Getting In: understandings of potential, talent and ability, and access to HE for Scottish young people from areas of high deprivation

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Abstract

Widening Participation for young people from areas of high deprivation is an ongoing concern for the Scottish government. However, the attainment gap between the least and most affluent young people in Scotland persists. Using the theories of Ziegler and Philipson, Bronfenbrenner and Bourdieu, this research examines how Scottish young people from areas of high deprivation, their teachers, parents, and other key professionals understand potential, talent and ability and the relationship between this understanding and Higher Education choices and experiences. A mixed-methods approach was adopted, using secondary data, survey data and interviews with students (n=26) and adults (n=11). Descriptive and inferential statistics were used to analyse quantitative data, and reflexive thematic analysis was deployed for interview data.

Secondary and survey data indicated potential barriers to attainment for young people from lower SIMD quintiles. Interview data indicated restrictions on subject and level choice for this group. Survey data indicated similar attitudes to HE between SIMD quintiles across almost all measures. Interview data suggested that SIMD 1 and 2 students tended to see themselves as more committed and passionate students than their more affluent peers. Interviews indicated fractured, unstable, and sometimes self-contradictory understandings of potential, talent and ability amongst students, teachers, parents, SDS workers and WP workers. A range of attitudes was also found towards WP to HE and to HE itself. Survey data and interview data indicated that a surprisingly wide range of students had accessed WP, including students from SIMD quintile 3, 4 and 5. Students' focus on HE as pleasurable and the purpose of HE contrasted with that of teachers and SDS workers who understood HE as primarily vocational.

This thesis shows that the multiple contradictory and sometimes self-contradictory understandings of potential, talent and ability allow groups and individuals with very different understandings of key concepts to believe they are using shared language to reach a shared goal, while in fact their perceptions, beliefs and aims are very different. This could facilitate the reproduction of existing educational inequity.

Author's Declaration

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

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Signature: _____

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Glossary

CoWA – Commission on Widening Access

HAL – highly able learner

HE – Higher Education

LA – local authority

Secondary school qualifications:

N5 – National 5 level SQA qualification, generally taken at S4 and S5 and often required for access to Higher

Higher – National 6 level SQA qualification, generally taken at S5 and S6 and often required for access to Advanced Higher or HE

Advanced Higher – National 7 level SQA qualification, generally taken at S6 and occasionally required for access

SDS – Skills Development Scotland

Secondary year groups:

S1 – first year of secondary school (age 11-12)

S2 – second year of secondary school (age 12-13)

S3 – third year of secondary school (age 13-14)

S4 – fourth year of secondary school (age 14-15)

S5 – fifth year of secondary school (age 15-16)

S6 – sixth year of secondary school (age 16-17)

SNAP – Scottish Network for Able Pupils

WP – Widening Participation

SIMD – Scottish Index of Multiple Deprivation

1 Chapter One: Introduction

This chapter will:

- introduce the issues around widening participation in Scotland for highly able learners from areas of high deprivation
- outline the three areas of contribution to the field that this thesis will make
- Introduce the research questions

In 2012, widening participation to Higher Education (HE) rose again to the forefront of educational policy through the work of Alan Milburn (2012) who joined a long line of politicians who discovered anew that access to HE could be beneficial to British society. In 2016 Scotland too re-committed to educational fairness in the form of Widening Participation. Both the Commission on Widening Access (CoWA, 2016) and the Milburn report (2012) promoted the idea that young people with talent and potential who have experienced deprivation should be able to access HE. Making novel use of theoretical and analytic tools from High Ability Studies, this thesis will examine ideas of potential and talent, their relationship with the concept of ability, and how understandings of potential, talent and ability interact with young people's HE choices. The thesis will consider how interactions between highly able young people, as "gifted" young people are called in Scotland (Sutherland and Reid, 2023) and their environment, particularly their school environment, also relate to HE choices, and the role understandings of potential and talent play in these interactions. This thesis will make a unique contribution to the fields of highly ability studies and widening participation by offering new insights into highly able learners who attend university and have come from areas of high deprivation.

The recognition that widening participation students are likely to be highly able underpins this study, and offers a unique set of contributions to the fields of widening participation and high ability studies. These are:

1. the recognition that widening participation students in Scotland are very likely to be highly able makes a unique contribution to the study of widening participation, where widening participation students are still sometimes seen in terms of a deficit model and the field of high ability studies

by presenting the lived experiences of a group of minoritised highly able young people who have successfully navigated barriers to learning.

2. the unique insight that highly able widening participation students in Scotland are often motivated by a passion for learning rather than a desire for social mobility suggests that educators must widen understanding of their motivations from a simplistic focus on social mobility to a clearer understanding of students' desire for learning for its own sake.
3. a fresh perspective on established talent development models through the analysis of potential and talent as 'empty signifiers', words whose meaning is vacant rather than merely unclear or unstable. The emptiness of these terms allows different meanings to be ascribed by different groups, so that the terms can be adjusted to fit the 'doxa' of school practices.

Within the Scottish context, widening participation has traditionally been concerned with getting young people into higher education from areas of high deprivation. This has resulted in a focus on such things as contextualised admissions and lower grade requirements. This has led to a perception of widening participation students as weaker students that higher education has to work harder to include. This has perhaps resulted in an unintended deficit model and so a focus on high ability has been lost. By refocusing on high ability, we can better support these young people to access appropriate education. This thesis offers those working in higher education and widening participation insight into what being highly able in a higher education context means for young people from areas of high deprivation.

Existing research rarely recognises high ability in widening participation students or the importance of this in their educational choices and trajectories, more often cautiously suggesting that such students may not, in fact, be deficient (Budd, 2017). Instead, it sees them as being more motivated by social mobility and employment opportunities than their peers who did not come through widening participation routes. This thesis challenges these notions of widening participation students as being essentially different in their needs and motivations from their more affluent peers. It finds instead similarity between these groups in terms of educational purpose and experience. It offers an illustration of the educational barriers and supports this group of highly able learners experience in their educational context. For example, participants describe social and emotional barriers such as disruption and bullying - particularly homophobic and transphobic bullying. Students also make a clear distinction between the desire for academic education which has motivated the majority of them to pursue higher education, and the exam system which they describe as having distorted their

secondary education and replaced learning with test preparation. Recognition of this distinction offers scope for schools to respond more effectively to their highly able learners.

Widening participation is intended to be disruptive and contribute to wide scale social change (Scott, 2019). Terms such as potential and talent are used within this literature in order to cast the net wider when identifying candidates in areas of deprivation for higher education. However, potential and talent do not have agreed meanings in widening participation. Neither do these words have confused or contradictory meanings between different groups. Potential and talent are empty terms whose function is to hold semantic space that may be filled with meanings according to the needs of the groups in which they are used (Wacquant, 2022; Laclau, 1996). This thesis brings together the work of these two theorists to better understand the role of empty signifiers in widening participation discourse.

Indeed, semantic tension around these terms is evident. Potential, talent and ability are by no means historically unproblematic terms within Scottish education. Scotland's approach to "giftedness" reflects its particular social, political, and cultural context, with Scotland's education system focused on twin goals of closing the poverty related attainment gap (Gilruth, 2023) and promoting economic growth by providing individuals with skills (Scottish Government, 2009). The Scottish Government describes highly able young people as "working, or have the potential to work, ahead of other children and young people their own age" (Education Scotland, 2023) Sutherland (2011) suggests that Scottish policy and curriculum have the potential to benefit highly able learners (HAL) but that this curricular potential is often not fulfilled. High Ability is constructed as an inclusion issue in Scottish legislation, which has moved from a 'special needs' model, where perceived deficits within the pupil were remediated with specialised education provision, towards a more holistic approach to supporting young people which, in theory, creates space to address the educational needs of more able young people.

However, barriers to inclusion for HAL in Scottish schools persist. One key issue is around which students are able to access the highly able label. Like many countries which value egalitarianism, Scotland has a high degree of caution towards "academic interventions that could be regarded as forms of intellectual elitism" Heuser et al (2017:5) Historically, Scotland was slow to adopt intelligence testing as an educational selection strategy (Stocks, 2000), and the embrace of comprehensive education, begun in the 1960s (Bryce and Humes, 2018) reinforced existing values of egalitarianism. Intelligence testing is not common in Scottish schools and practices such as universal screening (Card and Giuliano, 2016) are not part of the educational landscape. Indeed, within Scottish

educational psychology, intelligence testing has been described as a hallmark of old-fashioned, regressive approaches to educational psychology (MacKay, 2018). Nor is there systematic use of other forms of identification. Sutherland and Stack (2014a) describe widely variable approaches to identification and understandings of high ability across the Scottish education system. Approaches to identification are not always explicitly described but can include parents and teachers and sometimes educational psychologists. Private 'assessment' of additional support needs, including high ability, is possible in Scotland. Parents who pay for assessment may require schools and local education authorities to take into consideration any information resulting from such assessment – but may not require the local authority to recognise and assent to any particular finding (Scottish Government, 2017). Uncertainties about identification, and what might be interpreted as resistance to labelling particular groups of pupils as 'elite' learners, might be taken to suggest that Scottish education is not particularly hospitable to highly able learners.

An argument could be made that the relatively unsystematised approach to identification of highly able learners in Scotland could be an advantage (Borland, 2005). While identification can lead to appropriate support for some learners, it can also be perceived as attaching potentially unhelpful labels, creating artificial divisions between pupils, and reproducing existing patterns of inequality within schools. Gifted education's struggle to identify gifted children who are poor, who are black, or who have multiple exceptionalities such as dyslexia, autism or physical disabilities (Card and Giuliano, 2016) in itself makes the identification process problematic. It is possible that the focus on identification itself could distract educators from the key issue of how to provide excellent education for all students. Borland (2005:1) suggests that not only is the concept of the gifted child "logically, pragmatically and… morally untenable" but that it inhibits the provision of appropriate education. He suggests that educators can best respond to the differences between children by ensuring that children are provided with a 'gifted' education – one in which all young people are able to access the pace and challenge they need. Such an approach, which focuses on challenge for all within the classroom, may be a better fit for the egalitarian bent of Scottish education. However, legislative 'permission' does not necessitate provision, and it is not clear that a focus on education not identification for highly able learners is necessarily leading to appropriate learning opportunities for Scottish highly able learners, including access to the qualifications necessary for HE.

Educational opportunities for highly able learners in Scottish education can be variable. While practices such as grade skipping or acceleration for particular subjects are not prohibited, they are not common practice. This is particularly the case for high value subject such as Higher, the key

qualification for entry into Scottish universities, and Advanced Higher, a further qualification which allows deeper and more independent study while at secondary school. There is a strong presumption that Highers will be studied in S5 (age 15-16) or S6 (age 16-17) (SQA, undated c). The Broad General Education phase of Curriculum for Excellence (CfE) which runs from age three until the end of S3 (age 13-14) is constructed to offer breadth and depth, pace and challenge, including opportunities for interdisciplinary education (Education Scotland, undated). However, policy does not always necessarily reflect practice, and the particular structure of CfE, and its focus on particular educational 'Experiences and Outcomes', has the potential to constrain what is taught and what is learned (Priestley and Humes, 2010). This has worrying implications for highly able learners who need may greater depth, breadth, pace and challenge in order to learn successfully in school. Scotland offers a restricted range of specialist provision for 'talented' young people focusing on music, sport and dance (Education Scotland, 2023c) in centres associated with mainstream secondary schools. Similar provision is not offered for highly able or talented young people in academic subjects or visual arts. Highly able learners from areas of high deprivation are likely to learn in neighbourhood schools amongst their social peers.

Definitions of giftedness and their implications are long contested, from troubled beginnings with Galton, Goddard and the eugenicist movement (Zenderland, 1998) to ongoing debates around the role of internal and external factors in the development of intelligence – the so-called 'nature vs nurture' debate (Coop and Przeworski, 2022; for more discussion of nature vs nurture, please see Section 2.6). There is at present no consensus on a definition of giftedness, despite consistent attention to this vexed matter within the field (Subotnik et al, 2011). Terman, often referred to as the 'Father of Gifted Education (Hodges et al, 2021), laid the foundations for intelligence testing as a mechanism for identifying the gifted which is still in use today (Heuser et al, 2017). Intelligence testing as an objective and reliable test of ability also maintains its grip on some corners of the academic debate (Sternberg et al, 2021). Intelligence testing is also deployed as an explanation for socio-economic disparity. It is still quite possible to find assertions such as "your score on an intelligence test will correlate with your social class" (Ritchie, 2015: loc 514) espoused not as critiques of intelligence testing, but as 'evidence' that British society is essentially meritocratic. Thirty years after Herrenstein and Murray (1994), lower IQ scores are still taken by some to indicate lower intelligence in marginalised populations such as women, people of colour, and the poor (Warne, 2022). The perception that certain groups are less likely to be intelligent can cause lower rates of identification. McBee (2006) describes lower teacher nomination to gifted programmes for Black and Hispanic students than their White and Asian peers, and lower nominations for students receiving

free or subsidised lunches – an indicator of potentially low income. Card and Guiliano (2016) found that universal screening increased the representation of low income and minority students in gifted education. Even when identified as gifted, young Black girls may find that their teachers tend to give feedback on perceived social misbehaviour rather than academic performance (Anderson, 2020). Twice exceptional students may also find that schools struggle to identify both their giftedness and their learning difference (Foley-Nicpon & Teriba, 2022).

It is possible that a move to models that include both personality characteristics of the individual as well as environment and culture might allow greater recognition of giftedness within those groups (Ambrose, 2002). Despite this move away from "psychometric, unitary conceptions" (Plucker and Callahan, 2014) inequity dogs the field, with Gentry (2021:375) asserting that "for every Black child identified with gifts and talents, up to three are missing". Working with a US context, Crawford, Snyder and Adelson (2020) have outlined the complex inter-relating network of individual, family, school and social issues which shape identification, access and attainment for minority gifted young people. This holistic approach to understanding giftedness and marginalisation underlines the complexities of identifying giftedness amidst complex social and educational barriers. Ziegler and Philipson (2012) critique the idea of gifted education as winnowing out those who are already born gifted and then protecting them from a hostile education system. Instead, they suggest understandings of giftedness grounded in developmental models, which emphasise the interaction between child and environment, where the child is not just given opportunities to develop their potential and talent by their environment but agentically seeks out environments which can support their development. Young people from areas of high deprivation in Scotland may find their high ability unrecognised due to assumptions about the poor.

In this thesis, students at University of Glasgow from areas of high deprivation, students who have received Widening Participation interventions and students who received other interventions such as Education Maintenance Allowance (a payment to children from low-income families who wish to continue secondary education) will be referred to as highly able as they are working at a higher level than peers from their local environment. This is in line with existing Scottish government guidance (Education Scotland, 2023). However, the association between poverty and lower attainment is also well-established in the literature (Olszewski-Kubilius and Corwith, 2018). Within the giftedness field, there is wide acknowledgement of what is referred to as the 'excellence gap' (Plucker and Peters, 2018), with impoverished young people much less likely to achieve the very highest levels of attainment. The young people at the heart of this study may not have achieved the very highest levels of attainment – indeed, that would be unlikely given their life experiences. However, the young

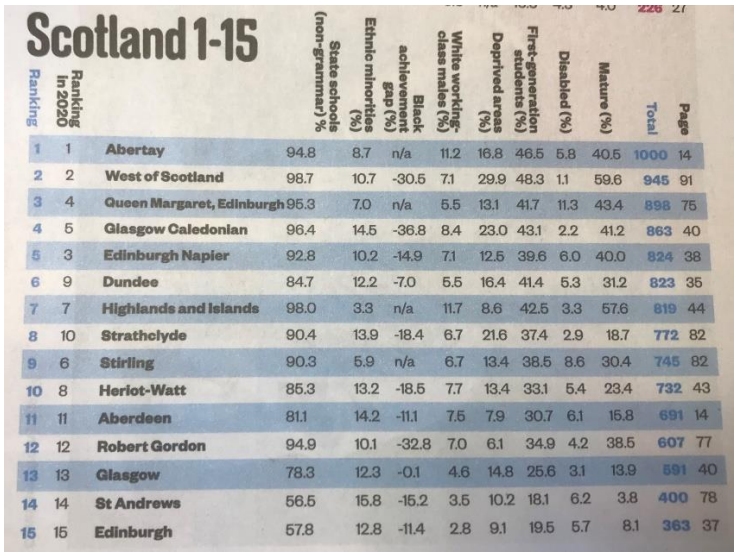
people in this study have shown their capacity to achieve excellent or very good results, sometimes in very challenging conditions, by achieving the grades to apply to the University of Glasgow, a highly selective Russell Group institution. The working definition adopted in this study is that highly able learners are young people whose attainment is significantly greater than that of peers who shared their learning environment. The students who are the focus of this study share a number of other characteristics with students who might be considered gifted in other contexts, particularly marginalised and minority students, such as a focus on self-determined learning (Renzulli, 2017) and the agentic pursuit of environments which supported their pursuit of learning (Ziegler and Phillipson, 2012).

These young people have also shown their interest in continuing their education by applying to one of Scotland's oldest and most highly regarded universities (University of Glasgow, undated). High intrinsic motivation is also often associated with high ability (Bergold, Wirthwein, and Steinmayr, 2020). The stance taken is that the disposition for learning shown by the continuation of their studies and their previous high attainment justifies understanding these young people as highly able in a Scottish context. It cannot be known whether these young people would meet metrics of giftedness from other contexts, such as the SCAT test used by the Centre for Talented Youth in Ireland (Centre for Talented Youth, Ireland, 2023). However, their disposition towards learning and high achievement compared to peers from the same area indicates that these young people are in the most literal sense, highly able to learn. It will be shown in this thesis that these young people express a high degree of enthusiasm for learning, and that their parents comment positively on their learning.

1.1 University of Glasgow

The decision was made to focus on the University of Glasgow for pragmatic but also research reasons. The University of Glasgow is regarded by some as one of the least inclusive institutions in Scotland (Sunday Times, 2022). However, the University of Glasgow also has a well-respected Widening Participation team which have led to its recognition by the Commissioner for Fair Access as one of the most successful 'ancient' universities in terms of WP (Scott, 2019) This apparent contradiction draws out the definitional challenges which render fair access such a difficult topic to study. Scott (2023:43) describes the shift towards 'semi-stigmatising' individual or area level understandings of deprivation in the context of increasing levels of social inequity. Tensions around who should count as deprived and what that means about them, alongside tensions of who should count as having potential, talent or ability, will resonate throughout this study.

Figure 1: Sunday Times Good University Guide Social Inclusion Rankings 2023 (Sept 2022:49)



Scotland 1-15

Ranking	Ranking in 2020		State schools (non-grammar) %	Ethnic minorities (%)	Black achievement gap (%)	White working-class males (%)	Deprived areas (%)	First-generation students (%)	Disabled (%)	Mature (%)	Total	Page
1	1	Abertay	94.8	8.7	n/a	11.2	16.8	46.5	5.8	40.5	1000	14
2	2	West of Scotland	98.7	10.7	-30.5	7.1	29.9	48.3	1.1	59.6	945	91
3	4	Queen Margaret, Edinburgh	95.3	7.0	n/a	5.5	13.1	41.7	11.3	43.4	898	75
4	5	Glasgow Caledonian	96.4	14.5	-36.8	8.4	23.0	43.1	2.2	41.2	863	40
5	3	Edinburgh Napier	92.8	10.2	-14.9	7.1	12.5	39.6	6.0	40.0	824	38
6	9	Dundee	84.7	12.2	-7.0	5.5	16.4	41.4	5.3	31.2	823	35
7	7	Highlands and Islands	98.0	3.3	n/a	11.7	8.6	42.5	3.3	57.6	819	44
8	10	Strathclyde	90.4	13.9	-18.4	6.7	21.6	37.4	2.9	18.7	772	82
9	6	Stirling	90.3	5.9	n/a	6.7	13.4	38.5	8.6	30.4	745	82
10	8	Heriot-Watt	85.3	13.2	-18.5	7.7	13.4	33.1	5.4	23.4	732	43
11	11	Aberdeen	81.1	14.2	-11.1	7.5	7.9	30.7	6.1	15.8	691	14
12	12	Robert Gordon	94.9	10.1	-32.8	7.0	6.1	34.9	4.2	38.5	607	77
13	13	Glasgow	78.3	12.3	-0.1	4.6	14.8	25.6	3.1	13.9	591	40
14	14	St Andrews	56.5	15.8	-15.2	3.5	10.2	18.1	6.2	3.8	400	78
15	15	Edinburgh	57.8	12.8	-11.4	2.8	9.1	19.5	5.7	8.1	363	37

Table 1: Transcription of Figure 1

Rankings	Rankings in 2020		State school %	Ethnic minority %	Black achievement %	White working-class males %	Deprived area %	1st gen Student %	Disabled %	Mature %	Total
1	1	Abertay	94.8	8.7	n/a	11.2	16.8	46.6	5.8	40.5	1000*
2	2	West of Scotland	98.7*	10.7	-30.5	7.1	29.9*	48.3*	1.1	59.6*	945
3	4	Queen Margaret	95.3	7.0	n/a	5.5	13.1	41.7	11.3*	43.4	898
4	5	Glasgow Caledonian	96.4	14.5	-36.8	8.4	23.0	43.1	2.2	41.2	863
5	3	Edinburgh Napier	92.8	10.2	-14.9	7.1	12.5	39.6	6.0	40.0	824
6	9	Dundee	84.7	12.2	-7.0	5.5	16.4	41.4	5.3	31.2	823
7	7	Highlands and Islands	98.0	3.3	n/a	11.7*	8.6	42.5	3.3	57.6	819
8	10	Strathclyde	90.4	13.9	-18.4	6.7	21.6	37.4	2.9	18.7	772
9	6	Stirling	90.3	5.9	n/a	6.7	13.4	38.5	8.6	30.4	745
10	8	Heriot-Watt	85.3	13.2	-18.5	7.7	13.4	33.1	5.4	23.4	732
11	11	Aberdeen	81.1	14.2	-11.1	7.5	7.9	30.7	6.1	15.8	691
12	12	Robert Gordon	94.9	10.1	-32.8	7.0	6.1	34.9	4.2	38.5	607
13	13	Glasgow	78.3	12.3	-0.1*	4.6	14.8	25.6	3.1	13.9	591
14	14	St Andrews	56.5	15.8*	-15.2	3.5	10.2	18.1	6.2	3.8	400
15	15	Edinburgh	57.8	12.8	-11.4	2.8	9.1	19.5	5.7	8.1	363

Legend: highest score starred; lowest score underlined

The Times (2022) did offer a methodology for how this table was constructed. However, this left some questions unanswered. Given categories such as 'Mature Student' and 'First Generation Student' it seems possible that there is some double counting between categories. Some categories are also not intuitive – it is unclear whether Black achievement is measured in terms of difference in

% completing the degree or in degree classification. This also seems a somewhat different measure to, say, percentage of Mature students. The result of n/a in Black achievement is also somewhat mysterious – it is unclear whether this means that there is no differential or whether it means there are no Black students. The lack of information about the percentage of Black students in particular adds to this interpretational difficulty. It is also unclear whether this table measures students at the point of entry, or the student body as a whole. Moreover, it would be useful to know which of the social inclusion measures was self-reported, and which were drawn from HESA data. The Times (2022) stipulates that "Data on entry standards, student-staff ratios, completion rates, first-class and 2:1 degrees, and graduate prospects were supplied by the Higher Education Statistics Agency (Hesa)[sic]" and research quality information was drawn from REF 2021. More details as to the exact sources of each part of the demographic data above was not included in this particular article.

Given Scottish educations' caution with regard to high ability, it is reasonable to question the role of potential and talent in widening participation to HE, and how these concepts are understood by teachers, pupils, parents and others involved in young people's decision making around HE.

1.2 Research questions and Thesis Structure

This thesis will address the central issue of understandings of potential, talent and ability and their relationship to Higher Education choices and experiences for Scottish young people from areas of high deprivation.

This thesis will answer the following questions:

> RQ 1 How do Scottish widening participation students at the University of Glasgow, their teachers, parents, WP workers and SDS workers understand potential, talent and ability?
>
> RQ 2 What educational barriers were experienced by students from areas of high deprivation in secondary school and beyond?
>
> RQ 3 What role do conceptualisations of potential, talent and ability play in creating or overcoming barriers to Widening Participation to Higher Education for students from areas of high deprivation?

Chapter One has provided an introduction to the rationale and context for the research. In Chapter Two of this mixed methods thesis, I will look at the historical context of WP, exploring the long

tradition of WP in Scotland and the relevance of these historical beliefs and practices for today. In Chapter Three I will look at modern Scottish widening access and participation, its principles of equity and fairness and how such principles fare as they move into practice. I will also examine the salience of high ability for WP in Scotland. Chapter Four will examine the theoretical frameworks which support this thesis. I will examine the work of Ziegler and Philipson (2012) and look at its intersections with Bronfenbrenner (2005) and Bourdieu (1986). Chapter Five will examine methodology and methods, offering a pragmatic justification of mixed methods research, and then explaining the particular methods deployed in this thesis –analysis of secondary data, survey and semi-structured interviews. Chapter Six will examine the secondary data, using additional insights from Scottish government education data to understand patterns of attainment for SIMD 1 and 2 University of Glasgow students. Chapter Seven will explore the survey data, examining differences and similarities of response between students from all SIMD quintiles. Chapter Eight will integrate and discuss findings in relation to the wider literature. Chapter Nine focuses on integration and discussion of findings, conclusions, limitations, avenues for further research and recommendations.

This thesis uses theoretical and analytical tools familiar to high ability studies to look afresh at WP practices. By approaching students from areas of high deprivation as highly able learners, this thesis shines a new light on student experiences and motivations, showing that students from areas of high deprivation can be fruitfully understood as passionate and committed scholars, who attend university in order to learn more about subjects which excite them. I will show the conceptual blurriness around potential, talent and high ability amongst young people and the professionals who work with them, and how this blurriness serves to reproduce and perpetuate existing patterns of social inequality.

This chapter has:

- introduced the issues around widening participation in Scotland for highly able learners from areas of high deprivation

- outlined the three areas of contribution to the field that this thesis will make:
    - the recognition that widening participation students in Scotland are very likely to be highly able
    - the insight that highly able widening participation students in Scotland are often motivated by a passion for learning
    - the analysis of potential and talent as 'empty signifiers', words whose meaning is vacant rather than merely unclear or unstable.

- introduced the research questions:
    RQ 1. How do Scottish widening participation students at the University of Glasgow, their teachers, parents, WP workers and SDS workers understand potential, talent and ability?
    RQ 2. What educational barriers were experienced by students from areas of high deprivation in secondary school and beyond?
    RQ 3. What role do conceptualisations of potential, talent and ability play in creating or overcoming barriers to Widening Participation to Higher Education for students from areas of high deprivation?

The next chapter will examine the historical context of widening participation in Scotland and in the wider UK, drawing out the origins and development of widening participation up to the New Labour era. Understanding the historical context of widening participation will illuminate how key ideas and concerns were shaped, how widening participation became intertwined with the idea of meritocracy, their relation to the question of nature, nurture and high ability.

2 Chapter Two: The Historical Contexts of Widening Participation

This chapter explored historical context to understanding widening participation in the University of Glasgow, its development, historical challenges and pressures:

- the relationship between Scottish and English HE
- the impact on Scottish universities of changing national policies
- the impact of deficit models of pupils from areas of high deprivation
- the Milburn Report
- meritocracy and the nature/nurture debate

As explored in Chapter Four, Bronfenbrenner (1988) argues that to understand human development it is important to go beyond a focus on the individual's chronological age to consider their historical context. Rather than treating the environment as an "unchanging structure" (Bronfenbrenner, 1992:119) this chapter explores the historical antecedents of current concepts and practices of Widening Access and Participation in Scottish universities. Although universities can seem a monolithic and unchanging institutions whose practices are hallowed by time, their identities, practices and understandings can be historicized, and their development charted. Kvale and Brinkmann (2015) warn that 'context' is a term much misused by researchers, and that an ill-defined and fuzzy 'context' is too often identified as the cause of particular social events. They challenge researchers to articulate context for a particular purpose. Keeping Kvale and Brinkmann's warning in mind, this chapter undertakes two tasks. It explores the chronosystem, the changing social system within which Scottish higher education exists (Bronfenbrenner, 1992:119). It also uses Bourdieu's theory of practice (1972) to understand historical challenges and pressures which have formed Scottish higher education.

2.1 Widening Access in Scotland: historical context

Although Scotland is part of the United Kingdom, its education system has historically been independent of that of England. For Davie (1961) the putative independence of Scottish universities was called into question by increasing political, social and economic interdependence with England. As a result, this chapter will include, where relevant, discussion of widening access and participation practices in both Scottish and English universities, although the historical focus will remain on

Scotland as a distinct educational system. The Scottish system of higher education can be positioned as a field within the wider field of British higher education, negotiating its autonomy within the wider field of Scottish education, controlled by the devolved but not independent Scottish parliament.

Davie (1961) describes Scottish education as driven by the economic need of a country largely reliant on what could now be referred to as the knowledge economy. That is to say, the drive to produce professionally educated men whose 'export' both to other parts of the UK and in support of the British imperial project (Davie, 1961:4) would drive Scottish productivity. Scottish intellectuals migrated to England, Europe and North America, where Scottish influences can be seen in the establishment of universities such as McGill University in Toronto, Canada, and what would become Columbia University in New York and New Zealand, where Scots were heavily influential in the formation of Otago University in Dunedin. Scottish participation in the colonialist enterprise of the British Empire was also very pronounced, with particularly high numbers of Scottish-educated physicians practicing and setting up institutions of medical education in India and China (Craig, 2011). There is evidence that Scottish education had an early explicit concern for a comparatively wide participation in HE institutions. In 1826, during the course of a Royal Commission exploring the advantages of reforming Scottish universities to more closely resemble their English counterparts, the comparative inclusiveness of Scottish education was argued to be an advantage. Although the Scottish degree was not as specialised as that of England, it was seen by its defenders as tending to "*liberalise and make intelligent the mass of our population*" (Jeffries, cited in Davie 1961:27), with a third of schoolmasters holding degrees. This indicates that wider access was perceived at least by some Scottish academics, as an advantage of the system. Jeffries' argument interweaves two points. First, university education itself was an advantage not just for the elite, but for a wider group of potential students. However, it was also described as having benefits for the 'mass' of Scottish people as a whole, through the work of schoolteachers who would transmit the discursive, philosophical approach in which they had been instructed. The mandate of the Royal commission is to investigate whether Scottish higher education should continue to exist independently, or whether it should be brought into line with English universities. This can of course be interpreted as a threat to their existence as an autonomous field. Jeffries' response asserts the utility of Scottish higher education in serving Scotland's interest.

Concerns over the need for wider access to university persisted in C19th Scotland. Kettley (2007) describes a Scottish Education Commission of 1868 using economic prosperity as a justification for increasing university participation amongst Scottish young people. He also suggests that a lower

number of public schools in Scotland led to wider access for non-elite students. The Commission identified one Scot in 1000 as a university graduate, as opposed to one in 5800 in England (McPherson,1973). McPherson (1973) identifies statistics indicating that one student in twenty was likely to be of 'manual origins', indicating that their father worked with his hands, although such students were less likely to graduate with high level qualifications and more likely to take classes from which graduation was not possible.

McPherson (1973) identifies a belief in Scotland that high numbers of students should be given a chance, noting the decision made by Scottish Universities commission in 1898 to reject a matriculation exam which might exclude students from elementary schools in Glasgow and from parochial schools in the Highlands and Islands. This comparative accessibility was justified in terms of general economic benefits to the nation, individual opportunity for positive social mobility and a tradition that the school system was "to supply every member of the community with the means of obtaining for his children not only the elements of education, but such instruction as would fit him to pass to the Burgh school, and thence to university, or directly to the university from the parish school" (Education Commission (1868: x) cited in McPherson, 1973:loc 3503) This approach might broadly be described as stressing access rather than participation. Access requirements are set such as to allow a comparatively high number of students to successfully apply. However, once part of the institution, their success or failure is seen as largely their own affair, with the emphasis on a lecture rather than tutorial system placing the onus for successful study on the individual student (McPherson, 1973) leading to very different outcomes for different students. The elite few competed for and gained honours degrees and prizes. Students of non-elite origins were more likely to leave with 'class tickets', indicators of participation which could grant entry into employment such as teaching, albeit with lower pay and status than graduate co-workers, or with an ordinary degree. This might be described as an apparent meritocracy (Meritocracy will be discussed in more detail towards the end of this chapter). Elite students, arriving with institutional knowledge and educational resources are likely to see those rewarded with more valuable qualifications. Non-elite students are given the appearance of equal access but are likely to struggle. One effect of this approach is to place the onus for success or failure on the individual student, rather than the institution. This apparent egalitarianism allows for misrecognition of success within the field for innate talent or ability, by uncoupling the capitals required for entry into the field from the capitals required for success within the field. Bourdieu's account of capital as social, economic and cultural resources will be described more fully in Chapter Four. McPherson describes apparent egalitarianism persisting into the twentieth century. For McPherson, the 1960s Scottish university adopted a non-selective approach

with “diverse, stratified outcomes” (McPherson, 1973: 3313) where students who arrived without prior acquisition of the necessary academic skills, knowledges and habits of thought – or the right habitus and capitals - were offered little guidance in their acquisition. However, to fully understand Scottish higher education of the 1960s, it is helpful to look more widely at the British context.

2.2 Widening Access in the United Kingdom: historical context

Kettley (2007) describes concerns about widening participation in UK universities arising around the same time as the establishment universities. Kettley identifies the need for certain kinds of skilled labour as driving the establishment of modern universities in Britain. Although the children of English manual labourers were less likely to enter universities, their rates of graduation with honours were very similar, as students at Scottish universities tended to drop out or leave with lesser qualifications (McPherson, 1973). Functionalist researchers in the 1960s, who understood differences in educational success between classes as reflective of different value orientations in those groups, noted a phenomenon where in the course of secondary school, middle class pupils were likely to achieve better results but in HE no such association pertained. Kettley suggests this may be due to the selective nature of the institution, where “successful pupils are usually admitted irrespective of their background” (Kettley, 2007:336). This may be understood as the exclusion of all those who have not yet demonstrated their ability to play the academic game. It also suggests that the skills necessary for a young person to demonstrate success in secondary education continue to operate as they move into higher education. Functionalist researchers, by ascribing differences in achievement to different value consensuses within social classes, suggest that access issues lie not in the structure of the institution but in young people themselves. Potential students are excluded not by the institution but by their own beliefs about education. This was to be a notion that was to recur in widening access and participation aspiration discourse (Rainford, 2021) with concerns over “poverty of aspiration” persisting in Scottish education (Scottish Parliament, 2017).

In contrast to the aspiration narrative, Kettley describes ‘educability’ researchers as identifying ‘class-related’ factors such as “home facilities, family size, parental attitudes, pupils’ mental health and the quality of teaching” (Kettley, 2007:337). Flude (1974:16) describes educability research as exploring “those handicaps that prevented a perfect relationship between measured ability, educational opportunity and performance”. This approach envisioned a neglected ‘pool of talent’ amongst those whose test scores had not qualified them for enhanced forms of secondary school education, such as grammar schools. Flude (1974) criticised this approach as placing too much emphasis on the social class of the child’s family while neglecting the role played by the structures of schools. He identifies a

circular approach where behaviours common amongst people who live in poverty are used to describe 'the culture of poverty' at the same time as they are assumed to be a cause of poverty (Flude, 1974:26). This conception of widening access and participation in terms of remedying deficits within pupils has proved remarkably tenacious, as can be seen in a recent report from the Russell Group of universities (Turhan and Stevens, 2020) which identifies individual traits such as differences in cognitive development, lack of knowledge and lower confidence, which prevent young people from reaching their full potential. This suggests that a student's potential is a trait within the young person which can be suppressed by other, less desirable traits. Particularly interesting is the distinction between 'potential' and 'cognitive development' which could be taken to suggest an understanding of potential in terms of a fixed, predetermined property of an individual which can be nurtured or neglected.

2.3 The Robbins Report

The Robbins Report, commissioned by the Westminster government to examine HE across the UK (Robbins, 1963:8) takes as its guiding principle that "courses of higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so", justifying it both in terms of economic expediency and the development of capacities "to understand, to contemplate and to create". It also identified as one of the purposes of higher education that young people from all classes should find "in the atmosphere of the institutions in which the students live and work, influences that in some measure compensate for any inequalities of home background." (Robbins, 1963:7) The Report identified a growing desire for access to university as many more young people began to achieve the educational standards that would once have gained a university place. It describes an increase in university attendance for British students in the early 1960s eight times higher that it was at the beginning of the century and links selective access to university in Britain with low rates of 'wastage' – students who do not complete their chosen courses. The Robbins Report (1963: 49) asserted that while fundamental differences in 'native capacity' existed, the cumulative effects of environment were particularly significant for higher education. For most people, their ability to engage in higher education was environmental. It noted that 45% of students had parents in the 'higher professional' group while only 4% were in skilled manual occupations. The Robbins Report (1963:52) also notes that the expansion of the field of qualified higher education did not occur solely in the most deprived groups, but in fact "The increase has been almost as great among the children of professional parents, where the pool of ability might have been thought more nearly exhausted" and that fears of lowering standards due to widening access had

thus far proved unfounded. The Robbins Report identifies a need to improve access to university by increasing young people and their parents' knowledge of the opportunities, and recommends schools and universities collaborate to reduce the personal, social, and intellectual challenges of transition between the two institutions.

It is possible to discern in this report concerns that are still present in modern widening access and participation research. The concern for wider university education as a tool to increase national economic prosperity is familiar (Milburn, 2012; Turhan and Stevens, 2020) although the Robbins Report has less explicit discussion of university education as a tool to increase personal wealth for the individual student, except in the discussion of whether loans rather than fees are an appropriate funding strategy. Another familiar strain is the emphasis on knowledge and information for both young people and their parents about the options open to them. One of the most unexpected similarities is that the expansion of higher education which occurred before the Robbins Report, like that described in the Milburn report (2012) did not solely benefit the most deprived. Instead, a large number of new students came from middle class families. In 1963, as in 2012, a higher number of students could mean more of the same type of student, rather than a wider range.

The Robbins Report dealt sympathetically with the Scottish ancient universities. By recognising their antiquity and particular traditions, the Robbins Report (1963:22) justified its approval of their practices: "Next, in order of foundation, are the four ancient Scottish universities of St. Andrews, Glasgow, Aberdeen and Edinburgh. Founded in the fifteenth and sixteenth centuries, these have always had a standing of their own and many of their traditions are more like those of the Continent than of England and Wales" It is important to recognise though, that implicit in a positive judgement is the right to pass judgement. Scottish education is approved, especially as regards more widely available higher education, but the fact of that approval implies the heteronomy of the field. An autonomous field not only maintains its own rules and ways of doing, but has established these as natural, unquestionable, and obviously correct ways of doing and being. These are known as *doxa* (Deer, 2014) As a field becomes heteronomous, it is increasingly required to justify its practices in terms of another field's doxa. In this case, the practices of the Scottish universities are approved. However, they are judged not by their own rules, but by those of an outside agency.

2.4 Contextualising higher education in Scotland and the United Kingdom: Post-1992

Kettley (2007) describes a commitment by the Labour government of the 1970s to the expansion of higher education which again led to increased participation in higher education by the middle classes.

Cutbacks to the HE sector in the 1980s prompted research in widening access and participation, as a decline in student numbers led to worries over increased barriers to participation. The Further and Higher Education Act 1992 has been described as the unification of higher education. The Act made the same funding provision for all institutions and allowed polytechnics to become universities with the power to confer degrees (Pratt, 1999). Pratt (1999) suggests that this reflected the impact of the polytechnics on university practices, increasing an emphasis on vocational training, recruitment of non-traditional students and economic impact, citing the 1987 White Paper which emphasised the need for universities to "study the needs of the economy so as to achieve the right number and balance of graduates in the 1990s" (DES, 1987:iv) to increase links with industry, to serve the economy and to increase participation rates. This was to be achieved in part by a Universities Funding Council which included "a strong element of people from outside the academic world" (DES, 1987:v), planning guidelines issued by government for the higher education sector, and for Scotland, a Scottish Committee with "a direct relationship with the Secretary of State for Scotland" This paper also makes explicit mention of widening access as a mechanism to meet the needs of the economy, suggesting pedagogical changes to fit with the needs of 'new types of students' (DES, 1987:9), such as those with vocational rather than traditional academic qualifications or those, generally mature students, arriving with no formal qualifications, and allow for new types of achievement while continuing to raise standards. Interpreted in Bourdieusian terms, this indicates an increase in heteronomy (discussed in greater depth in Chapter 4). Not only is the field of higher education to be more comprehensively guided by figures from outside higher education, it is also to be tied more closely to the needs of industry and the economy. The extent to which higher education is in a position to determine status within its own field is explicitly curtailed, and consideration of wider economic pressures enforced. Pratt (1999) suggests the Education Reform Act (1988) set the stage for the forthcoming unification of universities and polytechnics. Connor (2001) notes that the participation rate in HE doubled from 14% in mid 1980s to 33% by mid 1990s, but that this did not translate to more equitable access for students from less affluent backgrounds. Although participations rates increased for both the most and the least affluent, the less affluent still had a greatly reduced rate of university attendance.

The Dearing Report (1997) was commissioned by the Westminster government to examine HE across the UK. Describing Scottish education specifically, the Dearing Report (1997) noted that 95% of Scottish students chose to study in Scotland, and that 12,700 students from the rest of the UK also chose to study in Scotland. 44.2% of young people in Scotland engaged in higher education, with much of this occurring at the Higher National Certificate and Higher National Diploma level. The

Report emphasises the flexibility of the Scottish system, the number of Higher subjects it is possible to study and the capacity to undertake a broad three-year ordinary degree or a specialised four-year degree, with the capacity to apply to study at a faculty rather than a particular subject. The Report suggests that this distinctive Scottish approach emphasising breadth and flexibility might go some way to explaining why participation rates are higher in Scotland. It also comments on the economic contribution of Scottish universities and their links to their communities.

The Dearing Report (1997) takes the idea of increased participation in higher education of currently under-represented groups as not just socially desirable but also necessary for Britain's economic growth and participation in the global economy due to changes in the labour market, arguing that even jobs which do not require a degree can sometimes be performed better by graduates. There are benefits for graduates, too, who are increasingly likely to be employed at higher rates of pay. The Report (1997:99) espouses "the principle of maximising participation, within public expenditure constraints, consistent with individual, labour market and national needs ". This suggests that participation in higher education should be understood as a good in itself, but not an over-riding one. It must be balanced by economic interests. As in the Robbins Report, the notion that that more students would mean lower standards is rejected. Widening access is presented as a 'moral obligation' (Dearing Report, 1997:102). A neighbourhood effect, whereby the affluence of the area in which a young person resides is strongly linked with their chances of attending university. However, performance in education before the age of 18 as the most important cause of unequal access to higher education. The Report suggests that increasing student numbers should serve to widening participation, stating that this has been seen in recent history and that funding be associated with a commitment to widening participation, and the enrolment of students from disadvantaged locations.

The Report (1997:107-8) cites as key for educational success "the aspirations and attitudes of individual young people, their peers, and families; the circumstances at home, and in particular whether there is a strongly supportive attitude to school and homework, with facilities for it. They also reflect the quality of schooling" and the family's degree of affluence. For some young people, it is claimed, university is an alien culture - there exist within society groups who simply do not value education. The Dearing Report (1997) emphasised the need for clear information and guidance for potential students, especially first-generation students, and those with non-traditional entry qualifications. Bronfenbrenner (1979) castigates this kind of approach, describing it as a 'deficit' model, where one looks first within the individual, then their family, then their community to find the deficiency which is responsible for their failure to develop. He criticises too the professionals who

work in such terms, as seeking to "find the deficiency and do their best to correct it but without hoping for too much: after all, that's the way those people are; they do not really want to change." (Bronfenbrenner, 1979: loc 3892). The emphasis on individual failure as an explanation for why some young people do not attend university is joined by an emphasis on university as promoting individual, as well as societal, interests.

