations appearing in the table. Do not duplicate data in tables and figures.

Please be aware that the figure requirements for initial online submission (peer review) and for reproduction in the journal are different. Initially, it is preferred to embed your figures within the word processing file or upload them separately as low-resolution images (.jpg, .tif, or .gif files). However, upon submission of a revised manuscript, you will be required to supply high-resolution .tif files for reproduction in the journal (1200 d.p.i. for line drawings and 300 d.p.i. for color and half-tone artwork). It is advisable to create high-resolution images first as these can be easily converted into low-resolution images for online submission. Figure legends should be typed separately from the figures in the main text document. Additional information on preparing your figures for publication can be located at http://cpc.cadmus.com/da. Wherever possible figures should be submitted in their desired final size, to fit the width of a single (88 mm) or at most a double (180 mm) column width. All letters and numerals appearing in a particular figure should be of the same size and in proportion to the overall dimensions of the drawing. Letter labels used in figures should be in upper case in both the figure and the legend. The journal reserves the right to reduce the size of illustrative material.

Schizophrenia Bulletin is happy to announce the launch of the Flexible Color Option, beginning for all articles accepted after April 13, 2010. All figures submitted to the journal in color will be published in color online at no cost (unless the author specifically requests that their figures be in black and white online). Authors may choose to also publish their figures in color in the print journal for $600/£350/€525 per figure unless a waiver is obtained from the editorial office: you will be asked to approve this cost when you submit your article online. Color figures must have a resolution of at least 300 dots per inch at their final sizes. You will be issued an invoice at the time of publication.

Orders from the UK will be subject to a 17.5% VAT charge. For orders from elsewhere in the EU you

or your institution should account for VAT by way of a reverse charge. Please provide us with your or your institution's VAT number. Each figure should have a separate legend that clearly identifies all symbols and abbreviations used. The legend should be concise and self-explanatory and should contain enough information to be understood without reference to the text.

Note: All tables and figures reproduced from a previously published manuscript must cite the original source (in the figure legend or table footnote) and be accompanied by a letter of permission from the publisher of record or the copyright owner.

Supplementary Material

Supporting material that is not essential for inclusion in the full text of the manuscript, but would nevertheless benefit the reader, can be made available by the publisher as online-only content, linked to the online manuscript. The material should not be essential to understanding the conclusions of the paper, but should contain data that is additional or complementary and directly relevant to the article content. Such information might include more detailed methods, extended data sets/data analysis, or additional figures (including color). It is standard practice for appendices to be made available online-only as supplementary material. All text and figures must be provided **in separate files from the manuscript files labeled as supplementary material** in suitable electronic formats (instructions for the preparation of supplementary material can be viewed here). All material to be considered as supplementary material must be submitted at the same time as the main manuscript for peer review. It cannot be altered or replaced after the paper has been accepted for publication. Please indicate clearly the material intended as supplementary material upon submission. Also ensure that the supplementary material is referred to in the main manuscript where necessary.

Proofs

Page proofs will be sent to the corresponding author by e-mail as an Acrobat PDF file. The software needed to view this type of file can be downloaded at no charge from www.adobe.com/products/acrobat/readstep2.html. Please check text, tables, legends, and references carefully. Proofs must be returned within three days of receipt. The editors and publisher reserve the right to proceed with publication if this period is exceeded. Only typographical errors can be corrected at this stage; substantial changes to the text will not be accepted.

PERMISSIONS FOR ILLUSTRATIONS AND FIGURES

Permission to reproduce copyright material, for print and online publication in perpetuity, must be cleared and if necessary paid for by the author; this includes applications and payments to DACS, ARS, and similar licensing agencies where appropriate. Evidence in writing that such permissions have been secured from the rights-holder must be made available to the editors. It is also the author's responsibility to include acknowledgements as stipulated by the particular institutions. Oxford Journals can offer information and documentation to assist authors in securing print and online permissions: please see the Guidelines for Authors section. Information on permissions contacts for a number of main galleries and museums can also be provided. Should you require copies of this, please contact the editorial office of the journal in question or the Oxford Journals Rights department.

NHS

Greater Glasgow and Clyde

West of Scotland REC 1

Western Infirmary
West of Scotland Research Ethics Service
Ground Floor, Tennent Institute
38 Church Street
Glasgow
G11 6NT

Telephone: 0141-211-6238
Facsimile: 0141-211-1847

Ref AHT/SAJ

20 December 2010

Prof Andrew I Gumley
University of Glasgow
Mental Health and Wellbeing
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow
G12 0XH

Dear Prof Gumley

Study Title:	**Thinking about Recovery: The importance of Reflection and Compassion in understanding individuals recovery from complex mental health problems**
REC reference number:	**10/S0703/67**

Thank you for your letter of 29 November 2010, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information was considered in correspondence by a sub-committee of the REC

A list of the sub-committee members is attached.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to

Delivering better health

the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where the only involvement of the NHS organisation is as a Participant Identification Centre (PIC), management permission for research is not required but the R&D office should be notified of the study and agree to the organisation's involvement. Guidance on procedures for PICs is available in IRAS. Further advice should be sought from the R&D office where necessary.

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Investigator CV	Prof A Gumley	13 October 2010
Protocol	1	01 October 2010
CV Student Superbvisor		13 October 2010
Invitation letter Keyworker/GP/Psychiartrist	V1	10 September 2010
REC application		06 October 2010
Covering Letter		25 November 2010
Interview Schedules/Topic Guides	Narrative compassion interview V1	13 October 2010
Letter of invitation to participant	Standard/Forensic Outpatient version 1.0	12 November 2010
GP/Consultant Information Sheets	1	13 October 2010
Participant Information Sheet: Standard/Forensic outpatient	version 2.0	12 November 2010
Response to Request for Further Information		29 November 2010
Participant Information Sheet: Forensic	version 2.0	12 November 2010
Participant Consent Form: Standard	version 2	12 November 2010
Participant Consent Form: Forsenic	version 2	12 November 2010
CV's students	Lizzie Reilly, Angus MacBeth, Laura Mitchell	13 October 2010
Invitation to Participants Forensic Inpatient	version 1.0	12 November 2010
Referees or other scientific critique report	Prof T McMillan	26 August 2010

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

10/S0703/67	Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely

Dr John Hunter
Chair

Email: andrea.torrie@ggc.scot.nhs.uk

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments [if final opinion was confirmed was given at a meeting]*

"After ethical review – guidance for researchers" [SL-AR1 for CTIMPs, SL- AR2 for other studies]

Copy to: *Dr Erica Packard*

West of Scotland REC 1

Attendance at Sub-Committee of the REC meeting on 17 December 2010

Committee Members:

Name	Profession	Present	Notes
Dr D Attwood	Dentistry	No	
Mr Ian Boyd	Countryside Warden	No	
Dr Rosemarie Davidson	Consultant in Clinical Genetics	No	
Mr Paul Davies	Principal Pharmacist	No	
Mr John Devitt	Printer (Retired)	No	
Dr K Duffy	Research	No	
Mr McKenzie Gibson	Manager - Optical Company/retired Physics Lecturer	No	
Dr Ros Glasspool	Oncologist	No	
Dr J Godden	Scientific Officer	No	
Dr A Heuchan	Consultant Neonatal Medicine	No	
Dr John Hunter	Chairman West of Scotland (1) Ethics	Yes	
Dr Peter Hutchison	GP/Vice Chair	Yes	
Dr J D McClure	Statistician	No	
Mr Jim McHugh	Insurance	No	
Dr T Moores	Consultant Paediatric Anaesthetist	No	
Dr Audrey Morrison	Research Practitioner	Yes	
Mr R Sim	Investments (Retired)	Yes	
Dr M Sproule	Consultant Radiologist	No	
Mr Bill Ure	Transport (Retired)	No	

Also in attendance:

Name	Position (or reason for attending)
Miss Sharon Jenner	Secretariat
Mrs A Torrie	Senior/Lead Administrator

Coordinator/Administrator: Dr Erica Packard/Ms Elaine O'Donnell
Telephone Number: 0141 211 6208
E-Mail: erica.packard@ggc.scot.nhs.uk
Website: www.nhsggc.org.uk/r&d

R&D Management Office
Western Infirmary
Tennent Institute
1st Floor 38 Church Street
Glasgow, G11 6NT,

27 January 2011

Dr Vicki Coletta
Riverside Resource Centre
12 Sandy Road
Partick
Glasgow
G11 6HE

NHS GG&C Board Approval

Dear Dr Coletta,

Study Title:	**The importance of Reflection and Compassion in understanding individuals recovery from complex mental health problems**
Principal Investigator:	**Dr Vicki Coletta**
GG&C HB site	**Community Mental Health Teams, Riverside Resource Centre**
Sponsor	**NHS Greater Glasgow and Clyde**
R&D reference:	**GN10CP237**
REC reference:	**10/S0703/67**
Protocol no:	**V1; 01/10/10**
(including version and date)	

I am pleased to confirm that Greater Glasgow & Clyde Health Board is now able to grant **Approval** for the above study.

Conditions of Approval

1.   **For Clinical Trials** as defined by the Medicines for Human Use Clinical Trial Regulations, 2004

      a. During the life span of the study GGHB requires the following information relating to this site

           i. Notification of any potential serious breaches.

           ii. Notification of any regulatory inspections.

It is your responsibility to ensure that all staff involved in the study at this site have the appropriate GCP training according to the GGHB GCP policy (www.nhsggc.org.uk/content/default.asp?page=s1411), evidence of such training to be filed in the site file.

Delivering better health

2. **For all studies** the following information is required during their lifespan.

    a. Recruitment Numbers on a quarterly basis

    b. Any change of staff named on the original SSI form

    c. Any amendments – Substantial or Non Substantial

    d. Notification of Trial/study end including final recruitment figures

    e. Final Report & Copies of Publications/Abstracts

Please add this approval to your study file as this letter may be subject to audit and monitoring.

Your personal information will be held on a secure national web-based NHS database.

I wish you every success with this research study

Yours sincerely,
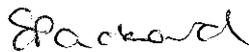
Dr Erica Packard
Research Co-ordinator

Cc: Prof Andrew Gumley

Delivering better health

NHS
Greater Glasgow and Clyde

THINKING ABOUT RECOVERY

UNIVERSITY *of* **GLASGOW**

Appendix 2.4. Invitation to Participate in a Research Project

Standard Outpatient: Version 1.0, 12th November 2010)

Dr Angus MacBeth
Trainee Clinical Psychologist
Department of Psychological Medicine
University of Glasgow
Gartnavel Royal Hospital
GLASGOW
G12 0XH

Dear _____

I am inviting you to participate in a research study called: 'Thinking About Recovery'. This project is separate to the care you are currently receiving, and participation is voluntary. An information sheet about the study is attached to this letter.