Although Blair did not deliver his speech calling for "Education, education, education" until 2001 (Blair, 2001) educational reform was highly significant for all three of the terms he served as Prime Minister, from 1997 until 2007 (Lunt, 2008). While predominantly concerned with primary and secondary education, the Blair government issued 43 policy pronouncements on Higher Education. Although the Dearing report (see above) was particularly significant for the first Blair ministry, it was in fact commissioned by the previous Conservative government. Paterson (2003) suggests that three major strands can be discerned in Labour education policy between 1997-2001: New Labourism, characterised by a commitment to meritocracy; developmentalism, with increased governmental investment and intervention in education intended to support and grow the economy in a perceived context of increased globalisation; and New Social Democracy which maintains the significance of the public sector, of marketplace regulation, and redistribution of resources and power within society.

Paterson identifies continuities between the educational policies of the Conservative government and that of the new Labour government. In the preceding years, the Conservative government had sharply curtailed university spending on existing universities while offering greater support to further education colleges and polytechnics. They then moved to unify the sector by transforming polytechnics and colleges into universities in 1992, increased participation and also moved to replace the student maintenance grant with loans to be repaid after graduation. The 1992 legislation also transferred the responsibility for public funding of higher education institutions to devolved councils for Scotland, England, and Wales. Paterson suggests that the new Labour government signalled its continuity with this approach by committing to 'non-ideological pragmatism' and focusing on 'standards not structures' (Brighouse, 2001, cited in Paterson, 2003:169). This manifested in higher education through reforms which dealt with practical issues. Funding for an expanded sector was addressed by completing the shift from maintenance grants to loans and through the introduction of course fees. Poor recruitment of less affluent and minority ethnic students was to be tackled through regulation and recruitment schemes. Watts and Bridges (2006) note that the Labour government made both an economic and an ethical case for widening higher education. By aiding in the creation of a meritocracy, education must serve the interests of social justice. Watts and Bridges (2006:269)

note that this ethical drive is 'conveniently' aligned with the economic. Paterson (2003) notes that the government did not address more structural inequities. He suggests that continuing to rely on exam results inevitably led to the most prestigious universities recruiting students from fee-paying selective schools, as these students tended to have the highest examination results. Paterson also highlights the differences in how higher education was reformed in a devolved Scotland, with the elimination of tuition fees and a greater emphasis on bursaries for less affluent students. He also notes the effect of the pre-existing system of Scottish colleges, who not only attract more working-class students but often support them into undergraduate level.

Lunt (2008) describes perceived increases in globalization and the growth of the knowledge economy in the context of a shift from elite to mass higher education. A pre-existing expansion of higher education had largely benefitted middle class young people and was to be funded by the phasing out of student maintenance grants and their replacement with loans to be repaid after graduation. Blair's agenda focussed on consumer rights, "'the market', 'choice', 'efficiency' and 'standards'." (Lunt, 2008: 743). Lomer, Papatsiba and Naidoo (2016:136) describe this in terms of the 'competition state', whose primary objective is to foster a competitive national economy. For HE, this implied an emphasis on education as a tool for economic growth, which would produce employees equipped by undergraduate and postgraduate degrees to compete in a knowledge-based economy, but also the establishment of a prestigious higher education brand (Lunt, 2008; Lomer et al, 2006). Alternatives to state funding for research led to an emphasis on "quasi-privatisation and entrepreneurial activity" (Lunt, 2008: 744). Government initiatives for HE emphasised its role in the global economy, the need for diverse institutions, the need to include diverse students, such that not only were "half of the 18–30 year-olds in some form of higher education by 2010" (Lunt 2008:745) but that this should widen participation and support social inclusion. These proposals led to tensions between growth of student numbers and a need to maintain or reduce costs, but also in the hierarchisation associated with 'research' and 'teaching' institutions.

Widening access and participation was also understood as a "trade-off between excellence and equity" (Lunt, 2008:746) Furedi (2004) drew a direct connection between widening access to higher education, the commodification of higher education, and poor student attitudes which hamper the adoption of academic virtues. Haggis (2006:523) describes this as '*defensive cynicism*' where widening access is interpreted as requiring lower standards and poorer quality students, who will necessitate the loss of key academic virtues such as critical thinking and research. However, Furedi's account also suggests a new empowerment of students through their role as consumers within a competitive

market. Read, Archer and Leathwood (2003) describe working class students' awareness of this as a mechanism by which they can argue their entitlement to participate in the academy even in the face of their own position as 'the other', and even to some extent reshape it to fit their needs as empowered consumers. This process of commodification of education also lends itself to quality control measures, where universities are judged by standards set by an external, independent body, the Quality Assurance Agency for Higher Education. Exploring potential student perceptions, Archer and Hutchings (2000) outline the prevalent views that getting to university is a big risk and has a high cost both financially and in terms of self-perception. Perhaps ironically, given the Dearing Report's emphasis on the significance of student attitudes and aspirations, university was perceived in instrumental terms, a period of deprivation expected to be "'boring', very 'hard work', involving lots of 'pressure and stress' and as a period of considerable poverty. Even some respondents who were interested in going to university talked about it as a time to be endured and suffered in order to obtain the future benefits of a degree." Archer and Hutchings, 2000: 560).

Lunt (2008) notes the ineffectiveness of attempts to widen participation, which achieved fractional increases in participation of 0.6% between 1999-2000, with the same very modest raise between 2006 and 2007 and questions the extent to which HE is beneficial to young people from traditionally deprived groups. Qualitative research conducted by Watts and Briggs (2006) leads them to interpret young people's choice not to engage in HE as not low aspiration, but instead an orientation towards other values and different life paths. However, Connor (2001) described an increase in student numbers as a new Labour government prioritised expansion and diversity in HE, although the introduction of student loans and top up fees led to concerns around relating to funding, recruitment, and access. She surveyed 1667 students across a range of institutions and interviewed and conducted focus groups with students from lower income homes who had become students. She also interviewed 176 non-students who had achieved the grades necessary to enter university but had elected not to do so. Connor identified two main reasons for participating in HE – interest in studying a subject, and desire to gain a higher qualification required for a particular job or career. These were common across social classes. Auxiliary reasons given such as higher status or higher paid job were also common across social classes, with poorer students only marginally more likely to give these reasons. She found that positive influences often occurred in day-to-day interactions at home and in education and notes "the strong influence that an individual college tutor might have on decisions about whether and where to go. There were many examples of the strong role that tutors had played in giving support, providing encouragement, boosting confidence, and offering help with making decisions about different options" (Connor, 2001: 213). Citing Connor (2001), Kettley (2007)

emphasises the continuity of concerns within research into widening access and participation which moves from discussion of barriers to discussion of encouraging and discouraging factors. However, this still tends towards a "dichotomous model of social class" (Kettley, 2007:341) where the encouraging factors are experienced by middle class students and discouraging factors by working class students However, more recent research indicates the persistence of 'barriers' as an explanatory metaphor within WP (Duckworth et al, 2016; Campbell, 2020).

Bathmaker (2015) describes a change in emphasis before and after the 2008 global economic crisis. Before 2008, a perceived need for Britain to compete in the global knowledge economy led to a New Labour (1997-2010) manifesto promise of 50% participation in some form of HE for young people between the ages of 18 and 30. This period was also marked with the rise in global university rankings and the concomitant urgency for universities to maintain or improve their position through measurable, internationally valued outcomes (Peters, 2017). After 2008, Bathmaker describes a contrast between an international competition for the elite amongst the most prestigious HE institutions; and the austerity measures, static income or unemployment which formed the realities of life for everyone else, and which made HE a more perilous choice. This included an emphasis on higher education, and particularly the university degree, as a tool for social mobility. This approach focused on allowing "stars to shine" (APPG, 2012:9) by supporting exceptionally able individuals to access places in top universities regardless of their economic or family circumstances. This approach suggests, if it does not assert, that the abilities required for study at university can manifest in a child regardless of their environment. Thus, the priority for educators is to recognise and support these exceptional individuals. Rather than educating all less affluent children in a manner which could support future university attendance, instead the priority is to identify the few who have the innate ability and offer them enhanced support.

2.5 "Wealthier, healthier and happier" – the Milburn Report

The Milburn Report (Milburn, 2012) addressed the topic of widening access to Higher Education in terms of a student 'life cycle' (Milburn, 2012:3) of Getting Ready, Getting In, Staying In, and Getting On. For Milburn, higher education is, at least in part, a tool to achieve beneficial social change. However, this potential social good is frustrated by the reproduction of existing patterns of class exclusion through higher education admissions, with the most socially advantaged significantly more likely to attend the most selective universities than the least.

For Milburn, the benefits of higher education for the less advantaged lie in 'social mobility'. However, his discussion of social class is unexpected in a number of ways. Although Milburn describes "a strong correlation between social class and the likelihood of going to university" (Milburn, 2012:2) and argues for the expansion of university education for a wider range of students, he does not at any point in this document refer to 'working class students'. Instead, he refers occasionally to lower socio-economic status (Milburn, 2012:2), groups (Milburn, 2012:29, 70) or backgrounds (Milburn, 2012:8, 83); to poorer kids or children (Milburn, 2012:3, 8, 38), poorer family backgrounds (Milburn, 2012:11) or, most often, poorer backgrounds (Milburn, 2012:5, 27, 28, 41, 5, 60, 67, 80). In contrast, the middle class is referred to by name (Milburn, 2012:13, 14, 81) as well as by euphemism, with better off (Milburn, 2012:27), wealthier backgrounds (Milburn, 2012:8, 69, 80, 83), affluent (Milburn, 2012:29) and affluent backgrounds (Milburn, 2012:5, 60) all making an appearance. Milburn's preferred expression – poorer background – manages to nudge the individual potential student away from their experience, so they are not a person with a working-class identity, or even a person with a particular lower socio-economic identity, but instead a person whose background was poorer than another person's. The 'Poverty' in Milburn's title as Independent Reviewer on Social Mobility and Child Poverty extends to the title of the document, but no further into the text. In this text, schools but not pupils are 'deprived'.

This linguistic distancing is symptomatic of a discomfort with the term 'working class'. Milburn associates lower socio-economic status with 'a world of constant insecurity, endemic low pay and little prospect of social progress' (Milburn, 2012:13), while also stressing that 'Graduates also enjoy substantial health benefits – a reduced likelihood of smoking, a lower incidence of obesity and depression', less criminality and better parenting. When Milburn describes graduates as 'healthier, wealthier and happier' (Milburn, 2012:14) he is comparing them to an Other – the non-graduate who is less healthy, less wealthy, less happy. Economically, working class people are identified as insecure and unable to accrue wealth and possessions. They are identified physically and mentally by their deficits, a lack of money and a lack of health, as well as their excesses. The health conditions which Milburn notes are those associated with a degree of stigma. Goffman (1986:5) suggests that when we stigmatize "By definition, of course, we believe the person with a stigma is not quite human". The stigmatized trait evokes revulsion in the 'normal' and shame in the possessor of that trait (Burris, 2008). Although initially Goffman suggested that stigma be viewed in terms of relations, many researchers have interpreted stigma in terms of attributes (Link and Phelan, 2001). Thus, focus is directed not towards the labels others have attached to the individual, but to a trait perceived as

existing within the individual. Link and Phelan (2001) suggest that using the term labelling allows one to discuss the attribution made to the individual without necessarily granting its validity.

Milburn's selection of the health issues associated with non-graduate, and by implication working class bodies labels them as pathological, but also carries a moral stigma. Obesity is a health condition which is far from morally neutral. Puhl and Heuer (2009:944) note that American primary care physicians regard obese patients as 'awkward, unattractive, ugly and noncompliant. One-third of the sample further characterized obese patients as weak-willed, sloppy and lazy' while British doctors complained of frustration at patients' inability to take on their responsibility for their weight through correct diet and exercise. For Kirk et al (2014) "Blame permeated the discourse" of individuals living with obesity and the health professionals who worked with them. Friedman (2015) suggests that images of fat adults and children suggest their moral vacuity, "simultaneously mindless and voracious, with insatiable appetites and no self-control" (Friedman, 2015:17). Likewise, it was possible as early as 1979 for Markle and Troyer to write of smoking as 'deviant behaviour' and to discuss its association with weak character, neurosis and poor mental health. Milburn's labelling here is quite conventional (Reay, 2001). In 1985, Steedman described the pathologization of working-class children as 'not like children ought to be, not 'real' children' (Steedman, 1985:149). Noting "the cartoon figures of the working-class 'repellent woman', 'chavmum' and 'chavscum', generated by a popular and political imaginary that figures them as abject and irresponsible, ungovernable, dirty white, pointless and useless" (Skeggs, 2011:502), Skeggs suggests their function lies in their opposition to the good, middle-class citizen – "the normative, the good and proper subject" (Skeggs, 2011:502). Put more simply, "Attributing negative value to the working class is a mechanism for attributing value to the middle-class self" (Skeggs, 2005:977) The purpose of Milburn's non-graduates is to lie outside what is good, healthy, and normal, and thereby to delineate its boundaries. However, this creates a problem. Milburn defines his non-graduates in terms of working-class stereotypes, yet to support his ideas of social mobility must suggest that working class people can become graduates. So, the working class vanish from his narrative. Instead, we are left with people from a 'poorer', or 'less affluent' background, who do not possess the traits of the working-class person, but are potentially malleable into 'healthier, wealthier, happier' (Milburn, 2012:14) graduates.

So, what does Milburn (2012) mean by social mobility? He suggests that "Social mobility is about ensuring that every person – and, in particular, every child – regardless of their background, their circumstances, or their social class, has an equal opportunity to get on in life." (Milburn, 2012:12) which seems to identify social mobility with a sort of meritocracy, where life outcomes are due to

individual traits. Blanden (2013) describes intergenerational mobility as being concerned with the link between the socio-economic status of the child and that of the parent, measured by family income, individual wage earning, social class, job status or education. She outlines some of the measurement issues associated with income, occupation and social class including the absence of mothers and daughters and their invisible labour from datasets which conventionally focus on fathers and sons. Blanden suggests that "The American Dream is based on the hypothesis that inequality is less of a concern if it is coupled with high mobility. If greater inequalities go hand-in-hand with fewer opportunities it is much more alarming." (Blanden, 2012:56) Likewise, the Scottish dream of fairness depends on what Bourdieu (1986) describes as the 'possibility that at any time anyone may become anything There are also questions over the extent to which increased qualification is equally beneficial to all groups within society. Lindley and Machin (2012) note that labour market changes have tended to favour more educated workers at a time when those from more affluent backgrounds have expanded their degree and post graduate degree acquisition at a higher rate than other groups in society. They suggest that "the overall result has been increases in within-generation inequalities and, by reinforcing already-existing inequalities from the previous generation, falling social mobility" (Lindley and Machin, 2012:285) This suggests that the appearance of social mobility through education could potentially be used to legitimate high levels of inequality in adulthood, even while it is in fact reinforcing and even strengthening existing patterns of inequality. Blanden (2008) suggests that most politicians embrace a notion of absolute social mobility, where conditions will improve for all, suggesting that "improving relative mobility means that some people's children will do worse relative to others" (Blanden, 2008:62). Goldthorpe (2013) suggests that many politicians are in fact unaware of or confused by the distinction between absolute and relative social mobility.

Milburn's interpretation of social mobility does not commit itself to either definition. He takes steps to avoid the idea that a large influx of working-class students might result in fewer opportunities for the children of the middle classes by suggesting an ongoing expansion of the higher education sector thus avoiding the "zero sum game" (Milburn, 2012:8) inescapably associated with relative social mobility. However, his vision of widening access does not address the ongoing poverty of those working-class young people who do not become university students. Even if a large number of working-class children enter higher education, a larger number will not, and will remain less happy, less healthy, less wealthy. The solution posed here is emphatically not that class-based inequalities should be eliminated. Instead, it is suggested that a new group move into a position to take advantage of them while those conditions continue for the rest. One inescapable facet of Milburn's vision of social mobility is that a child who arrived at young adulthood with low levels of academic

attainment could look forward to not living so long, not being so healthy, enduring precarious work and living conditions. Or in other words, the solution to working class people being poorer, less healthy and less happy is that the most academically able should be encouraged to become middle class.

To pursue this perhaps nebulous goal of social mobility, Milburn appeals to higher education, positing that wider access to higher education will improve outcomes for poorer young people. He joins a long tradition of those who have perceived education's role as to compensate for society's inequality by repairing deficits in poorer young people. In 1970, Bernstein describes a perception that "their culture is deprived, and the parents are inadequate in both the moral and the skill orders they transmit" (Bernstein, 1970:344) which drives education as compensation for children's deficiencies. In 2001, Reay suggests that "In England, in the minority of cases when the equation of working class plus education equals academic success, education is not about the valorisation of working classness but its erasure; education as escape" (Reay, 2001:334). Through education, the working-class child is to be taught how not to be working class – how to become, or resemble, a middle-class adult. The effectiveness of this manoeuvre remains unclear. Goldthorpe (2013) describes the relative ineffectiveness of previous education policy in altering mobility chances. He asserts that attempts to promote social mobility through education "seem unlikely to be effective, whether made through educational policy or otherwise, unless the class-linked inequalities of condition on which class mobility regimes are founded are themselves significantly reduced" (Goldthorpe, 2013:445)

Alan Milburn resigned as Chair of the Social Mobility Commission (Guardian, 2017) along with all three of his fellow commissioners over concerns that governmental rhetoric around social mobility was not matched with meaningful action.

2.6 Widening Participation and Meritocracy

Milburn's notion of social mobility for those with ability is inescapably reminiscent of the satire The Rise of the Meritocracy (1958) which suggested an equation of "I.Q. + effort = merit" (Young, 2017: loc 251) and endeavoured to describe how the application of such an equation would inevitably serve to justify and thus amplify social injustice. After the publication of his book, Young was appalled to see the adoption of 'meritocracy' as a social good and commented 'Being a member of the "lucky sperm club" confers no moral right to advantage. What one is born with, or without, is not of one's own doing.' (Young, 2017: loc 251) Littler (2018) comments on the tension between an elite cadre of rulers, the meritocrats, and the apparently open access to that cadre for those with sufficient 'merit'.

Littler (2013:54) suggests that meritocracy requires an "essentialised conception of intellect and aptitude" which implies a simplified, quantifiable understanding of intelligence which can be straightforwardly identified in those who possess it, and which fits them for social mobility. Meritocracy also requires a hierarchy in which individuals compete, and those who are more able gain power and increased access to resources, and those who are less able are denied. Meritocracy requires the able student to promote their self-interest at the expense of solidarity with their less able peers, and to leave behind the areas of deprivation where they were brought up. Or, as Sandel puts it, "if opportunities are truly equal, it means that those who are left behind deserve their fate as well." (2020: loc 256)

It is certainly the case that meritocracy can still find defenders. Writing in a full-throated defence of meritocracy, Wooldridge (2021: loc359) comments on the "widespread enthusiasm" that most people in society still feel for meritocracy and describes as a "universal ideology". Wooldridge writes in favour of "Raw intelligence" (Wooldridge 2021: loc406) judged by IQ tests as a means of predicting who will succeed in life. He suggests that the wealthiest elites, such as Bill Gates and Mark Zuckerberg, are notable for their "outstanding brain power" (Wooldridge 2021: loc 398) and that the success of six out of the seven biggest Russian oligarchs can be attributed to "High IQ", which he feels is demonstrated by their advanced degrees in maths, physics or finance. Alleging that intelligence testing's association with racism and eugenics must be regarded as an artifact of the historical period in which the tests were designed Wooldridge suggests that it must be understood as promoting rather than limiting social mobility. However, this seems less than reflective of how intelligence testing has functioned to justify gross inequities and discriminatory practices in education. Staub (2018) describes the early work of intelligence testers as justifying the existing social order as a natural result of intelligence differences between social classes and white and Black people. Blanton (2000) describes a persistent notion that there are in fact differences in intelligence between races and links this to discriminatory early intelligence testing.

Wooldridge can be understood as taking a pro-nature stand in the venerable 'nature vs nurture debate' (Subotnik et al, 2011) which can be traced to some of the earliest scholars of giftedness (Galton, 1874) and even earlier to the work of Locke and Rousseau (Gill, 2010). The longstanding discussion of the role of heredity and environment in intelligence, educational attainment, and social privilege has recently taken on new life with vigorous debates over the validity of genetic and poly-genetic associations with particular life outcomes such as educational attainment (Sear, 2021). Some voices in the nature/nurture debate stress the significance of nurture in the development of

potential. While recognising the role that biology plays, Dai (2020:19) stresses the 'power of nurture' in talent development, describing how both functional and biological changes can be wrought through sustained practice – a musician who practices for long hours every day will not only improve their performance as a musician, but will also change the anatomy of their brain.

Other writers, such as Harden (2021), have gone so far as to explain social inequity as the result of a genetic lottery, a rather less provocative term for Young's 'lucky sperm club' (Young, 2017: 251). However, as Dai (2020) indicates, such close causal associations of outcomes and genetics pose researchers some significant challenges even when supported by differences in brain tissue. Coop and Przeworski (2022:850) ruefully acknowledge that "all we actually have, at present at least, is a large number of genetic associations, individually of tiny effect, and a statistical enrichment for a tissue that makes sense for a behaviour, which is not surprising". They suggest that social and biological factors (including both brain structures and genes) may be so closely and intimately intertwined that to go beyond an acknowledgement that one's life outcomes can differ for reasons outside one's control remains unwise.

Despite this well-understood complexity, mainstream science and sociology writers such as Wooldridge (2021) continue to associate high academic attainment and positive life courses with genetic superiority, drawing on commercially stored genetic data from British volunteers which assumes a straightforward relationship between the presence of particular polygenetic clusters and intelligence (Abdellaoui et al, 2018). Removing the impact of nurture from the discussion of intelligence could offer educators and society as a whole an excuse to ignore societal and structural inequities in how potential and talent are nurtured and developed. Denying the impact of nurture could lead to the perpetuation of existing structural inequalities in society through the exclusion of groups of highly able young people from opportunities to participate in higher education. This will be discussed further in relation to widening participation practices in Chapter 9.

This association often goes beyond intelligence. A key argument supporting meritocracy is that elite status is not just underpinned by ability, talent, or intelligence, but that it is also a reward for hard work. Khan (2021: loc 2504) describes how pupils at an elite American boarding school negotiate the need to appear at ease with the need to be seen to work hard by creating a persona for whom 'hard work comes easy – they are naturals'. By identifying their hard work as a trait within themselves as individuals, rather than a result of circumstances, the young people he studied were able to justify their privilege. Friedman and Laurison (2019) note that for their highly privileged and successful adult interviewees, 'hard work' was perceived as even more important than talent in explaining their

success (and, interestingly, often offered as a reason for why financial support from parents had not been the key factor in their success). This association between middle class status and effort can also be seen in Bathmaker et al (2016: loc 1379), where students identify middle class status with being "hard working, with the right attitude to learning and the ability to engage with academic knowledge" This identification could of course be taken to apply to widening participation students, such that their academic ability and earnest striving to enter HE merits their entry into the middle classes. Even more worryingly, this could also be taken to indicate that widening participation students who do not succeed in HE were deficient in effort or ability – lacking merit. Widening participation is co-opted, perpetuating rather than challenging existing structures of inequality by bolstering the meritocracy that offers them ethical justification.

Wooldridge (2021) criticises the notion of elite status justified by effort and ability and argues for a moral meritocracy, suggesting that reflecting on historical models of meritocracy will provide a way forward in dismantling corruption and promoting social mobility. He suggests that widening access to elite institutions is not worthwhile, and that improving the status of vocational education is the correct approach to social mobility for the working class. Wooldridge (2021: loc 7540) emphasises the role of teachers in refraining from promoting academic instruction for all, and instead "adjusting their teaching to the 'material of which the man is made', as Ruskin put it". Surprisingly, he suggests that caring professions are held in higher esteem than intellectual workers by the wider population, and that those who study widening participation should accept that most people do not want access to academic education. Wooldridge (2021) offers no evidence for this more recent than 1956 – in contrast, Warin (2014) describe a 'contempt' for caring work. For Skeggs (2014:11) "the economy of caring is a mix of State, private equity, low-paid and unpaid labour".

This chapter explored historical context to understanding widening participation in the University of Glasgow, its development, historical challenges and pressures:

- the distinction and interrelatedness of Scottish and English universities
- the impact on Scottish universities of national policies such as the Robbins report, the Further and Higher Education Act 1992 and the Dearing Report
- the impact of deficit models of pupils from areas of high deprivation, such as:
    - concerns that traits such as 'poverty of aspiration' in students from areas of high deprivation prevent attainment in secondary and access to HE
    - concerns that university is an 'alien culture' for young people from areas of high deprivation
- the Milburn Report which proposed that higher education would:
    - induce social mobility
    - make graduates 'healthier, wealthier and happier'
- the pathologisation of working-class bodies and culture
- meritocracy and the nature/nurture debate

The next chapter will examine how widening participation is understood and practiced in modern Scotland, exploring the policy underlying Scotland's approach to widening participation, how this policy is enacted. It will explore policy and practice around high ability in Scotland and explore highly able young people's educational experiences and relate this to widening participation.

3 Chapter Three: Widening Participation and modern Scotland

Chapter Three examines how widening participation is practiced and understood in modern Scotland:

- Scottish widening participation policy
- Scottish education and STEM
- the social and emotional experiences of school for highly able young people
- teachers and widening participation
- widening participation and highly able young people

Having described the historical context of WP in Scotland and the wider UK, it is important now to examine the current situation, setting WP in social and political context within both education and within wider society. This chapter will examine how key policy concerns shape the current landscape of WP, and how this relates to the literature around High Ability Studies. The tension between individual level and group level explanations for lower HE participation by young people from areas of high deprivation will be explored. Teachers' role in WP, and how that role is discussed within the literature, will be examined. Understandings of underachievement and ability, and the nature of ability itself, will be discussed in relation to the literature on High Ability.

3.1 Aiming for equity – the Commission on Widening Access

In 2014 the First Minister of Scotland, Nicola Sturgeon, re-committed Scottish education to ensuring that chance of going to university was not related to the community in which one was born (Scottish Government Commission on Widening Access (CoWA), 2016). The CoWA report in 2016, and the interim report in 2015 were both led by Dame Ruth Silver, President of the Further Education Trust for Leadership and advisor to the Brown government on Further Education. These reports were intended to be read together (CoWA, 2016), articulated a moral, social and economic duty to work towards equity in HE admissions, while acknowledging the depth of the differential between the most and the least affluent, particularly in highly selective institutions. As with the Milburn report, university graduation was discussed in relation to improved health, longer lives and improved position in the job market. Educational inequity was described as "unfair, damaging and unsustainable" (CoWA, 2106:7) and a commitment to fairness identified with equal access, 20% of

university entrants to be drawn from the most disadvantaged 20% of the Scottish population. CoWA (2016) set the target that by 2030, 20% of entrants to be from 20% most deprived areas. The use of SIMD as a measure was cautiously approved, although a measure which allowed for its contextualisation within individual income circumstances and school environment was urged. The importance of teacher knowledge of poverty was also stressed, and CoWA (2016) encouraged the inclusion of knowledge about poverty as part of teacher Career Long Professional Learning.

However, even from the beginning it was emphasized that HE was not the best option for all young people, that it was "not our position that every child should go to university" (CoWA, 2016:4) and that any drive towards increased HE recruitment had to be balanced with other factors such as Developing Scotland's Young Workforce (Scottish Government, 2014) so that young people could select "fairly distributed, high quality post school opportunities that best match their aptitude and ambition" (CoWA, 2016:4) Even at this very early stage, there is a tension between the aim of equality of distribution, and fears that this may over-value the importance of HE on the one hand, or on the other hand may inappropriately include young people for whom HE is not an appropriate destination. The reiterated position, that "We do not take the view that higher education in university is the best or only option in Scotland" (CoWA, 2016:58) suggests that in raising widening participation, CoWA were concerned to ensure that they were not seen as widening participation 'too much' or including the wrong young people – only those with the correct aptitude and ambition. It is not fully clear from the document what motivated this statement. While tensions are mentioned, these centre around lowering university standards, the validity of 'positive discrimination' as an approach, and the fate of more affluent students if places go to students from areas of high deprivation instead (CoWA, 2015). Ambition is tacitly mentioned in the form of aspirations. CoWA takes the position that aspirations may be lower for pupils from areas of high deprivation, and that lack of good advice may frustrate high and realistic aspirations. CoWA (2016) identified the key role of family and peers in aspiration but did not identify this as a role for schools. CoWA (2015) also identifies financial pressure within families to find employment as a potential barrier to aspiration and noted that DYW may impact on pupil HE choices.

Over all, CoWA (2016) emphasised the role of universities, alongside schools and colleges, in developing pools of applicants from 'disadvantaged backgrounds' (CoWA, 2016:16), with Skills Development Scotland and schools in particular to help guide these pupils through key transitions. Schools in particular were seen as crucial to managing effective provision by "articulating the specific needs of their young people" (CoWA, 2016:25). Skills Development Scotland (SDS)is a body which

supports skill development in individuals across the life course in order to support them in taking up opportunities arising within the economy (SDS, undated). Responsibility however lay with universities to advertise contextual admission policies to relevant local authorities, schools and individuals. CoWA (2016, 2015) did make reference to the attainment gap and the variable provision of subjects and levels across Scottish schools, particularly access to Higher and Advanced Higher, with CoWA (2015) in particular explicitly linking lower attainment levels to lower levels of HE admission for young people from areas of high deprivation. In exploring this issue, CoWA (2015) drew an interesting distinction between attainment which represented knowledge and skills required to learn on a particular course, and attainment used as a method to sift and sort the most desirable students. When attainment fell into the latter category, contextualised admissions for young people from areas of high deprivation offer a path forward to more inclusive higher education, noting that young people from areas of high deprivation may arrive with lower qualifications, and leave with higher attainment and greater university success than their more qualified on entry, affluent peers.

The reports also briefly discuss access to qualifications within schools. CoWA (2016) explained that inconsistent provision "may cause an access issue for pupils in schools with a high concentration of children living in deprived areas, as well as those living in rural areas" (CoWA, 2016: 48) if attainment in a particular subject is required for particular courses. Remediation by access to Higher and Advanced Higher through post-16 institutions, and adjusted timetabling to allow for travel time, was recommended. Inconsistent Higher or Advanced Higher provision within particular schools was understood as a result of very small numbers of potential pupils for these qualifications which teachers lacked resources to accommodate. The impact of lower provision in shaping pupil aspirations was not discussed, nor was the question asked whether an offer of Advanced Higher within a particular school might encourage more pupils to aspire to sit such qualifications. CoWA (2015) noted that young people from areas of high deprivation who attend schools with predominantly affluent peers have only slightly higher grades than those who attend schools with similarly deprived peers. This contrasts with findings from the University of Glasgow WP data, discussed in Chapter Six. However, summer schools (CoWA, 2015) were described has having a strong effect on grade boosting.

A final set of potential barriers to HE for young people from areas of high deprivation were identified by CoWA (2015) around retention, with lower retention rates for young people from areas of high deprivation. CoWA describes a dropout rate of 87% for young people from areas of high deprivation compared to 91.3% for young people from areas of low deprivation. Potential factors in this

differential include the costs associated with university, a disinclination to accumulate debt, and a poor cultural fit within the institution, "particularly in the most selective institutions" (CoWA, 2015).

3.2 Equity enacted? Policy and Practice

The first Scottish Commissioner for Widening Access, Professor Sir Peter Scott, was appointed on the recommendation of the CoWA (2016). Scott went on to author five reports on the progression of Widening Access work in Scotland. Particularly salient for this study was the 2019 Annual Report (Scott, 2019) where Scott engaged with issues around school teaching and learning and how these intersected with Widening Access. Scott (2019) acknowledges that most undergraduates arrive at university straight from school or after only a short 'gap', and that school practices are therefore significant for universities. However, Scott (2019) warns of a danger for "people in universities lazily to assume that the main function of schools is as a supply chain" (Scott, 2019:28) and emphasises the wider concerns of schools which can never fully align with those of universities. Indeed, Scott (2019) suggests that university must not be positioned as the best option for young people. Scott also challenged the perception that skewed university recruitment was simply a reflection of the attainment gap in schools, suggesting that "the attainment gap cannot fully explain, or justify, the access gap" (Scott, 2019:32). Scott rejected the idea that Curriculum for Excellence (CfE) was improperly preparing young people for university study, suggesting that instead it was a stronger and more creative preparation due to a focus on interdisciplinary learning and skills rather than knowledge acquisition. Scott largely rejected the idea that subject access was limited for the less affluent, based on a study by the Times (2017, cited in Scott, 2019) which showed that schools in less affluent areas offered a little less than 75% of the choice available in more affluent areas - 17 subjects to 23. Scott does not discuss any potential link between lower subject availability and lower attainment in schools with pupils from predominantly areas of high deprivation. Nor does he seem to consider whether studying subjects which were not a pupil's first choice or which poorly match their main interests might lower a pupil's eventual attainment. This gap is addressed in Chapters Six and Seven, and pupil attitudes towards subject restriction are discussed in Chapter Eight However, Scott (2019) does suggest that university admissions practices have the power to provide "schools and pupils with a significant incentive to raise standards" (Scott, 2019:32). Universities, although enjoined to remember that schools' missions are wider than university, are responsible for incentivising schools to raise standards. Scott (2019) does not detail how it is expected that this incentive will function, nor describe any particular reason for schools to prefer university to any other 'positive destination' (Scottish Government, 2022). Nor does Scott (2019) explicitly engage with the question

of whether all schools see university as a positive destination for young people, or whether the rising prominence of DYW (Scottish Government, 2014) might encourage schools to divert highly able young people from areas of high deprivation towards vocational courses.

Another key area of the 2019 report is the use of individual and group measurements. Scott (2019) identifies SIMD as a 'better' area measure than equivalents such as POLAR. The Scottish Government (2020:1) describes the Scottish Index of Multiple Deprivation (SIMD) as "a tool for identifying the places in Scotland where people are experiencing disadvantage across different aspects of their lives". SIMD is an area-based measure intended to allow support to be focused on communities within particular areas. The SIMD is calculated from 30 indicators split within seven domains: Geography; Population; Income; Employment; Health; Education, Skills and Training; Geographic Access to Services; Crime; and Housing. This tool is used extensively within Scottish education, from helping determine which pupils are eligible for support from the Pupil Equity Fund (Scottish Govt, 2021) to its uses within Widening Participation (Universities Scotland, 2019). Although Indices of Multiple Deprivation (IMDs) are used across the UK, their calculation is devolved to Scotland, England, Northern Ireland and Wales. Writing about the rise of the English IMD, Deas et al (2003:883) describe a desire to "quantify local area circumstances" to support objective allocation of resources. However, Deas et al (2003) also point out that without methodological transparency, it is difficult to evaluate the robustness of the tool, noting that the balancing of particular factors against each other is particularly difficult. They also note a tension within the 2000 English IMD between an approach which sees areas of high deprivation as those places where deprived people live, and an approach which sees areas of high deprivation as persistently deprived despite movement of families and individuals in and out of them and requiring area-based investment in order to change. In their study of Glasgow and Edinburgh, Atkinson and Kintrea (2001:2295) found that living in a deprived area creates problems for residents to do with area reputation and employment, and concluded that "in Britain, it is worse to be poor in a poor area than one which is socially mixed". More recently, Clelland and Hill (2019) have critiqued SIMD for what can seem to be an arbitrary choice of indicators, driven by which data are readily accessible. They note that SIMD division of funding such as the Scottish Attainment Challenge by SIMD privileged the urban over the rural poor.

There have also been criticisms of the use of SIMD specifically in HE as a tool towards widening participation despite uncertainty about the quality of indicators. Boliver et al (2015) describe area-based measures as characterised by definitional issues. If a young person uses more than one address, it is difficult to know which is relevant for the young person's experience of deprivation. In

addition to this, they raise the issue described by Clelland and Hill (2019:40) as "an 'ecological fallacy' – the assumption that the characteristics or circumstances of individuals can be inferred from information about areas" (see also Gorard et al, 2019). By selecting pupils for interventions by SIMD, HE institutions identify an individual's residence in an area of high deprivation with that individual being adversely affected by high deprivation. Gorard et al (2019) identify a thin research base for contextualised admissions in general and identify missing data as a significant issue for both individual and aggregated approaches to measuring disadvantage. Gorard et al (2019) suggest that IMD and SIMD are vulnerable to 'injustices' caused by missing data and unverified self-reports, and that the Scottish sector is 'ill-advisedly' committed to SIMD as a straightforward measure of widened participation. Paterson et al (2019) suggest that SIMD is not particularly effective at identifying disadvantaged households, and that SIMD measures can end up advantaging the large minority of highly advantaged applicants who live within low SIMD areas. Weedon (2014) also notes that a in recent cohort of students at University of Edinburgh half the students from SIMD 1 and 2 had a professional or managerial parent, and 40% of SIMD 1 students had a professional or managerial parent. Blackburn et al (2016:78) describe a critique of SIMD as a "crude measure" by universities who saw themselves penalised by its relative insensitivity to rural deprivation.

Despite these very real issues, SIMD continues to be the key metric by which widening participation is measured in Scotland by HE institutions and by the Scottish government and is therefore central to this thesis. As an area-based measure, SIMD is relatively poor at identifying students who have experienced deprivation. However, when students are labelled SIMD 1 or 2 by virtue of their post code, that very label can become a guarantor of their deprivation which allows them access to help and support aimed at students who have experienced deprivation. Paterson et al (2019:429) describe the effects of this reification as sometimes 'perverse' – it is difficult to disagree. In his 2019 report, Scott notes "A recent study by Abertay University found that only a third of the students the University admitted on the basis they were disadvantaged actually lived in SIMD20 areas, and a third of their students from SIMD20 areas did not qualify as disadvantaged" (Scott, 2019:23). Scott also discusses the use of EMA and particularly FSM as a potentially useful source of individual level information, caveating that individual level measures take a risk that "Universities' core values and practices remain unchallenged. There is less need to ask difficult questions about the extent to which these core values and practices may have been complicit in producing the access gap" (Scott, 2019:25) Scott did not extend the same critique to secondary schools, whose practices and core values perhaps lay somewhat outside his remit. However, Scott did engage with head teachers, who commented on their discomfort with treating young people from areas of high deprivation as "a

special group, confusingly favoured and stigmatised" (Scott, 2019:33), their feeling that universities should be more engaged in teaching Advanced Higher courses, and their concerns that "widening access should not be regarded as 'an easy way' into higher education" (Scott, 2019:33). Scott's describes this latter point as 'intriguing'. It could also be read as a cautious expression of the feeling that university is 'not for everyone' and that by making university more available to some, the natural order is being disrupted. Scott notes later in the report that there is "no – public – dissent" to widening participation (Scott, 2019:39) which perhaps lends credence to the suggestion of coded dissent.

The University of Glasgow uses a range of descriptors, often treating terms such as talent and potential as equivalent in meaning. It is therefore difficult to find a coherent understanding of what makes a young person a widening participation candidate. As part of the Adjusted Offers website materials in 2023, it is stated that:

> *The University of Glasgow is committed to widening access. We believe all applicants should have an equal chance of entry and we strive to identify your full talent and potential, regardless of background or life circumstance.* (University of Glasgow, undated f)

That these terms are seen as equivalent is displayed in the descriptions of the Talent Scholarships the university offers to some high achieving students who can evidence their poverty. The website descriptions make reference to 'talented individuals', but also to 'academically talented students', 'significant academic potential' and students who 'demonstrate strong academic attainment' as well as experiencing 'financial hardship' (University of Glasgow, undated, g). This blizzard of terminology suggests that potential, talent, academic talent and attainment are all seen as much of a muchness. Comparison with another University of Glasgow web page, which solicits donations towards scholarships for less affluent students, seems to offer support for this understanding, as young people are identified as 'talented young people', as having 'ability and potential' and as being the 'brightest and best' (University of Glasgow, undated h). The Open Glasgow section of the University website suggests that 'performance' in WP programmes can evidence 'ability and potential' but also suggests a need for students to display 'talent and ambition'. This wide range of loose terms suggests that the concepts of ability, talent and potential, in particular, are not fully theorised or operationalised in the University of Glasgow's public facing materials.

One theory which, on the surface at least, resembles Glasgow's approach is the Talent Development Megamodel. Subotnik et al (2011) suggest that the aim of gifted education is to produce eminence,

which is not dissimilar from the University of Glasgow's aim to educate 'world changers', seeking to bring together the 'finest minds' who strive 'to flourish as purposeful individuals with the power to make a difference'. Seen through this lens, widening participation for highly motivated young people from areas of high deprivation becomes a mechanism for delivering the correct 'educational dosage' to allow the best chance of propelling these young people to eminence (Subotnik et al 2011:36). For Subotnik et al (2011) the support and encouragement of these young people is an essential social duty, as well as the cultivation of a neglected resource. However, while recognising inequities in gifted education the model does not explicitly address the complex social and economic barriers to eminence for many minoritised groups. Nor indeed does the model support its assertion that eminence is beneficial to the individual and to society beyond the assertion that the eminent individual has contributed 'in a transcendent way to making societal life better and more beautiful' (Subotnik et al, 2011:7). For some, this statement may be difficult to reconcile with the article's identification of Colin Powell, a soldier and statesman who was implicated in the whitewashing of the My Lai massacre (BBC News, 2021) as eminent (Subotnik et al, 2011). The selection of Powell as an exemplar of eminence underlines how difficult it can be to straightforwardly identify what is beneficial to society, and whose society should be considered.

The Talent Development Megamodel offers a theoretical explanation for the University of Glasgow's commitment to producing individuals who attain eminence within existing social structures through the identification of those with talent and potential. However, it also illuminates the tension between this desire to nurture eminence and the recognition that unjust structures may not always recognise the 'brightest and best', particularly those of marginalised identities. A recent study of British scientific elites, the Fellows of the Royal Society, indicated that recent elections of women still lagged significantly behind those of men, and that recruitment from working class families had 'declined and for more recent birth cohorts almost ceased' (Bukodi et al, 2022:484). Such evidence could justify the interrogation of eminence as a fair tool for evaluating individual performance. However, the impact of structural injustice on individual eminence is not clearly acknowledged in the initial Talent Development Megamodel. Indeed, the model suggests the position that social inequity, while important at earlier stages when titrating the correct education dosage, ceases to factor into the development of eminence at some, undefined, point. The task of recognising the marginalised potentially eminent is thus shifted to educators. A more recent account of eminence (Worrell et al, 2021) has narrowed the account of eminence somewhat. In this account, eminence is characterised by increasing skill and specialisation until one is recognised by other experts in the field to make contributions which transform thinking in the field, rather than by transformation of society as a

whole, or as making life more beautiful. Eminence is recognised as a result of appropriate development of talent, and socio-cultural context. However, this is still largely cast in terms of the difficulties in identifying potential for 'students from low-SES and some minoritized backgrounds' (Worrell et al, 2021:9). Eminence itself is still cast largely as an objective measure, even when social relations are recognised as a factor. Olszewski-Kubilius et al, (2019) explore the significance of skills such as networking but explore this as an issue of individual psychosocial skill. The possibility that persons of different races, genders and socioeconomic backgrounds may be judged differently for the same social behaviours is not explored and as a result, the possibility of interrelation between social factors such as race, gender and social class and the achievement of eminence are not acknowledged. While elements of this model seem to be concerned with talent development and equity, its failure to critically engage with eminence as a concept means it does not address issues of structural inequality which inhibit opportunity, even if a wider group of people are admitted to higher education. This calls into question whether the approach adopted by Glasgow is in fact as transformative as it aspires to be.