If you are interested in hearing more about the study, please complete the tear-off slip below and place it in the stamped-addressed envelope provided. This can then be posted or handed in to a member of your Community Mental Health Team, where I will be able to collect it.

I can then arrange to meet with you to discuss the research in more detail. Please be aware that you are welcome to withdraw from the study at any point without having to give a reason.

Thank you for your time.

Yours sincerely,

Angus MacBeth
Trainee Clinical Psychologist

_____

Name: _____ [please print clearly]

Telephone Number:_____   Email Address:_____

Address:_____

Keyworker:_____

I am interested in meeting again to discuss my participation in the research project 'Thinking About Recovery'.

Signed: _____

NHS
Greater Glasgow
and Clyde

THINKING ABOUT RECOVERY
PARTICIPANT INFORMATION SHEET

UNIVERSITY
of
GLASGOW

Appendix 2.5. (Standard: Version 2.0, 12th November 2010)

Invitation to Participate in a Research Project

Title of the Project – Thinking about Recovery: The Importance of Reflection and Compassion in Understanding Individuals' Recovery from Complex Mental Health Problems.

What is the research about?
This study is designed to investigate compassion and psychological reflection in people who have experienced complex mental health problems. This kind of research will help mental health services to understand the needs of people who have experienced complex mental health problems, and to develop new psychological therapies that aim to help people recover. The study is being undertaken as part of the fulfilment for an academic qualification (Doctorate in Clinical Psychology).

Who is being asked to take part?
We are asking people who have experienced complex mental health problems in the past to take part in the study.

Why have I been asked to take part?
A member of the mental health team responsible for your care (e.g. Consultant Psychiatrist, Clinical Psychologist or CPN) has suggested that you might be interested in participating in this study. I am meeting with you to tell you a little more about what participating in the study would involve.

What do you mean by the term 'compassion'?
By 'compassion', we mean a feeling of warmth, sympathy and caring that we can have about ourselves and others.

What are you asking me to consent to?
Consenting to participate in this study means that you will meet with a researcher in a community NHS venue convenient to you three times and complete an interview and some questionnaires.

What will I be asked to do if I agree to take part?
You will be asked to meet with the researcher three times. The first meeting is an opportunity for you to ask questions about the study and discuss taking part. If you decide to participate, a second meeting with the researcher will be arranged, and we will talk about how you would describe yourself. On the final visit you will be interviewed and asked to fill in some questionnaires. During the interview, you will be asked about important relationships in your life and how you cope with stressful situations. You will be asked to give a specific example of coping with a challenging time in your life. This does not have to be something which has been very distressing for you and it is up to you which experiences you choose to discuss. We would then like you to complete some short questionnaires. This meeting will last approximately 1 hour, although may take longer depending upon the time taken to complete the questionnaires. The interview will be recorded.

Will my information be confidential?
All the information you provide will be treated confidentially. All recordings, transcriptions and other data will be stored in a password protected computer. The interview will be fully-anonymised when it is transcribed by the researcher who interviews you. This means that it will not include your name, the names of people, schools or jobs you may mention or any other information which could identify

you. Only the researcher who interviews you will hear the original transcript. Once the interview is transcribed, the recorded audio copy will be destroyed. The transcribed and anonymised interview and questionnaires will then be analysed by the research team. <u>If you agree we may use quotations from conversations in reports about this research.</u>

If you share information that makes the research team concerned for your safety or the safety of other people, we may be required to tell others involved in your care (e.g. your key-worker or psychiatrist). We will always notify you beforehand if we are going to do this, and explain why.

What happens to the consent form?
To ensure anonymity and confidentiality, the consent form will be kept separately from the transcribed interview in a locked filing cabinet within the Section of Psychological Medicine.

What are the benefits of taking part?
In general, research improves our knowledge of what people's difficulties are and what can do to help overcome these and improve people's lives, so your participation will help increase our knowledge of areas and potentially improve treatment for others in the future.

Is there a downside to taking part?
As stated above, in the interview you will be asked to discuss how you coped with a challenging time in your life. We do not expect you to be worried or distressed by your participation in the study. However, if you have any concerns about what we discussed, you can contact the researcher for more information or indeed discuss this further with your key-worker or member of your clinical team. <u>Although we do not anticipate that participating in this study will cause you any distress, if this did happen we will help you to access appropriate support if needed</u>.

What happens if I decide not to take part?
Nothing. Taking part is entirely up to you. If you do not wish to take part it will not affect any treatment that you currently receive. Also, if you do decide to take part, you are able to change your mind and withdraw from the study at any time without it affecting your care either now or in the future.

After this meeting, the research team will give you at least 48 hours to decide whether you want to take part in the study. If you still want to participate, then we will make arrangements to meet again.

Can I change my mind?
Yes. You can change your mind at any time and do not need to give a reason. <u>Your care</u> will not be affected in any way.

What will happen to the results of the study?
The results will be published in a medical journal and through other routes to ensure that the general public are also aware of the findings. You will not be identified in any report/publication arising from this study.

Who is organising and funding the research?
<u>The University of Glasgow</u>.

Who has reviewed the study?
The study has been reviewed by the University of Glasgow to ensure that it meets standards of scientific conduct. It has also been reviewed by NHS Greater Glasgow & Clyde Mental Health Ethics Committee to ensure that it meets standards of ethical conduct.