3.3 STEM, Scottish Education and Highly Able Learners

The acronym STEM seems to have been introduced as SMET by the Center for the Advancement of Hispanics in Science and Engineering Education (CAHSEE, 2003) in 1992 as part of a programme to improve access for Hispanic young people to science and engineering courses in college and university. The transmutation to the more familiar STEM seems to have taken place around 2001 (McComas and Burgin, 2020) STEM is widely considered as a tool for individual social mobility. Xie et al (2015:333) assert that STEM education allows for objective measure of achievement which can facilitate meritocratic social mobility, as assessment of achievement is less affected by " irrelevant factors such as gender, race, national origin or religious affiliation" Writing from a more critical perspective, Hoskins (2020) describes a persistent political commitment to STEM subjects as tools for social mobility, despite a failure to increase uptake rates for STEM subjects in HE amongst less privileged young people. A clear operationalization of STEM is necessary to allow evaluation of uptake amongst particular groups. In Scotland's youth employment strategy, *Developing the Young Workforce* (Scottish Government, 2014) STEM is given a key role, both in vocational and academic contexts. STEM is also conventionally associated with national economic success (Scottish Government, 2017c).

However, despite extensive use within education research, policy and practice, definitions of STEM are often vague, unintuitive or absent. Manly, Wells and Kommers (2018) note that definitions of

STEM are not merely changing with time, but are also often unstated or assumed, with content analysis of 51 quantitative studies showing that just thirteen used existing definitions of STEM, although not all in consistent ways, 21 gave an operational definition without support from the literature and fifteen did not define STEM at all. Working within a US context, Xie, Fang and Shauman (2015) note that definitions of STEM vary between different stages of education, suggesting that researchers describe explicitly which fields or subjects are included. This can result in different STEM definitions within the same research. In defining STEM at secondary school level within the English system, McMaster (2017:534) writes that she "included maths, further maths, physics, chemistry and biology." but takes a wider approach to STEM in higher education which includes medicine and veterinary science. Xie, Fang and Shauman (2015) also suggest a higher social status for STEM subjects. This higher status could explain why subjects wish to be identified as STEM subjects. Perhaps surprisingly, health-related disciplines are often excluded from STEM (Baum, Cunningham and Tanenbaum 2015, McComas and Burgin, 2020) although sometimes included in the guise of STEMM (Science, Technology, Engineering, Mathematics and Medicine). Likewise, arts are sometimes added to form STEAM (Science, Technology, Engineering, Arts and Mathematics) as are Reading, Law, Religion and Reasoning. This definitional fluidity speaks to an uncertainty about what 'counts' as STEM, and perhaps also a perception that to be STEM-associated increases a subject's prestige. Even within the 'core' STEM subjects, researchers have expressed concern. Critical of the conflation of disciplines inherent to STEM, McComas and Burgin (2020:816) are particularly sensitive to the issues with regarding Technology as a branch of STEM, considering it to be weakly defined and suggesting "in the original conceptualizations of STEM, the "T" was added both because of its tangential relationship to the other elements and because it permitted the formation of an engaging acronym".

The Scottish *Government's STEM strategy for education and training: second annual report* (2020b) defines STEM broadly, including "business, computing science, chemicals, food, textiles, craft, design, engineering, graphics and applied technologies including those relating to manufacturing, construction, transport, the built environment, biomedical, microbiological and food technology." as Engineering and Technology subjects. Mathematics is understood to include numeracy, and also digital skills. Computing Science is held to be distinct from these but still falls within STEM. The STEM STRATEGY – DEFINITION OF STEM FOR MONITORING AND REPORTING goes so far as to offer a list of subjects considered to be STEM, but stresses that "The lists of subjects and courses presented here are not intended to be exhaustive or definitive." (Scottish Government, 2019:2) and also that it includes a number of historical courses. Within this framework, SQA subjects are deemed eligible for inclusion if at least half of the required course material is perceived as relating to science, technology,

engineering or mathematics. The document also provides definitions of these. Mathematics is understood as numeracy, the interpretation of and analysis of information, and problem solving. Engineering and Technology are dealt with together, with engineering described the application of scientific and mathematical knowledge and technology understood as the product of engineering. Digital skills are understood as separate to computing science, with computing science understood as a type of engineering.

The list is reproduced below, with subjects not available at Higher italicised:

Table 5: Secondary STEM Qualifications

Secondary school qualifications	
Mathematics	Photography (H)
Applications of Mathematics (H available from 2021)	*Practical Craft Skills*
Mathematics (H AH)	*Practical Electronics*
Mathematics of Mechanics (AH)	*Practical Metalworking*
Statistics (AH)	*Practical Woodworking*
Sciences	**National Certificates**
Science	*Computer Aided Design and Technology*
Biology (H AH) /Human Biology (H)	*Computer Arts and Animation*
Physics (H AH)	*Computer Games: Creative Development*
Chemistry (H AH)	*Computer Games: Software Development*
Environmental Science (H)	*Computing with Digital Media*
Science in the Environment	*Computing: Technical Support*
Technologies	**National Progression Awards**
Computing Science (H AH)	*Computer Games Development*
Design and Manufacture (H AH)	
Engineering Science (H AH)	**Skills for Work qualifications/awards**
Design and Technology	*Automotive skills; Building services engineering; Construction crafts; Creative digital media; Energy; Engineering skills; Food & drink manufacturing industry; Laboratory science; Practical experiences: construction and engineering; Skills for work in the textile industry*
Fashion and Textile Technology (H)	
Graphic Communication (H AH)	
Health and Food Technology (H AH)	
Information and Communications Technology	
Music Technology (H AH)	

Using the 2020 SQA catalogue, the courses available at Higher level are marked H and the courses available at Advanced Higher level are marked AH. Subjects not available at H or AH are highlighted. (As HNC and HND subjects lie beyond the concerns of this study, similar annotations were not made for HNC and HND).

Since the production of this list there have been SQA course changes in name and content. A strict adherence to the Scottish Government list is not appropriate as this would exclude clearly relevant subjects as 'Applied Mathematics: Statistics'.

The Scottish Qualifications Authority (undated b) takes an approach to STEM subjects rooted in vocational sectors, naming "Engineering; Building Engineering; Manufacturing & Engineering; Construction; Oil and Gas; Power & Renewables; Creative and Cultural" as STEM sectors. This strongly emphasises vocational courses and makes comparatively little mention of science subjects. While "Power and Renewables" mentions Physics as an academic subject, Chemistry and Biology are not featured under any of these headings. However, Drama, Art and Design, Cantonese, Latin, Music and Media are mentioned under the Creative and Cultural heading. The rationale for this pattern of inclusion and exclusion was not made explicit in the web page consulted.

3.3.1 STEM and minoritised students

Minoritised gifted students and access to STEM is an area of interest for some in gifted education (Collins and Robertson, 2020). It is of particular interest where STEM is perceived as linked to national prosperity and progress and the production of the maximal number of eminent scientists through gifted education can be understood as a national good as well as the promotion of social equity through individual social mobility (Subotnik et al, 2011). Lower participation in high level STEM qualifications for minoritised young people has been linked to lack of access to gifted education (Crabtree et al, 2019) in a US context. However, there are indications that access to STEM subjects, particularly science subjects, is an issue for Scottish pupils too. Shapiro and Priestley (2020) found that access to science and language subjects is narrower in schools with the highest numbers of pupils from disadvantaged backgrounds. Pupils in schools with the highest numbers of pupils from disadvantaged backgrounds are more likely to study vocational subjects.

Shapiro and Priestley's findings (2020) suggest that access to STEM subjects may be particularly precarious for highly able young people in areas of high deprivation. These highly able learners are likely to attend schools with the highest numbers of peers from areas of high deprivation and experience restricted access to subjects. There is also some evidence to suggest (Oh et al, 2020) that gender may exert a subtle influence on choice of level and subject for Scottish high ability pupils, with high achieving girls risking adverse social consequences compared to high achieving boys.

3.4 Social and emotional issues

Within the literature there is evidence to suggest that gifted learners do have particular social and emotional needs as a result of their giftedness (Peterson, 2009). This can be a result of a number of factors. For example, synthesising qualitative research on the experiences of gifted children at school, Coleman, Cross and Micko (2015) describe the experience of giftedness as being different, both in terms of interests and in academic performance. However, young people often asserted their similarities to their peers. A mismatch between pupils and school curricula and pedagogies was also described as characteristic of the gifted experience (Coleman et al, 2015). They vividly describe the liberating experiences of young people who have moved from an environment that does not suit them, to one which is closer to their academic needs. The negative consequences of a mismatch are well reported and can include underachievement, disaffection and behavioural issues (Blaas, 2014). Coleman (2014) identifies challenges for young people who do not have access to social contexts where they are able to form relationships with other young people like themselves, and who must practice their social competencies in contexts where their giftedness is stigmatised. Coleman (2014) suggests that access to a safe space where one can interact with likeminded peers can increase young people's social competence by showing them that giftedness and social competency are possible for the same individual.

Another social and emotional issue associated with gifted young people is perfectionism (Margot and Rinn, 2016), both healthy perfectionism characterised by a desire to do well, and a recognition when one has done well and unhealthy perfectionism where one is constantly striving to meet a self-imposed, impossible ideal. Some young people may also experience pressure to succeed academically due to a parental focus on achievement and success (Cross and Cross, 2015)

Another factor is navigating school systems as this can be particularly challenging for some groups of young people. Intersecting identities can "compound marginalization" (Crenshaw, 1991:1282) so that disadvantage is not additive but multiplicative. This can be seen in the literature in relation to black gifted girls (Anderson, 2020), those living in poverty (Plucker and Peters, 2018), neurodivergent gifted girls (Blackburn and Townsend, 2019) and other multiply exceptional young people (Ronksley-Pavia, 2015). Another group of young people who are already potentially stigmatised by giftedness (Coleman and Cross, 1988; Coleman et al, 2015) may be further stigmatised by their LGBT identity. Dunne (2023) describes the choice young people may make to "deny, downplay or mask" LGBT+ identities in the face of bullying and the fear of bullying, "uncomfortably heteronormative" classes (Hutchison and Tieso, 2000, cited in Dunne, 2023) and lack of support from teaching staff. Young

people describe responses including making the decision to move schools and making the decision to hide their identity until they have gone to university. For young people from areas of high deprivation who are perhaps less certain of attending university, decisions to hide their identity may be even more fraught.

The social and emotional issues associated with giftedness can have a profound effect on young people's lives and their ability to access appropriate education, to balance a desire for excellence with unhealthy perfectionism and to form relationships with peers and to navigate marginalised identities. The social and emotional issues which characterise gifted/highly able learners have the potential to be misunderstood or disregarded in groups of young people who have not been recognised as highly able learners, such as widening participation students.

3.5 Teacher perceptions, teacher actions

Teacher perceptions and understandings shape their microsystemic interactions with young people within school systems.

Teacher attitudes to academic study and progression to university, particularly for young people from areas of high deprivation, are not a major preoccupation of Scottish widening participation discourse despite the key role teachers play in identifying young people for widening participation interventions (University of Glasgow, undated d). Writing about English teacher attitudes to HE aspirations, Johnson et al (2009) note a range of teacher attitudes, including a teacher perception of pupil and parental attitudes as a barrier to HE study. However, some teachers also express reservations about the suitability of academic study for their pupils. Teachers with a vocational or entrepreneurial bent are likely to prioritise vocational education or formal qualifications which link directly to future employment. Teachers express concerns that "higher education isn't ideal for everyone" (Johnson et al, 2009:13), that university may be "alien and perhaps intimidating" (Johnson et al, 2009:65) and that "At the end of the day some of our kids are not academic, they're never going to be academic, why force them" (Johnson et al, 2009:35). Some teachers express the belief that pupils find academic study irrelevant and that it can discourage educational engagement. Teachers also expressed varying degrees of confidence in their ability to raise young people's HE aspirations, and even whether that was a wise course of action. Johnson et al (2009) also contextualise teachers' assertion that pupils prefer vocational education, making reference to Raphael Reed et al (2007) and their finding that teachers interpret pupils' desire for engaging education to be a desire for vocational education. Cultural fit concerns held by teachers described by Johnson et al, (2009), are echoed by the 2021

Scott report, which stresses that a full return to in person teaching is urgently required for WP students who will "suffer most from any reduction in the social experience of being on campus" (Scott, 2021:7).

The salience of teacher attitudes, perceptions and judgements increased significantly in the wake of the Covid-19 pandemic. The 2021 Scott report (Scott, 2021) anticipated that the move away from traditional formal examination to teacher-assessed grades could result in "more accurate indicators of potential" (Scott, 2021:8) and noted that HE admissions based on such grades did not appear to have led to poorer retention and continuation rates. However, the hope that teacher assessment will improve accuracy is open to question. Working in a US context, Ready and Wright (2011) note teachers' difficulties in accurately estimating the capabilities of young people from areas of high socioeconomic deprivation. More recently, Doyle et al (2023) found that English and Welsh teachers were likely to judge lower SES students' work more harshly than that of other groups. Most relevant for highly able pupils from areas of high deprivation is Batruch et al (2017) whose study of 264 Swiss pre-service teachers identifies harsher judgements for low-SES pupils who outperform high-SES pupils in an experimental condition, via teacher assessment of 'test papers'. Batruch et all (2017) link these harsh judgements of lower SES pupils to teachers' discomfort at the disruption of normal classroom hierarchies and a desire to return to 'normal' classroom structures. Teachers also found it more challenging to remember instances when low-SES pupils have outperformed high-SES pupils. Batruch et al (2017:55) note that "reaching a high level of achievement, far from protecting low-SES pupils, actually induces additional academic obstacles. Indeed, their success seems to be threatening the social-class hierarchy in schools and provokes cognitive and behavioral reactions to undermine it."

Concerns about the capacity and suitability of WP students for HE are not confined to teachers. Student perceptions can indicate an understanding of WP students which stresses deficits rather than strengths. In interviews with students who are employed as widening access and participation workers, Taylor (2008) identifies a perception that 'university was not for everyone' (Taylor, 2008:157) and a distinction between the 'good' students who asserted that anyone could get into university and the pupils they were working with, who were understood as '"naughty", "rough" and "poor"' or medicalised as '"ADHD" and other little horrors'(Taylor, 2008:159). Even the training for students at once emphasised their role as reducing disadvantage by improving student motivation, and encouraged them to view the young people they were working with in terms of deficits: "expect bad behaviour, broken families, disaffection" (Taylor, 2001:167)

Students perceived a mismatch between the message of raising aspirations which they were enjoined to impart and the pupils they are working with. Students focus on the need to 'scale down' (Taylor, 2001:162) pupils' expectations could certainly be attributed to a perception that the pupils they were working with were not realistic university candidates, expressing concern that widening access and participation work was too little, too late and that it served to position academic success and access to university as the only meaningful criteria for educational success. However, it could also be seen as a means of policing entry into their own, exclusive, institutions. Students expressed a tension between including a wider range of students and maintaining the prestige of their own institution.

The final Scott report (Scott, 2022:6) stresses the need to support "Talented and motivate individuals to achieve their full potential by removing barriers" alongside a wider programme of social inclusion. Milburn (2012) justifies widening access to higher education by appealing to notions of ability. Although it is not directly cited, this appeal echoes the wording of the Robbins Report (Robbins, 1963) which assumed "as an axiom that courses of higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so" (Robbins, 1963:8). The Milburn Report (Milburn, 2012) uses the terms 'ability' (Milburn, 2012:2), 'talent' (Milburn, 2012:5), 'aptitude' (Milburn, 2012:2), and, more often than any other, 'potential' (Milburn, 2012:2), as a key aspect of his justification of the practice of widening access to Higher Education (HE). He suggests that all sides of the Widening Access debate "share the goal of making access to university classless, so that those with potential, irrespective of background, get the places they deserve" (Milburn, 2012:2) and suggests that the most significant debate lies around how this is to be achieved. He describes a tension between those who feel that A-level attainment is the most significant factor and those who feel that considering a prospective student's social context is necessary to evaluate their potential as a student. However, Milburn does not engage with the nature of 'ability', 'talent' and 'potential'.

The policy context for widening participation gives some insight into the macrosystem (Bronfenbrenner, 2005) within which teachers, pupils, parents and others shape their understandings of potential, talent and ability. It also delineates the policy which creates and supports the social and educational structures within which young people young people are educated. Understanding these macrosystemic pressures is fundamental to understanding individual perceptions and understandings in context, rather than as mere individual traits.

3.6 High Ability Studies and Widening Participation

Understanding potential, talent and ability and its role in modern Scottish WP requires some reckoning with these concepts and their application in Scottish education. One rich source of theorising on the nature of potential, talent and ability is the field of High Ability Studies, also known as Gifted and Talented Education. While many of these theories are explicitly concerned with highly able or gifted and talented children, their nuanced and often highly diverse approaches to understanding ability are applicable in the field of widening access to higher education. One approach to ability used within this field is to look at the performance a person is capable of demonstrating. Stanley (2005) describes the origins and practices of an American programme run by the Center for Talented Youth. This programme developed from the Study of Mathematically Precocious Youth and uses aptitude testing to identify mathematically talented young people for advanced studies during the summer, and potentially early entrance to university. Stanley (2005) asserts the need to identify exceptionally talented young people as common to every human culture but suggests that modern gifted education has its origins in the standardised testing movement. He describes using standardised tests such as the SAT (originally the Scholastic Aptitude Test, now referred to as SAT and used in college admissions for some US universities) intended for older children to determine the mathematical talent of younger children, so as to assess their suitability for advanced summer courses. This approach indicates a belief that assessing the performance a child is able to display now will reveal their suitability for further studies. This seems analogous to the Higher Education practice of requiring a certain level of exam results as part of admission, which Boliver (2013:346) describes as "the traditional view of fair access as entailing equal access for those who are equally well qualified in terms of prior attainment in formal examinations". By high performance, an aspiring student is taken to show that they have the potential to succeed in further studies in their field. This could be taken to indicate a faith in the capacity of the examination system to identify such students as well as a belief that there is something about the individual student which means that, having thrived in their earlier education, they will go on thriving in higher education (Gorard, Boliver, Siddiqui, Banerjee, 2019; Schwartz, 2004). There is evidence of connection between prior academic success and high achievement in higher education. Ferguson, James and Madeley (2002), in their systematic review of existing student selection literature, found a 'moderate' effect size of 0.3 between previous academic success and HE performance. Fleming (2002) suggests that along with SAT results, prior academic achievement is the only measure predictive of college success.

There is also evidence of connection between academic success and high achievement later in life. Makel, Kell, Lubinski, Putallaz and Benbow (2016) found that of 259 young adolescents who had high scores on SAT tests "Thirty-seven percent had earned doctorates, 7.5% had achieved academic tenure (4.3% at research-intensive universities), and 9% held patents" while others were holding high positions in major organisations. Bernstein, Lubinski, and Benbow (2019) found that scores on SAT tests at 13 were predictive of eminence in a particular field identifiable from SAT scores. Lubinski, Benbow and Kell (2014) also found that forty years after identification, mathematically able young people had gone on to high achievement and success in business and academia. This effect was held to be more pronounced for men. The authors explain this as due to gender preference, stating "men tend to have an agentic orientation toward life and women tend to have a communal orientation" (Lubinksi et al, 2014:2225) and noting that men and women both experienced "uniformly high and comparable" (Lubinski et al 2014:2229) scores on life satisfaction ratings. However, this appeal to innate preferences must be contextualised by consideration of sociocultural factors. Ceci, Williams and Barnett (2009) note that women who are capable in mathematics and other fields are likely to disproportionately elect to work in non-mathematical fields and that women who enter STEM fields are significantly more likely to leave them than men. Cheryan and Plaut (2010) suggest that the extent to which students perceive themselves as similar to the idealized student of a discipline affects their attitude to a discipline, as might social identity threats (the perception that one might be discriminated against within a field) and the belief in lowered opportunities to succeed. McCabe, Lubinski and Benbow (2020) found that after twenty-five years, Graduate Record Examination (GRE) scores were "suboptimal" (McCabe et al. 2020:408) for assessing links between ability and STEM leadership, but did also identify men as more likely to become STEM leaders. It is possible, therefore, to consider this gendered disparity as perhaps indicative of wider social forces which impacted on women's achievement.

Within the Scottish context, the nature of potential, talent and ability are largely treated as unproblematic. Contextualised admissions (University of Glasgow, e) suggests an understanding of attainment as connected to environmental factors. However, there is little explicit discussion of what it is that gives a young person potential or what might be the nature of talent. Ability, too, is rarely mentioned. Tools drawn from the literature, including the theories of high ability discussed in Chapter Four can bridge this gap in the literature.

3.7 Underachievement and Ability

The possibility of underachievement in intelligence testing or other attainment measures by particular groups such as women, people of colour, or particular socio-economic brackets is a significant concern for adherents to this approach. If achievement is not in fact a neutral measure of current ability and potential for improvement but is mediated by underachievement due to sociocultural or socioeconomic factors, then its capacity to detect ability is called into question. Within the field of high ability, underachievement is a concern as it can be difficult to detect amongst more able students. For Matthes and McBee (2007), underachievement is generally understood as a discrepancy between ability as measured through standardised tests and performance in academic assessments such as Grade Point Average (GPA). Reis and McCoach (2000) identify four main approaches common to the field: underachievement as a discrepancy between potential and performance; underachievement as achievement of a specific intelligence or ability test score while not attaining a specific level of attainment in Grade Point Average (GPA) or in particular subjects; underachievement as failure to attain predicted levels of achievement (which often uses intelligence testing to predict future achievement); underachievement as failure to develop up to potential. They also suggest particular populations who may be vulnerable to underachievement, including 'culturally diverse youth' (Reis and McCoach, 2000:163), but suggest that poverty, divorce or family size are not related to underachievement (see also Hébert and Reis, 1999).

Scholars working outside High Ability Studies have also explored the idea of links between perceived ability and sociocultural factors such as race, gender and socioeconomic or class status. Writing in 2005, Crozier suggests that most Black children experience an emotionally challenging and difficult "pattern of school experiences" (Crozier, 2005:589). Crozier (2005) links stereotyping of Black students as physically imposing, "big and therefore aggressive" (Crozier, 2005:591) to teacher's preoccupation with their behaviour rather than their academic performance. She suggests that this might lead to Black students leaving education even when their academic achievement would allow them to pursue further studies. Moreover, this behaviour was implicitly supported by schools who would not extend normal academic supports, such as contacting parents to let them know about homework problems or decreased effort in class. Crozier invites us to consider "the pathological view of the black, or in this case African Caribbean child, that is so embedded within the school institution that conspires against his or her success." (Crozier, 2005:596) Likewise, Gillborn, Rollock, Vincent and Ball (2012) explore the experiences of middle class Black Caribbean parents and describes their experience of lower expectations of their children and "a regime of heightened disciplinary scrutiny

and criticism" (Gillborn et al, 2012:122) despite the parents' middle-class status. Gillborn et al (2012) describe a process of more or less covert assessment and ranking in primary schools, leading to more academic challenge or more learning support, secondary school assessments on entry which sometimes include cognitive testing and setting or streaming, "hierarchical groups that restrict their curriculum and determine entry to low status examinations when they are 16" (Gillborn et al, 2012:130). Parents perceived even academically talented children as experiencing "a pattern of cumulative criticism" (Gillborn, 2012:136) due to racist stereotyping which significantly affected their education, despite having parents who were keenly interested in and knowledgeable about education. This contrasts with the highly successful gendered academic achievers described by Lubinksi et al, (2014) in that these young people are not making a choice motivated by personal preference. Nor are their struggles apparently due to individual family circumstance or particular parenting choices. Instead, these young people's possibility of achievement is circumscribed by the potential their schools and teachers ascribe to them – or inscribe them with. However, it also contrasts with the perceived similarity theory offered by Cheryan and Plaut (2010). These young people had, in their parents, models of academic and career success. The barriers they faced were in the stereotypes others held of them, and how institutional structures allowed those stereotypes to shape young people's educational opportunities. More recently, Connolly et al (2019) suggested that allocation to ability sets in mathematics often deviated from what might be expected given attainment in English national testing for girls, Black pupils and Asian pupils (although these findings have been questioned – see Gomm (2022)). It is inappropriate to assume that class bias operates in the same way as race bias, especially in the light of Connolly et al (2019) who did not find that white boys experienced misallocation in the same way as Black pupils, Asian pupils or girls – although lower Maths scores for pupils who had experienced deprivation were noted. However, the experience of schooling as a pattern of challenging and difficult experiences suggests a mechanism by which bias might systematically disadvantaged one group of children within a school. Likewise, limitation of opportunity through perceived potential could be significant in understanding lower attainment for young people from areas of high deprivation. If perceived as lacking potential, access to the high value qualifications required for entry into HE, educational opportunities and support to persist in the face of difficulties may be very difficult or impossible for members of this group. The work of Crozier (2005), Gillborn et al (2012) and Connolly et al (2019) suggests potential mechanisms by which access to the high value qualifications required for HE may be restricted to particular groups.

This pattern of interactions between stereotyping and institutional structures which limit apparently equal opportunities for educational success can also be seen in the experiences of working-class

people. Reay, (2002), describes the experience of schooling for one young working-class white English boy, Shaun. Although Shaun seems to have a choice of which secondary school to attend, in fact his mother is reluctantly and tearfully persuaded by his primary school to apply only to the least attractive option as he is unlikely to be accepted elsewhere. Shaun attempts to reconcile his desire for academic success with the need to construct and maintain his identity and membership of his peer group. For Reay, this tactic is 'riven with contradictions and requires almost superhuman efforts to maintain.' (Reay, 2002:226). Shaun's tactic, of distancing himself from peers' disruptions in class and asserting a tough masculine identity within the playground bring him into conflict with family as well as peers. Reay asserts that Shaun's experience "is not an issue of school effectiveness and staff performance but a matter of class and race; of social structures and material resources." (Reay, 2002:232). She suggests that initiatives such as Gifted and Talented education would be of little assistance to a child like Shaun, as the social costs for accessing such a resource would be potentially prohibitive. She also points out that despite his desire to succeed academically, the grades he has achieved would not admit him to Gifted and Talented education under the Excellence in Cities initiative which was current at the time. Shaun's experience shows that social pressures from peers and family can also circumscribe a young person's opportunities to learn. Educational opportunities can come with social costs which young people are unwilling to pay. This is particularly significant for HE, where costs can include leaving one's family and moving to a new town or city, travelling long distances or negotiating new social groups.

3.8 Ability, Intelligence, Testing

Another approach to identifying ability, which remains both popular and widespread, is intelligence testing. Within the field of High Ability, the use of intelligence testing either on its own or more commonly as part of a wider suite of tests is both a common and a contested approach. However, Scottish education does not commonly rely on cognitive assessment in the determination of high ability (see Introduction). Nor are American-style SATS tests common in Scotland, although such approaches are part of applications for some professional degrees (UCAT, 2023)

Intelligence testing originated with Alfred Binet in France, in the wake of the introduction of compulsory education for all. Having noted that some students struggled in class, Binet developed his test as a means to identify children who would struggle for special education (Andreiu, Burman, Croizet, Nicolas, Sanitioso, 2013). Binet interpreted his tests as identifying a 'natural' intelligence which he distinguished from the child's educational attainment or their cultural background (Zenderland, 1998). This testing was adopted by Terman, who by linking test scores to

age, was able to produce an Intelligence Quotient, which allowed for both comparison between individuals and comparison with an individual and a notional standard for their age (Zenderland, 1998). Modern intelligence or cognitive tests include a wide range of approaches designed to limit cultural biases such as the Wechsler Adult Intelligence Scale III (WAIS III) which describes itself as "adapted and standardised in 16 different countries" (Pearson, undated a) or Raven's Progressive Matrices (Pearson, undated b) which attempt to assess non-verbal ability and advertise the "reliability of the measures and lack of bias". The efficacy of cognitive or intelligence tests in identifying ability is still strongly held by some scholars. Jonson, te Nijenhuis and Bouchard (2008 found "evidence both for the existence of a general intelligence factor and for the consistency and accuracy of its measurement." (Johnson et al, 2008:91) across five cognitive tests. Jensen asserted that "What little bias may exist in some few modern tests is generally so small and inconsistent in direction that its complete elimination would have a negligible effect on adverse impact" (Jensen, 1993:161) However, working in 2016, Shuttleworth-Edwards found that language and cultural issues in WAIS tests normed for South Africa rendered them not "clinically viable" (Shuttleworth-Edwards, 2016:994).

Despite this, links between intelligence test performance and socioeconomic status have been drawn. In a cohort study of children born between 1950 and 1956 in Aberdeen, Lawlor et al (2005), found an effect of social class at birth on intelligence, suggesting that "Socioeconomic position itself may be influenced by parental intelligence, which will be linked to childhood intelligence through both genetic and environmental pathway" (Lawlor et al, 2005:656). Bond and Saunders, (1999), suggested that class differences can be explained by differences in ability and effort between middle class and 'lower class' individuals (Bond and Saunders, 1999:218). They suggest that "the question of why some people take advantage of the 'structural' opportunities available to them while others do not" (Bond and Saunders, 1999:224) suggesting that individual traits, pre-eminently scores on tests of cognitive ability, are the chief explanation for why an individual may be socially mobile. On these grounds, they suggest that Britain is in fact a meritocracy, where one's class status is in fact determined by one's ability and effort. However, when Strenze (2007) undertook a meta-analysis of longitudinal research on links between success in life (assessed as education, occupation and income); intelligence; parental socioeconomic status and academic performance, found that performance on intelligence tests was "not an overwhelmingly better predictor than parental SES or grades" of such success (Strenze, 2007:401) Scottish WP policy and practices implicitly reject the notion of lower intelligence amongst particular groups. Sturgeon's aim that 20% of students come from the 20% most deprived areas of Scotland (CoWA, 2016) is an implicit rejection of an association between poverty and general lower ability. Adjusted offers and contextualised admissions which allow young people from areas of

high deprivation to access university with lower grades are explicitly intended to offset educational deprivation, not lower ability. WP students are expected to perform as well as, or better than, their more advantaged peers (CoWA, 2015). Scottish WP policy implicitly assumes that the same range of ability can be found across all SIMD quintiles, and that differences in attainment are due to opportunity, not aptitude.

Chapter Three examines how widening participation is practiced and understood in modern Scotland:

- Scotland's policy commitments to equal participation for all students, including those from the 20% most deprived areas
- the position that not every child should go to university, and that university should not be seen as the best option
- the rationale and implications of making universities, not schools, responsible for widening participation
- the tension between Scottish education's embrace of STEM and limited access to key STEM subjects
- the social and emotional experiences of school for highly able young people
- teachers' caution towards widening participation for young people
- widening participation and identification of highly able young people

Understanding potential, talent and ability in the context of Scottish WP requires an array of theoretical tools which are outlined in Chapter Four. Chapter Four will outline how the work of Bronfenbrenner (2005), Bourdieu (1986) and Ziegler and Philipson (2012) are used to understand Scottish education systemically, and how the work of Laclau (1996) is deployed to understand the key concepts of potential, talent and ability.

4 Chapter Four: Theoretical Frameworks

Chapter Four will outline the two key theories which are used to structure the thesis and to answer the research questions. This chapter will also mention other relevant theories which are important to the research.

- Ziegler's Actiotope Model
- Bronfenbrenner's bioecological model of development
- Bourdieu, capital, field and habitus
- Laclau, Wacquant and the empty signifier

To address the question "Do understandings of potential, talent and ability limit access to Higher Education for Scottish young people from areas of high deprivation?" the thesis uses two key theoretical tools. In order to move beyond deficit narratives, whether of aspiration (Rainford, 2021) or of quality (McKay and Devlin, 2016), Bronfenbrenner's bioecological model (2005) will be used to structure the thesis, particularly focusing on the microsystem of relationships which support and circumscribe young people's access to education. The work of Bourdieu (1986), particularly the relationship between habitus, capital and field, will be deployed to understand educational barriers, social class and individual agency. Other theorists whose work is important to this thesis include Ziegler and Philipson, whose Actiotope model (2012) will be used to explore high ability in systemic terms. Finally, the work of Wacquant and Laclau (1996) will be used to examine the meaning of potential, talent and ability, and to explore whether lack of meaning, or emptiness, can be deployed in service of perpetuating existing social structures. Despite the formative influence of Marx on Bourdieu, Wacquant and Laclau, this study will not engage directly with Marxist theories of class. The work of the more modern theorists such as Bourdieu and Laclau, writing in response to Marx, is more relevant to the particular issues of education, deprivation and access addressed in this study given that Marx did not explicitly write about education.

This study was designed to explore understandings and uses of the words potential, ability and talent by highly able pupils, teachers, parents and other significant adults, and in the institutions these young people were navigating. The study explicitly does not operationalise and measure these terms as the review of literature suggested wide and disparate understandings which could not be easily or meaningfully resolved into a single unified conception. In order to understand how these concepts are understood by students, teachers, widening participation workers, parents and careers workers

and whether and how those understandings affected young people's educational access and experience, Bourdieu's theory of practice was integrated with Bronfenbrenner's bioecological model (please see Table below)

Bioecological level	Bronfenbrenner	Bourdieu	Deployment in thesis
Individual level	Biological factors	Individual agency, capital, habitus	Ability, Talent and potential as individual traits
Microsystem	Developmentally significant relationships	agentic deployment of capital to gain position in field; (unconscious) deployment of doxa	School and home experiences and relationships, how these systems developed ideas of potential talent and ability
Mesosystem (understood as set of microsystems)			
Macrosystem	National policy	Field, doxa	Institutional structures, policies and public facing documents

NB the exosystem is largely unexplored in this study. Examination of the relationships between teachers, WP workers, schools, universities, local authorities and government agencies could well be fruitful but lay beyond the scope of this thesis.

Ziegler and Phillipson (2012) positioned their Actiotope model as a systemic approach which describes the development of high ability in terms of interactions within an environment. This 'paradigm shift' (Stoeger, 2012) in high ability studies shifts the locus of study from traits or capacities within the individual to look at how they experience and interact with their environment and is thus particularly suited to the study of individuals from areas of high deprivation. Ziegler's theory shares key concepts with the work of Bronfenbrenner and Bourdieu. Bronfenbrenner's developmental model (1977) suggests an approach to education research which recognises and embraces the complexities of interrelated educational and social structures. Bronfenbrenner's bioecological account of human development was selected as it articulates with the multiple approaches to analysis in this mixed methods study. Bronfenbrenner's (1977) account of development also provides a mechanism for how individuals both affect and are affected by their environment. Bourdieu's sociological account of the reproductive function of education and how educational systems reproduce and justify existing social inequalities offers an essential theoretical language to understand why so much of the work performed to 'Close the Gap' between the most and least advantaged pupils is ineffective, supporting the systems of inequity education workers believe they

are challenging. The work of Laclau (1996) will be used to explore the relationship between the concepts of potential, talent and ability and the educational systems within which WP operates.

This chapter outlines Ziegler and Philipson's Actiotope theory (2012), with the work of Bourdieu and Bronfenbrenner. It shows how these three theories link to support analysis of how perceptions of student ability by schools, universities, parents, teachers and students themselves influence decisions about higher education. It demonstrates how these theories can be used together to examine individual experience and the relationships which can support young people in making the decision to apply to university. I will also show why Bourdieu's theory of field, habitus and capital is appropriate for understanding what happens when young people from areas of deprivation move from secondary school to higher education.

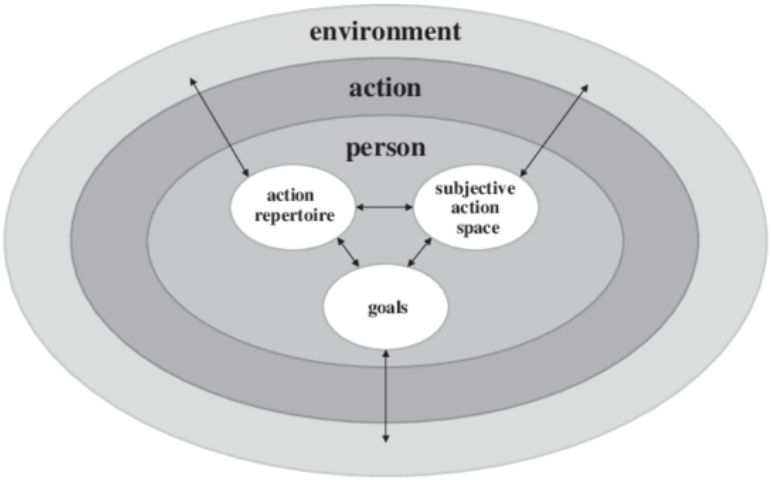
4.1 High Ability and the Actiotope Model

Since the rise of intelligence testing at the beginning of the twentieth century, the nature of high intelligence, giftedness or, as it will be referred to in this thesis, high ability, has been hotly contested (Subotnik et al, 2011). Variously understood as a single or multiple trait, a result of concerted effort within a supportive environment or a genetic advantage, with associated testing regimens and educational interventions, Subotnik et al (2011) note that high ability was nonetheless most often conceptualised as innate cognitive ability which could be developed during the life course. Ziegler and Phillipson's' (2012) Actiotope Model is such a reconceptualization.

Ziegler and Philipson's systemic theory explains how it comes to be that some individuals perform 'excellent' actions – performances showing an outstanding level of quality or skill (Davidson, 2009). Individuals are understood as "partial systems within larger systems", while keeping in mind that an individual occupies many systems, all of which must be "viewed contextually so that favourable learning conditions can be established in many, if not all, of these systems" (Ziegler and Phillipson, 2012:14). Within a particular system, an individual will develop behaviours, or action repertoires, which allow them to adapt to their environment. So, a student might develop particular study habits which allowed them to respond to the demands of a challenging class. However, they will also develop characteristics which allow for such adaptation, such as the capacity to attend to study materials for a longer time. While emphasising that this process is culturally and historically contextualised, Ziegler and Phillipson (2012:16) also stress the role of 'highly individual styles' which are interpreted as 'the result of progressive adaptations to a particular actiotope'. Ziegler and Phillipson (2012) envision their system as extending to ecological, biological, and social systems.

Individuals are understood as 'open systems', influenced by their environment, and comprised of subsystems (Ziegler and Philipson, 2012:16). Biological systems include the evolutionary factors which have shaped their genes, but also how those genes find expression in phenotypes shaped by particular environmental factors. However, the writers make clear that individuals are also formed by their social environments. This emphasis on the interaction between internal and external factors is particularly significant when considering the experiences of highly able learners from areas of high deprivation, as it allows the 'excellent' actions of their academic success to be interpreted not as innate traits or talents, but through the individual's interaction with their environment.

Figure 2: Components of the actiotope model of giftedness (Ziegler et al 2014:36)



The Actiotope model "envisions four components which, together, enable intelligent actions" (Ziegler and Phillipson, 2012:17): the action repertoire; goals; the environment; and subjective action space. Ziegler and Phillipson (2012) define premeditation as "goal directed adaptive behaviour" citing Sternberg and Salter (Ziegler and Phillipson, 2012: 17). However, Sternberg and Salter (1982:15) use this phrase as an attempt towards a definition of intelligence, writing that "the common element in intelligent behaviour across situations and across individuals is goal-directed activity". Attempting to find shared elements from a range of definitions, Sternberg and Salter suggest that intelligence can be broadly understood as behaviour aimed at producing a desired end which is well-adapted to the individual's physical and social environment. Ziegler and Philipson's premeditation may perhaps thus be understood as planned behaviour which is adapted to reach a goal within a particular environment. Ziegler and Philipson (2012) do not offer any suggestions for how observers, or individuals, might discern the difference between premeditated and unpremeditated behaviours. This problem might seem particularly acute when dealing with non-human intelligences, where premeditation might be even more difficult to recognise. It also invites questions on whether

excellent actions are in fact always premeditated. When a violinist's string breaks during a solo, one might suggest that their ability to continue performing while compensating for this problem is both excellent and unpremeditated – if they had known the string would break, they could have replaced it beforehand. Like Bronfenbrenner's ecological model (1977), which will be explored later in the chapter, Ziegler and Phillipson's systemic theory moves beyond an account of ability which seeks explanatory power in traits possessed by a gifted individual, to embracing the role of the environment. It identifies how individual goals can be shaped and constrained by experience, and perhaps even offers an implicit suggestion as to why an 'excellent action' might be possible for some individuals in some circumstances and not possible in others. However, it also offers some puzzles. The identification between premeditated action and excellent action is intricate. Ziegler and Phillipson (2012) explain premediated action in the terms Sternberg and Salter (1982) use to describe intelligence, suggesting an identification between the two. Excellent action is then, perhaps, best understood as action particularly well suited to achieving a particularly well-identified goal within a particular social and environmental context.

For Ziegler and Philipson (2012), an individual's action repertoire is defined as the set of things that can possibly be done, restricted to those things which the individual knows how to do. An individual's goals are determined by their individual needs, restricted by what makes sense for them within a particular setting. The knowledge of appropriate goals is explicitly described as cultural. Ziegler and Phillipson (2012) stress that goals may be dysfunctional or inappropriate to satisfying a particular need. They also suggest that some contexts may not lend themselves to goals which are productive of excellence, describing a child within a competitive educational system, who is satisfied to outperform the other children, rather than to continue to improve. Goal management is identified as a role for gifted education. The third element, environment, is a key part of the analysis, as Ziegler and Phillipson (2012:18) explicitly make the assumption that "individuals and their (social) action context cannot be meaningfully examined in isolation from one another. They need to be viewed as one analytic unit" They also suggest that the actiotope is more far-reaching than other, unnamed, systemic theories suggesting that "The Actiotope model goes beyond the analysis of the "classic" systems of family and school class/grade postulated by the social sciences; it also adds more to the list than just the idea of talent domains. The Actiotope perspective also considers the environment from the perspective of learning and learning opportunities." (2012:19). The sociotope – the community space where actions can occur and with which certain actions can take place – bears a striking resemblance to the wider systemic theory of human development initially suggested by Bronfenbrenner in 1977, which will be explored later in this chapter. The writers describe a sociotope

as ‘an objectively defined action space’ (Ziegler and Phillipson, 2012:19) but also discuss how the individual is socialised to associate certain behaviours as being logically connected with this particular space. Yet it is difficult to interpret how this logical connection might occur, and to explain how certain individuals might make different connections with certain spaces. Ziegler and Phillipson (2012) offer the example of the pupil who learns to repress rowdiness during instruction, yet for many pupils, rowdiness during instruction could be correctly identified as a successful route to the approval of their peers. Ziegler and Phillipson’s account of how individuals acquire this social information and to what extent it should be understood as objective or subjective is not fully explained. Finally, subjective action space is described as a cognitive process, or cognitive space, where action repertoire, environment, needs and goals can be evaluated and where an individual can make decisions about their actions which will be used to inform future goals and redescribe the subjective action space.

Despite intricacies and ambiguities, the Actiotope model of giftedness articulates clearly how highly able learners interact with their environment successfully to produce an unusual or outstanding level of success. The Actiotope model is relevant for highly able learners from areas of high deprivation, who have shown themselves able to exploit a potentially more challenging environment to support their ‘excellent actions’. By embracing the idea of individual interaction with the environment, the Actiotope theory gives a rationale for why students from areas of high deprivation can be understood as highly able learners by virtue of excellence attained in a deprived environment.

4.2 Bronfenbrenner and Ziegler

To achieve a nuanced understanding of the interactions between the individual and their environment, the Actiotope theory can be enriched with consideration of Bronfenbrenner’s theory of human development. Indeed, in her response to Ziegler and Phillipson (2012), Garces-Bacsal (2012:58) highlights existing systemic models and suggests that comparisons with Bronfenbrenner’s systemic approach might be useful both in illuminating the theory and in examining implications for practice. Schultz (2012:107) also suggests Bronfenbrenner as a useful model for what Schultz perceives as the “stronger accounting of systems theory” required by Ziegler’s theory.

4.2.1 Bronfenbrenner

In 1977, Bronfenbrenner published a paper outlining a systemic analysis of human development. He outlined a structure composed of changing settings which directly or indirectly affect and are affected by the developing individual (Bronfenbrenner, 1977). Bronfenbrenner envisioned this Ecological (later

Bio-ecological) model as moving the science of developmental psychology beyond the "science of the strange behavior of children in strange situations with strange adults", and to reconcile "rigor" with "relevance" (Bronfenbrenner, 1977, 513). Bronfenbrenner's theory provides a structure to describe young people's interactions with significant adults within different settings, which is particularly important for understanding the experiences of highly able learners from areas of deprivation and how they negotiate school, home and university. However, more than that, Bronfenbrenner's theory provides a foundation to examine how these young people developed the academic and social skills to access higher education.

While Bronfenbrenner's system of micro, meso, exo and macro contexts are comparatively well known, his theory continued to evolve (Rosa and Tudge, 2013). Tudge, Mokrova, Hatfield and Karnik, (2009:199) describe his 'full theory' in terms of a Process-Person-Context-Time approach. Tudge et al (2009) describe this later theory as delineating a stronger role for personal characteristics. Person includes three main characteristics. Demand (or, in slightly earlier writing, stimulus) characteristics are those such as race, age, gender, physical appearance which evoke a particular reaction from others. Bronfenbrenner offers a highly emotive example of how this might operate by describing research which indicated that during the American Great Depression, fathers were more likely to reject their daughters during times of economic hardship. He writes "the effects of rejection, however, varied inversely as a function of the daughter's physical attractiveness" (Bronfenbrenner, 1992:140). Resource characteristics includes knowledges and skills, but also includes access to social and material resources such as family support and educational opportunities, which resemble the capitals identified by Bourdieu (1986) which will be explored more fully later in this chapter. Force or disposition characteristics are described as having to do with temperament, motivation, and persistence (Bronfenbrenner and Morris, 2006). Later iterations of Bronfenbrenner's theory also engaged with the significance of time, or the Chronosystem Model, which addressed "constancy and change not only in the person but also in the environment" (Bronfenbrenner, 1992:119) which invites the researcher to look at the developing person's life events, as occurring within a wider social context. Bronfenbrenner (1992:120) suggests that consideration of the long term and "often cumulative effects of a sequence of transitions" in society can allow us to understand the "systematically different developmental paths" of generations of developing individuals. Finally, proximal processes are defined as "progressively more complex reciprocal interaction" (Bronfenbrenner, 2001:6) between the developing individual and their immediate environment which occur over a significant period of time. Bronfenbrenner identifies these processes as serving to generate "the ability, motivation, knowledge and skill to engage in such activities both with others

and on one's own" (Bronfenbrenner, 2001:6) At all stages of his theory development, Bronfenbrenner stresses the role of the individual in changing their contexts as well as being changed by them. This is highly relevant to highly able learners from areas of deprivation, who have been able to exploit the opportunities their home and school environments presented to support their learning requirements.

Bronfenbrenner's theory challenges "simplistic linear models" (Johnson, 2008:1) of the effects of environmental factors on human development. Bronfenbrenner vividly describes the inter-relation of the developing individual and their micro-environments, and then contextualises that within the individual's life stage and the pattern of continuities and changes within the macrosystem. He stresses the 'snowballing effect' (Bronfenbrenner, 1992:140) of a particular characteristic interacting iteratively within an environment, describing how the proximal processes engaged by a shy female child in a context which tolerated female shyness might differ from those of a shy male child whose shyness was incompatible with prevailing ideas about masculinity. This 'snowballing effect' offers a mechanism whereby the developing individual and the environment influence each other. This proximal process of repeated interactions can potentially form a feedback loop, where the developing person's effect on their environment and the environments' effects on the child progressively exacerbate each other. Johnson (2008:7) describes this as a 'complex' system, where simple cause and effect linear relationships are unhelpful in examining the "the interactions among multiple layers of the complex system". Tudge et al (2016:429) lament that Bronfenbrenner's contextualist, synergistic approach is "too often treated as though it fits within a mechanist paradigm" where simple cause and effect relationships between variables allow for the establishment of scientific laws governing their interaction. One key aspect of this study is to explore the complexities of highly able learners' experience, which can be articulated using this theoretical approach.

4.2.2 Systemic Theories

Using both Bronfenbrenner's Bio-ecological theory and the Actiotope model (Ziegler and Phillipson, 2012) requires consideration of how these two systemic theories intersect. One immediate difference between Bronfenbrenner's theory and that of Ziegler and Phillipson (2012) is that Ziegler and Phillipson are explicitly theorising about those who have the potential for giftedness. However, there are a number of resonances between these theories. Like Bronfenbrenner's Ecological, or Bioecological System Theory, Ziegler and Phillipson explicitly describe their Actiotope model (2012) as systemic. In fact, Ziegler and Phillipson's explicit aim is to shift the paradigm of gifted education by moving from a mechanistic model, where a particular measurable trait within a child such as IQ

directly results in academic excellence, to a systemic model with multiple complex interactions. For Ziegler and Phillipson, the move to a systemic model is seem as progressing beyond an analytic, mechanistic model such as that associated with the physical sciences, where laws govern straightforward relationships between causes and effects. However, for Bronfenbrenner systemic theories in fact allow for an approach which is "scientifically more rigorous and productive" (Bronfenbrenner, 1992:134). This extends to the writers' approach to measurement. Bronfenbrenner (1992: 128) offers key roles to both 'acontextual' and 'contextual' measures, suggesting that the use of acontextual methods such as intelligence tests will allow for the identification of cultural roles in processes and outcomes, while the use of contextual methods such as, perhaps, teacher evaluations, will allow for evaluation of the cultural significance and meaning of processes.

However, the extent to which intelligence tests in particular can be understood as acontextual is the subject of intense debate. Sternberg (2018) suggests that much conventional 'culture free' testing is in fact deeply rooted in the values of the countries which have developed it in what is valued, and how what is valued is enquired after. He also describes the phenomenon of 'stereotype threat (2018:861) where membership of a particular group may be related to expectations of performance in testing. For Cross and Cross (2005:191), the inability of intelligence testing to properly address cultural context has contributed to the exclusion of "gifted students of colour and of lower socioeconomic status homes". Ziegler and Phillipson (2012:4) are generally more sceptical of the use of measurement in gifted education, associating it with a mechanistic view where "Giftedness is dissected into its measurable component parts" and suggesting that decontextualized measurement of traits such as "the degree of concentration or motivation with one particular test of concentration or motivation seems absurd, even if many psychological tests promise to do just thus." (Ziegler and Phillipson, 1992:12) Ziegler and Phillipson's approach must be contextualised within the traditions of gifted or high ability research, which have stressed high ability as an innate trait which can be "revealed through some type of cognitive assessment or IQ test" (Subotnik et al, 2011:4). Questions of whether it is possible to meaningfully measure giftedness, what it is we are measuring when we attempt to measure giftedness and whether such measurements should be understood contextually given ongoing disparities around race and socio-economic status (Gentry et al, 2021; Hodges et al, 2018, Staub, 2018) are still at the heart of the discipline. Bronfenbrenner's approach to how individuals interact with their environments differs from that of Ziegler and Phillipson. Both stress agency, in that the individual affects their environment as well as being affected by it. For Ziegler and Phillipson, the individual's impact lies in their selection of environments which are compatible with their goals and their selection of actions that are possible within the environment they have selected.

Ziegler and Phillipson (2012) associate the formation of goals with the needs of the individual and assess the validity of that goal by how well it aids the individual in satisfying that need. However, they do not explicitly suggest a systemic explanation for the formation of these needs or goals.

Bronfenbrenner's theory, in contrast, illustrates how the developing individual can affect the environment while being affected by it, and how this can lead to snowballing effects. Ziegler and Phillipson (2012:13) do refer to 'feedback effects' as a necessary part of the interdependence of all components of a system. However, when accounting for the formation of needs, they do not make mention of how these needs might come into being, nor how they might be affected or created by environmental factors. Instead, agency is confined to selection of environments. The extent to which individuals are empowered to select their environments is highly variable. It is generally agreed that we do not select the circumstances of our birth and that, at least in early childhood, we are consigned to the family and educational environments that our family and community select for us. Ziegler and Phillipson (2012) describe how the needs of the young Bobby Fischer led his family to seek out enhanced educational opportunities for him in the field of chess. Yet this need must of necessity have resulted from an environment, or microsystem, where he first encountered chess. His need was not purely innate but was stimulated by circumstance. Likewise, had his family disapproved of his focus on chess, and declined to pursue such opportunities for him, it is difficult to perceive quite what steps he, as an eight-year-old, could have taken to move to a more supportive environment. Veas, Castejón, O'Reilly and Ziegler (2018:373) describe how "diverging kinds of educational wealth are not independent from each other; they are rather fused". One's ability to seek out environments supportive of development is constrained by social and educational capital, which will be discussed later in this chapter in relation to Bourdieu.

Another contrast between Bronfenbrenner and Ziegler and Phillipson (2012) is in the mechanisms each theory offers for how the environment interacts with the individual. Bronfenbrenner suggests that proximal processes of progressively more complex reciprocal interaction which occur over extended periods of time within the immediate environment, or microsystem, can enact change both on the developing individual and on the microsystem within which the processes occur. Thus, in a stable environment, proximal processes promote developmental progress, while in more challenging environments they avoid or slow developmental dysfunction (Rosa and Tudge, 2013). Bronfenbrenner and Ceci (1998:410) even suggest that "heritability (h2) will be higher when proximal processes are strong, and lower when such processes are weak". Ziegler and Phillipson certainly outline a strong role for gifted education in managing the learning environment, or sociotope, in order to promote

appropriate goal setting in the developing individual and construct “learning pathways” (2012:26). This focus on development supports a movement from an identification, trait-based model to a more systemic understanding of ability and perhaps a widened understanding of how excellent actions happen to occur. However, Ziegler and Phillipson do not at this juncture offer a detailed account of how the environment functions to produce such actions. It is suggested that such environments should be ‘tailored’ (Ziegler and Phillipson, 2012:24) but not precisely how such tailoring is to occur, or how one might identify successful or unsuccessful tailoring beyond access to “a considerable number of essential resources” including suitable instruction, a suitable “social learning environment” and information on “the validity of the goals, the ecology, the replacement strategies, and then anticipatory steps involved in a given education measure”. Traits within the individual such as emotional and social stability are also referred to as a resource within the tailored environment. Unlike Bronfenbrenner’s comparatively specific account, it is not clear how one might identify suitable or unsuitable resources within the account offered by Ziegler and Phillipson (2012). However, it is also important to recognise the significance of Ziegler and Phillipson’s account within the context of gifted education. Views on gifted education range from a belief in innate, genetically determined abilities (Subotnik et al, 2011) to giftedness as non-existent and entirely socially constructed (Borland, 1997). Ziegler’s systemic approach offers a new interpretation of giftedness and suggests new approaches to coping with the very real needs of young people for support and challenge in their learning.

One substantive difference between the two theories is that Ziegler and Phillipson (2012) do not explicitly address what Bronfenbrenner refers to as the macrosystem and the chronosystem. The macrosystem embraces cultures or subcultures to which a developing person belongs: economic systems; social, educational, legal and political systems. People within the same macrosystem will tend to experience the same large-scale events, even though their particular experience may be moderated by individual circumstance. So, for example, a coal miner and an army conscript during WW2 might have very different wartime experiences, but they are experiencing the same macro-level event. The chronosystem allows Bronfenbrenner to account for change and continuity in social factors such as changes in work patterns, economic catastrophe, war or global pandemics, over time. It also operates at the micro and meso level when describing the operation of proximal processes. Within gifted education, Crawford et al (2020:60) discuss macrosystem in terms of “the values, morals, and traditions held by members of the culture with which the student identifies” but also includes educational policy and teacher education. However, while the significance of historical events is mentioned, for Crawford et al (2020), Chronosystem is primarily

understood in terms of student life events. Although Ziegler and Phillipson (2012) make no explicit mention of any of these factors, Sutherland (2012) notes how a paradigm shift in gifted education has to be contextualised within global cultural understandings of gifted education, the wider education policy context and the educational effects of the economic crisis ongoing in 2012. These clearly are macrosystem and chronosystem level effects.

Although Bronfenbrenner's account embraces all developing individuals, that offered by Ziegler and Phillipson is specifically intended to account for those who, with the correct circumstances would be capable of developing excellent actions. However, it is not fully clear whether the theory they outline is solely applicable to the gifted, or whether issues of access to appropriate educational resources, of the problems of simple linear measurement and the assignment of traits rather than identification of learning pathways, is of wider concern. Sutherland (2012:109) suggests that "these issues pertain to the effective learning and teaching of all children or to education systems as a whole". It is possible that Ziegler and Phillipson's account of excellent action, alongside Bronfenbrenner's more holistic approach, could be applicable in the understanding of ability in a wider context.

The systemic theories of Bronfenbrenner and Ziegler give a context for why widening participation pupils can be understood as highly able learners. These theories also give a sense and structure for how to research the interactions between these young people and their environment which allowed for the development and expression of their high ability. Looking at young people's interactions with different levels of their environments on multiple levels by looking at secondary data, survey data and interview data allows the study to avoid a simple linear model, and to articulate some of the complexities of young people's experience.

4.3 Bourdieu, theory and practice

Both Bronfenbrenner (2001) and Zieger and Philipson give an environmental account of high ability within the psychological tradition. However, there are clear resonances between their work and the sociology of Pierre Bourdieu in understanding the interactions between individuals and social structures. Bourdieu developed his 'theory of practice' out of a need to explain relations between objective and internalized or subjective structures (Grenfell, 2014) which could not be explained simply through social rules. Bourdieu suggest a need to integrate the craftsman researcher, with a practical knowledge of how things are done, and the theorist interpreter who constructs a formalised set of rules which substitute for mastery of the competence. (Bourdieu, 1972).

Bourdieu's field theory is immediately relevant to widening access to higher education, as it describes attempts to change who is able to access the field of higher education. However, given the extent to which they are intertwined, no account of field can be meaningful without an examination of capital and habitus. Without an outline of how habitus describes actions within a field, habitus can look like little more than a fancy word for class-related preferences. Without an account of capital, position with a field resembles a predestined station more than the passionate unconscious strategizing that Bourdieu describes. To understand field, habitus, capital we must look at each concept, at how they relate to each other, and at how this relationship can be discerned in the practices of widening access to higher education.

4.3.1 The Social Embodied: Habitus

Habitus can be understood as an attempt to move beyond a false dichotomy between individual agency and social determinism. Maton (2014) describes a tension between individual belief in our ability to choose our own path and the reality of strong correlations between social class and life course. Habitus is a "structured and structuring structure" (Bourdieu, cited in Maton 2014) which explains how in the absence of explicit laws or rules, the behaviour of individuals is still regulated (Bourdieu, 1972). It is created and shaped by individual experiences and works to circumscribe and shape one's future practices. The structure of habitus creates dispositions – ways of seeing, ways of understanding and experiencing and possible actions. However, habitus does not control or determine behaviour or practices. Instead, it works within a particular field to describe the range of behaviours available in a particular context. Likewise, although durable, habitus is not fixed. As an individual continues to experience their surroundings, their habitus and dispositions continue to develop, as do their surroundings. Habitus can also be used to explain how members of the same class share experiences, and form structurally similar dispositions as a result. Like Bronfenbrenner's developing individual, who both affects and is affected by their microsystems, Bourdieu's agent is structured by their social environment and structures their responses according to that structure but also effects change in their social environment through the strategic deployment of their capitals in accordance with the habitus they have formed. Problems can arise around habitus when it is taken as merely "a synonym for social background or socialization" (Maton, 2014, loc 1288). Reay (2004) warns of the dangers of using decontextualised aspects of Bourdieu's thinking as a superficial overlay to pre-existing research, leading to distorted or misleading interpretations and theoretical understandings. This is relevant when examining widening access practices as interpretations of class which understand it as a trait possessed by certain individuals which explains their behaviour can

tend to the reductive or even tautological. Thus, the explanation for working class young people's difficulties in gaining access to higher education becomes the behaviours associated with their class identity. Bourdieu's notion of habitus forces us to look at how these young people select from the possible behaviours open to them, and how those behaviours are interpreted, understood, and valued by the field of higher education when their entry into that field is being negotiated.

Bourdieu suggests that habitus can be understood as a 'feel for the game', where cultural capital has become embodied. When one's habitus fits the field, Bourdieu (1986) suggests that it is experienced as a fish experiences water – that there is a seamless, effortless match. One's habitus fits the field (Maton, 2014) to the extent it matches the doxa (the unwritten rules, the underlying practices) of that field, that is, the extent to which it allows you to act in ways which will lead to advantageous relations with respect to other agents acting within the same field. Entry into a field can be easy for those with the 'correct' habitus and difficult or impossible for those whose habitus does not fit. Thus, even in the face of apparent encouragement to widen participation in university, young people may be subtly or blatantly discouraged by education staff from making an application due to a feeling that HE is 'not for them' – that the field of university is not one where their habitus is advantageous or even acceptable. Teacher and careers workers attitudes to WP are discussed in Chapter 8.

4.3.2 Social Spaces: Field

In using the concept of the field, 'le champ', Bourdieu seems to have had in mind something closer to a battlefield than a meadow (Thomson, 2014). Another helpful metaphor is the field as a space in which a game is played. As in sports, the game is played in a bounded space where agents compete in particular ways, according to specific rules and more general conventions over what actions are allowed and to what extent they are advantageous. Likewise, the state of the field itself will affect what is possible within that space (Thomson, 2014). Field is intimately interconnected both with habitus and with capital. The accumulation of capital is at once the stake competed for within the field, and a tool which can be exploited to gain position within the field (Thomson 2014) A player who enters the game with higher levels of the relevant capitals will be able to deploy these within the field. However, the boundaries of a field and the value a field sets on particular kinds of capital are not fixed. Instead, these are subject to constant struggle as the field, and the fields which affect it, change.

A field does not exist apart from the wider field of power. A field's degree of autonomy describes the extent to which it is able to establish its own logic of practice by which agents struggle for position.

The more heteronomous a field, the more susceptible it is to pressure from outside agencies. The doxa of a field are the 'self-evident' truths which are used to justify, or conceal, this logic of practice. Bourdieu describes cultural and economic capital as forming "two hierarchised poles in a social field" (Thomson, 2014, loc 1429) with the economic having a stronger association with status and power. Thus, assuming it were possible to meaningfully assess economic and cultural capital, position within a particular field could be 'graphed' by position on these axes.

Bourdieu and Wacquant (1992a:104-5, cited in Thomson 2014) suggest that field can be understood by using a three step process: to examine how the field relates to the wider field of power; to 'map' the objective positions of agents with respect to one another in terms of their possession of the forms of capital legitimate within the field; and to analyse the habitus of the agents with the field, and find which habitus' are associated with greater or lesser success within the field. Examining potential students' entry into and movement within the subfield of widening participation allows us to discern the habitus' and capital which have value within this subfield. Widening participation students' attainment in formal exams is explored through secondary data. How they came to access these formal exams and how they came to apply to university is addressed through questionnaire data and through qualitative interviews. How widening participation students came to be seen as candidates for high value academic qualifications, how they accessed these within their community and how they came to barter these qualifications for access to HE tells the story of their particular habitus and capital within the HE field. Qualitative interviews also give a window into how students see themselves within this field, how they have experienced HE and how they relate themselves to the other players of the academic game.

4.3.3 Personal Properties: Capital

Just as the concept of capital is necessary to explain habitus and field, an understanding of capital requires understanding of habitus and field. Bourdieu (1986) describes capital as "accumulated labour" which can be materialized, or embodied. He suggests that capital can take three forms: cultural; economic; and social; all of which can be institutionalised and transubstantiated into each other. By doing so, Bourdieu extends the idea of mercantile exchange into domains where such exchange is not normally recognised, such as education and art (Moore, 2014, loc 1925). While social, cultural and economic capital are associated with membership of particular social groups, Bourdieu does not suggest that membership of a social class automatically confers an endowment of capital which is uniform across all members of that class. Moore (2014) suggests that the capacity to identify within-group differences in symbolic capitals is one of the strengths of Bourdieu's approach. The

persistence of capital also allows Bourdieu (1986, 241) to describe how privilege is reproduced generationally, such that even within apparently meritocratic systems such as education (Goldthorpe, 2003), it is far from the case that "anyone can become anything".

The institutionalization of cultural capital through education is particularly striking in the context of widening access to higher education. Bourdieu suggests that cultural capital is embodied within agents and is thus subject to biological limitations. One may attempt to pass on one's knowledge of culturally sanctioned and valued music to one's children, but the process is by no means as straightforward as passing on one's property rights. Bourdieu (1986:247) suggests that academic qualifications confer a "conventional, constant, legally guaranteed value" which is, to an extent, distinct from the current cultural competences of the individual who holds the qualification. This highlights one strength of Bourdieu's methodology. Given the marked differences in status between universities in Britain (Wakeling and Savage, 2015), it is highly questionable that undergraduate degrees can be said to hold a consistent 'guaranteed' value in modern Britain. Although the landscape of higher education is different between twentieth century France and twenty-first century Scotland, the theoretical lens provided by Bourdieu can still be useful. Although Scottish and French education are not the same, field, capital and habitus can still be useful concepts in coming to terms with modern Scottish education.

4.4 Ziegler and Bourdieu

Like Bronfenbrenner, Ziegler has continued to develop his Actiotope Model of Giftedness, extending his account of a learning-resource-oriented approach to include endogenous and exogenous capitals (Ziegler, Chandler, Vialle and Stoeger, 2017). Ziegler et al (2017:311) suggest that contextualised conceptions of talent development as "an interaction of an individual with internal and external learning resources" are becoming increasingly influential within gifted education. This concept of capital is helpful in articulating how some highly able learners are able to interact with their environment so as to access higher education. For these researchers, the existence of 'talent hotspots', particular schools or programmes or organisations which produce unusually high numbers of talented individuals, require an understanding of giftedness which accounts both for endogenous and exogenous factors – learning factors within the individual interacting with their learning environment. Ziegler et al (2017:312) suggest that rather than focussing on gifted individuals, it is more fruitful to consider the 'actiotope' consisting of the individual acting within their environment – or the system of environments outlined by Bronfenbrenner (1992). Ziegler et al (2017:311) extends the model to include 'endogenous' resources within the individual, similar to Bronfenbrenner's

person characteristics (Bronfenbrenner and Morris, 2006), which are referred to as learning capital, and which include traits such as physical fitness (organismic capital), goal setting (telic capital) and learned skills (actional capital). It also introduces 'exogenous' environmental resources which are referred to as educational capital – environmental factors which can help support the development of the capacity for excellent action, or 'achievement excellence' (Ziegler et al, 2017: 312).

Ziegler et al (2017) do not delineate precisely how they envision capital. It is interesting to consider the extent to which the notion of capital as described by Bourdieu in his essay "The Forms of Capital" (1986) might illuminate Ziegler's usage of the term. Bourdieu (1986:241) suggests that different types of capital can be understood as accumulations of work, or labour, which allows those in possession of it to 'appropriate social energy in the form of reified or living labor'. Bourdieu suggests that the accumulation of capitals takes time, and tends to persist and reproduce itself, such that 'everything is not equally possible or impossible'. What a person is able to do, and their chances of success, are informed and constrained by access to different types of capital. For Ziegler, access to capital is framed more positively, where possession of the correct forms of capital enable action, while Bourdieu writes in terms of restraint and constriction. For both, access to capital delineates the boundaries of an individual's possible actions.

4.4.1 Educational Capitals

Understanding educational capitals can allow for detailed analysis of the educational opportunities available to or closed to young people. Ziegler et al (2017) identify five exogenous or educational capitals. Economic educational capital is identified as the relationship between parents' socioeconomic status (SES) and child's educational outcomes in the academic sphere, but also in sports, music and chess. Ziegler et al (2017:312) suggest that "On average, children from low-SES families attain lower levels of scholastic achievement, profit less from similar educational measures, and choose less prestigious school tracks and university majors". It is suggested that wealthier parents have the capacity to invest economic capital in their children's learning. Recent studies in England (Andrews et al, 2017) and Scotland (Audit Scotland, 2021) support Ziegler's suggestion. In a 2005 meta-analysis of American studies, Sirin found a medium level of association between SES and academic achievement. However, he also noted that SES is commonly understood as a combination of three factors: income; education and occupation. This complicates the use of SES as a marker of parental income, as SES also carries other kinds of meaning including position within a social hierarchy, which could also affect educational attainment. More recently, Reardon (2011) found a significant increase disparity between the educational outcomes of the most and the least well off in

American society for children born in 2001. On a grander scale, Ziegler et al (2017) identify links between Programme for International Student Assessment (PISA) performance and gross national product, and even note an effect whereby the wealthiest countries tend to have the highest rates of Nobel prize winners, suggesting that on a national level, the wealthiest countries can invest the most in educating their citizens and supporting them to produce innovative work of global significance. Krieg (2019) suggests that a positive relationship does pertain between GDP and PISA scores, but notes that rising GDP has a greater benefit for PISA scores in poor countries than in richer ones. Bourdieu's notion of cultural capital arose from observing "the specific profits which children from the different classes and class fractions can obtain in the academic market" (Bourdieu, 1986:244) – the phenomenon which leads Ziegler et al (2017) to posit economic educational capital as a resource an individual child may be possessed of. One pressing ethical question which occurs here is whether the knowledge that higher SES improves attainment suggests a duty for educators to engage with issues around global wealth disparity, so that all children might have an equal chance to develop educational excellence.

Looking at specific instances of capital in the work of Bourdieu and Ziegler can be useful illustrating their relevance for highly able learners from areas of high deprivation. Ziegler's (2017) infrastructional educational capital, access to materials, or objects which promote learning, is highly relevant to highly able learners from areas of poverty. Ziegler et al (2017) identify having more books in the household as an instance of infrastructional capital, suggesting that the more books physically present in the house, the more children are motivated to read, and the better they will perform in reading. This is strikingly similar to what Bourdieu (1986) describes as objectified capital; objects which hold cultural, in this case educational, significance. Ziegler et al (2017) do not draw any direct link between economic and infrastructional educational capitals. However, Jæger and Holm (2007: 732), working in a Danish context, found that in most cases "mean levels of economic, cultural, and social capital increase by social class from class". This seems intuitively appealing - although it is most certainly possible to possess wealth without purchasing computers, a certain degree of disposable income is necessary for their purchase. Access to books, especially for those who do not live in the vicinity of readily available well stocked public libraries, is dependent on their purchase. It is, therefore, possible to envision infrastructional educational capital as one manifestation of how economic educational capital operates to promote scholastic achievement – or how the conversion of Bourdieusian economic capital to cultural capital sometimes occurs.

It is also worth questioning to what extent the physical presence of books itself is meaningful, and to what extent the physical presence of books is indicative of what Evan, Kelley, Sikora and Treiman (2010:173) describe as a "scholarly culture" within the home. Although Evans et al (2010) find the physical presence of books in the home linked to greater educational success across 27 cultures, this is taken to indicate parental participation in scholarly culture, and enhanced ability to endow their children with useful learning tools such as enhanced vocabulary, knowledge and ability to argue using evidence. However, Evans et al (2010) find that home libraries improve high school completion even for the children of illiterate parents. Cultural educational capital is described by Ziegler et al (2017) as the attitudes held by parents and peers towards education. They describe links in positive attitudes and high achievement both in academic studies and musical achievement. The beneficial effects of positive carer and peer values are also identified at a school and even a national level such as when Ziegler et al (2017) suggest a link between a society's Confucian heritage and high achievement. The inverse belief - that certain groups have lower academic achievement due to poor attitudes within that social group - is familiar yet not unproblematic.

Atkinson and Kintrea (2004:447) describe the perception amongst some practitioners in deprived areas that young people were disadvantaged by a lack of parental support and 'family expectations'. However, Atkinson and Kintrea (2004:452) suggest that for those in extremely restricted economic and social circumstances, positive attitudes towards education and social mobility might be unrealistic. For these writers, "values which were fatalistic and introverted" might be an understandable, even sane response to adverse circumstances and stigmatising beliefs. Reay (2004b:1011) describes "an entrenched wider social investment in blaming the working classes for their social disadvantages". Individuals are perceived as responsible for problems that in fact are due to poverty and discrimination. These groups are in receipt of what Ziegler et al (2017) describe as negative cultural educational capital. Also, relevant here is Bourdieu's concept of misrecognition. This occurs where a group of people decline to invest emotional and intellectual labour in an education system which is unlikely to serve them in the manner it might serve other groups within society. This behaviour is then misrecognised as indicating flawed and faulty attitudes amongst that group rather than a rational perception of their own best interests.

Bourdieu emphasises that cultural capital, whether educational or artistic, obscures its relationship to economics. Bourdieu (1986:242) describes how culturally elite activities, "the pure, perfect universe of the artist and the intellectual and the gratuitous activities of art-for-art's sake and pure theory", although in reality products of particular distributions of money and resources "are not and

cannot be socially recognized as economic". Yet, at the same time cultural capital, often in the form of institutionalised capital such as degrees awarded or exam certificates, can often be traded for economic capital – a key notion for the deployment of education in the promotion of social mobility. In contrast, Ziegler et al (2017) are more oblique in acknowledging the role of economic power in education. Explaining how social ties can contribute to enhanced educational opportunities, Ziegler et al (2017) identify a specific social educational capital. This can be the possession of a mentor, or a very involved family able to move house to provide better opportunities for their child. Ziegler et al (2017) offer the example of families who made decisions about where to live in order to facilitate and support their child's education but do not explicitly link this to wealth or income. The ability to make decisions about where one lives based on educational opportunities indicates a degree of economic capital. It also indicates a degree of cultural capital. Reay and Lucey (2003:126) describe vividly the actions of middle class families who need not only the money to buy into a 'good' school's catchment area, but "sufficient cultural capital - the information and specific competence - to decode the local market; to make judgements about the state of the market often five or even ten years into the future" while poorer families were recommended by their children's primary schools not to 'take the risk' of applying outside their area and made their decision based on limited knowledge of the options open to them. Reay and Lucey (2003:121) suggest that "'choice' as a form of agency often masks the fact that 'choice' is a marker of economic privilege. The more distant subjects are from economic necessity the more 'choice' becomes a possibility".

Moving house for a better school with higher quality and better qualified teachers can be interpreted as a quest for didactic educational capital. Ziegler et al (2017) mention the value of having a teacher to work one to one with a child as being a particularly effective manifestation of didactic capital, but do not explicitly acknowledge that for most school-educated children, individual tuition is contingent on the ability to pay. Working in an American context, Lucas (2001:1652) describes a phenomenon called Effectively Maintained Inequality, suggesting that the socioeconomically advantaged "secure for themselves and their children some degree of advantage wherever advantages are commonly possible." Hamilton, Roksa and Nielsen (2018) explore how affluent parents can intervene in their children's higher educational experiences to hoard opportunities for them, and ensure that their advantage is preserved They describe parental activities such as careful, costly and time consuming selection of prestigious, competitive programmes within elite schools, but also through monitoring of their child's performance, provision of tutoring where difficulties were experienced, and knowledge of and ability to finance internships. Hamilton et al (2018) explicitly describe the behaviour of affluent parents as motivated by their uncertainty over their child's ability to access desirable high-status

occupation by simply gaining a college level qualification. This contrasted with less affluent parents, who were more likely to trust the university system to provide their child with everything they needed, and to have faith in the intrinsic value of a college degree to enhance their child's life chances, rather than identifying particular institutions as having greater value. In a British secondary school context, Ball and Vincent (1998) describe how middle-class parents deploy social connections and shared concerns to become 'skilled choosers'. For these children, access to future mentors and highly qualified teachers was intertwined with their parents economic and cultural capital. This is even more stark in the case of one-to-one tutoring, which for most children is only possible when parents are in a position to pay. More recent work by Sattin-Bajaj and Roda (2018) describes how school policy decisions can support and justify opportunity hoarding by middle class parents, where advantaged parents share and act upon a set of beliefs that serve to exclude others from educational benefits. This is particularly important for widening participation interventions in HE, given concerns that institutions by requiring and rewarding these 'skilled choosers' have in fact widened the participation of less academically successful middle-class pupils, instead of the highly able disadvantaged pupils these policies were designed to benefit (Milburn, 2012).

Sattin-Bajaj and Roda (2018) describe the perception common to middle class parents that their children are different to other less advantaged, less educationally successful children. One trait often understood to explain educational success is grit. Duckworth, Peterson, Matthews and Kelly (2007:1087) identify grit as "perseverance and passion for long-term goals," and emphasise its role as a trait within an individual which explains their success. However, this neglects the role of factors such as social capital. Recent work on grit by Almeida, Byrne, Smith, and Ruiz (2019) indicates that college level individuals who enjoy enhanced social capital are more likely to score higher than average on measures of grit perhaps indicating that 'gritty' behaviours, such as enhanced focus on one area, and the risk of task persistence when not immediately successful, are easier to display when one feels more socially secure.

4.4.2 Learning Capitals as Habitus

Attempts to explain why young people from areas of high deprivation are less likely to enter HE can lead to a focus on individual traits or even individual deficits. Ziegler's endogenous capitals – learning capitals within the child – can be particularly prone to confusion with traits within the individual. However, Ziegler offers a useful framework for understanding individual capitals which does not collapse into traits. Endogenous capitals can be fruitfully understood in terms of Bourdieusian habitus. Ziegler et al (2017) identify five endogenous capitals: organismic, actional, telic, attentional

and episodic. Organismic capital is simply described in terms of physical fitness. Physical fitness is not, of course, equally available to all. The Active Scotland Outcomes: Indicator Equality Analysis (Scottish Government, 2015b: Section 1) suggests that physical activity is a particular concern amongst "those with limiting conditions or disabilities, those with lower SES (particularly re sports participation and environmental factors), teenage girls and women of Asian origin". This suggests that groups who experience discrimination due to race, gender and socioeconomic status may be particularly likely to have lower levels of organismic capital. This is important for highly able learners from areas of high deprivation, who are less likely to have been supported by their environment to develop this form of capital. A 'talent' for sports, even the enjoyment of physical health, is inscribed into the body (Skeggs, 2004).

Telic learning capital (Ziegler et al 2017) describes the deployment of both short and long term goals to meet the child's needs. This can include career goals and academic aspirations, as well as shorter range goals which support the learning process. Interestingly, goal setting is discussed in terms of socioeconomic status, with more affluent children described as setting "higher career goals" (Ziegler et al, 2017:316) and feeling more confident in reaching them. While "higher" in this context seems to imply elevated socioeconomic status, this point is not explicitly discussed. In a British context, Kintrea, St Clair, Houston (2015:2) have challenged the perception that deprivation and lowered academic success is connected to low aspirations, which they describe as the perception that "if only the disadvantaged would raise their sights to professional jobs, they too could progress ". Instead, their study suggests that disadvantaged young people's aspirations are generally high, shifting from the highly aspirational at age 13 to more 'realistic' jobs that were still much more highly skilled than those generally available in the local labour market. Kintrea et al (2015) note that far more young people expect to gain to professional jobs in Glasgow, than could actually hope to find them. Loveday (2015) also describes a political view that underachievement is caused by inappropriately low aspiration.

Actional learning capital is described by Ziegler et al (2017:313) as "the action repertoire of a person—the totality of actions they are capable of performing" This embraces the capacity to deploy learning strategies, perform bodily actions, and also to deploy language. It is therefore an extraordinarily broad category. Language is a particularly interesting category as it applies to academic education. Many young people face the challenge of education in a more or less familiar additional language. This can present them with certain difficulties. Ziegler et al (2017) describe the negative impact working in a second or additional language generally has on scores in intelligence tests. However, speaking more than one language does not always lead to poorer outcomes.

Whiteside, Gooch and Norbury (2017) describe a complex picture of a heterogenous group of children with EAL in England, but suggest students who are fully fluent in English before going to school tend to outperform monolingual peers by Year 2. Socioeconomic status is also often seen as having an effect on language acquisition and vocabulary. In an influential paper, Hart and Risley (1992) suggest a vocabulary deficit associated with parents of lower socioeconomic status. More recently, Betancourt, Brodsky and Hurt (2015) describe finding indications that language differences can be seen even in infants of seven months and Maguire et al (2018) suggest SES-related language differences persist in children from 8-15. It seems possible then that even for monolingual young people, the language of schooling could present challenges for non-middle class children, including emotional challenges. Archer, Hollingworth and Halsall (2007:226) describe the feelings of alienation evoked by the "high brow language used by some teachers in class" However, this position is not uncontroversial, with some scholars strenuously objecting to the notion that "linguistic difference amounts to linguistic, cognitive and cultural deficit" (Grainger and Jones, 2013:96). Sperry, Sperry and Miller (2019) suggest that there is in fact a substantial variation in the number of words used by caregivers across the socioeconomic spectrum. Given the complexity of this picture, it seems possible to suggest that language might form a barrier to education and that this might be particularly a factor for working class children. Bourdieu's concept of habitus is relevant here. Reay (2004a:435) describes habitus in terms of the range of actions perceived as being open to a person, constrained by the vague, unstated rules that we have learned should govern the actions of 'people like us'. She suggests that while a person's choices are constrained by circumstances, within "Bourdieu's theoretical framework he/she is also circumscribed by an internalized framework that makes some possibilities inconceivable, others improbable and a limited range acceptable". A person's habitus does not determine the actions, but it does describe the range of actions which they feel are open to them within a particular context. So, a student who might have the cultural capital to engage effectively with the academic discussion in a particular tutorial may be poorly received or even mocked if they do so in an accent which does not 'fit' the accepted academic habitus (Addison and Mountford, 2015).

Attentional and episodic learning capital (Ziegler et al, 2017:313) could also be interpreted in terms of possessing the correct habitus. Attentional learning capital describes how much time a person can spend learning, maintain concentration and avoid distractions. Episodic learning capital is described as "the simultaneous goal- and situation-relevant action patterns that are accessible to a person". For Bourdieu, one's habitus affects how we relate to a particular field. He suggests that 'when habitus encounters a social world of which it is the product, it finds itself "as a fish in water", it does not feel

the weight of the world and takes the world about it for granted' (Bourdieu and Wacquant, 1989:43). Bourdieu (1992) suggests that field can be understood in terms of objective distinctions between individuals in a subjective and fuzzily defined social space social space (Ferrare and Apple, 2015). Entry into the space, and the positions that may be adopted within it are dependent on the ability to deploy the correct forms of capital (Bourdieu, 1992). For a child possessing the correct habitus and the right cultural capital, the field of education is experienced as a natural and unremarkable place, a comprehensible experience. Ziegler et al (2017:319) describes students who possess educational and learning capitals as being "more robust and more resilient" with enhanced self-confidence, improved coping strategies for negative feedback and more likelihood of adopting a "modification theory" or growth mindset towards their learning path. Dweck (2000) attributes enhanced educational success to an incremental or growth approach to learning. For Ziegler, this trait can be understood in terms of educational and learning capital. A Bourdieusian analysis might suggest that this is a result of a middle class habitus which supports their entry into, and strategic deployment of capital within, the field in which they are learning – schools whose policies and practice supports the reproduction of societal inequality (Sattin-Bajaj and Roda, 2018; Ball and Vincent, 1998).

The account of learning capitals within the child (Ziegler et al, 2017) and their entanglement with external factors such as race, gender and socioeconomic status is salient for understanding WP in Scotland. Not only does this theoretical approach call into question the idea of potential, talent and ability as something young people 'have', it also offers insight into how barriers to high attainment may function for some young people. Capital is a key concept in understanding the experiences of highly able students from areas of high deprivation, and how they come to apply to university. Understanding academic success in terms of capital challenges simplistic approaches which avoid ascribing education success to a trait, such as 'talent' or 'potential' within the young person. Ziegler et al (2017:319) comment that the identification of learning capitals "proved to be an even better predictor of scholastic achievements than IQ" This is potentially significant for potential widening participation students in HE, who may well be categorised as possessing or lacking academic 'potential'. However, instruments which consider learning capital when assessing ability, such as the *Questionnaire for Educational and Learning Capital* (Ziegler et al, 2017) are not widely used in Scottish education.

For Bourdieu (1986:244) 'ability or talent is itself the product of an investment of time and cultural capital'. Bourdieusian economic and cultural capital intertwine in the habitus possessed by the highly able learner. Ziegler et al (2017) gently coax the reader to a similar understanding – that giftedness as

a trait within the child is not necessary to explain high ability, and that considering the actiotope of the child and their environment leads us to an appreciation of how habitus can be so easily misrecognised as innate giftedness. This is particularly important for young people who may not possess the correct capitals to be perceived as innately talented, as having potential.

Highly able learners must accumulate a sufficient amount of capital in order to be accepted into Higher Education. This process of accumulation requires a sequence of moves on the education field, potentially long before these highly able learners had thought of university. Young people must seem like plausible candidates to sit high status exams, to access widening participation programmes and to 'merit' support from their schools. Understanding how young people succeed in 'looking like' potential students, potential examination candidates, potential WP participants requires understanding of their academic capitals and how they deploy these resources on the educational field. Delineating this subtle and complex interplay of factors is a key concern of this study.

4.5 Empty Signifiers

Central to the research question at the heart of this theory is how the concepts of potential, talent and ability are understood by young people and those around them. However, this pre-supposes that these terms have some shared meaning. However, the work of Wacquant (2022) and Laclau (1996) challenge this presupposition, raising the possibility that a lack of meaning can also act powerfully.

Laclau's description of the empty signifier is a useful tool to understand how a concept which lacks a clearly defined shared meaning can be at once vital to underpin the social practices and also fundamentally unclear. Laclau draws on Saussure's concept of the signifier (Belsey, 1980), which suggests that words are not straightforward 'labels' for things which already exist. Instead, words and concepts are formed together, and the intuitive perspective that a word 'names' a pre-existing concept is incorrect. Laclau (1996) describes an empty signifier as a term whose signification depends on not being associated with a particular signified, or a particular range of signified. This can be more easily understood by differentiating it from an equivocal signifier which can take many different signifieds, or an ambiguous signifier whose signifieds are under or over determined. An empty signifier is such due to the structural impossibility of its signification within the network of relations which make up the constitutive whole.

This linguistic emptiness may not be merely a terminological confusion. Wacquant (2022: loc 3526), describes the epistemic instability of ideas which exist in scholarly, policy and ordinary language, which:

thrive on the ongoing misunderstanding that their users mean the same thing because they use the same terms, when in fact they are talking past one another about different realities

However, he goes further to assert that "tautology and indeterminacy" (Wacquant, 2022: loc 3110) were not a problem with the term used, but in fact explained why it was socially useful. The indeterminacy of the concept allowed it to be used by ordinary people, by scholars and by policy writers in ways which matched their needs or interests. Laclau (1996) and Wacquant (2022) suggest that the central question of this thesis may not be how potential, talent and ability are understood by young people and those around them, but whether potential, talent and ability are understood – and if not, what function does that instability of meaning serve.

This thesis uses the work of Ziegler, Bronfenbrenner and Bourdieu to explore the educational systems within which Scottish WP operates, understandings of potential, talent and ability, and the educational barriers which young people experienced and strove to overcome. Laclau (1996) and Wacquant (2022) will be used to understand how the concepts of potential talent and ability operate within WP.

Chapter Four outlines the two key theories which are used to structure the thesis and to answer the research questions. This chapter also describes other relevant theories which are important to the research.

- Ziegler's systemic approach gifted education is explored in relation to Bourdieu and Bronfenbrenner's systemic and structural models
- Bronfenbrenner's bioecological model of development is used to delineate key fields for the development of highly able learners from areas of high deprivation
- Bourdieu's inter-related ideas of capital, field and habitus are outlined and their relevance for highly able learners from areas of high deprivation described
- Laclau and Wacquant are used to describe the 'empty signifier' whose emptiness of meaning allows it to be used by groups of users with different concerns, beliefs and interest. These groups are enabled both to talk past each other without confronting differences of opinion and to use meanings which suit their beliefs and interests.