Contact for Further Information
If you have any questions you would like to ask, please do not hesitate to get in contact.

Researcher*
Dr Angus MacBeth
Trainee Clinical Psychologist
Psychological Medicine
University of Glasgow
Gartnavel Royal Hospital
Glasgow
G12 0XH
Email a.macbeth.1@research.gla.ac.uk
Telephone Number: 0141 211 0607

Chief Investigator
Prof Andrew Gumley
Professor in Clinical Psychology
Psychological Medicine
University of Glasgow
Gartnavel Royal Hospital
Glasgow
G12 0XH
Telephone Number: 0141 211 0607

Thank you for taking time to read this

This has been approved by the NHS GG&C Ethics Committee

NHS
Greater Glasgow
and Clyde

Invitation to Participate in a Research Project

<u>THINKING ABOUT RECOVERY (STANDARD)</u>
<u>CONSENT FORM (VERSION 2, 12TH November 2010)</u>

UNIVERSITY
of
GLASGOW

Appendix 2.6: Name of Participant: ………………………………..

Name of Researcher: ………………………………...

Please Tick in the appropriate column:	YES	NO
Have you read the information sheet?	[ ]	[ ]
Have you had opportunity to ask questions and to discuss the project?	[ ]	[ ]
Have you received satisfactory answers to the questions?	[ ]	[ ]
Have you received enough information?	[ ]	[ ]
Do you understand that you are free to withdraw your consent:		
at any time?	[ ]	[ ]
without having to give a reason?	[ ]	[ ]
and without affecting your <u>future care</u>?	[ ]	[ ]
Do you consent to take part in this research project?	[ ]	[ ]
<u>Can we quote remarks you may make in reports about this research (we would not use your name)?</u>	[ ]	[ ]

Participant signature: ……………………………   **Date: ………………**

Name in Block Letters: …………………………

Researcher signature: …………………………….   **Date: ………………**

Name in Block Letters: …………………………

This research project has been approved by NHS GG&C Ethics Committee

Appendix 2.7: Narrative Interview for Exploring Compassion

1) - Introduction

Today I would like to give you an opportunity to talk about how you respond at times when you are feeling stressed or upset.

For example, I'm thinking here of things like moving house, money worries, or social occasions. However, I'm most interested in examples that are relevant to your current circumstances. I would also like to hear about your sources of support at such times, how you feel when you are upset, and how you cope with such situations.

To help me get a picture of your own circumstances I would first like to spend some time getting an idea of the people and relationships that are important to you. Then we would like you to tell us about some specific experiences you have had where you have felt stressed or upset.

I understand that some of the experiences that I asking you about may be difficult for you to discuss. Therefore you do not have to tell me about the *most* distressing experience you have had, but I would like to hear an experience that you feel has been stressful, upsetting or challenging.

Before we start, are there any questions you have about today?

2) - Social support network
First of all, I would like to know a little more about who the important people in your life are at the moment. I'm going to write these down as you say them.

{After completing list}

2.1)   To help keep me understand how much these people are involved in your life I am going to map what you've told me out on this piece of paper {I*ntroduce Social Network Diagram*}. First I'm going to write your name in the centre of the page, then I would like to take each of the people we have talked about and write their name on the page, with an arrow pointing to you, the shorter the length of the arrow from them to you the closer you feel your relationship. Lets start with Person 1…

2.2)   Out of the people we've just talked about who would you say you have the closest relationship with?

2.3)   Why would you say that you are closest to that person?

3) Everyone copes with stress in different ways. What do you do when you feel stressed or upset?

3.1)   Does anything in particular help when you are feeling stressed?

3.2)   What do you do if your solution to the problem does not work?

3.3)   Does anyone else ever help you when you have difficulties?

3.4)   Would you ask anyone else for help of you needed it?

3.5)   Sometimes things can just be so hard that we avoid them – have you ever done that?]

3.6)   Thinking of the people on the diagram, would you go to any of them for support?

4) - Recent stressor/compassion frame

Thank you for explaining that to me. Now, I'm going to ask you about how you cope with stress. I would like you to tell me about a specific experience or thing that happened to you in the last month or so. Just something that sticks out in your mind.

I would like you to tell me about a time when you had to use your coping skills. There are a few questions I would like to ask you about this, but first I would like you, in your own words, to give me an idea of what happened:

If general response given - That's a good general description, but I'm wondering if there was a particular time that happened?

If no example offered - The experiences I am thinking about are things like moving house, financial worries, or concerns about going out. Doe anything come to mind from those examples?

4.1) Follow-up probes to establish context of autobiographical memory:

4.1.1) What happened next?

4.1.2) What did you do?

4.1.3) Who was involved?

4.1.4) What were you thinking at the time?

4.1.5) How did you feel at the time?

4.1.6) Did you look to any of the people on the diagram for support?

***4.2a -* If social support figure mentioned**

4.2.1) You said Person X was involved, How did Person X respond to you during the experience we've talked about?

4.2.2) At the time, did you feel supported by them?
         In what way?

4.2.3) How did you respond to them doing/saying that?

4.2.4) What do you think was going through Person X's mind at that time?
How do you think **they** might have been feeling?

4.2.5) Do you have any ideas about what made them feel that way?
…Or what made them behave in that way?

4.2.6) Reflecting on this now, do you feel they were supportive of you?