The next chapter, Chapter Five, will outline the methodologies and methods deployed in this study. Chapter Five will explore the paradigm underpinning mixed methods as the 'best of both worlds' and pragmatically justify the use of two apparently antithetical research approaches. Ethical concerns and positionality will also be described.

5 Chapter Five: Methodology and Methods

In Chapter Five, the methodologies and methods used in the study were described:

- The methods to be used were described:
  - secondary data
  - questionnaires
  - interviews
- the pragmatic paradigm underpinning the study was described, and used to justify the mixed methods research
- ethical justifications for the study were discussed
- the researcher's positionality was explored

5.1 Introduction

This mixed methods study used secondary data, questionnaires and interviews to examine how young people from areas of deprivation understand ability and how this influenced their decisions to apply to higher education. The study made use of secondary quantitative data from Widening Participation at University of Glasgow covering 2015-2019. The secondary data indicated which students receive contextualised admissions, which schools they come from and what qualifications they attained. The contextualised admission students' data allowed an accurate picture to be formed of which students receive this intervention.

Questionnaires were used to obtain quantitative information about how students who received contextualised admissions and their ideas about ability differed from students who did not receive contextualised admissions. I surveyed first and second year students at the University of Glasgow through an online survey which included demographic questions, questions about their experience of applying to university and questions about their perceptions and beliefs around ability. Qualitative interviews were conducted with students who volunteered through the questionnaire. These interviews were conducted with students and also (where possible) significant people from their home and school lives: a family member, a former teacher from their secondary school, and a widening access worker and careers worker if they had access to such. Although attempts were made to interview a peer who did not elect to attend university for each student participant, this was not possible. Likewise, due to the ongoing Covid lockdown, recruitment for teachers, WP workers and SDS workers proved very difficult and numbers of interviews in these cases were considerably lower than

might have been wished. These interviews explored the beliefs about ability and university applications held by the students and those developmentally significant others within their home and school environment (Bronfenbrenner 1979, 1992), how their conceptions of ability developed within their home and school environment and how that related to their choices with regard to higher education. This qualitative data was used to enrich and deepen the quantitative data from the other two strands of the research, so that the understanding of students' beliefs about ability and the contexts within which they make decisions about applying to university could be used to interwoven with the quantitative data. This research describes, analyses and contextualises these choices, synthesising qualitative and quantitative data to allow a rigorous and rich understanding of how concepts of ability are formed and the effect these have on decisions about university.

Mixed methods approaches are often justified as offering "the best of both worlds" to researchers across a range of fields (Brooks and Wallen, 2018; Dures et al, 2011). Tashakkori and Teddlie, (2016:8) describe the mixed methods researcher as "a *connoisseur of methods* [sic]" one who not only knows the methodological field to a high degree but who has a sufficient feel for the game that their selection of the "best techniques available to answer research questions" can seem instinctive. The researcher should be able to draw on the rigor of quantitative methods and the meaning-rich contextualisation of a qualitative approach. Using qualitative methods appears to offset the lack of context, the loss of participant voice and the hidden bias of researchers which can beset quantitative research – although it could be cogently argued that hidden and unacknowledged bias is also inevitable in qualitative methods. Deploying quantitative methods promises to address the generalisability issue in qualitative research – but does so by neglecting the role of judgement in determining generalisability (Gorard, 2006). While positioning mixed-methods research as 'the best of both worlds' neglects these tensions, in order to make the most effective use of mixed methods, it is essential that one go beyond using quantitative and qualitative methods side by side (Creswell and Plano-Clarke, 2018). Instead, they must be integrated, so that the one explains and supports the other. Mixed methods research can deploy the techniques of both quantitative and qualitative methods to not only complement, but to support each other. The rigorous hypothesis testing and statistical analysis of quantitative research necessary for generalizable statements can be deepened by meaning-oriented research questions and rich analysis of participant voice.

This mixed methods approach described above will allow the following research questions to be answered.

RQ 1 How do Scottish widening participation students at the University of Glasgow, their teachers, parents, WP workers and SDS workers understand potential, talent and ability?

RQ 2 What educational barriers were experienced by students from areas of high deprivation in secondary school and beyond?

RQ 3 What role do conceptualisations of potential, talent and ability play in creating or overcoming barriers to Widening Participation to Higher Education for students from areas of high deprivation?

5.2 Participants

Students who had received contextualised admissions participated in all phases of this research. Other participants were involved in interviews.

Table 2 shows which participants were involved in each phase. All students involved in this study were from the University of Glasgow. First and second year undergraduate students (n=330) were recruited for the survey through email, sent by kind permission of the University of Glasgow and the Student Representative Council. Students from all SIMD quintiles participated in the survey. As part of the survey, students were given the chance to volunteer for interview. Students (n=26) who were identified as SIMD 1 and 2 according to post code, who reported participation in WP activities, and who reported receiving EMA were invited for interview. Students who had not provided a full post code and who did not report WP participation or receipt of EMA were not invited for interview. Students were asked to facilitate contact with parents (n=3), former teachers (n=3), widening participation workers (n=3) and careers workers (n=2), although no former school peers proved willing to participate. As discussed in Chapter Three, SIMD is the preferred tool of the Scottish government for exploring outcomes and experiences of people living in deprived areas, and for targeting policy and funding and is widely used at all levels of education in Scotland and is also used by Universities Scotland (2017) and University of Glasgow (undated b), which uses SIMD as the criterion for a significant number of contextualised admissions. Student and other attitudes to SIMD are discussed later in the thesis.

Table 2: Participants by Research Phase

	Secondary Data	Questionnaire	Interviews
Students from SIMD 1 and 2 in 2015-2019	X		
Students in first and second year (UG) who received WP, EMA or who were from SIMD 1&2		X	X
Students in first and second year UG from all SIMD quintiles		X	
Parents			X
Former teachers			X
Widening participation (WP) workers			X
Careers workers			X

- All students were students at University of Glasgow.
- Former teachers are teachers employed at a school attended by a student participant
- WP workers are employed at University of Glasgow
- Careers workers spend at least some time at a school attended by a student participant

5.3 Paradigm

This mixed methods study uses a pragmatist paradigm which values "what works" (Creswell and Plano-Clarke, 2018: loc 1829), deploying both quantitative and qualitative approaches to paint a picture of contextualised admissions students, their understandings of ability, and the microsystems in which those understandings were shaped and formed.

Paradigm is a particularly thorny issue for this mixed methods research, as the paradigm selected must support the ontological and epistemological value of qualitative and quantitative approaches which can seem not just distinct, but opposed. Paradigm is widely understood as a unified set of assumptions about the nature of reality and how we may come to know it. However, Morgan (2017) suggests researchers should instead view paradigm as a research methodology which allows us to define the important questions and the appropriate ways to address those questions. Cohen, Manion and Morrison (2018) emphasise that a simplistic division into quantitative, qualitative and mixed

methods ignores that these are types of data, not ways of seeing the world. Instead, paradigm indicates an ontological and epistemological stance and a commitment to shared beliefs and methods within a particular research community. The mixed-methods researcher requires a paradigm that allows them to argue at once that the world can be described by counting and by conversation, by statistical and thematic analysis.

Pragmatism, the approach taken in this research, is a common solution to the problem of a mixed-methods paradigm, and is often seen as an approach "that best provides a foundation for mixed methods research" (Creswell and Plano-Clark, 2018: loc 1829). Pragmatism requires researchers to give up the notion that a single epistemology can underpin their methodology, and to focus on the utility of their methodology for the research they intend to undertake. Johnson and Onwuegbuzie (2004) attribute particular importance to methodology in mixed methods research, where it is not possible for a single epistemology to underpin all the methods used. Instead, they suggest that mixed methods research appeal both to ideas common to quantitative and qualitative research: a commitment to empirical study; the analysis of data; and the attempt to provide warranted assertions about human beings (or at least specific groups of human beings) and their environments. To this end, they suggest the adoption of the pragmatic paradigm as particularly suitable for mixed methods research. Pragmatism gives researchers a warrant to use methodologies with a range of underlying paradigms and very different epistemologies and ontologies.

In this study, secondary quantitative data was used to understand which students received contextualised admissions for what grades, which schools they attended and what they studied. Primary quantitative data was used to identify attitudes held by contextualised admissions and non-contextualised admissions students about towards potential, talent and ability, higher education and their planned life course. This data illuminated some of the views which are associated with higher education decisions on the part of students. The experiences, views and perspectives of students were further explored through a sequence of interviews. The interviews were contextualised though further interviews with developmentally significant individuals (Bronfenbrenner, 1979) from the students' secondary school experience. I interviewed teachers, widening access workers, careers workers and parents to explore their perspectives, beliefs and opinions about ability, attainment and applying to university. These individuals formed part of the students' mesosystem in secondary school - the network of microsystems where relationships with developmentally significant individuals shaped their development (Bronfenbrenner, 1979). This allowed me to explore the understandings of ability, attainment and higher education in students' mesosystem in secondary

school. This qualitative data was used to interpret, understand and enrich the information from the quantitative phases of the study.

5.3.1 Positivism

The epistemology and ontology underlying the quantitative phases of the study is positivism. Positivism is an intellectual tradition which suggested that empirical evidence such as observation and verification can be used to develop laws for human behaviour, similar to the laws and theories used to describe the natural world and predict events within it. This approach separated facts from values, as values were not seen as susceptible to an empirical approach. While positivism's clarity was its strength, the profound complexity and interrelatedness of human behaviour and society was not easy to explore with the tools positivism allowed itself (Cohen, Manion and Morrison, 2018).

With its dependence on observable data, positivism is sometimes understood as excluding human experiences, their interpretation of those experiences and their reasoning about them. As a result, it has been largely supplanted within social science by post-positivism. For realist post-positivists there is at least a degree of objective reality in the social world which researchers can aspire to learn about through scientific, empirical and quantitative methods, although such knowledge can never be discovered once and for all. Constructivist post-positivists consider that the social world is at once uniquely constructed by individuals and at the same time understood socially, so that interaction and co-creation of meaning establishes a "commonsense" reality with layers of institutionalisation, tradition and socialisation' (Given, 2008:5) which can be studied. This approach will underpin the analysis of the secondary WP data, where SQA Higher and Advanced Higher qualifications will be treated as though their value as qualifications were unproblematic and stable, and where an A in one Higher subject will be assumed to have equal worth to an A in another, and the primary survey data. Universities, schools and wider society have co-created understandings of 'ability', 'potential', 'talent' and 'widening participation'. These socially co-constructed 'common sense' understandings can be sited withing Bronfenbrenner's model (1979) as the macrosystem, or wider cultural and historical context. Bronfenbrenner does not include a detailed account of how the macrosystem operates to influence individual development. One contribution this research may make is to explore how these widely accepted 'common sense' social understandings are formed and transmitted.

Post-positivist research asserts that though the researchers' tools are inescapably value-ridden and context dependent, methodological rigour and careful analysis can produce an approximation of truth. Fallibilism, the view that our current scientific theories and systems have no guarantee of truth,

is strongly associated with post positivism. Instead, theories should be understood as the closest possible approximation that can be managed at this stage of human development (Rescher, 1998) Peirce, while holding the view that it would be possible in the future to arrive at theories which correctly described the real world, emphasised that with our current tools and methods it is impossible to arrive at final and definitive truth (Burch, 2021). Rescher (1998) notes that "In science, new knowledge does not just supplement but generally upsets our knowledge-in-hand" and so, when we draw on scientific theories and knowledges, we are drawing on a source that we know is likely to be supplanted by future knowledge. However, it is arguable the extent to which this shift within the paradigm has affected its standing. Positivism offers a scientific 'warrant' (Gorard, 2002) for the validity of the research and its findings which policy makers can sometimes find it easier to respond to and recognise. Boa, Johnson and King (2010:42) note their interviews within the Department of Work and Pensions indicate that policy makers find it "easier to use and interpret research which provides quantitative results – these tend to be more easily communicated and understood in fairly straightforward terms than are more qualitative pieces of information." Ezrahi (2004:256) describes a perception within the political field of science as a form of knowledge both pure and democratic. Pure, because it was decontextualised, depersonalized and comparatively untainted by 'tacit knowledge'. Democratic because the skills of science are taken to be, in principle, attainable by all. By using methodologies which draw on positivism, mixed methods researchers can draw on this warrant.

However, this alone is not enough. Including qualitative research allowed me to explore deeply individual perceptions, understandings and emotions which both contextualised the quantitative data and allowed for analysis of that data informed by participants perceptions of their own lived experience. I was able to centre participants' voices and co-construct understandings with them in interviews to explore their experiences, thoughts and emotions about ability, attainment, potential, talent and higher education. This was underpinned by a social constructivist approach which, through its emphasis on understanding the individual construction of experience allowed for the co-construction of meaning through the interview (Costantino, 2008). Kvale and Brinkmann 2015) describe this as the 'traveller' approach to interviewing, where the participant and researcher begin to construct a text which will be analysed and interpreted to form a narrative which can be shared with the reader.

5.3.2 Interpretivism and Social Constructivism

The qualitative part of this research drew on both interpretivism and social constructivism. Interpretivism's core tenet is that there is an essential difference between study of the natural world

and study of society which means that the methods associated with the natural sciences are inappropriate for studying society. Lewis-Beck, Bryman and Laio (2004) and Cohen Manion and Morrison (2018) stress the significance of the meanings which actions hold for the social actor within this paradigm. Cohen, Manion and Morrison (2018) also underline the need for researchers to set aside both the search for natural laws and their own assumptions in favour of an endeavour to understand how particular individuals interpret particular social contexts. Rather than the generalizations that are the aim of positivistic research, interpretivism confines itself to rich descriptions of individual's lived experiences (Geertz, 2016). This is particularly important for my study as some parts of my research took place in familiar situations. Having worked as a teacher, I inevitably brought my experiences and preconceptions to conversations with parents and other teachers.

Writing about reflexivity, Cohen, Manion and Morrison (2018: loc 12508) suggest that researchers should go beyond private reflection to make a public disclosure of "how their own biographies and backgrounds have influenced the research". Much of my personal history is directly relevant to this project. I have taught for the previous 20 years in a Scottish school within an area of high deprivation, and my research focus was shaped by my observation that many pupils who seemed highly able left school with few or no qualifications, and that educational choices seemed more complex than a straightforward correspondence between ability, attainment, and progression. My interpretation of educational policy and practice in schools led me to perceive this discrepancy for many pupils as my personal failing as an educator, and caused me some significant emotional distress. Exposure to structural and sociological approaches to education were lifechanging for me, as they gave me an approach to understanding why my efforts to 'close the gap' and help all my very able pupils to attain equally well, were so desperately ineffective.

Cohen, Manion and Morrison (2018) note that some researchers interpret researchers' positionality in terms of bias, but convincingly describe the futility of striving for neutrality. All researchers approach their research through the lens of their own experience and their own values. Recognition of my positionality is significant because my experience affected not only what I choose to research, but also how I approached the research work itself. My experiences caused me to question how teachers, young people, families and institutions used and understood ability. My experiences also caused me to believe that this topic must be tackled on a number of levels to address the issues with as much insight as possible. Looking at the university data helped me to understand how many students are involved, survey data helped me to understand more about who they are, and

interviews helped me co-create stories of their individual lived experiences of participants. Taking this holistic view helped me, at least to a degree, to set aside preconceptions and prejudices, and to approach this research open minded and receptive to the data, the survey results and the stories participants shared with me.

Interpretivism has been subject to a range of criticisms for rejection of general laws of human behaviour and its dependence on social actor's definitions or understandings of situations. Rex (1974: loc 148) argues that sociology has an obligation to pursue an objective truth rather than relying on the perceptions of actors who may be 'falsely conscious', interpreting their world wrongly. However, this criticism seems contingent upon the belief that there is a singular real social world about which it is possible to hold correct or incorrect views and beliefs. This research instead holds the pragmatic position that multiple understandings of social realities and issues allow for better solutions to found. Another criticism of interpretivism focuses more closely on its associated methods. Argyle (1978, cited in Cohen, Manion and Morrison, 2018) suggests that given the errors associated with highly structured survey interviews, less structured interviews may carry an even higher error rate. Foddy (1993) questions assumptions that open questioning makes it more likely that participants will be able to express their thoughts, feelings or opinions, suggesting that participants may be more liable to misunderstand questions, to misinterpret situations when engaged in a more open interview as they are receiving fewer contextual clues about the aims of the interview. To mitigate this, I shared aims with my participants through formal means such as Participant Information Sheets and consent forms, discussed more fully in the Ethics section of this chapter. As part of the initial stages of our interview, the aims of the research and the aims and context of the interview were shared and discussed again. Participants were reassured that I was interested in their own unique perspectives, experiences, and views.

Another criticism of interpretivism is made by Bernstein (1974: loc 3425), who argues that a focus on the meanings individuals negotiate within a context does not take into consideration the structural relationships which "implicitly and explicitly, carry the power and control messages and shape, in part, the form of the response to them". For a teacher and pupil within a school, these structural roles may fundamentally determine the relationship, such that the pupil may be convinced that the teacher hates and is out to get him, even though no such animus exists on the part of the teacher, due to that pupil's understanding of those roles (Cohen, Manion and Morrison, 2018). Bernstein (1974) proposes an approach that relates social structures and the situated activities and relationships that occur within them. This problem was mitigated through the research design, as

individual interviews with students, parents, former teachers, widening access workers and careers workers and the qualitative data which results were understood in relation to each other. The qualitative data was also be contextualised through the quantitative data, so that individual accounts could be understood within wider patterns, just as those individual accounts deepened understanding of those wider patterns.

One form of interpretivism current within education is social constructivism, which emphasises individuals' agency and the active construction of knowledge and beliefs through interactions with others. Social constructivism is understood in a variety of ways both within and across disciplines, but Knoblauch and Wilkie (2016) describe the key role of Berger and Luckmann's 1966 book *The Social Construction of Reality* in the popularisation of the term. Berger and Luckmann, (1966: loc 231), asserted the need for a sociology of knowledge which examined "the relationship between human thought and the social context within which it arises" Berger and Luckmann (1966) also explicitly disavowed engagement with philosophical considerations of ontology and epistemology. Knoblauch and Wilkie (2016:64) emphasise that Berger and Luckmann's social construction is distinct from constructivism in its focus on social reality's production by social interactions and institutions, rather than internal mental processes. For Burr (2003) social constructivism is defined in part by its opposition to the idea of knowledge as unbiased, objective observation. Instead, knowledge of the world is specific both culturally and historically. The categories and concepts individuals use in understanding social or physical reality are a result of their specific time, place and social group. One commonly levied criticism is that social constructivism denies the existence of a real material world (Andrews, 2012). While this is clearly inconsistent with Berger and Luckmann's (1966) careful disengagement with philosophy, this criticism also misses the mark with regard to Burr's (2003) account of social constructivism. Social constructivism entails an epistemological commitment to contextual knowledge, but does not speak as to the nature of reality. It is compatible with belief in a real physical world. Burr (2003) suggests that there is a 'real world' out there, and that our understanding of it is constructed using the tools common to our particular context. Thus, all understanding is partial.

Within educational research, Cohen, Manion and Morrison (2018) stress the responsibility of the social constructivist researcher to explore the multiplicity of views held by actors within a situation. Social constructivism is important to this study because this approach allows me to explore how individual understandings are formed by social encounters and environments. In her study of American college women and parenting Hamilton, (2016: loc 364), writes "What I found in this

research is that the details matter. When scholars model the role of parents by proxy – looking only at parental income, education and occupation – we miss the mechanisms (i.e., the underlying beliefs and practices) that explain important variation in student outcomes within larger class groups" Although studying a different population in a very different Higher Education context, Hamilton's assertion of the importance of shared understandings within social groups is equally relevant to this study. By examining the beliefs held within undergraduate student's mesosystems, I explore the beliefs and practices that supported those students in applying for, and being accepted to Higher Education in a manner informed by both interpretivist and social constructivist approaches. In interviews I endeavoured to explore my participants' actions and beliefs in context, but I also remained aware of how participant and researcher co-create meaning together in the interview (this will be explored further in the Interview section of this chapter).

5.3.3 Pragmatism

Reconciling interpretivism and social constructivism with post-positive approaches used in this research is challenging, given the different epistemologies underlying these approaches. However, pragmatism offers an approach which not only allows, but requires the research to use of the most effective methods to explore this topic. Using quantitative data to describe the students involved and to determine how the views they hold contrast with their peers, and using qualitative data to deeply understand the social contexts which have formed these beliefs, opinions and attitudes, and how they influenced individuals' life courses is not just allowed, but required.

Pragmatism gives itself licence to use both interpretivist and positivist methodologies by asserting that the notion of a single, stable, correct epistemology and ontology is invalid. Instead, the meaning of an action or belief can be found in its consequences (Morgan, 2017) Actions cannot be separated from the situations and contexts in which they occur, and no objective truth can be attached to any action as the consequences of an action depend on the situation. Instead of universal truths, pragmatists consider warranted beliefs and seek for useful theories, asking "What concrete practical difference would it make if one theory were true and it(s) rivals false" (Weaver, 2018). However, pragmatism has little capacity to cope with useful but untrue beliefs (Johnson and Onwuegbuzie, 2004) or non-useful but true beliefs. Likewise, if researchers are to seek 'useful' solutions, it is important to know for whom these solutions are useful and what makes this solution count as 'useful'. For the pragmatic paradigm, actions depend on worldviews which are largely derived from socially shared sets of belief. This approach focuses on experience rather than the nature of reality, and on shared beliefs rather than unique beliefs. This invites further enquiry into which groups'

beliefs are prioritised – a question which in the era of 'fake news' and the internet conspiracy theory seems more urgent than ever. In this research, the utility will come from a clear and contextualised understanding of how understandings of ability affect potential students' decisions to apply to higher education which can inform future policy and practice within the field of Widening Participation. This contextual element is particularly important in exploring the concerns of all those who are involved when a young person from an area of high deprivation decides to apply to university.

Pragmatism has significant advantages for the mixed methods researcher. Most importantly, it allows for what Johnson and Onwuegbuzie, (2004), describe as a 'contingency' method, where quantitative, qualitative and mixed methods are all available to the researcher. Examination of the specific circumstances of the research study will then allow the researcher to identify the best method for the research question and the circumstance under which the research will take place. Another advantage of pragmatism for mixed methods research is that it allows the researcher to find common ground between qualitative and quantitative research by assuming 'mutual relevance' (Morgan, 2017), as each of these paradigms operates within the same socially shared world. This allows me to integrate qualitative and quantitative so that the methodological approach of the study is not that of two separate strands, but rather a mutually integrated and intertwined rope.

5.4 Methods

5.4.1 Quantitative approaches

5.4.1.1 Secondary Data

Access was granted by the Widening Participation team at University of Glasgow to secondary data on all Scottish students from SIMD 1 and 2 between 2016 and 2019. It was assumed that these students would all have been offered WP as a result of their post code. The data includes exam results, age on entry, academic programme description, UCAS Qualification Value entry tariff, secondary school attended, local authority of origin, and continuation information. The secondary data from Widening Participation (WP) was augmented by information from the Scottish government (2021b). This data allowed each school's percentage of SIMD quintile 1-5 pupils to be included and allowed me to examine the extent to which students come from schools in disadvantaged areas. As this data included all University of Glasgow students from SIMD 1 and 2, descriptive statistics were used to explore school level attainment, university course selection and other demographic information.

Data cleaning and preparation is a key aspect of analysis (Davis, 2010). Grolemund and Wickham (2017) refer to this process as 'data wrangling'. This data was filtered to include only students who were coming from secondary school in Scotland and minor anomalies, such as an Inverness school coded as belong to the Glasgow LA, corrected. Data tidying was particularly important for the exams data, which arrived with extensive duplicates and some inconsistencies. By focusing on Higher and Advanced Higher results, it was possible to eliminate duplicates and arrive at a final grade for each qualification for each student. The grades arrived at for each student were then coded numerically:

Table 3: Higher Coding

Grade	Score
A1	9
A2	8
B3	7
B4	6
C5	5
C6	4
D	3
F	0

Advanced Higher courses are often recognised as having a slightly higher value by higher education institutions. So, for University of Glasgow (2022) "Grades 'A' and 'B' at Advanced Higher level will

count as a grade 'A' at Higher level. Grade 'C' at Advanced Higher level will count as a grade 'B' at Higher level". To reflect this, Advanced Higher qualifications have been awarded a higher score:

Table 4: Advanced Higher

Grade	Score
A1	10
A2	9
B3	8
B4	7
C5	6
C6	5
D	4
F	0

In both cases an F, or fail, has been awarded no points. Total scores have then been calculated per pupil, with a higher score indicating a larger number of higher value qualifications.

A new column was added to the data to indicate qualifications in STEM (Science, Technology, Engineering and Maths) subjects. Student uptake of STEM subjects is a matter of international concern, although the definition of what 'counts' as a STEM subject, as well as concepts such as STEAM (Science, Technology, Engineering, Arts and Mathematics) and STREAM (Science, Technology, Reading, Engineering, Arts and Mathematics) can prove definitionally challenging. In Scotland, the Scottish Government STEM strategy identifies socioeconomic deprivation as a key area of concern in STEM education (Scottish Government, 2017c). Access to STEM subjects proved to be a key area of concern for students and is discussed in Chapter Eight.

5.4.1.2 Defining STEM in this thesis

In light of the definitional issues around STEM (please see Section 3.3), a decision was made to define STEM conservatively. At the secondary school level, subjects which could be plausibly categorised as mathematics or physical science were included. Subjects which focused on the production of new technology, such as engineering were included. Subjects which focused on developing or using computing technology were included. Social science subjects such as psychology or geography were excluded, as these were taken to fall outside the conventional understanding of science within STEM. Subjects which used technology primarily in the service of artistic expression or the production of aesthetic pleasure were excluded. Subjects which used technology primarily in the service of business needs were excluded as through its' association with Economics, Business is often considered to be a

social science. In addition to this, there was no clear logical distinction between technology used for business purposes and technology used within all other subjects, which could lead to the unwelcome conclusion that all subjects should be included as STEM. Serious consideration was given to the subject Environmental Science, but review of the course specification (SQA, 2021) indicated that the subject primarily lay within the social science Geography. Thus, it was excluded.

Table 5: STEM SUBJECTS: SQA (Scottish Government, 2019)

Science	Technology	Engineering	Mathematics
H Physics	H Computing Science	H Engineering Science	H mathematics
AH Physics	AH Computing Science	AH Engineering Science	AH mathematics
H Physics (Revised)	H Computing (New)	H Product Design	AH Applied Mathematics: Statistics
AH Physics (Revised)	AH Computing	H Design and Manufacture	AH MATHEMATICS OF MECHANICS
H Chemistry		AH Design and Manufacture	AH Applied Mathematics: Mechanics
H Chemistry (Revised)		H Technological Studies	H MATAMATAIG: 1, 2 AGUS 3 (MATHEMATICS 1, 2 AND
AH Chemistry			AH MATHEMATICS OF MECHANICS
AH Chemistry (Revised)			H MATAMATAIG (MATHEMATICS)
H Biology			AH MATAMATAIG (MATHEMATICS)
H Human Biology			AH Statistics
AH Biology			
H Human Biology (Revised)			
H Biology (Revised)			

5.4.1.3 University Courses

The definition of STEM HE courses requires serious consideration of the issue of medicine, nursing and veterinary medicine. Despite the key role that science plays in these fields, the decision was reluctantly taken to exclude them, as they have been historically not 'counted' as part of the STEM field (Scottish Government, 2019). Likewise, the decision was made to exclude accountancy, as it makes use of STEM skills within a business context (Scottish Government, 2019), and business is often considered to fall within social science through its association with economics. In the case of

Technological Education, the decision was made to exclude this subject as making use of STEM skills within an educational context.

Table 6: STEM University Courses (as defined in this thesis)

Course	STEM?
Master in Education	No
Master of Arts	No
Bachelor of Science (Scis)	Science
Bachelor of Science (LS)	Science
Bachelor of Engineering	Engineering
MBChB	No
Master of Arts (Soc)	No
Bachelor of Science (LS-DD)	Science
Bachelor of Technological Ed	No
Master of Arts (Dumfries)	No
MA - languages	No
Bachelor of Laws	No
Bachelor of Dental Surgery	No
BVMS	No
Master in Science (SE)	Science
Bachelor of Science (VetBioSci)	Science
Master of Engineering	Engineering
Bachelor of Nursing	No
Bachelor of Accountancy	No
Bachelor of Music	No
Master of Arts (Ed)	No
Bachelor of Science (Dumfries)	Science
Bachelor of Arts (SocSci (Hons))	No
Bachelor of Divinity	No

5.4.2 Questionnaire

Quantitative data on views and opinions held by students were gathered through an online survey of first and second year students from all SIMD quintiles. This phase of the research relied on the constructivist post-positivist approach of choosing to treat "common-sense" shared meanings as concrete and countable, even while acknowledging that other interpretations are possible. The decision was made to focus on students at the University of Glasgow, as it was possible to survey all first and second year pupils at the university. This was particularly desirable as University of Glasgow is one of the four ancient universities in Scotland and is also part of the Russell Group but is also a university with a longstanding and successful WP programme. To ensure that the applications process was sufficiently recent to be memorable (Foddy, 1993) only first and second year students were included. All students were offered the opportunity to participate through an online survey system, which facilitated wider access for students.

The questionnaire gathered data from first and second year students which goes beyond straightforward demographics to include beliefs and perceptions and memories of deciding to apply for Higher Education as well as current views, beliefs and perceptions. Questions about subject choices, exam results, home lives, attitudes to learning and destinations after school are openly discussed in schools, so it was anticipated that students would not find these unfamiliar or unduly intrusive. Students were not required to provide their names by the questionnaire, although those who wish to be interviewed were given the opportunity to do so. Students were asked to give their post code when attending secondary school, so that their SIMD can be determined. This data was deidentified, with post codes replaced with SIMD levels, and names used only to identify potential interview participants. Information on gender was also be collected. Work by Croll, Browitt, Anderson and Hedge-Holmes, (2016) indicates SIMD 1 and 2 boys are less likely to consider HE until the last year of schooling. While it was hoped that collecting information on gender might indicate gender differences in opinions or planning around applications to higher education, the marked gender imbalance in survey participants meant that cautious use of gender data was mandated.

The 24-item questionnaire, hosted by JISC Online Surveys, was planned to take around 20 minutes and to be straightforward to complete on a smartphone. Most questions within the survey were closed questions, where participants were asked to choose from pre-set options or indicate agreement or dissent using Likert scales (Brill, 2011). Key benefits to participants in this part of the study included a sense of altruism, and the opportunity to express their opinions. In order to promote that, efforts were made to design questions such that the pre-set answers allowed participants to

express their thoughts, feelings and opinions (Foddy, 1993). This was beneficial as it was likely to make sharing the scope and intent of the questionnaire with participants more straightforward and to promote a shared understanding between participant and researcher as to the intent of the questions. Care was taken in administration of the survey. The ongoing pandemic has profoundly affected the experiences of students, causing high levels of stress, isolation and ill health (Watermeyer et al 2020). Asking students to undertake a questionnaire in this context requires consideration of their wellbeing. In order to address this, piloting was used to design a questionnaire which could be completed online in a reasonable period of time. Although the pilot indicated that participants finished the survey, understood it and generally expressed approbation of the survey contents, the pilot did not point up two key errors in the survey design. The survey did not enquire about disability, care experience or LGBTQIA+ status. Excluding disability, care experience and sexuality was a deliberate choice made to respect participant privacy by not gathering data which was seen as outside the purview of this study. However, LGBTQIA+ status and disability both arose as significant in school and HE choices in the interview data. Asking about these factors would have allowed the interview data to be considered in relation to survey data. While care experience did not arise in the interview data, one survey participant did express unhappiness that their care experience had not featured in the survey. One other survey participant expressed unhappiness that there was no question on disability in the survey. Piloting the questionnaire did not highlight significant areas of misunderstanding and confusion, and questions seemed to be transparent (Cohen, Manion and Morrison, 2018).

Reliability and validity are key indicators of survey quality. Construct validity has been established through an extensive literature review and was tested through piloting which established whether questions are understood as intended. The interpretation of questions is a key issue for the validity and reliability of questionnaires. Foddy (1993) suggests that unexpected interpretations can occur as a result of participants attempting to understand the intent of questions and the answer desired by the researcher. I increased the participants awareness of my intent by informing them of the nature of my research through the participant information sheet and consent form before the questionnaire. By taking a straightforward approach where participants knew why the research was taking place, and that the intent of the questionnaire was to reflect their thoughts, feelings and opinions about ability and their application to university I believe I improved the likelihood of questions being understood. Questions about exam results, home lives, attitudes to learning and destinations after school are openly discussed in schools, so it was anticipated that these former school pupils would not find these unduly intrusive, nor unexpected. Other steps taken to reduce misunderstanding

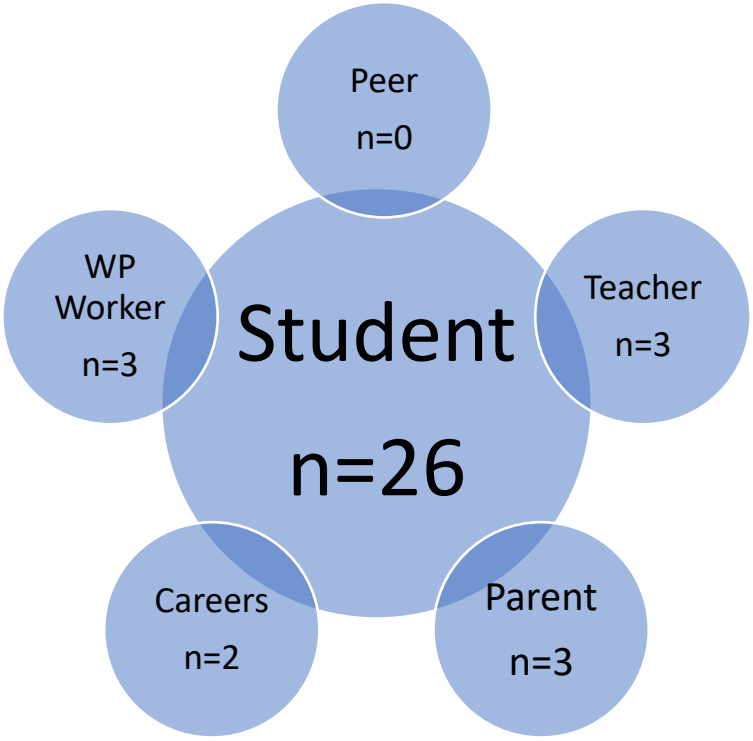
included asking just one succinctly expressed question at a time, so as to avoid participants reading and responding to only the first part of the question. While due attention was paid in analysis to indications that a participant has tired of the process such as always checking the first box, or always selecting the same level on a Likert scale, this questionnaire proceeded from a position of trust, that most participants will be motivated by benevolence, and answered thoughtfully where possible. Likewise, a low incidence of incomplete questions seemed to indicate that most participants maintained concentration throughout the survey. Foddy (1993) suggests that researchers often underestimate the role that memory plays in answering questions. In this case, participants answered questions about an unusual event which happened within two years, which increased their chance of recalling more accurately. Questions about remembered attitudes, thoughts and feeling may be affected by "the bias of forgetting or selective recall" by students at the time of the questionnaire (Cohen, Manion and Morrison, 2018: loc 13771). However, given the school closures and lockdowns of the pandemic, the decision was made to rely on memory as access to young people undergoing the experience of applying to HE was simply not possible.

Survey data was analysed using descriptive statistics. QQ plots and the Shapiro-Wilk test indicating non-normal distribution of data, cautious use was made of the Kruskal-Wallis test and Mann-Whitney U test to investigate differences between groups. Where differences were found, logistic regression was used to explore differences between groups.

5.4.3 Qualitative approach: Interviews

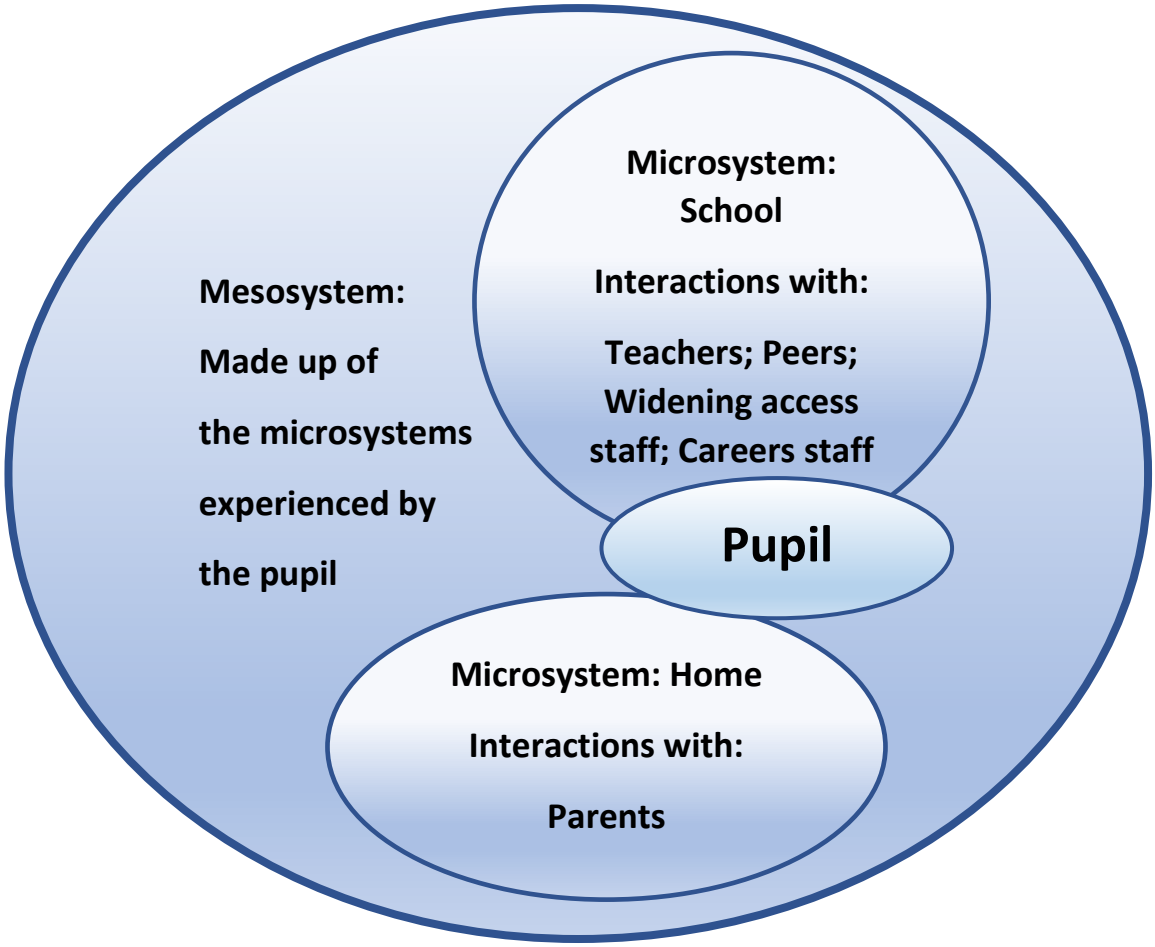
Interviews were undertaken with twenty-six students who received contextualised admissions, three former teachers, three parents, three widening participation workers and two SDS workers.

Figure 3: Interviews by group



As part of the questionnaire, students were asked to indicate whether they were interested in participating in interviews. Twenty-six students who were in SIMD 1 or 2, who had received EMA or who had received WP were interviewed. A strong effort was made to interview adults with whom they have developmentally significant relationships within their home and school microsystems (Bronfenbrenner, 1979). However, as interviews were largely conducted via Zoom during the extremely busy post-lockdown period, it was extremely difficult to recruit teacher and parent participants for interview.

Figure 4: Model of Pupil Microsystems and Mesosystem



This particular university and local authority were chosen as existing personal links facilitate access to key gatekeepers. Focusing on one local authority and one university also facilitated a more in-depth examination of these particular contexts and how students came to move from one to the other.

Interviews were chosen as the main method of data collection in order to explore in depth and richness the experiences, opinions, and perceptions of participants in this study, and to understand how participants understood each student's journey towards university application. Kvale and Brinkmann (2015:1) describe conversation as a basic mode of human interaction, and a means of learning about others' 'experiences, feelings attitudes and the world they live in'. Kvale and Brinkmann (2015) suggest that interviews can be approached as knowledge collection or as knowledge construction. Their much-quoted metaphor of the interviewer as miner, engaged in a search for pre-existing knowledge, or interviewer as traveller, engaged in a journey from which they will bring back a story, walking and talking with the people who live there illustrates these two

approaches. Miner conceptions of interview, which rely on a straightforward communication of information, or which attempt to control for bias tend to regard contextual pressures, interpersonal influences, and contextual effects as potential confounders which must be reduced, minimised, or mitigated. However, this approach assumes a 'universal, authentic self' (Kvale and Brinkmann, 2015:107) which may not in fact be an innate feature of humanity. For Kvale and Brinkmann (2015:3), the qualitative interviewer must understand participants on two levels. They must centre the 'subject' as an active participant in meaning-making but also recognise them as 'subject' to the rules of engagement the interviewer set up, as well as 'discourses, power relations and ideologies that are not of their own making'. Cohen, Manion and Morrison (2018: loc 20087) describe the interview as 'a social, interpersonal encounter, not merely a data-collection exercise' and emphasise that it should be understood as neither subjective or objective, but 'intersubjective' - created between participant and researcher and embedded in their human context.

Kvale and Brinkmann (2015) position the interview as a cultural 'technology', constructing rather than revealing identities and subjectivities and challenge us to reflect on how this structures researcher and participant subjectivity. This study addresses this crucial issue by acknowledging that while interviewer and subject engage in the co-creation of meaning in interviews, this is not a situation of equality, as 'the researcher defines and controls the situation' (Kvale and Brinkmann, 2015:6). All care was taken to fully inform participants of their rights, including data protection legislation, ethical agreements around data use and storage and to reassure them that they could withdraw at any point (discussed further later in the chapter). Efforts were made to build relationships with participants and promote an atmosphere of mutual trust and respect where participants feel safe to express their needs, as well as to answer questions (Cohen, Manion and Morrison, 2018). Beyond that, care was taken to acknowledge and respond thoughtfully to participants' thoughts and feelings around the interview process (McGrath et al, 2019), and to be aware of unspoken or obliquely expressed tensions so that interviews could be terminated if that seemed in the best interests of the participant (Yeo et al, 2014).

These interviews aimed to co-create meaning with participants by listening carefully to their voices. Working from a feminist interview tradition, Devault and Gross (2014) describe allowing participants' voices to be heard as a key purpose for qualitative interviews. However, as Devalut and Gross acknowledge, voice is by no means an unproblematic concept. The power imbalances of the interview situation are made manifest in the concept of 'giving voice' to participants, as this underlines the reality that voice could also have been withheld. Pickering (2018) describes the unintended

consequences of researcher's paternalistic drive to protect participants, which can result in their voices being excluded from research. The desire to protect participants who seem to be experiencing, but have not voiced, distress could lead to a muting of their voices and the loss of an opportunity for self-expression. However, concerns of "how to best represent the voices of their participants while acknowledging their own position" (Chandler et al, 2015) must first grapple with the nature of participant voice in qualitative research. Denzin, (1995) critiques the notion that participants' lived experience can be unproblematically conveyed to the reader through the text created by the researcher. Denzin suggests that the 'life' of a text exists in the dialogue between the reader and the written text, or between two speakers in a dialogue. This thesis moves between these modes, where the dialogue between two speakers is then analysed and described in a written text. These interviews did not presume to reveal a single 'real' truth of participants experience, but rather to create a narrative within the interview, which is then transformed into analysable text. It is the transcript of this spoken word which is examined, not the 'real life' of the participant. A constructivist approach to the interview, and the analytic work performed upon the fruits of that interview, allows some of these issues to be resolved. This study endeavours to avoid (mis)taking what is said in interviews for revelations of participants' inner truth by focusing on the interview recordings and transcriptions as text co-created by the participant and researchers, which, analysed in concert with each other, the survey and secondary data, can give insight into how these particular individuals, and the groups they belong to, understand the key issues of ability and

Semi-structured interviews were used to explore in depth and richness the experiences, opinions and perceptions of participants, while ensuring that the opportunity is taken to explore key themes with all participants. This approach has more flexibility than a structured interview with a script, which does not allow for variation in how questions are asked or ordered and which does not normally allow for follow up questions. However, it offers more support than an unstructured interview (Cohen, Manion, and Morrison, 2018). This was particularly desirable for a novice interviewer, who wished to explore the right territory with participants, for whom the 'guide book' of interview themes will be a key part of avoiding going astray. Semi-structured approaches also offered a clearer timescale for the interview, important during this period of extended and extensive disruption to normal schooling due to the pandemic, where the time that many participants can be asked to give should be as limited as possible. Interviews aimed to last between fifteen and forty minutes, in accordance with recommendations in the literature (Cohen Manion and Morrison, 2018; Spencer, Cleg and Stackhouse, 2010), although when participants clearly expressed a wish to continue, they were not forced to stop.

Interviews were preferred to focus groups for this research. While focus groups would encourage participants to form a joint narrative around applying to university and seek out commonalities, individual interviews were found preferable as they allowed me to work with individual participants to explore in-depth their unique narratives, perceptions, and memories, clarifying and adapting questions organically in response to participants' narratives (Arksey and Knight, 1999). This allowed me to contextualise questionnaire and secondary data. Interviews were conducted with pupils, their families, their teachers and where possible other significant others such as careers service and widening access and participation workers. This aimed at developing a more in depth understanding of how young people and the developmentally significant individuals within their ecosystem (Bronfenbrenner, 1979) understand and use concepts such as ability and potential to conceptualise attainment and make decisions around higher education applications.

Under normal circumstances, face to face interviews would be the preferred method for this study. This is to do with issues around access to technology in the most economically deprived areas, as well as levels of comfort in its use by pupils, school staff and parents. However, face to face interviews during the pandemic carried an increased risk of infection, and a strong possibility of fear of infection. As a result, interviews were conducted online face to face through Zoom, Teams, or other online video conferencing apps wherever possible. Given the importance of non-verbal communication, including body language and tone (Kvale and Brinkmann, 2015) video conferencing was preferred when logistics allowed, as this allowed facial expression and some limited body language to be used, as well as tone of voice and choice of language. This also allowed a more immediate perception of and response to the participant's body language and facial expression. On very rare occasions when this was not possible, a telephone interview was used.

Trustworthiness in qualitative research is an approach associated with Lincoln and Guba (1985, cited in Bryman, 2012) This approach suggests four quality indicators for qualitative research: credibility, transferability; dependability and confirmability. To be credible, research should be plausible to its participants. Birt et al (2016) suggest that participants can find reading their own transcriptions uncomfortable or research findings impenetrable. Instead, Birt et al (2016) suggest a multi-stage approach to member checking where participants are given the chance to opt in to receiving a plain-language report on the research findings, including open questions, with responses being integrated into the data set and records being kept of response rates. However, the focus on the interview as co-creation of text meant that member checking was not appropriate. The interview text did not purport to unearth participants true thoughts or feelings and while member checking might produce new and

interesting text, it would not change the text which had been originally constructed. Also, perhaps unsurprisingly given the strain of the ongoing pandemic, only a small number of participants expressed a desire to know more about the outcome of the study. This may indicate that while participants were willing to give their time for a conversation, they did not wish to commit to ongoing involvement.

The degree of 'transferability' of findings from qualitative research to other contexts depends on the congruence between 'sending' context and 'receiving' context (Lincoln and Guba, 1985, cited in Ritchie and Lewis, 2003:269). This congruence can be established if the researcher provides a sufficiently 'thick description' (Geertz, 2016) of the sending context to allow the reader to gauge and assess that congruence. Bronfenbrenner's emphasis on examining the developing person's life events within their wider social context in order to understand the interactions with developmentally significant others makes interlocking semi-structured interview approach particularly appropriate (Bronfenbrenner, 1992). Understanding interactions with teachers, SDS workers, and WP staff in the school microsystem, parents in the home, and peers in both school, home, and the outside world helped contextualise students' understandings of ability, and their choices around higher education.

Finally, one strength of the PhD is that dependability and confirmability, the two final criteria of good qualitative research, are accomplished through the supervision process (Lincoln and Guba, 1985, cited in Bryman, 2012). As data is generated, "complete records are kept of all phases of the research process—problem formulation, selection of research participants, fieldwork notes, interview transcripts, data analysis decisions, and so on—in an accessible manner." (Bryman, 2012:392) and shared with the supervisors in the confident expectation that should errors, oversights, theoretical idiosyncrasies or ill-supported analyses come to light, they will be raised and addressed.

Interviews will be coded (Saldaña, 2009) and analysed using reflexive thematic analysis (Braun and Clark, 2022). Analysing this interview data helped me to understand with more richness and depth how participants understand the key concepts of potential, talent, ability, and HE and how the student's interactions with developmentally significant individuals within their mesosystem (Bronfenbrenner, 1979) has helped shape and form these understandings.

5.4.4 Ethics

Researchers must have ethical justification for conducting research. Israel (2016: loc 135) asserts that "Social scientists do not have an inalienable right to conduct research involving other people".

Instead, each researcher must be able to offer a cogent and realistic argument for the ethical validity of the research they plan to conduct. This is particularly necessary when dealing with vulnerable groups.

This study adopts a multilevel approach to ethics, using different approaches to satisfy different dimensions of the ethical problem of research. A Virtue ethics approach will be foundational, as is an attitude of personal responsibility for the ethical conduct of this study (Israel, 2016). However, this alone is insufficient, while as participants may place reliance on the individual ethical character of the researcher (Israel, 2016) an individualistic approach offers no rationale for what makes individual research decisions good or bad, nor any links between this and the morals common to wider society. A deontological approach, entailing strict adherence to ethical rules which have been established by the institutions, supported me in designing and conducting a study which is ethically acceptable to my research community. However, situations did occur which were not covered in the rules I was following and which I had not yet formed ethical dispositions towards. There were also indications that the rules of ethical behaviour will not be entirely the same between the research community I belong to and the community within which I am conducting research. For example, a teacher I interviewed asked for information about the student who had suggested them as a potential interviewee. To bridge this gap, I looked to relational ethics. Relational ethics shifts the foundation of ethical action from abstract principles to an ethics of care focused on care, compassion, and relationships (Israel, 2016). Noddings (2013) distinguishes between 'natural' caring, which springs up from the emotions, and 'ethical' caring, which arises from a belief that caring is a moral good, and an effort to behaving in a caring manner even when not experiencing an immediate emotional impetus to do so. She asserts that while principlist ethics can guide research planning, ethical caring determines responses to immediate situations. I endeavoured to act with ethical care towards my participants, within the limitations of the 'rules' of ethical conduct of my institution during the research process, endeavouring as far as possible to render my conduct and the rules I was following transparent for those with whom I was working.

Relational ethics harmonise with the bioecological model of development and its emphasis on the importance of human relationships for development (Bronfenbrenner, 1979). They also foreground issues of power, which are particularly important for a researcher conducting research in a school where she used to teach. Humphrey (2013) describes the challenges of the dual role of the insider researcher, which can sometimes require compartmentalization of knowledge, a careful regard to which role is being enacted at any given moment, and a clear mechanism for signalling this to others.

I am both a student and a tutor within the university and, although I am no longer a teacher in this local authority, I still worked within the region as a supply teacher during the period of this research. Conversations with gatekeepers indicated that my experience as a teacher was a key reason that I was - virtually - admitted to schools during this time of great challenge. The pandemic has been an extremely challenging period for schools, and for school leaders. The perception that I was a trustworthy person motivated by a desire to help young people, and that I did not arrive with biases was given as a reason for my admittance. As a result, it was necessary to ensure that gatekeepers expected a fair representation of their practices, rather than guaranteed positivity. Another concern was that due to my insider status, participants might identify me as an authority figure who is entitled to demand their cooperation (Cohen, Manion and Morrison, 2018). The procedures of formal consent drew a distinction between research activities and normal school or university procedures and provided scope to emphasise freedom of choice.

Also due to the ongoing pandemic, there was risk associated with face-to-face interactions. As a result, this research was conducted through online video conferencing or telephone calls. This ran the risk of excluding some participants who lack access to the internet or phone coverage. Recent market research indicates 82% of the 20% poorest households have internet access at home, 90% of adults have a mobile phone, and 98% of Scottish young people have internet access via a mobile phone (Scottish Household Survey, 2019; Ofcom, 2017). It was deemed plausible that due to the pandemic internet access might have improved to meet the needs of distance learning students and working-from-home parents, and that this necessity will have a limited effect on participation. In the event, only a very small number of participants elected to talk by telephone.

Other risks included difficulties with anonymisation. Data cannot be fully anonymised where only a few SIMD 1 and 2 pupils have obtained particular exam results, and this could lead to the identification of individuals. This was mitigated by deidentifying and anonymising data as fully as possible, and by referring to the local authority, schools, towns, and individuals by pseudonyms. It was also a matter of concern that participants might experience distress due to sensitivities around destinations post-secondary school, exam attainment, parenting, or teaching choices. This was mitigated by a sensitively written questionnaire and interview questions designed to elicit information without any appearance of judgement. Participants were made fully aware of the nature of the research and that this does not include any form of judgement of pupils, parents, or staff as individuals. I endeavoured to conduct myself in an ethical and transparent manner, keeping detailed notes of research activities and sharing data with supervisors so that the adequacy and integrity of

my work could be monitored and found that many participants spontaneously described the interview as a pleasant process (Creswell and Creswell, 2017; Cohen, Manion and Morrison, 2018; Ritchie and Lewis, 2003; Israel, 2016.)

5.5 Positionality

Braun and Clarke (2013:303) warn against the inclusion of a 'reflexivity section' in qualitative research papers, cautioning that such separation can cause reflection to move from an integral part of the research approach to a "frivolous" add-on. However, the interweaving of reflective and positional writing with the body of the research text is rather more common in qualitative than quantitative writing (Lorette, 2023). For this mixed methods study I wish to acknowledge from the outset my position as regards both the topic and the participants I was privileged to work with, so that my stance with regard to the research, and to those researched, is shared.

Forbes (2008:457) describes reflexivity with professional doctoral study as writing practices which "unsettle undermine and transgress my previous view of a unitary, stable self" Although my research was undertaken as part of a PhD rather than an EdD, I nonetheless approached this study perceiving myself as a teacher. By the end of my PhD I had been a Scottish secondary English for 23 years, working in areas of high deprivation with pupils who might well go on to study under the same circumstances as my student participants. I felt extremely comfortable with relating to teachers and Skills Development Scotland (SDS) workers as a kind of colleague, to student participants and parents as a quasi-teacher. This carried both advantages and disadvantages. As pupils and teachers appealed to our shared experiences of Scottish education, there was a real danger that important points could slip by, so natural and familiar as to be unperceived. At the same time, the discomfort of engaging as a researcher was ever present – when I exchanged an 'inside joke' with a colleague, was I misleading them as to the intent of our conversation, when a student shared extremely personal health information, were they doing so out of a misperception that this was a conversation between teacher and pupil. Likewise, was there a danger that student participants, in particular, might over-estimate the potential reach and impact of this study, participating because they believed that this PhD thesis could change Scottish education? Judgement was exercised, both in the moment and during transcription and analysis, to ensure that participants remained aware of the purpose of these conversations, and to ensure that all resulting data was treated ethically.

Part of what drove me into PhD study was increasing discomfort with Scottish education. As a professional, I have discussed which pupils have the ability to cope with particular courses, and which

pupils lack it, who has ‘no potential to improve’, who is ‘pretty talented’. I have listening to colleagues discuss widening participation and participated in decisions about which pupils ‘belong’ in which sets, who should be allowed to sit which exams, who should be kept out of the ‘top set’ classes despite their high attainment and who should be ‘given a chance’ despite mediocre attainment. The decision to end my career as a teacher and to enter into this research was driven by a deep frustration at my inability to understand how some young people from areas of high deprivation achieve in school and enter HE while others, perhaps equally talented, were not able to follow that course.

In the following three chapters, the secondary, survey and interview findings will be described.

In Chapter Five, the methodologies and methods used in the study were described:

- a table was used to outline the integration of Bourdieu's theory of practice and Bronfenbrenner's bioecological model and how this was deployed in the thesis
- secondary data was obtained from the University of Glasgow Widening Participation
- questionnaires were circulated across first and second year students
- interviews were conducted with students, family members, teachers, widening access workers and careers workers
- although attempts were made to interview peers, this did not prove possible
- the pragmatic paradigm underpinning the study was described, and used to justify the mixed methods research
- ethical justifications for the study were discussed
- the researcher's positionality was explored

In the next chapter, the secondary data findings will be described, including the demographics of widening participation students at the University of Glasgow, their course choices, and their exam grades. Advanced Higher attainment for this group is explored in relation to SIMD - the Scottish area measure of deprivation.

6 Chapter Six: Secondary Data

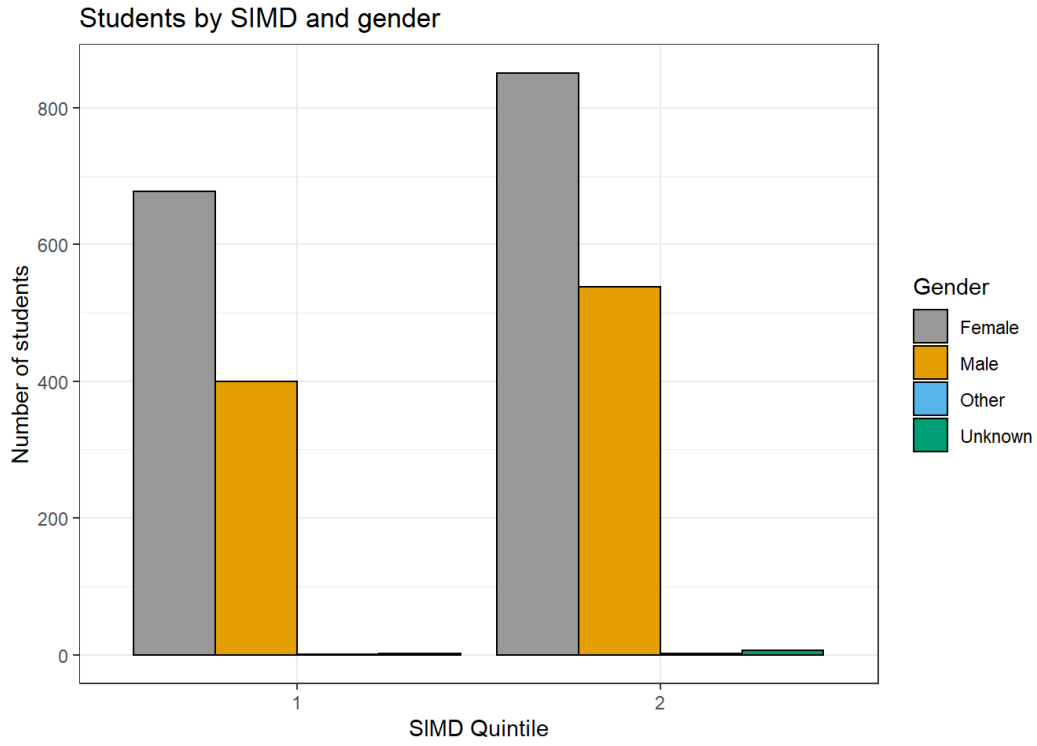
Chapter Six explores the secondary data from widening participation students who attended the University of Glasgow. Findings include:

- demographic data on age, gender and local authority of origin
- subject choice
- qualification levels and grades in relation to SIMD

The University of Glasgow Widening Participation team generously agreed to share data for this study. The dataset shared includes 2683 students between the ages of 16 and 20 from SIMD 1 and 2 who were accepted to the University of Glasgow between 2015 to 2019. Gender and SIMD are shown in figure 1, with 1635 students identifying as female, 1037 identifying as male, less than five as other. No information was available for the remaining eight students. More SIMD 2 than SIMD 1 students were represented, with 1098 students from SIMD 1 areas, and 1585 from SIMD 2 areas. Examining this data offers insight into the educational experiences of SIMD 1&2 students at University of Glasgow, and potential indications of educational barriers which they may have navigated.

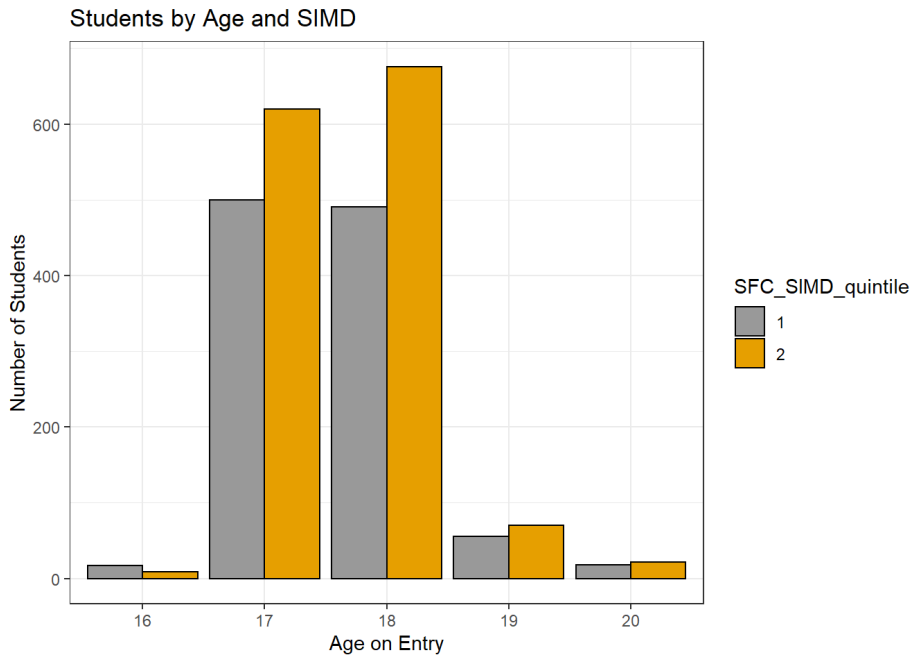
6.1 Demographics

Figure 5: Students by SIMD and gender



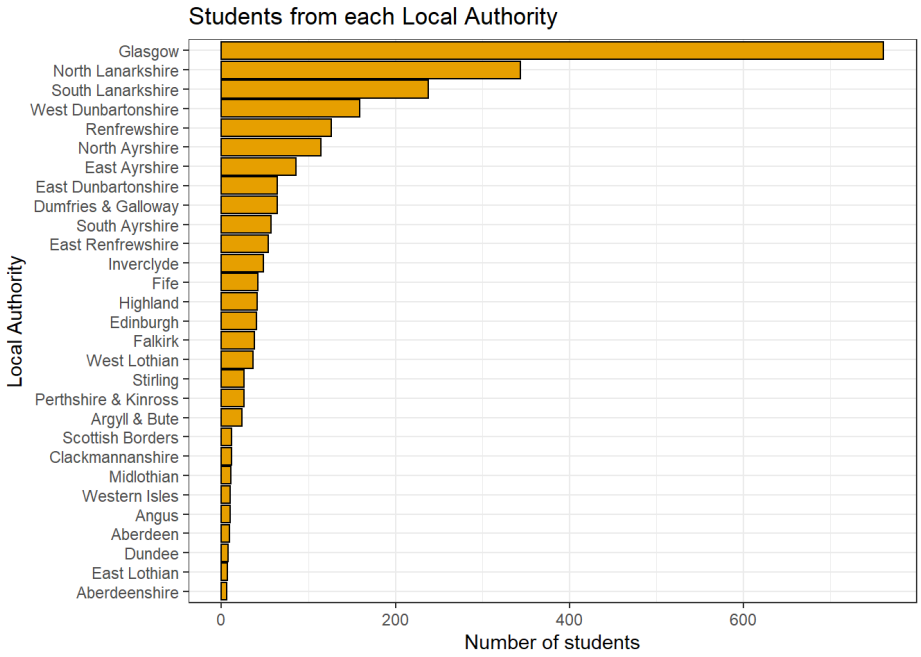
This dataset is restricted to students between the age of 16 and 20. This group was chosen as Scottish school leavers must be 16 by September in order to leave school (Education Scotland, 2022). It is likely that even students who had deferred entry to school will have left school by the age of 19 (Enquire, 2021). By including students up to the age of 20, it is possible to include young people in this group, as well as those who may have had a 'gap' between secondary school and university. Young people with college qualifications have not been included in this dataset due to challenges in comparing their qualifications to those offered by the Scottish Qualifications Authority (SQA). Most students in this group are 17 and 18, indicating that they may have come directly to university from secondary school. It is possible, however, that some 17 and 18 year olds may have left at the end of fifth year, or may have been young for their year group and taken a year out before university study. It is unlikely that many students in this group will have a gap of more than four years between secondary school and university. However, the data does not support definitive conclusions here.

Figure 6: Students by Age and SIMD



Students were recruited from 348 schools spread across all 32 local authorities in Scotland. Glasgow City has sent the highest number of students, 773. The lowest number have come from the Shetland Islands, under six students over the 2015-2019 period. Information about Local Authority origin is not available for 170 students. Numbers of students from Moray, the Shetland Islands and the Orkney Islands were too small to be reported without risk of identification (n<6) and so these were omitted from the graph. The small number of students from these areas reflects both the small size of these councils, and difficulties in applying the SIMD model to these areas (Lasselle and Johnston, 2021). SIMD will be discussed later in this study.

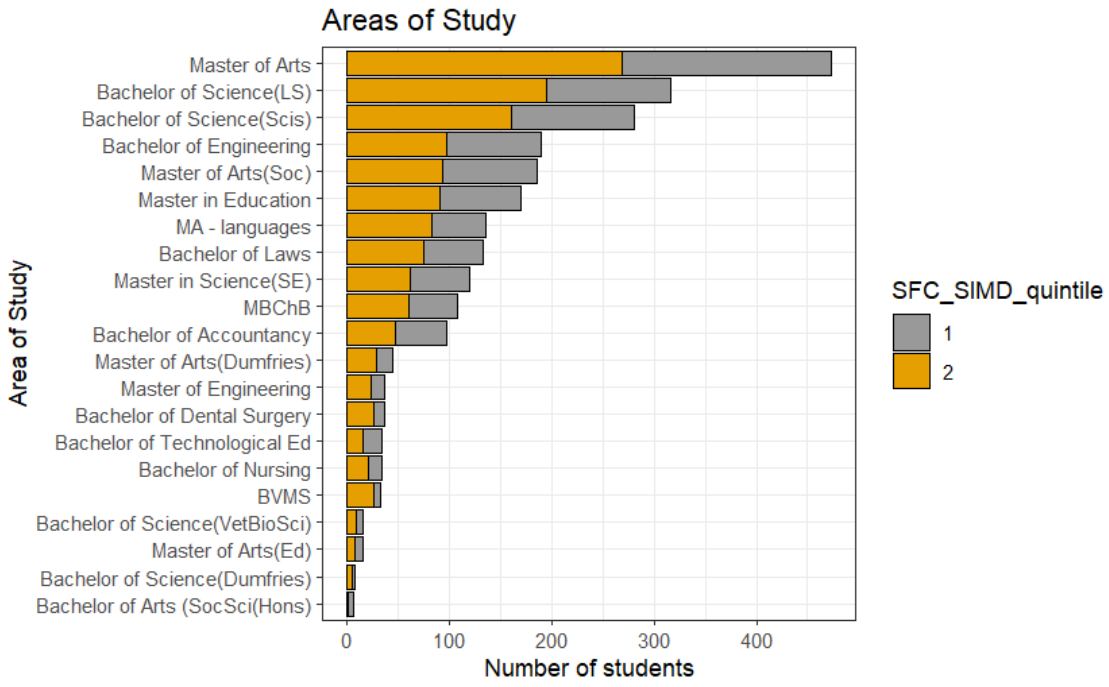
Figure 7: Students from each Local Authority



6.2 Course Choice at University

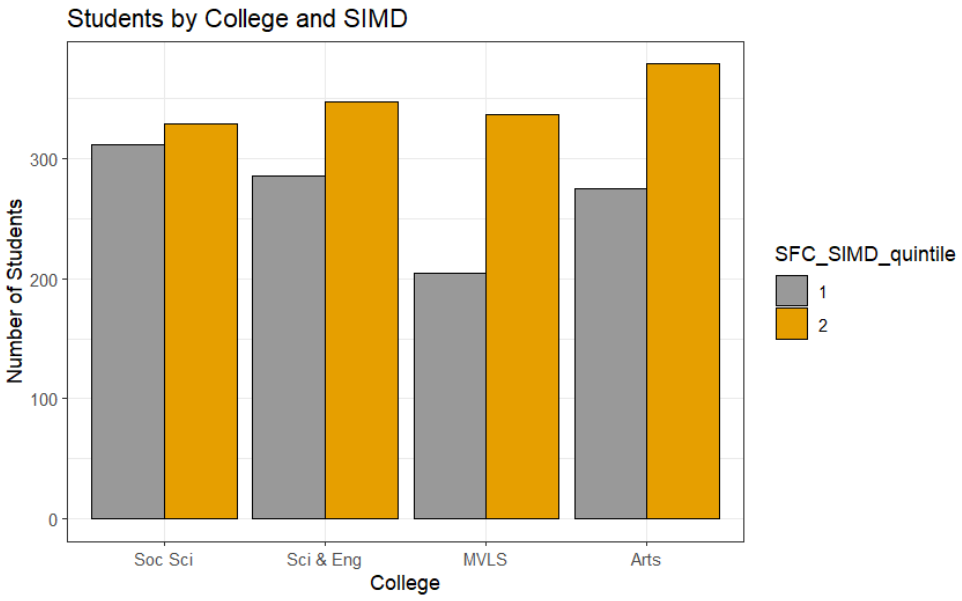
The graph below shows the student's general area of study. Course selection varies across subjects, with some students selecting three subjects in first year and specialising at the end of second year, while other professional courses are highly structured from the beginning of the course. However, they will be members of particular Colleges within the University and, in some cases, Schools within those colleges. There is also a range of descriptions including Master and Bachelor. For historical reasons, at the four 'ancient' Scottish universities, including Glasgow, a four-year undergraduate course in Arts or Social Science is called 'Master of Arts' and 'Master of Arts (Soc)' (University of Glasgow, undated c) The Master in Education, Bachelor of Technological Ed and Master of Arts (Ed) courses are all courses which lead to a Scottish teaching qualification. The Master of Arts (Ed) and Bachelor of Technological Ed courses are four-year courses which lead to a teaching qualification, and the Master of Education course is a Masters level course which leads lead to a postgraduate Masters qualification (MEduc) and Scottish teaching qualification. Numbers of students who selected Bachelor of Music, Bachelor of Science (LS-DD) and Bachelor of Divinity courses were too small to be reported without risk of identification (n<6) and have been omitted from the graph.

Figure 8: Areas of Study



Using information from the University of Glasgow website (undated, c) courses were categorised by college. Please see Appendix One for the categorisation of each qualification. SIMD quintiles 1 and 2 were almost equally represented in College of Social Science and were most different in College of Medical, Veterinary and Life Sciences, with more SIMD 2 students than SIMD 1.

Figure 9: Students by College and SIMD



6.3 Scottish Qualification Authority grades and Entry Requirements

By converting SQA examination grades gained in the last two years of secondary school into a numerical 'point' score, the school qualification result total for student can be calculated. As Higher is the 'gold standard' of Scottish education, pupils who have been successful in S5 may go on to study further Highers in S6 rather than progressing to study AH. Converting the letter grades into numbers is a mechanism for illustrating these different forms of progression by describing both sets of qualifications within the same linear scale. Also, as A and B at AH are often evaluated as equal to As at Higher (University of Glasgow, 2022) a linear scale offers a straightforward way to express this equivalence. A further layer of complication ensues as results in Scottish Highers and Advanced Highers are assessed as letter and number grades: A1, A2, B3, B4, C5, C6, D7 and F. F does not have a number associated with it. A caveat must be given here – the secondary data had some missing information, and the results data required extensive processing to remove duplicated entries. Where entries showed students having achieved a qualification twice in one year, the least informative entry was removed. Where entries showed less common subjects, these were checked on the SQA website (2020). Where entries were not found on this website, an email was sent to the SQA to enquire whether these were subjects that had been removed. Where entries were found to be modules, or sections of incomplete qualifications, these were removed. Likewise, the Scottish Government data used later in this chapter had missing data from some schools, and other schools with surprising results, such as SIMD percentages which added up to significantly less than 100%. Where data was missing, rows were removed. However, this missingness and messiness in the data used should be kept in mind when evaluating findings.

The value of particular grades can be contextualised by looking at the SQA grade requirements for some sample representative courses at University of Glasgow – please see Appendix One. While four Bs at Higher is often regarded as the minimum, most courses require significantly elevated results (other requirements, such as interview or study of particular subjects, have been omitted). To allow for comparison, these exam scores were converted into a linear scale from high to low. For Higher, A1 was converted to a nine, A2 to an eight and so forth, with F receiving a 0. Advanced Higher was dealt with differently. The University of Glasgow (University of Glasgow 2013, 2022) weights Advanced Higher grades differently, so that an A and a B at AH are treated as equivalent in value to an A at Higher. Therefore, an Advanced Higher A1 received a nine, A2 a nine, B3 a nine, B4 an eight and so forth, with F again receiving 0. Letter grades in Scottish Qualification Authority examinations do not correspond to particular percentages of marks gained, as cut offs for the various grades are adjusted

annually. It is broadly understood (SQA, 2021) that a C6 would lie between 50% and 54%, a C5 between 55% and 59% and so forth, with an A2 lying above 70-% and an A1 somewhere above 85%. The precise percentage cut offs which correspond to each grade can vary across subjects and across years. Despite this variation, an A at Higher in one subject is generally treated as equivalent in value to an A in another subject in admissions, supporting the decision to attribute a particular numeric 'worth' to these grades.

Table 7: Highers and Advanced Highers by SIMD

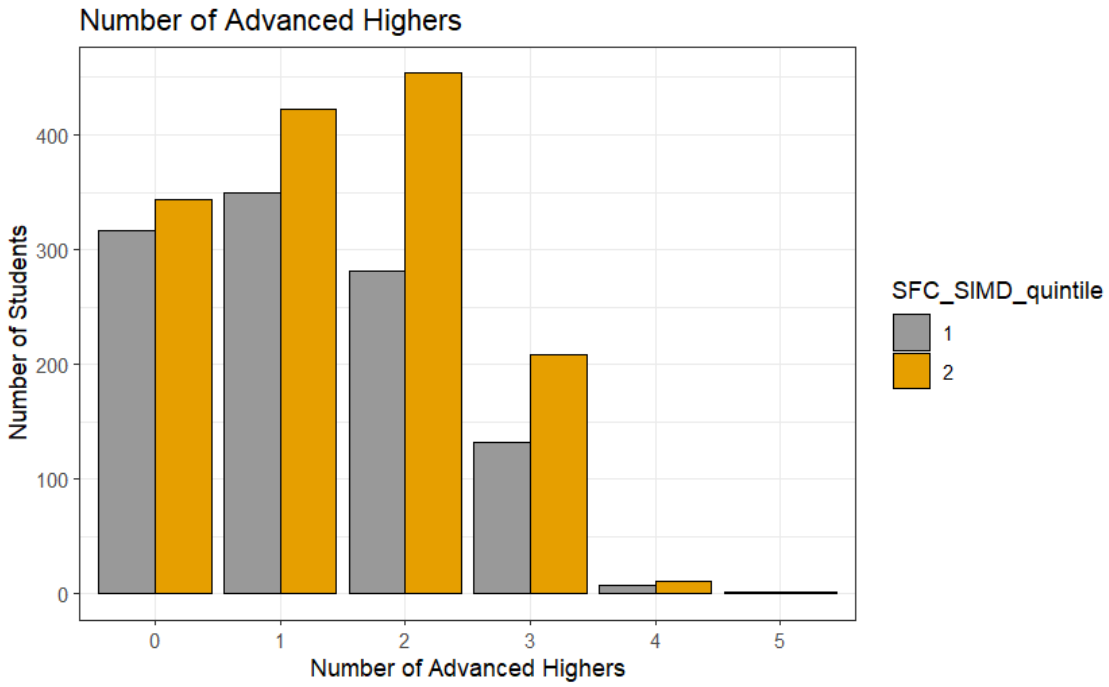
	Mean	Median	Mode	Minimum	Maximum
Results Total	55.33	55	55	10	93
Results – SIMD 1	53.84	54	55	17	93
Results – SIMD 2	56.45	57	58	10	93
Number of Highers	**6.57**	**7**	**7**	**2**	**11**
Highers – SIMD 1	6.61	7	6	3	10
Highers – SIMD 2	6.54	6	7	2	11
Number of Advanced Highers	**1.32**	**1**	**1**	**0**	**5**
Advanced Highers – SIMD 1	1.23	1	1	0	4
Advanced Highers – SIMD 2	1.39	1	2	0	5

The summary Table 8 above indicates an attainment spread of 83 points, from just 10 points to over 90. 10 points is a surprisingly low number for admission to the University of Glasgow, corresponding to around four D grades at Higher. Four Bs at Higher, often regarded as the minimum tariff for entry into university, would garner a point score of 24. Only 13 students were accepted with a score lower than 24. four Cs at Higher would result in a point score of 16. Fewer than five students had scores lower than 16. Entry with significantly lower than average point scores is likely to be for different reasons for each case. Given their SIMD, it is likely that all these students were offered contextualised admissions (University of Glasgow, undated b). Admission with very low scores could be as a result of clearing or because these students applied for courses where academic results are not a condition of entry such as Community Development. (UCAS, 2022, University of Glasgow 2022 b) The median score of 55 could correspond with six or seven Higher at A grade. The results total was slightly higher for SIMD 2 students. Although initially it was surprising that SIMD 1 students had a slightly higher number of Highers, this was potentially explained by their lower number of Advanced Highers. This pattern might indicate that lower SIMD students were more likely to take additional Highers in sixth year as Advanced Highers were less available to them. Interviews with students suggested that Advanced Higher access could be challenging for some.

6.4 Advanced Higher Attainment

Advanced Higher exams are the highest level of qualification which can be attained in Scottish secondary schools (SQA 2009). They are designed to promote independent study, develop research and analysis skills, and serve as a bridge between school and university level study. Access to Advanced Highers can vary from school to school and from local authority to local authority. Different schools offer different Advanced Highers, and it is not always possible to study Advanced Highers for every interested student (Herald, 2018). Glasgow City Council has adopted a Hub model in collaboration with Glasgow Caledonian University (Glasgow Caledonian University, undated), where students who do not have access to Advanced Highers through their schools can access qualifications in English, Mathematics, Chemistry, Biology, Modern Studies, Business Management, History and Physics. According to Glasgow Caledonian University (undated), 100 to 160 S6 pupils undertake these qualifications each academic year. MacFarlane (2018) notes in her study on the Advanced Higher Hub, that all the students she interviewed who were studying at the Hub had elected to do so as Advanced Highers were not available in their secondary schools. She also notes that most students in the study were SIMD one. MacFarlane's (2018) study indicates that AH students at the Hub saw benefits in research, critical analysis, and academic skills, as well as development as independent learners. In North Lanarkshire, prior to 2020, access to Advanced Highers took place through the Advanced Higher Consortium, with pupils travelling between schools (O'Neill et al, 2020). While definite information on Advanced Higher provision was not widely available, a submission by North Lanarkshire to the Scottish Parliament indicated that Advanced Higher Modern Studies was available in 26% of schools (North Lanarkshire Council, undated). It is unclear whether consortium AH availability has resumed in the post-pandemic recovery period. Unfortunately, it was not possible to discern from the secondary data whether AH qualifications were accessed via consortium, through the Hub at Glasgow Caledonian University, or by direct availability in school.

Figure 10: Number of Advanced Highers



Of the group of University of Glasgow students in this study, 660 have no AH, and 1,818 have at least one AH. 70 % of SIMD 1 students have at least one AH (770 of 1087 total) and 76 % of SIMD 2 students have at least one AH (1096 of 1439). The number of Advanced Highers obtained by entry into university varies between none and five. Most students have one Advanced Higher. However, SIMD 2 students have a higher mean number of Advanced Highers. Mean numbers of Advanced Higher varied across local authorities (please see Appendix One for table).

Another perspective on Advanced Higher provision can be obtained by looking at the school level. Using data from the Scottish Government (Scottish Government, 2021b) school SIMD composition was identified, and schools were categorised according to the highest percentage of SIMD quintile. So, schools where the highest percentage of pupils were SIMD 1 were categorised SIMD 1, schools where the highest percentage of pupils were SIMD 2 were categorised SIMD 2 and so forth. The data from the Scottish government was not complete, and some schools (Castlemilk HS and Sgoil Lionacleit) had no pupils with SIMD levels recorded, or all reported SIMD levels were 0. The SIMD 1&2 University of Glasgow students in this dataset overwhelmingly attended majority SIMD 1 and 2 schools. However, SIMD 1 and 2 students who attended schools with peers from the most privileged SIMD 5 are more common than those from SIMD 3 and 4. This may suggest that there are advantages to attending schools with very privileged peers.

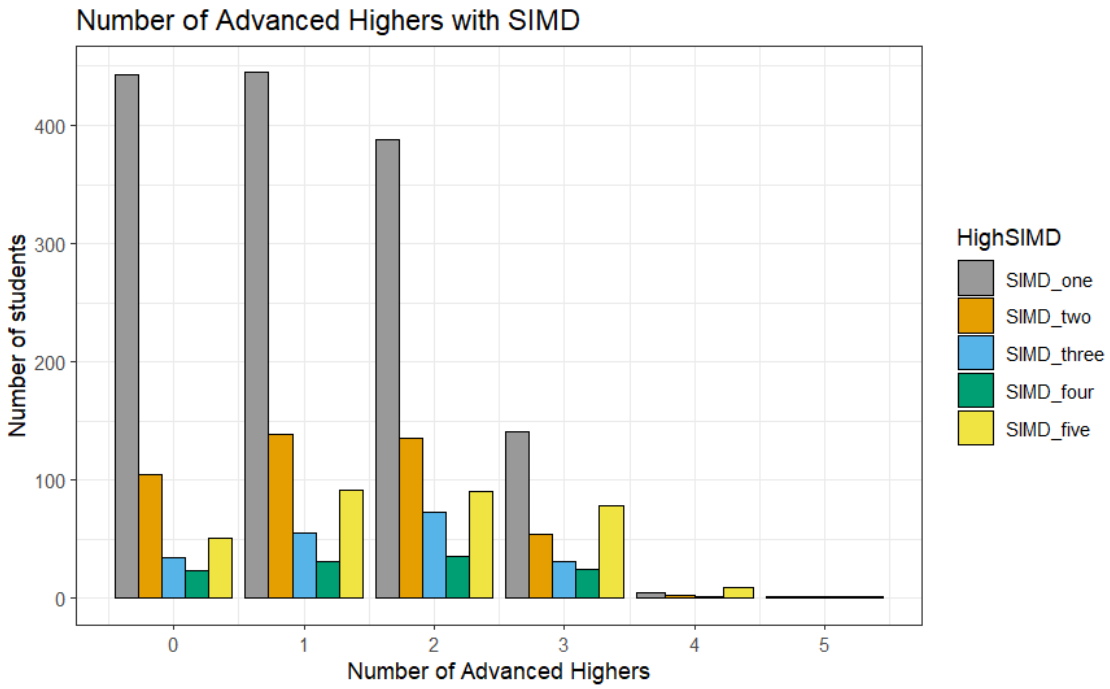
Table 8: Number of Advanced Highers for SIMD 1&2 students by majority SIMD in secondary school

High SIMD	Number of SIMD 1&2 students	Percentage of total students [a]	Mean number of Advanced Highers
1	1423	57%	1.17
2	436	17%	1.34
3	194	8%	1.54
4	114	4%	1.53
5	319	13%	1.69
Data not available	8	0%	0.62

a - percentages rounded to nearest whole number

SIMD 1 and 2 students who attend schools with more privileged peers tend to have slightly higher mean Advanced Highers. There is minimal difference between SIMD 3 and SIMD 4 majority schools, but both are higher than SIMD 1 schools. This suggests that accessing Advanced Higher courses in schools in more privileged areas may be more straightforward, or that students in these schools perceive a higher value in Advanced Higher qualifications.

Figure 11: Number of Advanced Highers with SIMD



SIMD 1 and 2 students who attend schools which are majority SIMD 5 have broadly similar chances of leaving school with one, two or three Advanced Highers. In contrast, students who attend majority SIMD 1 schools are most likely to have zero, one or two Advanced Highers. More students at majority SIMD 5 schools attain four Advanced Highers. It may be that pupils at schools with majority SIMD 5

pupils have an opportunity to take advantage of enhanced opportunities for advanced study which are less available in other schools.

The SIMD 1 and 2 students who attend University of Glasgow are a highly academically successful group, as shown by their admittance to one of Scotland's more competitive universities. Yet, even within a group selected due high attainment at school, it is possible to discern differences between the two groups. Students from SIMD 1 areas had slightly lower overall attainment, as measured by total score for all grades in all Higher and Advanced Higher qualifications, than their peers from SIMD 2 areas. Students from SIMD 1 areas also had lower numbers of Advanced Higher qualifications. Students from SIMD 1 and 2 who attended majority SIMD 5 schools had higher mean numbers of Advanced Higher. There was also a higher number of SIMD 1 and 2 students from majority SIMD 5 schools than from majority SIMD 3 and 4 schools. This could suggest that SIMD 1 and 2 students were seeking out majority SIMD 5 schools, or that attending a majority SIMD 5 school might benefit SIMD 1 and 2 students in pursing the most advanced qualifications. It also raises a possibility that students from majority SIMD 1 or 2 schools might experience more restricted educational opportunities which might form a barrier to high attainment.

It is important to bear in mind that some courses offer different contextualised admissions for different SIMD quintiles (University of Glasgow, undated b) – it is possible that one explanation for the difference between SIMD 1 and SIMD 2 is that SIMD 1 students get in with lower results. However, the high means for both groups – the equivalent of just over six Highers at A for SIMD 2 students, just under six Highers at A for SIMD 1 students – would more than meet the adjusted requirements for most courses at either level. Differences in contextualised admission requirements for SIMD 1 and SIMD 2 may explain part of the difference in total score, or number of qualifications, but it seems unlikely to explain more than part of these differences. Comparison with peers in SIMD quintiles 3, 4 and 5 would have been potentially very illuminating. Unfortunately, it was not possible to access that secondary data. Comparison between SIMD 1 and 2 students and students in SIMD quintiles 3, 4 and 5 would not arise until the second phase of the research – the survey of first and second year undergraduates.