4.2.7) Do you think they realised the effect that response had on you?

4.2.8) Looking back, is there a different way Person X could have approached or supported you during this situation?

4.2.9) Is there anything that you would have liked them to do to help?

4.2.10) Thinking about the support you got from person X. Is that the same for all situations? If not, why?

4.2.11) Would there be anyone else that you looked to for support?
What did they do?

4.2.11) I'm just wondering, how do you think someone else would deal with the situation you've just described…?

4.2.12) What sort of things would you say to a friend, if they went through a similar experience but acted differently to you?

4.2.13) How do you think this experience has influenced your life?

4.2.b - If no support figures mentioned
I'm just curious, did you talk to any of the people we've talked about on your diagram about this experience?

Then as for (4.2.1)

{If none offered}

Thinking about that experience, is there anyone whom you would have liked to have been supported by?

Then as for (4.2.1)

5 - Summing up
We've talked about quite a lot today, but is there anything you feel you have learned from the experiences we've talked about?

5.1   What are your hopes for the future?

---**END**---

(Throughout Interview) General Prompts:

I'm interested to know more about that, can you tell me a bit more?

Could you give me an example of feeling/doing/thinking that?

I'm wondering what makes you say that?

Appendix 2.8

NARRATIVE COMPASSION SCALE CODING FRAMEWORK

Authors:

Andrew Gumley* & Angus Macbeth

* N.B. This framework is designed for use by coders trained in the use of the Narrative Compassion Scale. The framework is not in the public domain. It is bound in Volume II as part of the marking requirements for the Doctorate in Clinical Psychology Research Portfolio. For further information on the Narrative Compassion Scale please contact:

Professor Andrew Gumley, Chair of Psychological Therapy, Section of Psychological Medicine, University of Glasgow, Gartnavel Royal Hospital, 1055 Great Western Road, Glasgow, G12 0XH

Phone: 00 44 (0) 141 211 3920

Fax: 00 44 (0) 141 357 4899

Email: a.gumley@clinmed.gla.ac.uk

Appendix 2.9

Self-reported and narrative coded measures of compassion compared: A clinical comparison study.

<u>**1.Introduction**</u>

Compassion has emerged as a promising construct in psychotherapy. Gilbert (1) proposed a multimodal model compassion designed to guide clinicians in implementing compassion-focussed therapy. The key components of this model were: care for the wellbeing of others, sensitivity to distress, sympathy, distress tolerance, empathy and a non-judgemental stance towards experiences. This definition incorporates both compassion towards the self, and compassion towards others. It also integrates cognitive, emotional and behavioural components (2 3). The focus in compassion focussed therapy is on generating resilience and positive affect, with a corresponding reduction in distress.

In addition, compassion informed approaches to mental health provide a perspective on the aetiology and expression of psychopathological processes such as shame and self-attacking (4). This is relevant to clinical problems such as psychosis, where high levels of shame and self criticism have been associated with poorer outcomes in treatment (e.g. 5,6). A compromised understanding of self and other oriented compassion has been reported in a forensic psychosis sample (7), and voice hearers (8). Compassion focussed interventions have shown merit in the psychological treatment of shame and high levels of self-attacking (9), voice-hearing (8); and in promoting recovery from psychosis (7).

There is also theoretical overlap between compassion, attachment, mentalisation and affect regulation (10, 11). Attachment and mentalisation based approaches have been beneficial in exploring adaptation to psychosis (12) and in the treatment of borderline personality disorder (e.g. 13). An emergent literature also reports links between insecure attachment organisations and greater distress (12) more

marked psychopathology (14); and poorer adjustment to psychosis (12). Constructs contributing to secure attachment classification such as relational flexibility, forgiveness, reflection and an understanding of differences in self-other relating (15) are equally applicable to the processes hypothesised to contribute to a compassionate interpersonal stance (2). Therefore, clinical studies comparing compassion with other affect regulatory processes such as attachment are highly pertinent in developing novel psychological interventions for individuals presenting with complex psychopathology.

To date, compassion has been predominantly measured using self-report methods (16). However, in clinical samples there may be a disjunction between self-reported compassion and an observer or narrative based measure of compassion. This is analogous to findings with regard to attachment, where correlations between self-report attachment questionnaires and narrative based measures are poor (17). Therefore, to develop a more fine-grained understanding of processes involving compassion in complex psychopathology it would be useful to compare measures of compassion in these two modalities.

Additionally, as noted above, although compassion has been investigated in psychosis samples, there have not yet been robust comparisons of the reporting of compassion in psychosis, compared to other clinical groups. Given the frequent observation in borderline presentations of difficulties in interpersonal functioning, attachment and affect regulation (13), this clinical group may constitute a useful comparison group with psychosis. In addition, aspects of self and other related compassion are yet to be examined in a borderline sample.

2. Aims and hypotheses

The primary aim of the current study is to investigate the utility of a narrative based measure of compassion compared to self-report measures of compassion. The secondary aim is to explore

associations between compassionate self and other relating, attachment, interpersonal functioning and symptomatology.

The hypotheses are as follows:

1) There will be a negligible correlation between self-reported and narrative coded measures of compassion. The null hypothesis here is that there is a modest correlation between self report and narrative measures of compassion.

2) Lower levels of narrative coded compassion will be correlated with higher self-ratings of attachment insecurity.

3) Lower levels of narrative coded compassion will be correlated with higher self-ratings of interpersonal problems.