Chapter Six explored the secondary data from n=2683 widening participation students who attended the University of Glasgow from 2015 to 2019, finding:

- the participant group included more female students than male
- most students were 17 or 18 years old
- more students came from Glasgow than any other local authority
- Master of Arts (a four-year undergraduate degree at University of Glasgow) was the most popular course choice, followed by Bachelor of Science
- SIMD 1 students (the most deprived quintile) had a slightly higher number of Higher qualifications, but fewer Advanced Higher qualifications
- SIMD 2 students had a slightly higher number of Advanced Higher qualifications, and slightly fewer Highers
- SIMD 1&2 students who attend majority SIMD 5 schools have slightly higher mean numbers of Advanced Higher qualifications. This may indicate more access to Advanced Higher qualifications for students in majority SIMD 6 schools.
- It was not possible to compare attainment between SIMD 1 and 2 students and peers in SIMD 3,4 and 5 as this data was not available

In Chapter Seven, the survey data allows comparisons between a group of n=330 participants who were students in first or second year at University of Glasgow, had resided in Scotland during their secondary education, were aged 21 or younger, and had provided sufficient information to identify their SIMD quintile. Findings included qualifications and attitudes to university study

7 Chapter Seven: Survey findings

Survey data was statistically analysed in Chapter Seven. Demographic information was collected for participants (n=330). Findings largely indicated similarities across SIMD quintiles in subject choice, mean number of Highers, attitudes to the course and to future employment. SIMD 1 was associated with slightly fewer As at Higher, fewer Advanced Highers and fewer As at Advanced Higher.

This chapter addresses two research questions. Is the SIMD area a student lived in while attending secondary school associated with SQA Higher and Advanced Higher qualifications amongst young people (16-21) who have been accepted to University of Glasgow? Also, is SIMD associated with attitudes to university study amongst young people who have been accepted to University of Glasgow? The chapter will use survey data from 330 students first and second year students from the University of Glasgow, using the research approach outlined in the methdology section.

Opportunity to participate in a survey was extended to all first and second year students attending University of Glasgow in October 2021. The email invited students aged 21 or younger who had attended secondary school in Scotland to respond. Of 597 respondents. 390 participants provided enough of their postcode while in secondary school that they could be identified as Scottish, and 347 gave full post codes which allowed their SIMD quintile to be added to the dataset, using information from the Scottish Government (Scottish Government, 2020c). This group were then filtered, to exclude those who were older than 21, resulting in n=330 participants aged between 16 and 21. All five SIMD quintiles are represented in this survey (Table 1).

Most students in this first and second year undergraduate group were 18 years old.

Table 9: Age of surveyed students

Age	n=	%
16&17	57	17
18	148	45
19	97	29
20&21	28	8
Total	330	100[b]

[b]100 % allowing for rounding errors

The mean age of more affluent SIMD 4 and 5 students was slightly higher. While caution is warranted in using significance tests where the sample is neither randomised nor representative, Krushal Wallis test yielded a p value of p = 0.06755, suggesting that any difference is not significant. Much social science and education research does not meet the assumptions of randomness underlying significance tests (Gorard, 2021). However, significance tests remain in common use across the field. In this study, the decision was made to conduct significance testing, but to show due caution in its interpretation.

Table 10: Mean Age and SIMD

SIMD	1	2	3	4	5
Age - mean	18.22	18.06	18.24	18.43	18.44

Key demographic information is included in Table 3 below. Both female, male and non-binary students were represented in this survey, as well as those who preferred to self describe and those who did not wish to give a gender. Due to small numbers in some groups, the difficult decision was made to include three groups, 'male', 'female' and 'other', which included non-binary students, those who prefer to self describe and those who did not disclose their gender. Male should be taken to include cis and trans men and female should be taken to include cis and trans women as information was not sought on cis or trans status as part of this survey. The student population of the University of Glasgow in 2020-2021 (2022c) was 22,777 female and 15,295 male out of 38,204 total students. Approximately 40% of students were male. 84 of 330 students in this survey sample are male - around 25% - indicating that male students are under-represented in this sample. Across all SIMD quintiles, there were more female participants than male. Due to very small numbers in some SIMD quintiles, the 'Other' category was omitted for participant privacy. In all SIMD quintiles, there were more female participants than male participants.

One surprising demographic was the breadth of young people who had received Widening Participation. Across SIMD quintile 3-5, 55 young people reported having been offered WP. While, as mentioned in Chapter Six, WP is offered to students from SIMD quintiles 1 and 2, it is also offered to other groups. The University of Glasgow (undated a). has the following eligibility criteria for adjusted admissions:

- Live in an SIMD decile 1-4 (MD20/40) Scottish postcode area

- Have care experience
- Are estranged from family and living without family support
- Are seeking asylum in the UK
- Have refugee status
- Are a carer (provide unpaid care)

However, particular programmes also have additional eligibility criteria. Table 2, below, shows additional eligibility criteria for the programmes, with the numbers of SIMD quintile 3-5 students who report participation in each programme.

Table 11: WP eligibility criteria (University of Glasgow, undated a)

WP intervention	Nature of intervention	Additional eligibility criteria	SIMD 3-5
Top Up	In school preparation course	None	10
Summer School	On campus preparation course	College leavers	<10
Reach	National in school preparation course for high demand professions	Attend school in the Western Isles	14
Sutton Trust[a]		NA	0
Access to a Career	In school and on campus preparation course for engineering accountancy and teaching	None	<10
University Experience Week (Taster week)	On campus course for Glasgow City Council pupils	Must attend school in Glasgow City Council	<10
		Total:	41
		Total (corrected for students who participated in multiple programmes):	33

[a] Sutton Trust (2019) uses alternative eligibility criteria

It is certainly possible that some of the SIMD 3-5 students meet non-SIMD criteria. However, interview data suggests that some students who received WP interventions met none of the eligibility criteria.

Twenty-five SIMD 1 and 2 students who were eligible for WP and who won places to study at University of Glasgow report they were never offered WP. Not all young people who were offered WP accepted the opportunity. Across SIMD quintiles, a small number of students who had been offered WP refused the intervention but went on to take up places in University of Glasgow. It is possible that offer and uptake anomalies might be partly explained by a lack of clarity amongst students as to what constitutes Widening Participation. However, the interviews conducted with students did not indicate any widespread confusion as to the nature of Widening Participation. These numbers suggest that SIMD may not always be a barrier to receiving WP for more affluent students.

Another measure which can be used to identify deprivation is receipt of Educational Maintenance Allowance (EMA). EMA is a payment made to young people between 16 and 18 in full time education

from households with one child earning less than £24,421 per year or with multiple children earning less than £26,884 per year before tax. An application for EMA must be made every year and payments require young people their parents and the school to sign an annual 'learning agreement' with their local council. Young people receive £30 pw, paid two weeks in arrears (Scottish Government, 2020a). As might be expected, most EMA applications were made successfully by participants from SIMD 1. However, EMA recipients were also found in all other quintiles. The EMA applications by high SIMD quintile students could suggest a reason for the high numbers of WP offers to young people in SIMD 3, 4 and 5. However, numbers of EMA application are lower that WP offers by some margin. This suggests that teachers compensating for SIMD inaccuracies by extending offers to impoverished pupils may not fully explain the number of WP offers for this group.

Students from all SIMD quintiles were present in all colleges in fairly balanced numbers. Given the course structure for undergraduate education at University of Glasgow, it was not possible to identify students in first and second year as scholars of a particular discipline within their college - except for a few, largely professional degrees, students select their Honours subjects in third year.

The demographic information highlights the fuzziness of SIMD as a measure of deprivation. Students with an SIMD 5 post code in school could be receiving EMA because of low income. Students from SIMD 3, 4 and 5 who were not EMA recipients could still receive WP input. SIMD remains the dominant mechanism for recognising and addressing socioeconomic inequity in Scottish Widening Participation. However, having an ineligible SIMD does not exclude students from receiving WP help.The role of teachers in deciding who will be offered WP support, and how teachers make these judgements about which students should be helped are discussed further in Chapter Eight.

Table 12:Demographic characteristics of survey participants

	SIMD quintile	All		1		2		3		4		5	
		n	%	n	%	n	%	n	%	n	%	n	%
No. of students		330	*100*	59	*12*	49	*15*	51	*15*	63	*19*	108	*33*
Gender*	*male*	84	*25*	13	*22*	17	*35*	16	*31*	16	*25*	22	*20*
	female	228	*69*	43	*73*	30	*61*	32	*63*	46	*73*	77	*71*
WP offered	*Yes*	136	*41*	48	*81*	33	*67*	18	*35*	18	*28*	19	*17*
	No	91	*28*	4	*7*	9	*18*	15	*29*	16	*25*	47	*43*
	Unaware	66	*20*	4	*7*	2	*4*	9	*18*	20	*32*	31	*29*
	Unsure	37	*11*	3	*5*	5	*10*	9	*18*	9	*14*	11	*10*
	Total	330	*100*	59	*100*	49	*100*[b]	51	*100*	63	*100*[b]	108	*100*[b]
WP agreed[a]	*Yes*	108	*79*	41	*85*	30	*91*	14	*78*	10	*55*	13	*68*
	No	28	*20*	7	*14*	3	*9*	4	*22*	8	*44*	6	*31*
	Total	136	*100*[b]	48	*100*[b]	33	*100*	18	*100*	18	*100*[b]	19	*100*[b]
EMA	*Yes*	77	*23*	32	*54*	18	*37*	12	*23*	11	*17*	4	*4*
	No	253	*77*	27	*46*	31	*63*	39	*76*	52	*82*	104	*96*
	Total	330	*100*	59	*100*	49	*100*	51	*100*[b]	63	*100*[b]	108	*100*
College **	*Arts*	83	*25*	14	*24*	15	*31*	8	*16*	21	*33*	25	*23*
	MVLS	71	*21*	12	*21*	12	*24*	14	*28*	11	*17*	22	*20*
	Sci & Eng	95	*29*	18	*31*	10	*20*	18	*36*	21	*33*	28	*26*
	Social Sci	78	*24*	14	*24*	12	*24*	10	*20*	10	*16*	32	*30*
	Total	327	*100*[b]	58	*100*	49	*100*[b]	50	*100*	63	*100*[b]	107	*100*[b]

* Due to very small numbers in some SIMD quintiles, the 'Other' category of diverse gender identities was omitted to preserve participant privacy. Percentages of male and female students were calculated including numbers of Other gender students. ** A small number (n=3) of students did not elect to share their College [a] 'WP agreed' comprised only of students who answered 'Yes' to 'WP asked' [b]100 % allowing for rounding errors

7.1 Is SIMD associated with qualifications amongst young people (16-21) who have been accepted to University of Glasgow?

The Scottish Attainment Gap (2023) is commonly understood as the persistent inequity of educational outcomes for young people in the most deprived areas as compared to those from more affluent areas. Contextualised admissions, where grade level and number of qualifications are lowered slightly for young people from SIMD 1 and 2, continue to be used to promote equity in Scottish Higher education. Information on SQA exam subjects and grades was sought through the survey. Students are not given information on their SQA grade banding (A1, A2 etc) and so were not able to provide that level of information (SQA, undated). However, most students were able to provide information as to subjects studied, levels, and grades. A small minority of students misidentified course units or non Higher or Advanced Higher courses as being Higher or Advanced Higher courses. These were identified using course listings from the SQA website (SQA, undated b), and removed. For the purposes of this study, attainment was measured by number of qualifications, and number of qualifications at 'A' grade.

Hypothesis : SQA qualification attainment is affected by SIMD amongst students attending University of Glasgow

The number of Highers in each SIMD quintile were investigated by calculating mean, median and mode, which indicated only slight variation between SIMD groups. QQ plot visualisation and Shapiro-Wilk test (p-value < 2.2e-16) suggested that data was not normally distributed. SIMD groups were small, and also unbalanced. The SIMD 5 group had a much larger number of participants. As a result, it was decided to use non-parametric statistics. The Kruskal-Wallis test suggested no significant difference between SIMD groups, the independent variable, with respect to the dependent variable number of Highers (p=0.450). Small numbers and high variability in scores within each group, as well as the issue of non-random sampling noted above, reduce the reliability of significance testing. However, mean number of Highers was not higher for higher SIMD groups – in fact, SIMD 3 students had the highest mean number of Highers. This lends a degree of support to an otherwise surprising finding. It was expected that SIMD 1 and 2 students, who are more likely to have received contextualised admissions including a lowered number of Higher results (University of Glasgow, undated b), would have lower numbers of Higher results. This was not the case.

Table 13: SQA exam summary

SIMD	All		1		2		3		4		5		KW test[a]		
	Mean *Median* *Mode*	*SD*	*Mean* *Median* *Mode*	*SD*	*Mean* *Median* *Mode*	*SD*	*Mean* *Median* *Mode*	*SD*	*Mean* *Median* *Mode*	*SD*	*Mean* *Median* *Mode*	*SD*	Chi-squared	df	p-value
Highers	4.75 5 5	2.48	4.39 5 5	2.64	5 5 5	2.26	**5.18** **6** **6**	2.36	4.84 5 5	2.31	4.56 5 5	2.63	3.6891	4	0.4497
Highers at A	3.67 4 5	2.34	2.73 3 0	2.26	3.57 4 4	2.22	**4.14** **5** **5**	2.24	3.97 5 5	2.20	3.83 5 5	2.46	13.098	4	0.0108 **
Adv. Highers	1.48 2 0	2.48	0.97 0 0	1.19	1.43 1 0	1.29	1.51 2 2	1.15	**1.89** **2** **3**	1.24	1.52 2 0	1.22	17.193	4	0.0018 ***
Adv. Highers at A	0.99 0 0	1.18	0.47 0 0	1.01	0.86 0 0	1.15	1.06 1 0	1.08	**1.22** **1** **0**	1.34	1.17 1 0	1.17	19.937	4	0.0005 ***

*n=330 [a]=Kruskal-Wallis test *** p=0.00 **p=0.01 *p=0.05*

Table 14: Number of SQA exam subjects by SIMD

SIMD	All	1	2	3	4	5
Higher: Number of different subjects	44	32	36	29	34	38
Advanced Higher: Number of different subjects	27	15	16	16	22	21

To explore this further, tests was conducted to explore whether it was possible to discern a difference in the number of Highers between students who had accepted WP and those who had not. This was restricted to SIMD 1 and 2 students as they are most likely to have received WP intervention. Shapiro-Wilk test (p-value = 0.5322) and QQ plots indicated that the number of Highers in each group was not normally distributed. The groups are also unbalanced. As a result, a Mann-Whitney U test was more appropriate than a traditional independent samples t-test to compare these groups, which resulted in a two-sided test p-value = 0.4483. This indicates that based on the sample, it is not possible to identify a significant difference between SIMD 1 and 2 students who had accepted WP and those who had not. This could suggest that admissions prefer SIMD 1 and 2 students whose number of Highers more closely resembles that of their more affluent peers, or that most applicants have attained similar numbers of Highers. However, based on this data it is important to exercise caution in making generalisations.

Another common contextualised admissions offer is lowered grade requirements. It was decided to explore whether the number of A grades per student varied by SIMD. Shapiro-Wilk test and QQ plots (please see Appendix Two) indicate that the number of As at Higher in each group is not normally distributed. As groups were unbalanced, a Kruskal-Wallis test was calculated to test whether SIMD have an effect on number of As at Higher. The Kruskal-Wallis test suggested a significant difference between SIMD groups, the independent variable with respect to the dependent variable number of As at Higher, p=0.011. Bartlett's test of homogeneity of variance indicates a p value of 0.828, so the null hypothesis of equal variance across groups is not rejected. The decision was taken to also use Levene's test, which although less sensitive, is more suitable for non-normally distributed data. Levene's test indicates a p value of 0.7547. Dunn's test shows significant (p adj<0.05) differences only between SIMD 1-3, 1-4 and 1-5. This suggests that contextualised admissions which lower required grades may be particularly important for the most disadvantaged decile of students.

Advanced Highers are not offered by all schools, are often offered only for some subjects in each school and can sometimes be accessed by travelling to a different school or provision such as the Hub (link to qual). For some young people, Advanced Higher may not be available even if they are willing to travel. The number of Advanced Higher qualifications by SIMD quintile was explored following the steps outlined above (please see Appendix Two). The Krushal Wallis test gave a p value of 0.002. Dunn's test showed significant (p adj<0.05) differences only between SIMD 1-4 and 1-5. The same procedure yielded a p value of 0.002 for As at Advanced Higher. Dunn's test shows significant (p adj<0.05) differences between SIMD 1-3, 1-4 and 1-5. This suggests that even within young people who have been accepted to the same university, SIMD 1 is associated with lower number of

Advanced Highers and lower number of As at Advanced Higher. A count of the range of subjects by SIMD quintiles at Higher and Advanced Higher was undertaken. This showed SIMD 3 pupils to have the narrowest range of subjects at Higher. However, at Advanced Higher, SIMD 1 students had the narrowest range of Advanced Higher qualifications, while SIMD 4 had the widest range of Advanced Higher qualifications. Taken together, these findings suggest that Advanced Higher access might be a particular challenge for young people who lived in the highest deprivation areas while at secondary school.

If only the number of Highers is considered, we fail to reject the null hypothesis - there is insufficient evidence to show association between SIMD and number of Highers. However, if high attainment (number of As), number of Advanced Highers or number of As at Advanced Higher are considered, then evidence supports rejection of the null hypothesis. This suggests that lowering the number of Highers required for particular courses for young people from SIMD 1 does not seem to have allowed young people with lower numbers of Highers to attend. The second is that even amongst students who gained entry into university due to high qualifications, there is an association between SIMD and Higher attainment, SIMD and Advanced Higher number and SIMD and Advanced Higher attainment. This suggests that young people from areas of high deprivation may be arriving at university with comparatively impoverished learning experiences. Even those young people from SIMD 1 who are very oriented towards academic study may have fewer opportunities to learn before attending university. Lower SIMD is associated with fewer As at Higher, fewer Advanced Highers and fewer As at Advanced Higher. Examination results can be treated as a proxy for potential, talent and ability in university admissions, although contextualised admissions can be understood as an attempt is made to off-set area effects on attainment which can make examination results an unreliable measure for young people from areas of high deprivation. However, difficulty in accessing subjects and levels can have other educational effects alongside university admissions. These are discussed further in Chapter Eight.

7.2 Is SIMD associated with attitudes to university study?

One key aim of this survey was to explore whether students' attitudes towards their studies were different across different SIMD quintiles. A perception that social mobility is particularly important for less affluent students and that less affluent students have more focus on future career prospects can form part of the WP discourse (please see Chapter Three). However, an assumption that students who have experienced deprivation have different educational goals than their more privileged peers has the potential to stigmatise this group – particularly if their educational goals are not different to

those of their peers. This survey explored student agreement with a sequence of statements by using five point Likert scales (see Table 6).

7.3 Anticipated Interest in Course (Q20, Q21, Q23)

Most students agreed or strongly agreed (mean = 4.20) that while they were at school, they anticipated being interested in their course (Q20 'Interest in course', n=275), with only a very small number (n=8) disagreeing or strongly disagreeing. Only very modest variation between SIMD quintiles is evident. Shapiro-Wilk test and QQ plots indicate that the scores in each group are not normally distributed. Group sizes are also uneven. As a result, a Kruskal Wallis test was performed, which indicates no significant difference between the five groups, with p=0.146. This suggests that SIMD 1 and 2 students recall anticipating the same interest in the course they will study as their more affluent peers. Students also anticipated a high degree of interest in the course content (Q21 'Interest in course content', mean = 4.51), with the same sequence of statistical tests showing no significant difference between SIMD quintiles (p=0.6335). When asked to reflect on their current experience, most students agreed or strongly agreed (Q23 'Interest in course/subject', mean=4.38) that they found their course content interesting, with Kruskal Wallis testing indicating no significant difference between SIMD quintiles (p=0.7496).

7.4 Career and pay (Q20, Q23, Q24)

Asked about university as a preparation for a career, a similar pattern was discerned. Young people overwhelmingly agreed (Q20 'Help with career', mean = 4.25) that they saw university as preparation for career while they were at school, and continued to perceive it so (Q23 'Help with career', mean = 4.18) now they were experiencing university. SIMD 1 and 2 pupils were not shown to have significantly different views. While somewhat less sanguine (Q20 'Uni leads to well paid job', mean = 3.84 while at school, Q24 'Well paid job', mean = 3.68 at university) that university would lead to high pay, the statistical tests did not suggest a difference between SIMD quintiles. Kruskal-Wallis testing did suggest a slight significant difference between SIMD quintiles when asked whether a university degree would lead to a better life. However, this finding should be interpreted with caution. Given there were no significant differences found between the other SIMD groups, and no clear rationale for why SIMD 2 and 3 should be distinct while others were not, this anomaly could be attributable to the sensitivity of significance tests to small sample sizes, or the limited utility of significance testing for non-random samples.

7.5 University a normal choice (Q20)

A clearer difference between SIMD groups was shown when students were asked whether university was normal for people like them (Q23 'Normal for people like me', mean = 3.57). Kruskal-Wallis testing did suggest significant difference. Dunn's test indicated a significant difference between means for SIMD 1 and SIMD 5 (p adj=0.00086). Unlike the previous finding, a rationale could be offered for why students from the least affluent areas might feel they were behaving more unusually by attending university than those from the most affluent areas. However, caution should still be exercised, as the problems of small sample sizes and non-random sampling still pertain.

Another difference between SIMD groups was shown when students were asked whether most people like them go to university (Q24 Most people like me go to university, mean = 3.37). Kruskal-Wallis testing did suggest significant difference. Dunn's test indicated a significant difference between means for SIMD 1 and SIMD 5 (p adj= 0.0000048), but also for SIMD 2 and SIMD 5 (p adj= 0.0053035) and SIMD 4 and SIMD 5 (p adj= 0.0411843). While the differences between SIMD 1 and 2 and SIMD 5 may seem explicable, it is more difficult to explain the differences between SIMD 4 and 5. This is especially so given the lack of difference between SIMD 3 and 5. Given these factors, and the size of the sample, this finding should be interpreted cautiously.

7.6 Potential, Talent, Ability

The survey indicated that attitudes to potential, talent and ability did not vary across SIMD quintiles. Most students agreed that university would help them live up to their potential (Q23 Uni live up to potential, mean = 4.08). Interview data suggests that a high degree of caution is warranted in considering this finding, as in interviews students interpreted potential in a number of different ways. Students were unsure or disagreed that exams showed an individual's potential to do well at university (Q24 Exams show uni potential, mean =2.67). This is particularly important given the crucial role that exam attainment plays in access to most courses at university. Student discussion of examinations and their role in education is included in the interview data. Students were also unsure whether talent and hard work were necessary for university (Q24 Need talent and work for uni, mean = 3.16). Understandings of talent and effort are also included in the interview data. Students agreed that they had the ability to do well at university (Q23 Ability to do well at uni, mean=4.07). However, it seems possible this was interpreted as capacity rather than cognitive ability, as when asked whether getting into university is a marker of intelligence, students were unsure or disagreed (Q24

Uni means intelligent, mean = 2.77). Student understandings of ability as a cognitive factor are included in the interview data.

7.7 Logistic Regression

Logistic regression was used to further explore the data, as it is suitable for categorical data, as is shown in Table 16 below. The three variables which Kruskal-Wallis identified as significant, *Better life with degree* (Q24), *Uni is normal for people like me*(Q23) and *Most people like me go to university* (Q24) were recoded in R as agree (agree and strongly agree) or disagree (strongly disagree, disagree and unsure). This explored the association between each of the three variables and SIMD, gender, College, WP offer and EMA. The logistic regressions did not illuminate the data, nor add any compelling associations.

Table 15: Attitudes to study and SIMD

SIMD	All		1		2		3		4		5				
	n	%	n	%	n	%	n	%	n	%	n	%			
	330	100	59	12	49	15	51	15	63	19	108	33	KW test[a]		
Anticipated	*mean*	*SD*	*mean*	*SD*	*mean*	*SD*	*mean*	*SD*	*mean*	*SD*	*mean*	*SD*	Chi-squared	df	p-value
Q20 Interest in course	4.20	0.78	**4.35**	0.76	4.08	0.84	**4.35**	0.69	4.06	0.86	4.18	0.75	6.8142	4	0.146
Q21 Interest in course content	4.51	0.72	4.51	0.77	4.47	0.74	**4.68**	0.47	4.49	0.82	4.47	0.70	2.5625	4	0.6335
Q21 enjoyed subject at school	4.22	0.93	4.10	1.07	4.16	0.99	**4.36**	0.83	4.33	0.84	4.17	0.93	2.6884	4	0.6112
Q21 High grades in subject	4.26	0.90	4.07	1.07	4.28	0.91	**4.46**	0.68	4.38	0.89	4.20	0.92	6.0912	4	0.1924
Q20 Help with career	4.25	0.81	4.24	0.84	**4.33**	0.85	4.20	0.83	4.22	0.92	4.28	0.71	1.1285	4	0.8897
Q20 Uni leads to well-paid job	3.84	0.87	**3.95**	0.80	3.90	0.98	3.67	0.91	3.82	0.96	3.84	0.77	2.979	4	0.5614
Current views															
Q23 Interest in course/subject	4.38	0.79	4.32	0.84	4.33	1.05	**4.47**	0.54	4.32	0.80	4.44	0.72	1.9246	4	0.7496
Q24 Worthwhile for own sake	3.87	1.00	3.83	1.12	3.90	1.08	3.90	0.96	3.70	0.94	**3.97**	0.95	4.1076	4	0.3916
Q23 Help with career	4.18	0.87	4.22	0.97	**4.35**	0.72	4.06	0.91	4.05	0.97	4.21	0.80	3.9616	4	0.4112
Q24 Well paid job	3.68	1.07	3.64	1.12	3.55	1.08	3.53	1.06	3.59	1.10	**3.89**	1.02	2.5014	4	0.6444
Q24 Better life with degree	3.68	0.97	3.76	0.92	**3.90**	0.89	3.31	1.07	3.60	0.99	3.75	0.95	10.038	4	0.0398*
Q23 Uni live up to potential	4.08	0.90	3.97	0.91	4.14	0.98	4.14	0.92	**4.16**	0.83	4.05	0.89	3.1887	4	0.5268
Q23 Ability to do well at uni	4.07	0.83	3.83	0.87	4.16	0.85	4.00	0.82	4.09	0.75	**4.17**	0.81	8.4257	4	0.0772
Q24 Exams show uni potential	2.67	1.17	2.63	1.19	2.65	1.20	2.59	1.15	2.67	1.16	**2.75**	1.17	0.8549	4	0.9309
Q24 Need talent & work for uni	3.16	1.11	**3.25**	1.21	3.12	1.23	3.14	0.96	3.11	1.08	3.16	1.10	0.8169	4	0.9362
Q24 Uni means intelligent	2.77	1.10	2.68	1.04	2.71	1.10	2.51	1.14	**2.90**	1.09	**2.90**	1.11	5.1797	4	0.2694
Q23 Normal for people like me	3.57	1.08	3.24	0.99	3.49	1.08	3.39	1.08	3.59	1.17	**3.85**	1.03	18.083	4	0.0012**
Q24 Most ppl like me go to uni	3.37	1.09	2.90	1.15	3.14	1.06	3.39	1.06	3.30	1.13	**3.77**	0.92	28.624	4	0.0000***

*n=330 [a]=Kruskal-Wallis test *** p=0.00 **p=0.01 *p=0.05*

Table 16: Logistic Regression - Better life with degree (Q24)

Reference category	variable	Estimate (unstandardised b)	Std. Error (SEb)	z value	P value	Odds Ratio	Confidence Interval (Wald)	
							2.5%	97.5%
	(Intercept)	2.15228	0.50289	4.280	1.87e-05 ***	8.60	1.1666249	3.1379342
SIMD 1	SIMD 2	-0.05169	0.45215	-0.114	0.90898	0.95	-0.9378846	0.8345032
	SIMD 3	-1.01190	0.42748	-2.367	0.01793 *	0.36	-1.8497408	-0.1740542
	SIMD 4	-0.14118	0.40960	-0.345	0.73034	0.87	-0.9439830	0.6616261
	SIMD 5	0.10759	0.37601	0.286	0.77478	1.11	-0.6293758	0.8445466
Male	Gender- female	-1.02091	0.32651	-3.127	0.00177 **	0.36	-1.6608631	-0.3809524
Arts	MVLS	-0.61887	0.37905	-1.633	0.10253	0.54	-1.3617843	0.1240533
	Social Sci	-0.38546	0.37721	-1.022	0.30685	0.68	-1.1247856	0.3538663
	Sci and Eng	-0.92645	0.36868	-2.513	0.01198 *	0.39	-1.6490590	-0.2038411

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 17: Logistic Regression - Normal for people like me to go to university (Q23)

Reference category	variable	Estimate (unstandardised b)	Std. Error (SEb)	z value	P value	Odds Ratio	Confidence Interval (Wald)	
							2.5%	97.5%
	(Intercept)	-0.8236	0.3999	-2.059	0.0395 *	0.44	-1.60742957	-0.0397055
SIMD 1	SIMD 2	0.1100	0.4354	0.253	0.8006	1.12	-0.74339516	0.9632995
	SIMD 3	-0.3397	0.4568	-0.744	0.4570	0.71	-1.23504993	0.5555574
	SIMD 4	-0.4088	0.4495	-0.909	0.3631	0.66	-1.28981531	0.4722051
	SIMD 5	0.3917	0.4479	0.875	0.3818	1.48	-0.48615363	1.2696275
Arts	MVLS	-0.4988	0.3786	-1.318	0.1876	0.61	-1.24077338	0.2431199
	Social Sci	0.2873	0.3667	0.783	0.4333	1.33	-0.43136541	1.0059175
	Sci and Eng	0.5182	0.3624	1.430	0.1528	1.68	-0.19218950	1.2285275
EMA received	EMA not received	0.6744	0.3160	2.134	0.0328 *	1.96	0.05512339	1.2936800
WP was offered	WP not offered	0.5884	0.3428	1.717	0.0861 .	1.80	-0.08342087	1.2602067
	WP unsure if offered	0.6426	0.4464	1.440	0.1500	1.90	-0.23228024	1.5175765
	WP – unaware of WP	0.8500	0.3968	2.142	0.0322 *	2.34	0.07228185	1.6277265

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 18: Logistic Regression - Most people like me go to university (Q24)

Reference category	variable	Estimate (unstandardised b)	Std. Error (SEb)	z value	P value	Odds Ratio	Confidence Interval (Wald)	
							2.5%	97.5%
	(Intercept)	-1.57207	0.41711	-3.769	0.000164 ***	0.21	-2.38958521	-0.7545518
SIMD 1	SIMD 2	0.06018	0.43688	0.138	0.890433	1.06	-0.79608396	0.9164497
	SIMD 3	0.60728	0.44700	1.359	0.174285	1.83	-0.26882746	1.4833866
	SIMD 4	0.16663	0.43073	0.387	0.698865	1.18	-0.67759082	1.0108510
	SIMD 5	1.14321	0.41179	2.776	0.005500 **	3.14	0.33611281	1.9503097
Arts	MVLS	0.02861	0.36929	0.077	0.938254	1.03	-0.69519057	0.7524049
	Social Sci	0.33907	0.35891	0.945	0.344810	1.40	-0.36438874	1.0425191
	Sci and Eng	0.69958	0.34462	2.030	0.042358 *	2.01	0.02412968	1.3750315
WP was offered	WP not offered	0.43266	0.32904	1.315	0.188537	1.54	-0.21224408	1.0775591
	WP unsure if offered	0.42479	0.42808	0.992	0.321040	1.53	-0.41422400	1.2638038
	WP – unaware of WP	0.68508	0.37187	1.842	0.065438	1.98	-0.04377327	1.4139402

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Survey data was statistically analysed in Chapter Seven. Participants (n=330) were:

- students in first or second year at University of Glasgow
- had resided in Scotland during their secondary education
- were aged 21 or younger
- had provided sufficient information to obtain their SIMD quintile

Findings largely indicated similarities across SIMD quintiles:

- students from all SIMD quintiles were present in all colleges
- students in receipt of EMA payments were found in all quintiles
- mean number of Highers was not higher for higher SIMD groups
- SIMD 1 is associated with fewer As at Higher, fewer Advanced Highers and fewer As at Advanced Higher.
- no difference between SIMD quintiles was found in terms of their interest in their course
- no difference between SIMD quintiles was found when students were asked about university as a route to a career or well paid job
- attitudes to potential, talent and ability did not vary across SIMD quintiles

Chapter Eight explores data from interviews with students (n = 25) and teachers, parents, WP workers and Careers workers (n = 11). Reflexive thematic analysis led to the construction of three themes:

- Theme One: Instability, contradiction, and discomfort: fractured understandings of potential, talent and ability
- Theme Two: (Overcoming) barriers to educational opportunity
- Theme Three: Accessing inspiring education

8 Chapter Eight: Accessing Education - Thematic Analysis of interviews

In this chapter, interviews are analysed using reflexive thematic analysis and three key themes are constructed and addressed in turn:

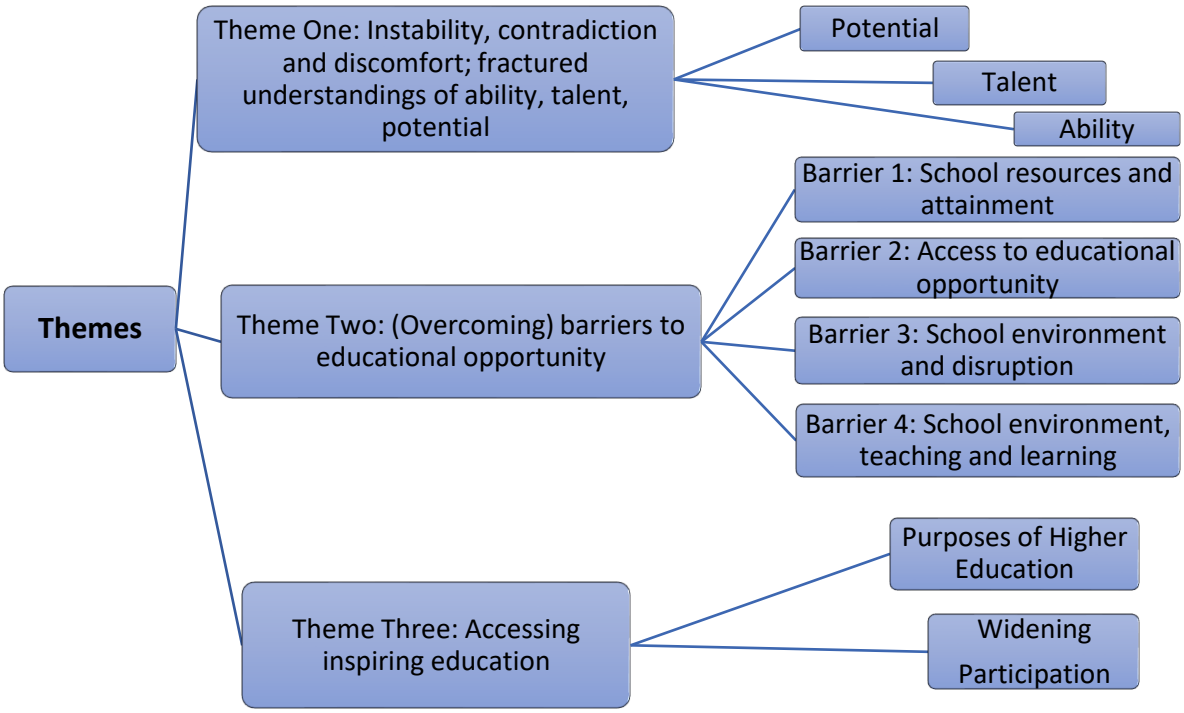
Theme One: Instability, contradiction and discomfort; fractured understandings of potential, talent and ability

Theme two: (Overcoming) barriers to educational opportunity

Theme Three: Accessing inspiring education

Interviews were analysed using reflexive thematic analysis, and three key themes were constructed and will be addressed in turn.

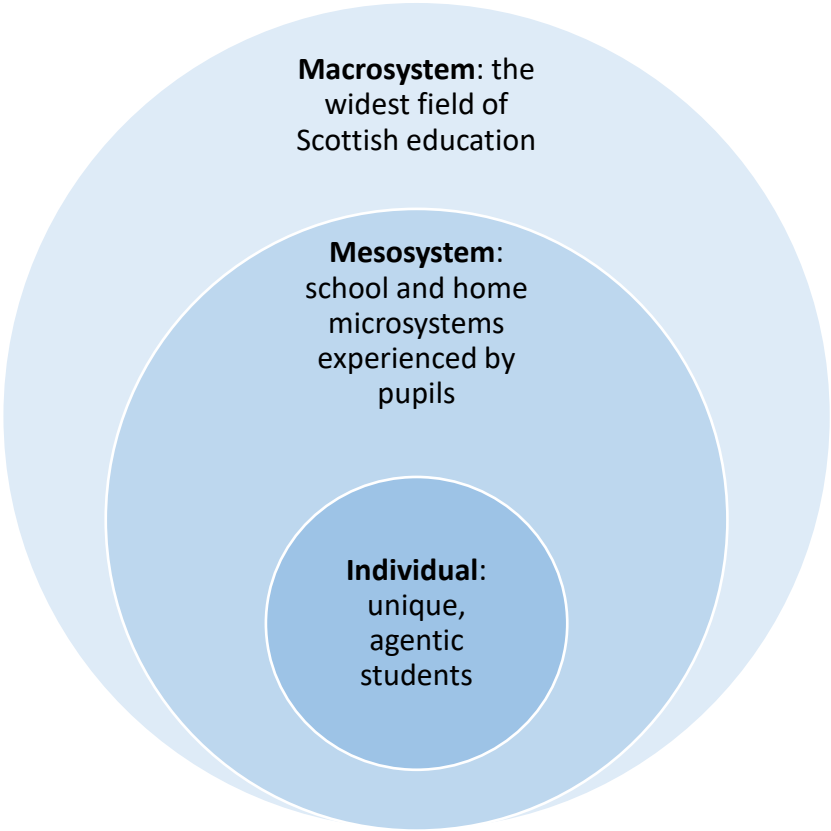
Figure 12 Map of Themes and Subthemes



Themes were constructed in response to the key theories which underpin this thesis (Braun and Clarke, 2022) Bronfenbrenner's bioecological model (1979, 2005) was used directly to create themes at multiple levels of analysis, the individual, the mesosystem (the set of microsystems) and the macrosystem. The work of Ziegler and Philipson (2012) on the contextualised development of excellence and Bourdieu's sociological tools of habitus, field and capital were also essential to the formation and articulation of these themes.

Individuals are shaped by their developmentally significant relationships within their microsystems – but they also shape those environments. Both Bronfenbrenner and Bourdieu examine how individuals interact dynamically with their environment, and both theorists stress individual agency within the systems they describe. Interviews with former pupils, teachers, parents, and others explored former pupils developmentally significant relationships within the school microsystem, and illuminated how former pupils deployed their academic, social, cultural, and economic capitals to improve their position within the field/s of education.

Figure 13: Bioecological model of Scottish Education



Students were recruited through the online survey, and the information below is drawn from their survey responses as well as their interview. Most former pupils identified a particular subject or subjects as being their main focus in HE. This has been included, as well as their year of study at the time of interview. Students were selected because they lived in SIMD decile 1-4, because they had been offered WP or because they were in receipt of EMA. WP summer school is detailed explicitly as students received this as a result of their application.

Table 19: Interview Participants: Student

Pseudonym	UG Year	Age	Subject of focus	Route	EMA received	SIMD	WP (accepted (by student), rejected (by student), not offered)
Asim	2nd	18	Medicine	SFS	Y	1	accepted
Miles	2nd	19	Life Science	College	Y	3	rejected
Elodie	1st	18	Law	SFS	Y	1	accepted
Saoirse	2nd	18	Education	SFS	Y	3	accepted
Jozef	1st	18	Computing	SFS	N	1	accepted
Sean	2nd	19	Portuguese and Spanish	SFS	Y	4	rejected (summer school)
Paul	1st	18	History and Politics	Gap	N	2	not offered
Hannah	2nd	18	Psychology	SFS	N	2	accepted
Sammy	1st	18	Pharmacology	SFS	Y	3	accepted
Millie	1st	17	Law	SFS	N	3	accepted
Matthew	1st	19	Chemistry	SFS	N	2	accepted
Cardo	1st	21	Spanish, French, Film and TV	SFS [a]	N	1	rejected
Maria	1st	21	Medicine	Degree [c]	Y	4	accepted
Bethany	1st	18	Law	SFS	N	3	accepted
Jade	2nd	19	Economic History	College	Y	3	accepted (summer school)
Andrew	1st	18	Psychology	Gap	Y	1	accepted
Catrin	2nd	18	Medicine	SFS	Y	2	accepted
Suzie	1st	17	Business, Psychology, Spanish	SFS	Y	2	accepted
Alison	1st	17	Medicine	SFS	N	9	accepted
Davie	2nd	19	Philosophy and English Lit	SFS	Y	1	accepted
Penny	1st	20	Politics and English Lit	SFS [a]	Y	7	not offered
Anne	1st	17	Education	NA	Y	1	accepted
Hugh	1st	20	English Language	College [b]	Y	6	accepted (summer school)
Abby	1st	17	Geography	SFS	N	1	accepted
Suzanne	1st	18	Mathematics	SFS	N	2	accepted

a - second attempt after previous false start; b - multiple college courses; c - second undergraduate degree

Table 20: Interview Participants: Teachers, Parents, WP and SDS

Organisation	Pseudonym	Role
Family	Jenny	Aunt of Davie
Family	Amanda	Mother of Abby
Family	Julia	Mother of Bethany
School	Donny	Very senior teacher
School	Mike	Very senior teacher
School	Amy	Senior teacher
University	Ewan	Widening participation
University	Drew	Widening participation
University	Rachel	Widening participation
Skills Development Scotland	Helen	In schools, working with pupils
Skills Development Scotland	Lizzie	In schools, working with pupils

The former pupils in this small group (n = 25) were all between the ages of 17-21 and were all in the first or second years of their undergraduate degree. However, their routes into higher education varied considerably. Routes included coming straight from school, via college, after a gap year or re-starting after a previous attempt at university. One former pupil, Maria, had successfully concluded a life sciences degree, which at the time she started it was necessary for her to gain entry into Medicine.

Three key themes were constructed in response to participants ideas and opinions, experiences, and expectations.

- Theme One: Instability, contradiction, and discomfort: fractured understandings of potential, talent and ability
- Theme Two: (Overcoming) barriers to educational opportunity
- Theme Three: Accessing inspiring education

The tensions between participants' fractured understandings, ideas and beliefs, both between and sometimes within individuals, shaped Theme One. Theme Two was constructed using participants' stories of their experiences and also their interpretations of those experiences, which coalesced around the idea of barriers to educational opportunity. While barriers can be (and were) overcome, the accounts of these successful WP students not only illuminate their own struggles, but also may suggest barriers for potential WP students who were not successful. Theme Three drew on

participants' contrasting views of Higher Education, its purpose and how universities, schools and other bodies could address those purposes.

8.1 Theme One: Instability, contradiction and discomfort; fractured understandings of potential, talent and ability

This section focuses on students' understandings of potential, talent and ability, and how understandings of potential, talent and ability related to WP and choices around Higher Education.

8.1.1 Potential and Talent

An explicit aim (University of Glasgow, undated) of WP work at the University of Glasgow is to identify potential and talent. Although twenty of the students interviewed had experienced at least one form of WP, their understandings of potential and talent were varied and diverse. Potential and talent were not usually raised by participants until I asked direct questions. Many students offered ether no definition or multiple definitions of potential, and some expressed discomfort with the "philosophical question" (Sammy, student). However, broad approaches were discernible.

8.1.2 Potential

Former pupils had very different understandings of potential. One group of students understood potential broadly as a trait that an individual was born with. However, what it meant to possess such a trait, the origins of such a trait and the implications of possessing such a trait remained fractured and unstable. One example of this understanding was offered by Asim, a student:

> *potential means you have the ability to succeed like you have the… physical like mental capacity to do it ehm*

Asim's idea of capacity is not clearly a genetic trait, nor a result of development, although reference to physical capacity might indicate an understanding of a genetic limit to how far one might develop. However, this was not explicitly stated.