4) Lower levels of narrative coded compassion will be correlated with higher self-ratings of symptomatology.

3. Plan of Investigation

3.1Participants

Participants will be under the care of community mental health teams in the NHS Greater Glasgow and Clyde (NHS GG&C) area. Participation would be voluntary, on the basis of an informed consent process. Participants would be recruited for the current study concurrently with recruitment for two concurrent major research projects (*A comparative study of metacognition in people with complex mental health problems*; *Are there differences in metacognitive functioning between violent offenders with psychosis compared to a non-violent psychosis population?*), maximising potential sample size.

131

The studies will have the same measurements and procedures; and the data to be analysed will be pooled from the three studies. However, each study has different research aims, questions of interest and analysis strategies.

3.2 Inclusion and Exclusion Criteria

Individuals will be eligible if they meet DSM-IV criteria for an affective or non-affective psychotic disorder; or borderline personality disorder (18). Individuals will be excluded if substance misuse, head injury or organic disorder is judged to be the primary cause of the individual's symptomatology. Individuals must be judged by the clinical team as able to exercise capacity to consent. If a patient is legally detained in hospital he/she will still be eligible to be considered for participation in the study.

3.3 Recruitment Procedures

Recruitment will be conducted through liaison with CMHT's in the NHS GG&C area. Recruiting CMHT's will be identified through distribution of a written note of interest. Thereafter, the researcher will visit interested CMHT's to outline the aims and implications of the project. Eligible participants will be identified using a standard recruitment proforma, in collaboration with keyworkers and RMO's. The researcher will visit potential participants to discuss consent in the context of a routine visit or appointment. Consent will be voluntary and all participants will be fully informed as to the aims and procedures involved in the study.

3.4 Measures

3.4.1. Narrative Interview for Compassion and Recovery (NICaR; Draft in Appendix 2.7; Hypotheses 1-4)

This is a 30-45 minute semi-structured interview, measuring an individual's experience of compassion towards the self and others. It is scored by the researcher via a coding frame applied to the transcribed interview. The coding frame permits coding of manuscripts via bottom-up analysis of features of the narrative structure; and top-down analysis of the interview themes. Transcription guidelines are based

on those developed for the AAI by Main and colleagues (15). The coding frame is currently being piloted in the NHS Greater Glasgow and Clyde/Scottish Mental Health Research Network trial: "Evaluation of cognitive interpersonal group therapy for psychosis".

The interview explores facets of self-self and self-other related compassion. The interviewee is asked to discuss sources of social support, which provides an interpersonal context for the discussion of compassion. The interview structure is designed to access compassion related thoughts, feelings and behaviours by providing an opportunity for the interviewee to discuss autobiographical memories and reflections of potentially stressful interpersonal experiences. The researcher takes a non-directive stance within the interview. To maximise engagement and rapport it is made clear within the interview that the interviewee will not be expected to give a detailed account of a traumatic or highly distressing experience, nor will interviewees be obliged to reflect on their responses. Interview design has been guided by the research team's experience in conducting narrative based interviews such as the Adult Attachment Interview within clinical groups.

3.4.2. Relational Compassion Scale (RCS; Hacker & Gumley, in preparation; Hypothesis 1)

A 16-item self-report scale measuring self and other related compassion. Items combine to give scale scores for Self-self; other-self; self-other and other-other compassion factors. These authors report acceptable to good internal consistency (Cronbach α = .74 - .84).

3.4.3 Self Compassion Scale (SeCS; 16; Hypothesis 1).

A self-report measure that explores self-compassion in individuals. A 26-item scale that measures self-compassion (13 items) and coldness towards the self (13 items). It has good internal reliability (r= .94)

3.4.4 Relationship Styles Questionnaire (RSQ; 19; Hypothesis 2)

This is a 30-item self-report scale concerning 'feelings about close relationships'. It contains items that measure attachment avoidance and attachment anxiety. The RSQ has previously been used as a measure of attachment in studies of compassion (Hacker & Gumley, in preparation) and in a study of psychotic phenomena (20).

3.4.5 Inventory of Interpersonal Problems - Short Form (IIP-32; 21; Hypothesis 3).

A 32-item self-report questionnaire measuring affect regulation in social settings. Following the protocol of MacBeth, Schwannauer & Gumley (20) scale scores are combined to give an overall score for Distancing interpersonal problems and an overall score for Affiliating interpersonal problems. MacBeth and colleagues (20) report acceptable internal consistency for this measure (Cronbach α = .86 for both scales).

3.4.6. Brief Symptom Inventory (BSI; 22; Hypothesis 4).

A 53 item self-report measure covering nine symptom dimensions (Somatization, Obsession-Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic anxiety, Paranoid ideation and Psychoticism) and three global indices of distress (Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total). Several studies have reported the scale to have good internal consistency (23, 24). The BSI has successfully used to measure symptomatology and distress in samples with a diagnosis of psychosis (25), and a diagnosis of borderline personality disorder (26).

3.4.7.

Positive and Negative Syndrome Scale (PANSS; 27; Hypothesis 4)

The PANSS is a 30 item semi-structured interview of psychotic symptomatology, yielding interviewer rated scores on three factors: positive symptoms, negative symptoms, and general psychopathology. Each item is on a Likert scale from minimal (1) to extreme (7). The PANSS has good inter-rater

reliability and high concurrent validity (28). The researcher has been trained and is reliable in the PANSS rating system.

3.5 Design

A cross-sectional cohort within subjects design will be used to evaluate the questions of interest.

3.6 Research Procedures

After consent as outlined above, participants will meet with the researcher on two occasions, for approximately 2 hours in total. In the first session the narrative interview for the assessment of compassion will be administered. At the second meeting the PANSS interview will be administered, as will the self-report measures. The second session also presents an opportunity to debrief participants regarding the compassion interview, and address any concerns participants may have regarding the research process and material discussed in the sessions.

3.7 Justification of sample size

This is the first study to directly compare an interview/narrative measure of compassion with a self-report measure of compassion. Measures of compassion have not been compared between borderline and psychotic samples. Consistent with the reported lack of association between self-report and narrative measures of attachment (17), the experimental hypothesis is that comparison of self-reported and narrative measures of compassion will yield a negligible, non-significant correlation. Therefore, a sensitivity analysis was conducted using G*power 3 (29). A null hypothesis was adopted that there would be a modest correlation of $r = 0.5$, with an experimental hypothesis of a negligible correlation of $r = 0.1$. Appendix 2.8.1 presents a graph for a range of estimated sample sizes and powers given the above hypotheses. Adopting a conventional significance level of alpha= .05 and a power of 0.8, the sensitivity analysis estimated a sample size of n=42 would be required to adequately evaluate the experimental hypothesis. Recruitment will be conducted in conjunction with two other trainee projects (see Section 3.1.), with the intention that each project will recruit 15 participants. Statistical analyses

will be conducted on the pooled sample of n=45.

3.8 Settings and Equipment

All participant interviews will be conducted at the relevant CMHT base for each participant. All measures bar the compassion interview will be completed with pencil and paper. The compassion interview will be recorded using a digital recording device (Sony ICD SX56). The recording will be transcribed and coded via analysis of the annonymised transcript according to guidelines developed by Main and colleagues (15). Subsequently, the original recording will be erased to maintain confidentiality.

3.9 Data Analysis

Data will be analysed using SPSS version 18. All variables will be checked for normality using the Kolmogorov-Smirnov test and parametric/non-parametric analyses of within subjects characteristics (e.g. gender, age) will be conducted accordingly. Relationships between variables will be examined using Pearson or Spearman correlations, t-tests or Mann-Whitney tests, and ANOVAs or Kruskal-Wallis tests. Associations between categorical variables will be investigated using Chi-Square tests.

4. Health and Safety Issues

4.1 Researcher Safety Issues

Research interviews will be conducted within the clinical base local to the participant. Collaborative support arrangements will be put into place between the researcher and participating clinical teams with regard to liaison on clinical and risk issues pertaining to potential and actual participants.

4.2 Participant Safety Issues

Participation will be on a voluntary informed consent basis. Participants will be made aware that they can withdraw from the study at any time. The researcher will monitor participant distress during the

interview process, using clinical judgement. The interview will be paused, deferred or ended if it is deemed to be clinically necessary by the researcher. All participants will be debriefed regarding their experience of the interview during the second research session. Efforts will be made to ensure that a clinician known to the participant is available at the conclusion of each research session, should any urgent clinical matters arise from participation in the sessions. Participants will be aware of this aspect of the research protocol.

5. Ethical Issues (including where submissions will be made)

Ethics submission will be made to GG&C NHS REC. Management approval from NHS GG&C R&D will be sought after ethical approval. There is an ethical issue regarding the disclosure of information by participant which indicates risk to self or others. Participants will be made aware prior to consent that disclosure of said material would lead to the breaking of confidentiality and passing on of this specific information to local clinical services, as a function of duty of care. All data collected for the study will be anonymised and stored in locked filing cabinets or password protected databases. Recordings of the Compassion interview will be destroyed after transcription, given that the data will then have been transcribed and anonymised.

6. Financial Issues

6.1Equipment costs, travel etc

The researcher's travel costs would be met through the standard NHS mileage claim form. With a maximum of 45 visits to CMHT (3 visits per participant) at an estimated distance of 5 miles at x£0.40 per mille this would equate to mileage costs of £90. Thirty copies of the Brief Symptom Inventory would need to be purchased. This measure costs £103.79, but as it will be used in conjunction with two other studies the cost for the current study is £34.60. All other self-report measures are free to use. Administrative costs are for envelopes (£7.87), paper (£3.70) and photocopying of up to 200 sheets for self-report and other materials (£10). The researcher already possesses the appropriate

Sony digital recorder. Narrative interviews will be transcribed verbatim by the researcher. No other substantive costs are envisaged. Total study cost is estimated to be £137.17.

7. Timetable

Liaison period with local clinical teams from August 2010 to October 2010. Recruitment period from October 2010 to April 2011, measurement phase running concurrent to recruitment till May 2011. Data analysis and write up from May 2011 to July 2011.

8. Practical Applications

Clinical testing of the narrative measure of compassion will inform future research and clinical interventions that incorporate compassion and affect regulatory strategies. It will also generate data on the psychometric properties of the narrative measure of compassion. The study will also yield data on power and effect size for future studies exploring the role of compassion in complex mental health problems.

9. References

1. Gilbert, P. (2009a). Introducing compassion-focussed therapy. Adv Psychiatr Treat, 15, 199 – 208.

2. Gilbert, P. (2005). Compassion: Conceptualisations, research and use in psychotherapy. Brighton, Brunner-Routledge.

3. Gilbert, P. (2009b). The Compassionate Mind: A new approach to life's challenges. London: Routledge

4. Gilbert, P. (2007). Evolved minds and compassion in the therapeutic relationship. In P. Gilbert & R.L. Leahy (Eds.). The therapeutic relationship in the cognitive behavioural psychotherapies. (pp. 106 - 142). Brighton, Routledge.

5. Birchwood, M., Iqbal, Z., Chadwick, P. & Trower, P. (2000). Cognitive approach to depression and suicidal thinking in psychosis. I: Ontogeny of post-psychotic depression. Br J Psychiatry, 177, 516 – 528.

6. Birchwood, M., Gilbert, P., Gilbert, J., Trower, P., Meaden, A., Hay, J., et al. (2004). Interpersonal and role-related schema influence the relationship with the dominant "voice" in schizophrenia: A comparison of three models. Psychol Med, 34, 1571 – 1580.

7. Laithwaite H., O'Hanlon, M., Collins, P., Doyle, P., Abraham, L., & Porter, S. (2009) Recovery After Psychosis (RAP): A Compassion Focused Programme for Individuals Residing in High Security Settings. Behav Cogn Psychother, 37, 511–526.

8. Mayhew, S.L. & Gilbert, P. (2008). Compassionate Mind Training with People Who Hear Malevolent Voices: A Case Series Report. Clin Psychol Psychother 15, 113 - 138.

9. Gilbert, P. & Proctor, S. (2006) Compassionate mind training for people with high shame and self criticism: A pilot study of a group therapy approach. Clin Psychol Psychother 13, 353 - 379.

10. Fonagy, P. & Target, M. (2006). The Mentalization-focused approach to self pathology. J Personal Disord, 20, 544 – 576.

11. Gumley, A, Braehler, C., Laithwaite, H., MacBeth, A., & Gilbert, P. (2010) A Compassion focussed model of recovery after psychosis. J Cogn Psychother.3, 186 – 201.

12. MacBeth, A., Gumley, A., Schwannauer, M., & Ludford, R. (under revision). Attachment states of mind, mentalisation and their correlates in a first episode psychosis sample.

13. Bateman, A.W., & Fonagy, P. (2004). Psychotherapy for borderline personality disorder: Mentalization based treatment. Oxford: Oxford University Press.

14. Dozier, M., & Lee, S.W. (1995). Discrepancies between self- and other- report of psychiatric symptomatology: Effects of dismissing attachment strategies. Dev Psychopathol, 7, 217 – 226.

15. Main, M. Hesse, E., & Goldwyn, R. (unpublished manuscript). Adult Attachment Scoring and classification system, Unpublished Manuscript, University of California at Berkeley.

16. Neff, K. D. (2003). The development and validation of a scale to measure self-compassion. Self Identity, 2, 223–250.

17. Riggs, S.A., Paulson, A., Tunnell, E., Sahl, G., Atkison, H., & Ross, C.A. (2007). Attachment, personality, and psychopathology among adult inpatients: Self-reported romantic attachment style versus Adult Attachment Interview states of Mind. Dev Psychopathol, 19, 263 – 291.

18. American Psychiatric Association (1994). Diagnostic & Statistical Manual of Mental Disorders (4th Edition), Washington, D.C.: APA.

19. Griffin, D.W., & Bartholomew, K. (1994). The metaphysics of measurement: The case of adult attachment. In K. Bartholomew & D. Perlman (Eds.), Attachment processes in adulthood (Vol. 5, pp. 17–52). London: Jessica Kingsley.

20. MacBeth, A., Schwannauer, M. & Gumley, A. (2008) Attachment style, social mentalities and paranoid ideation: An analogue study. Psychol Psychother. 81, 79 – 93,

21. Horowitz, L.M., Alden, L.E., Wiggins, J.S., & Pincus, A.L. (2000). IIP: Inventory of Interpersonal Problems. San Antonio, TX, The Psychological Corporation.

22. Derogatis, L.R., & Spencer, P.M. (1982). BSI Administration and procedures: Manual-I. Baltimore, MD: John Hopkins University.

23. Croog SH, Levine S, Testa MA, et al. (1986) The effects of antihypertensive therapy on quality of life. N Eng J Med, 314,1657-1664.

24. Aroian, K.J. & Patsdaughter, C.A. (1989) Multi-method, cross-cultural assessment of psychological distress. J Nurs Scholarsh, 2, 90-93

25. Preston, N.J., & Harrison, T.J. (2003) The brief symptom inventory and the positive and negative syndrome scale: discriminate validity between a self-reported and observational measure of psychopathology. Compr Psychiatry, 44, 220-226.

26. Davidson K, Norrie J, Tyrer P, Gumley A.I, Tata P, Murray H, et al. (2006) The effectiveness of cognitive behaviour therapy for borderline personality disorder: results from the BOSCOT trial. J Personal Disord. 20 450-465.

27. Kay, S.R., Fiszbein, A. & Opler, L.A. (1987). The positive and negative syndrome scale (PANSS) for schizophrenia. Schizophr Bull, 13, 261 -276.

28. Peralta, V., & Cuesta, M. (1994). Psychometric properties of the Positive and Negative Syndrome Scale (PANSS) in schizophrenia. Psychiatry Res, 53, 31

29. Faul, F. (2007). G*power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Beh Research Methods, 39, 175-191.

Appendix 2.8.1: Sensitivity analysis of power by sample size