Another approach is exemplified by Suzie, a student, who found potential a challenging concept but groped towards an innate developmental ability:

> *the ability to be able to like fulfil your full ability like yeah I'm not really sure how to word it*

Again, while Suzie did not explicitly refer to a genetic limitation, the suggestion of a 'full ability' suggests the idea of a fixed capacity to develop. However, Suzie's account differed from that of Asim as she did not identify potential with that fixed capacity. Instead, potential for Suzie was one's capacity to develop one's ability. Suzie was also unsure of how to express her ideas – her conception is unspoken, or unspeakable.

Another approach to 'trait' conceptions of ability was as a 'natural' disposition towards academia in general or a particular subject. Miles, a student, wrestled with the implications of this perception:

> *I guess it would just mean like um having a natural disposition to academic learning you know … no I don't well I guess not natural like as in you're born with it but like maybe you're just the kind of person who likes to do things that are academic I don't like to use sort of like inherent language like that I guess I don't think anyone's naturally born smarter or anything I think that's kind of weird*

Miles' account of potential includes elements which are not internally consistent – a 'natural disposition' which is not inborn; 'the kind of person' who enjoys academia but without this trait being 'inherent'. Miles expresses distaste towards intelligence, or smartness, as an inborn trait, describing it as 'weird'. Miles' rejection of the idea of some people being 'naturally born smarter' means that he must explain academic potential in terms of 'natural' but not inborn individual preference. Miles does not appeal to context or lived experience to explain this preference – its cause remains unexplained.

Miles and Suzie were not alone in their discomfort. Penny, a former pupil, also described potential as a trait:

> *that's such a vague and ambiguous term like potential to what… I just feel like everybody has technically the potential to do literally anything like… you know like ok yeah you've got like an innate maybe like kind of predilection towards something but you don't have to do that… I just think that's very vague*

Penny's claim that 'everybody has technically the potential to do literally anything' is perhaps best understood as an ethical statement of inclusion, rather than a factual description of reality – it seems unlikely Penny believed that someone who was unable to walk could become an Olympic level sprinter. Penny called on 'maybe like kind of predilection' – a natural bent for academic study – to explain potential. Her discomfort with the question was clear as she stressed the vagueness of the concept.

Some former pupils understood potential in terms of ability to perform well at particular actions. This was associated with social recognition, often in the form of exam results or other acclaim. For this group, potential was a social phenomenon, an interaction between the individual and their wider society. The forms that potential could take varied. For Hugh, a student, potential required:

> *you know the possibility of doing something notable*

For other students, potential was tied directly to exam performance. Elodie, a student, explained:

> *it's a hard question but… the way that's almost worded makes it sound like kids that have the potential maybe not the opportunity… not just Glasgow every university is very strict on exams it's how they almost measure who is good or not so I think it would make sense that they would say … potential to do well in their exams*

Elodie explains potential as capacity to achieve socially recognised worth given the opportunity to demonstrate ability. One's potential is one's ability to do well in the measures universities find meaningful. However, other students explicitly rejected the notion that potential was connected with exam performance or related it to non-academic pursuits. Saoirse, a student, critiqued the relationship between potential and exam results:

> *ok sorry I think with potential it's really hard when they're saying aw like in deprived areas because I feel like with the lack of resources and that it's kind of hard to tell who has potential who's gifted at things… wi ma high school it wisn't it was what you were good at academically… if you were like really good at Art but really good at English English would always come on top….*

For Saoirse, exams were inadequate to test potential, either because they failed to test for potential entirely or because they were unable to tease out potential from other factors such as an impoverished educational experience. Saoirse also identifies a hierarchy of subjects, where priority subjects take precedence despite young people's interests, talents or preferences. Saoirse went so far as to suggest that potential in fact is a measure of the educational opportunities open to pupils, rather than a measure of any innate trait. Saoirse is the only former pupil who refers explicitly to giftedness, noting that exams are a poor mechanism to differentiate between natural giftedness and educational advantage.

For most students, potential was an unstable, challenging and contested topic. Students critiqued its validity, expressed contradictory ideas or leaned heavily on hedging language. For Penny, potential was a meaningless term. She explained "I feel like that's such a vague and ambiguous term like potential to what" although she did go on to attempt definition. For other students such as Hugh, Jozef and Suzie, efforts to explain potential resulted in uncertainty and even indications of potential discomfort. Jozef sighed deeply on offering his definition, hedging his definition with 'I don't know probably'. Students' uncertainty and discomfort suggest that potential is not a particularly familiar concept, and not one where young people have been encouraged to form a definite opinion.

Interviews with teachers, SDS, WP and family members also showed a range of understandings of potential. Like students, teacher understandings of potential were scattered. For Mike, a senior teacher, a question about potential led a response on financial barriers to WP participation, but also a concern that students "get loads and loads of support… I think it's maybe too much support" Amy, a senior teacher, described potential in terms of attainment but also positive destinations and stressed that "it's not just the academic potential it's other things as well", explaining that potential should be understood as including capacity to travel, or to work. Likewise for Donny, also a senior teacher, potential was not just academic success but also another factor – in this case "commitment to work… capacity for work".

SDS workers, who also work in schools, had similar struggles to articulate their views. Helen, an SDS worker, described her answer as "wishy-washy" but discussed potential as including "abilities in some area or an interest or a belief just something that can be brought to the fore mebbe". For Helen, potential was "lining up the right opportunity… and it opens up the gateway for that person… they will reach their potential if they've got the motivation"

WP workers also described diverse understandings of potential. Drew, a WP worker, explained "potential is maybe something that you can that would give you the drive if you can you can see that I can do this". For Rachel, a WP worker, potential is the capacity that "if you put the work … you could do really well". Ewan, a WP worker, engaged critically with the concept:

> *it's kinda idealistic but I believe in it… it's like a confidence in somebody's capacity to come in and be successful at university… it's a loaded term because where we're working if we're targeting what we're doing to those who come from the most complex lives… it's something that needs to be looked at… what is success for Widening Access applicants… without lowering expectations but having an understanding of relative performance*

8.1.3 Talent

Talent seemed a less challenging and more familiar concept to many students interviewed, although it was often explained in relation to potential. Students tended to see talent as a natural, inborn trait or, conversely, to see it as the result of hard work by a person with potential.

Most students agreed that talent was natural, and that one could not change how much talent one was born with. This understanding was expressed clearly by Penny:

> *talent is fixed and some sort of weird you know innate oh well they're talented and they're not so like we're going to focus on the talented one like…when I was in primary school like they asked my mum if she would be up for me like jumping like a year… it was like oh <name> like you're talented you're smart and then obviously I come to uni and I have to drop out cos I can't do anything and I feel like a massive failure*

Talent, by this definition, cannot be created. Instead, it is an innate trait which must be recognised and then nurtured. Penny expressed clearly the dangers of being described as talented and smart. Penny describes being harmed by the belief that being unable to cope at university was interpreted as a personal failure. For Penny, being 'talented' and 'smart' meant that she was not allowed to struggle and not allowed to fail.

Most students also asserted that talent required development through effort in order in order to lead to success, with some describing the capacity to improve as 'potential'. Miles grappled with ideas of innate talent as opposed to ability developed through effort:

> *you can get there faster but it's not like something that's I dunno intrinsic I don't know… I think that obviously there can be natural talents and stuff… but *sigh*…. biologists have had some interesting thoughts on predetermined intelligence and stuff so I always view that sort of thing with a grain of salt you know*

As with potential, explanations of talent also wrestled with the need to balance an appeal to 'natural' traits or characteristics with a rejection of inborn ability or intelligence.

A smaller group of former pupils understood talent explicitly as potential developed through effort. For Suzanne, Miles, Paul, Maria and Abby, talent was not intrinsic, but was instead the result of hard work by a person with potential. This understanding essentially reversed the roles of potential and talent, so that one is born with potential, which is developed through effort to become talent. This

understanding meshes quite well with Elodie and Andrew's understanding of talent as meritorious performance in a particular field. Andrew referred to the television programme 'Britain's Got Talent', where contestants perform their talents and are judged:

> *talent is kinda… what you show to people… you're on Britain's Got Talent or X Factor and you're in front of the country so… you've got wan opportunity tae show it… it's like yer exams you've got one opportunity tae kinda go intae an exam hall sit doon show… yer potential get yer grade*

Andrew regarded exams as equivalent to a talent contest, where young people get one opportunity to show what they can do, and are judged for it by society. Talent is the performance and potential is the capacity to put on this performance. A small group of students expressed a belief that a talent must be marketable to have potential, or identified talent with practical skills rather than academics.

Unlike potential, most students expressed an understanding of talent as a natural trait within an individual. Most saw talent as fairly fixed, although some understood it as the development of potential through effort. This group were more likely to see talent as performance of a socially valued skill. As with potential, students grappled with the need to understand talent as innate but also with the need to reject inborn, predetermined traits.

In general, students were less likely to reject or challenge the idea of talent. However, Penny's experience and Andrew's talent-contest exam metaphor underline the dangers of defining talent as successful performance, and the burden that such a label can place on a young person.

Although less pronounced than in the case of potential, student understandings of talent were unclear and sometimes self-contradictory. Teacher understandings were also blurred. Donny shared his view that current talent is not a useful indicator for future success, explaining "I'm always sceptical of talent as an indicator of what they should do… just because a kid is talented I don't think that's necessarily a good indicator of their um ability to do it very well in the future". Amy identifies talent with innate traits, saying "talent is like a kind of gift that you've got for something isn't it", and contrasts it with potential which can be improved with effort.

SDS workers also expressed varying views on talent. For Lizzie, an SDS worker, if "a talent is a genuine talent and you're excellent at it then it will help you reach your potential" if paired with hard work. Lizzie sees talent in terms of an excellent behaviour. Helen suggested that talent "comes maybe a bit more naturally… maybe quite rigid"

WP workers too had a range of views on talent. Rachel, a WP worker, suggested that "if you said someone is talented that's a bit more like oh yeah, you're really good at whatever now", contrasting this with more forward-looking potential. Drew, a WP worker, identified talent with potential but expressed uncertainty about whether it was necessary. Drew explained "I suppose if you have some talent that will help you… <but> you learn" and stressed the importance of interest. Ewan, a WP worker, identified talent with a narrow, specific ability or capacity, but commented:

> *it did give me it did give me good pause though because I'm like I use these words all the time but… for the young person we wantae see who you are your talent and your potential and your ability not where you come from it's like disnae matter tae us whereas actually of course it does matter because it helps us reach ye*

Ewan reflected on a central paradox of WP, that we tell young people their background does not matter, just their talent and potential. However, we select them for special circumstances based on their background.

8.1.4 Ability

Cognitive ability or intelligence was discussed by students, who evinced varying degrees of credence in its existence and capacity to explain academic success.

For some students, ability was broadly associated with intelligence. A small number of students used intelligence to explain individual differences. Penny, a student, used intelligence to explain her differences from her extended family:

> *my family are not like academic people they are like practical people and then here comes me with my wee brain*

Penny's 'wee brain' is used to explain her interest in and success in academic study, and also her difference from those around her. In a slightly different context, Andrew asserted his intelligence as part of describing his disappointment in his school exam results, explaining "ah'm intelligent but it just defin-etly doesn't show" Andrew does not identify his intelligence or ability with his exam results – in fact, his perception of his own ability justified his disappointment with his results. Davie, a student, makes no reference to personal intelligence but does explain his pleasure in university study partly by identifying his lecturers as 'incredibly intelligent' – clearly a trait he valued in his instructors.

Other students made reference to intelligence, but in the context of critique. Sean, a student, acknowledged that intelligence might be a factor in exam results in the context of questioning the relationship between schooling and exam results, asserting that "obviously exam results can quite a lot of the time be based on what school you go to and not on intelligence" Sean's experience attending a very successful private school through a bursary led him to question the relationship between ability and attainment. Millie, a student, referred to success in business to support her feeling that:

> *obviously you need a semblance of it whether that's academic intelligence or general intelligence but I think too much of a homage is placed on academic intelligence being connected to potential*

Both Sean and Millie feel that their attitude is 'obviously' correct, confident in their position that intelligence does matter, but it is inadequate as an explanation in itself. The relationship between ability and exams was less stable for Anne, who held opposing 'obvious' positions in succession:

> *obviously you need to have the ability to learn to take in knowledge or do you actually… that's a hard <one> obviously cos obviously you're taught to an exam in school so… if you're literally just rote learning something you don't need to have understanding or knowledge of that thing*

Anne states that one requires ability to learn, and also that exams require only rote learning, not understanding and knowledge. For Anne, exams 'obviously' do not test ability, understanding or knowledge – just repetition. Her position is rendered 'hard' by the requirement to hold two incompatible beliefs. Suzie, a student, also struggled tautologically with vocabulary, expressing ideas around cognitive ability and potential as "the ability to be able to like fulfil your full ability" It seems possible that this terminological uncertainty indicates discomfort or unfamiliarity. Perhaps most interesting was Alison, who described cognitive ability while entirely avoiding the words 'ability' or 'intelligence'. She suggested:

> *some people have like ehm some people might just be like a little bit ehm they grasp things a little bit easier or they're a little bit better I don't know their mind is able to take into account some things like I don't know Maths concepts better*

Alison did not use the vocabulary of high ability, cognitive ability or intelligence, but she adequately described individual differences which can make learning easier for some. But for Alison, as for other students, the vocabulary of intelligence or ability was 'unspeakable'.

Some students rejected ability as intelligence entirely. One particular student worked hard to form an understanding of ability. Based on his reading of Angela Duckworth's *Grit* (2016), Asim explained:

> *my best friend and a lot of other people kind of friends that I have…. so much potential coming from primary school with me… I could give you a guaranteed fact that they were smarter than me they had more ability than me they were faster in tests they performed better in tests but as soon as they hit high school they let… the passion go*

Asim rejected ability as an explanation for academic success and embraced instead Duckworth's understanding of passion as persistent effort. His academic success was a result of his passion and effort, not his ability.

Teachers did make brief reference to academic ability. Amy, a teacher, mentioned that "less able pupils" might struggle to access university and would be better served by college. Mike, a teacher, mentioned a mismatch between some young people's aspirations and their "academic ability" which might not support their aims. Ability in the context of academic excellence was not mentioned, although the appropriateness of apprenticeships for 'high fliers' was mentioned by Amy. SDS workers did not discuss ability in depth, and only one WP worker mentioned intelligence. Ewan explained "their education and their smarts is a huge part of their self-conception and self worth" for care-experienced WP students.

Ability as intelligence, or capacity for cognitive work, was explicitly addressed by a small group of students. Those students who discussed intelligence tended to be sceptical. Ability alone is accorded little explanatory power. For some, ability is rejected entirely and academic success is explained through an appeal to other traits. One group of students attempted to articulate greater or swifter learning capacity without making reference to ability or intelligence, suggesting that these terms were not familiar or were not usable. Reasons why ability or intelligence might be 'unspeakable' for some students will be explored in the next section.

Summary Theme One: Instability, contradiction and discomfort; fractured understandings of potential, talent and ability

Talent and potential are key concepts in how the University of Glasgow articulates and justifies its WP practice. However, students, teachers, SDS and WP do not share a strong common understanding of potential or talent.

Research Question one asks: How do Scottish widening participation students at the University of Glasgow, their teachers, parents, WP workers and SDS workers understand potential, talent and ability? The interviews suggest a fractured, mutually and sometimes self-contradictory understanding of these three concepts.

Subtheme - **Potential**

- Potential was described as challenging and contested topic. Students critiqued its validity, expressed contradictory ideas or leaned heavily on hedging language. Teachers, SDS and WP workers also expressed a wide range of ideas.

Subtheme - **Talent**

- Students' explanations of talent were often self-contradictory, simultaneously depending upon and rejecting the idea of innate talent. Teachers, SDS and WP workers also expressed a wide range of ideas.

Subtheme - **Ability**

- Students often rejected or avoided the concept of ability, even when discussing capacity for learning. Ability was very little discussed by teachers, SDS and WP workers.

8.2 Theme Two: (Overcoming) barriers to educational opportunity

Bronfenbrenner (2005) describes the mesosystem as made up of the microsystems each individual experiences. This study focused on two microsystems, school and home, and how these two microsystems interact to produce and, sometimes, remove educational barriers. Bronfenbrenner describes the microsystem as "the complex of relations between the developing person and environment in an immediate setting containing the person" (Bronfenbrenner, 1977:515) In this study, school will be regarded as a microsystem which former pupils affect and are affected by. Particular attention is given to interactions with developmentally significant others, including teachers, parents, peers, careers workers and widening participation workers. This section draws on interviews with students, parents, teachers, careers workers and widening participation workers to identify four key educational barriers to WP in HE.

8.2.1 Barrier 1: School resources and attainment

Many student participants made reference to inequitable educational resources as a barrier to learning for schools in areas of high deprivation. Some students expressed a belief that schools in less affluent areas received lower funding. Davie, a student participant, explained the issue was:

> *mainly a case a funding ehm schools in sorta areas like this they're they're not great I think anybody would admit that ehm they're quite badly funded*

Students did not seem aware of the intricacies of education funding in Scotland (Audit Scotland, 2014), which is delivered through block grants to each local authority which can then determine its own education budget. However, students were sensitive to the routine challenges of learning in an under-resourced and unmotivated school environment. Saoirse explained:

> *it's like vastly different … it's like actual like teachers and stuff… my school in my last year I did English Higher English and… we had three teachers a week… it's like the actual lack of like staff and even when you do have staff there's a lot of staff that are like aw we've given you the resources if you fail you fail I don't care go away and learn it*

Saoirse eloquently described the challenges of learning in an unstable and unsupportive school environment and explicitly links this to lack of resources. Many students perceived their educational opportunities as limited by their schools' comparative lack of funding and resources.

Resource limitations were frequently references by student participants. However, this theme was much less pronounced in interviews with teacher participants. Passing mention made by one teacher participant of resource limitations on educational provision. Donny, a teacher participant, explained that:

> *if schools were given the resources and the time and the staff and the space to be all things to all people you would find that in each school you would focus on the right kids for the right things but we can't…*

Donny referred to limited resources to justify schools' focus on teaching towards exams rather than subject teaching.

8.2.2 Barrier 2: Access to educational opportunity

8.2.2.1 Student participants: barriers to access

Many student participants described access to subjects and levels as a barrier in their education. Scottish secondary schools are generally divided into six 'year groups', with S1 or 'first year' for 11-12 year old pupils, S2 or 'second year' for 12-13 year old pupils up to S6 or sixth year for 16-17 year old pupils. SQA levels N4 and N5 are generally taken in S4, with some pupils taking National 4 (N4) or National 5 (N5) qualifications in fifth or sixth year. Higher qualifications are usually taken in S5 or S6 and Advanced Higher qualifications usually in S6. A traditional path for a highly academic pupil might to sit seven N5s in fourth year, five Highers in fifth year and three Advanced Highers alongside an additional Higher in sixth year. However, despite the centrality of "personalisation and choice" (Scottish Government, 2008:5) to Curriculum for Excellence, access to subjects and to levels of study (particularly Advanced Higher) is not guaranteed equally to all pupils. Schools may not provide particular subjects, or particular levels. Schools are also able to make their own determinations about which pupils should study which subjects at which levels, in which combinations. Scott (2019) reported that amongst schools who published their curricula, the number of subjects open to young people in S4 could vary from six to eight, in S5 from five to six and in S6 from three to six. Most schools require students to study certain subjects during certain educational phases of their education, or until a particular level of qualification has been attained. Many schools used 'options forms' to help manage pupil choice. For most pupils, the selection process begins at the end of second year with selection of subjects from 'columns' of which subjects are available at which times so as to allow for timetabling of teachers, students and accommodation. An overview of attainment amongst SIMD 1 and 2 students, was discussed in Chapter Six above.

Barriers to subject choice were described by many student participants. One barrier for many young people was restricted choices associated with the 'options form', which offered only certain subjects in each 'column' to facilitate timetabling and breadth of subject choice. Asim, a student participant, described how choices could be complicated by timetable restrictions:

> *I have to take French to get into medicine… it just turned out that my school couldn't accommodate me doing French anyway because the timetables which made me had to do Design and Manufacture and I was happy with that cos I liked it but it doesn't take away from the fact that… I potentially wouldn't have been able to do a subject that I wanted to because the school couldn't accommodate it.*

Asim's 'choice' not to select a language was in fact a response to limited resources and school timetabling. Asim also found himself moving from an academic subject to a practical subject he found more pleasurable, but less relevant to his goals. It is unclear that studying French was crucial to his medical career – Asim went on to study medicine. However, Asim's perceived need to study the subject for future HE access was not enough to enable him to study French.

Student participants whose schools did not use options forms also described restrictions. Maria, a former pupil, explained that her school required choices by faculty:

> *you had to pick one from each <faculty> and then you had a few left-over subjects and you had to pick … the left over ones from which ever box you wanted*

Although Maria did not select from formal columns, her choices were restricted. Indeed, given the immense logistical complexity of timetabling, it is impossible to imagine a system where all pupils could freely choose to study any subject at any level. However, Maria's experience suggests that even when 'Options' sheets are not used, structures to shape and restrict subject choices are still present.

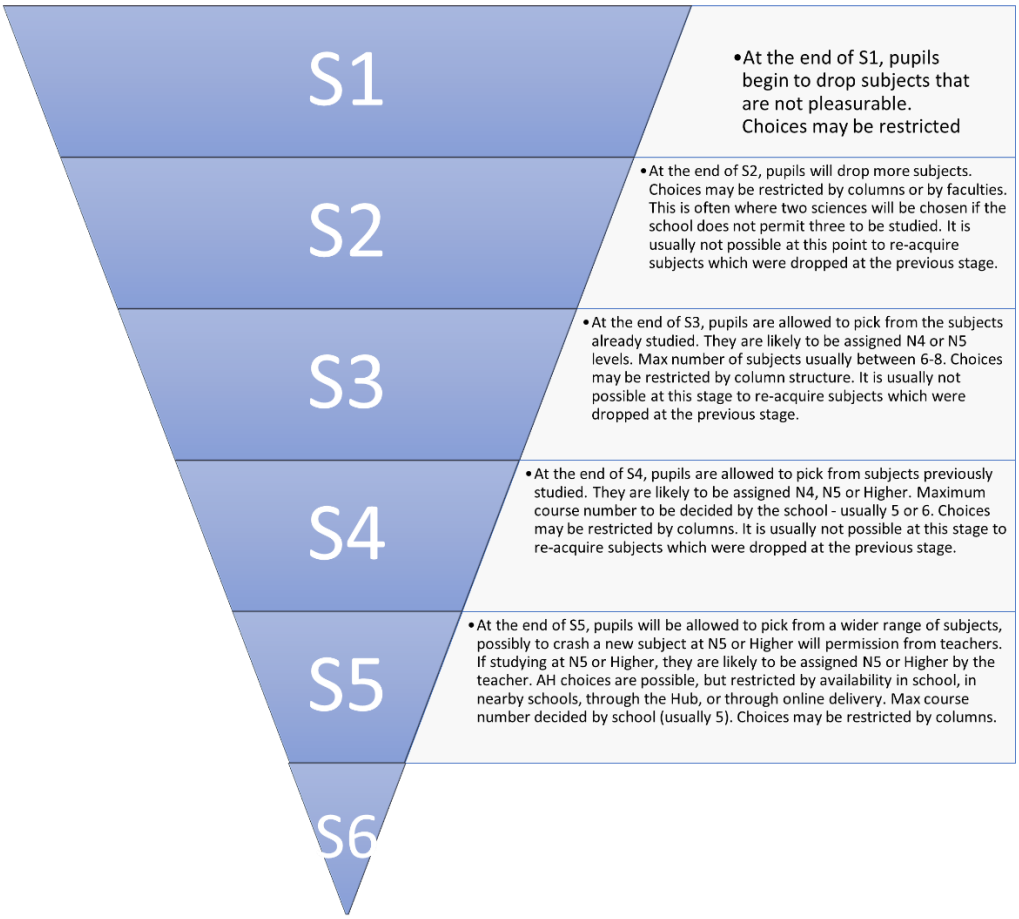
Another barrier to subject choice was prior subject choice. Subject choices operated to restrict the future subject choices. Saoirse, a student participant commented:

> *I didn't realise until I got into fourth year that the decisions I made at the end of second year would be my classes until sixth year and we only got to crash subjects like during sixth year*

Saoirse considered her own choices to have been unfortunate, and that they did not support her in playing to her academic strengths. To access university, Saoirse relied on 'crashing' Highers without prior study for her university application – an option only available to her in her sixth year.

Figure 15 illustrates how the narrowing of subject choice operated for most student participants.

Figure 14: Subject choice restriction



Many students believed that school accountability measures directly impacted on their educational opportunities and experiences. Students commented that they felt their subject and level choices were influenced by teachers' and schools need to perform well in league tables and other national accountability measures. Saoirse, a pupil at a less well-performing secondary school, experienced what might almost be described as alienation in her school's exam preparation:

> *so they're trying to get their grades up so they can be… yeah we have this many As we have this many As… every assembly going up to exam week we would have a countdown… it's clear that… they're doing it for like their reputation*

For Saoirse, exam results belonged to the school not the pupils. She did not own her own labour, or her own attainment – the push was intended to benefit her teachers, not her, to improve 'their grades' and build 'their reputation'. Jade, a former pupil, described a situation where a friend was pushed to sit a particular level of qualification for the benefit of her school:

the school… cared a lot about… the league tables… my friend she was told to do… Higher Maths in fifth year I think it was and she didn't want tae do it at all but they were like naw just do it…. she ended up dropping out like a month in

For Jade, pushing students towards more prestigious qualifications was a conscious effort to improve school rankings, not pupil qualifications.

Anne, a former pupil, described the inverse situation, expressing her view that pupils were encouraged to sit a lower-level qualification for the benefit of staff:

I know that people were told it was almost like a wink wink nudge nudge you might want to do National 4 because if you don't get the qualification it will look bad on us sort of thing

Anne believed that her teachers' advice to moderate academic aspirations was influenced by the school need to 'look good' in national measures. For Anne, and for many other former pupils interviewed, attainment in exams had shifted from an individual achievement which could be used to access employment or tertiary education to a product which is generated by pupils for the benefit of the institution.

Some former pupils described the distortion of schools' educational mission as including subject choice. Asim, a former pupil, described how he saw pupils encouraged to make subject choices which would improve school standing in national measures. He explained:

the thing with ratings is the ratings don't em discriminate between subjects its just the grade… the faculty would often push people towards PE or these kind of Home Ec subjects that are not the broadest in terms of going to university…. because they thought they could get an A and it would make the school look better but… it will help the school but it won't help them

For Asim, the interests of the school are opposed to the interests of the individual pupil.

Some students described teachers were acting in their own interests by recruiting pupils who would get 'them' grades. Cardo, a former pupil, described his experience of being pursued by teachers:

my teachers were kinda keen to have me in their class and everything as well … I kind of started to not be so enthused by most of the stuff that I had been picking…I think after a

certain point your teachers become very influential … they want you in their class so you're like, yeah, fine, cool

Cardo describes teacher enthusiasm to acquire a strong student who would yield good grads could outweigh consideration of how their subject might fit into that student's plans for the future.

Penny, a former pupil, also described a particular teacher who acted explicitly to promote his standing within the field by recruiting pupils to promote his results:

my geography teacher was like a massive numbers guy… if you were good at the subject he would really try and hold onto you… I was getting As in geography and it was very much like he was like don't leave me…I want to keep you as an A… it didn't feel like it was about me it felt like it was about him keeping his stats up

Her teacher's attempt to 'keep you as an A' was unpleasant for Penny. She explained:

the geography teacher was the worst one we'd literally talk about it outside of class and we'd be like he doesn't care about any of us he cares about like getting all these passes

8.2.2.2 Teacher participants: personalisation and choice

When asked about subject choice, teachers stressed the 'personalisation and choice' available to pupils. This is exemplified by Mike, a teacher participant:

they pick their subjects they narrow down a little bit but still in their curriculum areas… they narrow down there's personalisation and choice at the end of S2 so they narrow down to thirteen subjects… there's more personalisation and choice by the end of S3 the end of the broad general education and going into the senior phase ehm they narrow down again

Mike described the process of subject selection as successive iterations of personalisation and choice leading to a curricular narrowing. All teacher accounts stressed the role of pupil choice in curricular narrowing, as opposed to structural or resource limitations.

8.2.2.3 Family participants: trust

Parents and close family members interviewed overwhelmingly viewed subject choice as their child's business, rather than a shared concern. Jenny, a family participant and aunt to Davie, explained:

he mostly made up his own mind he knew he always knew what he wanted to do and then he would he would make the decision and then talk to us about it and say this is what I would like to do… we just you know we agreed with him because… he sorta knew best you know

For Jenny, Davie was the expert in his own education and his decisions were accepted without interrogation. Jenny did not see herself as positioned to influence his decisions, or even to offer information on what might be best for him. Davie had been more successful in school than most of his family. His family trusted him to understand school structures better than they did, and to make good choices for himself.

A similar disposition to trust and respect her child's decisions was shown by Julia, a family participant and mother to Bethany who regarded Bethany as the expert in her own education:

she was just picking her subjects she she really knew what she wanted to do she was very focused in the years in high school she knew that she wanted to study law she knew what kind of subjects she liked so… it's like I couldn't even suggest too much to her because she knew what she loves and what she wanted to do and she was really good so I didn't interfere

Julia expressed frustration with Scottish education and with barriers to Bethany's subject choice:

it wasn't organised… she wasn't for example able to pick up biology or geography because they were in the block so it wasn't really great

For Julia, the issue was not lack of trust in her child's capacity to make good subject choices, but the structural barriers to studying the subjects Bethany wanted to study.

8.2.2.4 Barriers to STEM education

Particular barriers to pupil learning existed for Science subjects. Despite the Scottish Government emphasis on STEM, many student participants reported being unable to study three sciences in S3-5. While schools offered Biology, Chemistry and Physics (referred to as the three sciences[1]), it was not possible for some students to study all three in N5 and Higher. Teacher participants also reported restrictions around the study of STEM subjects.

[1] Mathematics, Design and Technology, Computing and other STEM subjects were not generally referred to as 'science' subjects by teachers or former pupils.

For many student participants, access to three sciences at N5 in S4 was not possible. Instead, students who wished to leave with three Highers in Science had to 'crash' one Higher in S6. Some student participants associated Science education with elite education. Asim, a student participant, noted the differences between his experience and that of medical student peers:

> *from what I've heard from my new friends in like private schools and public schools ehm it was like mandatory that you had to do three sciences… I wasn't allowed to do that it wasn't feasible… come sixth year I had to crash Higher biology*

Asim describes the requirement to study three sciences as an advantage bestowed on private school pupils and denied to him within his own school. He understands this restriction as an effect of resource restriction – the school chose to facilitate the education of "the twenty-seven kids that… are having problems" rather than the high achieving few.

Some student participants described selective entry into Science education, where three sciences were possible only for those with strong positions with the school. Catrin, a student participant, described deploying her academic success and standing as a good pupil to access three sciences:

> *I did three we I think I had to like specifically ask though ehm I don't think it was like an option but I think because I asked and because I was kind of doing well and I was like really keen on doing that they were fine with me doing it*

Catrin was able to deploy her standing within the school to gain an advantage not open to all. She had the social standing within the school to make a special request of teachers, and the academic standing as a 'keen' and successful student required to make the request plausible.

Two of the three teachers interviewed expressed caution around Science education. For Amy, a teacher participant at Catrin's school, the study of three sciences was undesirable. Amy explained:

> *we don't advise it and we tell them that they don't need the three sciences at that stage for anything… they still have columns in the lower school so they can only choose two sciences*

Amy explains this restriction due to concerns over undesirable curricular narrowing and mental health concerns, saying "work load mental health three sciences you know might tip you over the edge" Concerns around young people and mental health are highly salient at present (SQA, 2022). However, worries around exam stress and young people do not explain why Amy identifies science qualifications as particularly concerning. There is also a question of whether it makes sense to refuse

young people who are highly able in science or highly motivated to study science the opportunity to do so. Amy's comment that 'they don't need the three sciences at that stage for anything' is a reference to HE entry requirements, which generally do not mandate that students study three sciences. Amy's account did not acknowledge that general knowledge of science has value for students who wish to study science.

8.2.2.5 Access to SQA levels N5, Higher, Advanced Higher

Many student participants reported barriers to access subject levels. These barriers included stratification within schools through setting and streaming and teacher judgement. Streaming and tracking were described by some student participants, although it was not always clear to student participants whether this was based on prior attainment, ability or some other factor. Andrew, a student participant, explained his schools practice of dividing pupils into three groups, with 'two year Higher' the stream for the most academic pupils. He described not being chosen for that group:

> *I unknowingly never got chosen for that I was thinking how have I no been chose for two year higher I got put intae core… I would have probably actually definitely benefitted from two year higher I would say because I would have had more I would have had more anticipation and I probably wouldn't have been in as many classes wi like ma close friends so I would of probably stuck in a whole lot more*

Andrew regretted the lost opportunity to spend longer with the Higher material, even though he believed people who did one year Higher gained more understanding of concepts and better marks. This contradiction may communicate a perception that the 'two year Higher' group held an elite position within the school, leaving him subordinated. His ranking also placed him with his friends, perhaps indicating that this was seen as the appropriate level for pupils 'like him'. Asked about why he was not selected, Andrew mused:

> *it was one of the mysteries and at the time I wasn't really ambitious to find out why they hadn't chose me but noo… noo ah would love tae actually find out why I was never chosen*

For Andrew at the time, his exclusion from two year higher was a 'mystery' it did not occur to him to question. He accepted the stratification of pupils within his school, and his place within that stratification.

Streaming allowed access to educational opportunities for young people according to their stream. However, setting within a subject could also restrict opportunities. Many student participants described their experience of setting in terms of 'good' pupils who merited better opportunities. Jade, a student participant, explained how her school approached Mathematics:

> *all through school we had like sets so the good people were in like set one set two set three and then everybody else was …the first three sets they were the ones that were gonna definetly be doing Nat 5 Higher whatever ehm and then as it went down I think that was when they started to kinda look at people more you know and like individually to decide*

Being 'good people' in top sets meant automatic access to N5 and Higher – a smooth route to high tariff qualifications. For those who weren't 'good people', accessing qualifications required individual negotiation and a favourable teacher judgement

Many student participants commented on how teacher judgement affected access to subject levels. This could include past attainment, but also demeanour and classroom behaviour. Miles, a student participant, explained:

> *if you were kind of disorganised in class but you get really good grades in your test… they would be like maybe you should go into a Nat 4*

It was not enough to perform well in assessments. Pupils also had to perform in the correct manner. Incorrect behaviour in class could restrict access to levels of study. Elodie, a student participant, described how teacher judgements were encoded by her teachers as 'working grades':

> *when we picked the subjects we were put in <levels> kind of based on our third year like kinda what working grade we were at for there… if you were put Nat 4 for fourth year it would just be expected that you just do Nat 4… and if you were in a Nat 5 class ehm they would let you do the exam even if you were failing in the class*

Working grades are derived from teacher judgement of classwork as well as from class assessments. In this case, these were used to dictate what level of assessments were open to young people. Student participants did not describe any level of success leading to promotion from a N4 to an N5 class. However, some participants did note that attaining N4 did not guarantee access to an N5 class.

Having the correct standing to incur favourable teacher judgements could give pupils access to subject and levels which would normally not be open to them. Catrin, a former pupil, found that she

was able to appeal for permission to take a subject at a level for which she lacked the normal pre-requisites. She said:

> *I took Advanced Higher Music because ehm I was quite musical in school as well I went to like junior RCS like Royal Conservatoire at the weekends when I was like second and third year so they just let me take Advanced Higher without taking Higher before ehm which was quite good I quite enjoyed that*

Catrin was able to use her credentials as a junior with a prestigious music school to gain access to school resources without much reported difficulty – 'they just let' her gain access to this qualification.

Other pupils, lacking this resource, were not so successful in leapfrogging the requirements. For Cardo, the attempt to move straight to Advanced Higher caused conflict:

> *I had… kind of an argument with my teachers at the kind of start of sixth year… I wanted to do an Advanced Higher in Drama as well even though I'd never done the Higher in Drama… eventually they just told me no… they said that I didn't have like the the Higher course and everything but I mean I've been doing those kind of extracurricular stuff my whole way through school and it wasn't something that… I wouldn't be capable of doing you know*

Despite outstanding success in N5 and Higher qualifications, Cardo was not able to use his involvement in extra-curricular Drama at school to argue for a place in Advanced Higher. His perception that he was capable, his academic record and his vigorous and persistent attempt to make his case were not enough. In this restricted system, flexibility could only be accessed through teacher judgement.

Pupils were not always aware why they were directed to one level rather than another. While end of year exams were sometimes part of the decision, other factors could be significant. Sammy, a former pupil, commented on the complexity of the process:

> *it was sort of done by class test grades and averages and things like that…. I wouldn't call that transparent*

Sammy was not the only pupil to find the process of level determination unclear. Penny describes the decision to place pupils as N4 or N5 as "just based off like what your teacher thought of you". Andrew, quoted at length above, comments on the 'mystery' of why he was not streamed into the 'two year Higher' group. For student participants, teacher judgements were often a 'black box'.

Accessing the Advanced Higher (AH) was challenging for many student participants. Differences between provision in schools was particularly pronounced for Advanced Higher, from an expected next step to impossible to access – a finding echoed to some extent in the secondary data and survey data. Student participants faced a range of challenges. For some, this was as straightforward as timetable conflicts. For others, AH were available but required attending a different school or applying for access to the Hub at Glasgow Caledonian University. For some student participants, AH access was highly restricted or not possible. Attending AH at another school posed challenges for some student participants. Bethany, a student participant, explained the challenges of travel:

> *we only got a taxi if we had like another class after it… had to get the bus which obviously… ok it was paid for and everything but it was definitely more of a hassle than it had been in previous years… it's um bit of a bit of a journey*

For Bethany, studying at a different school meant time consuming travel and 'hassle' with returning in time for other classes.

Provision outside school hours also posed challenges. Andrew, a student participant, explained:

> *I couldn't really be bothered staying back on a Monday and a Wednesday for an extra like wan or two hours just tae study Advanced Maths*

Andrew's school offered AH mathematics with an outside 'professor' after school. To be able to study Mathematics at AH Andrew had to extend his work day from around seven to around nine hours, which he struggled with. 'I couldn't really be bothered' can be understood as lack of interest, but can also carry connotations of incapacity. Andrew interpreted dropping out as laziness and immaturity, but it is also possible to discern a genuine conflict between maintaining his standing with friends and peers, which requires time spent maintaining social bonds (Lareau, 2003), and the need to spend time which would normally be available for this social 'work' in a classroom instead. Andrew recalled being encouraged to drop his AH:

> *ah went to some teachers ah said ah'm no really enjoyin it can ah mebbe drop it… they kinda said well if you don't want tae dae it just drop it it's no it's no crucial to your UCAS application … lookin back again I would ah said <name> don't drap advanced higher maths stick in at advanced but I wisnae really pushed tae stick in at it*

When Andrew reaches out to teachers, rather than help he receives encouragement to drop out. It is not implausible that Andrew's standing within the school as a pupil who described sixth year as '*an absolute laugh'* and belongs to a friendship group which *'can dae what we want we run the school'* made him less plausible to teaching staff as an AH Maths student. Andrew's habitus potentially mis-matched that expected of an AH Maths candidate. While high ability in Mathematics does not preclude arrogance and spending time causing trouble with friends, Andrew's teachers may have expected a more middle-class habitus and seen Andrew's struggles with the course not as a natural part of learning under adverse circumstances, but as a result of a mismatch between candidate and qualification. The teachers' view that AH was unimportant for Andrew was justified through its perceived non-contribution to his future HE application (UCAS).

Student participants did not tend to focus on AH's utility for HE applications. Many student participants commented on AH as an opportunity for learning, a preparation for learning at university, and as a pleasurable activity. Davie, a student participant, commented:

> *I did one aye … English, English Lit … it was great, fantastic aye thoroughly enjoyed it… it really is worth it aye I hid hid to go tae ehm I don't know if you know <other school> it's away down … down the road aye I had to go there for my Advanced for English cos the academy didn't offer it but ehm it was worthwhile really worthwhile …*

Despite highly restricted options, Davie enthusiastically embraced his AH opportunity, coping with the inconvenience of missing parts of class due to the taxi timings and the stress of meeting new people who he described as "*all nice folk so you know we got on quite well*" Davie explained that given the opportunity he "*would have probably just taken three o them"*

Alongside pleasure, some students found that Advanced Highers benefitted their future studies. Although not required for access, Advanced Higher could make first year university more attainable. For Alison, Advanced Highers were a useful foundation for her first year studies:

> *Biology really helps because when they were like certain ehm topics that you can learn… I was like oh! I did this in Biology so I'm glad I didn't have to relearn this ehm so it was really it was really helpful in that sense*

For Alison, studying Advanced Higher is not just about fulfilling arbitrary requirements, but about acquiring knowledge which will help her with her university studies.

A small number of student participants commented that AH had a social importance in their particular subject areas. Some student participants describe being questioned about their school subject and grades by other students. Cardo noted:

> *you'd have to explain your entire Maths they want to know if you did an Advanced Higher if you did like um Advanced Highers in other sciences like people asked you all these questions and I'm like I didn't really care that much for my exams to be honest*

In this case, Advanced Higher served as social as well as academic capital. Even when questioning was less overt, some student participants described being conscious of others' academic histories. Millie, a Law student, explained:

> *I didn't get Advanced Highers most of the people in my course have Advanced Highers have like three or four Advanced Highers I'm like oh, I don't have that, but oh well you know I got my As and my Bs that I needed and I grit my teeth and I did the Summer School and I swallowed my pride*

Not having Advanced Highers and accessing Law through Widening Participation placed Millie in a subordinate position. She was required to 'grit her teeth', enduring her lower status as she entered this new academic field. While Advanced Higher was not an academic requirement for Millie, not having Advanced Higher lowered her social and academic capital.

8.2.2.6 Teacher participants: judgement

Teacher participants were aware of the impact that their judgements of pupils could have on their access to levels. Donny, a teacher participant, explained using pastoral knowledge to gain access to a level for a pupil:

> *I've had a pupil who got a D at National 5 who wanted to do Higher… and the department resisted and I campaigned for them and he got a B because he was the one exception to the rule because I knew the circumstances*

Donny's knowledge of and favourable judgement of this pupil gained him access to a level despite his attainment. Amy, a teacher participant, describes a similar exercise of teacher judgement to refuse access to a level despite past attainment:

say they've done National 5 Art and they want to do Higher and I am able to judge… well you got a C that was a struggle you're not going to cope… then we would write on the report reached level in Art choose an alternative subject

For Amy, part of the role of the teacher is to interpret attainment, so that a 'C' gained by one pupil and interpreted as a 'struggle' would not allow access to the next level. The exercise of teacher judgement can outweigh exam performance.

8.2.3 Barrier 3: School environment and disruption

Gaining access to subjects and levels is tremendously important for WP students, who must negotiate complex relationships and structures to claim their place as Higher or AH pupils. However, once entry into courses has been obtained, pupils must then navigate the school and classroom environment, the course structure and the examination system.

Disruptive behaviour was an unexpected theme developed in interviews with former pupils. As classroom disruption did not feature strongly in the literature it was not a focus of questioning in the interviews. However, many students wished to discuss their memories of disruption. For some former pupils, disruption was an important barrier for their learning in school, and for some it even shaped where their learning took place. Former pupils described choosing schools and leaving school in response to beliefs, fears or experiences of other pupils' behaviour and their school's response to that behaviour. Paul, a student participant, explained asking at the end of primary school:

mum can I go to <choice school> instead… the area kinda has a reputation as well…troublesome people would tend tae go <to local school> so I didn't really wanna be there for like six years of my life

Paul recalled this decision as belonging to him – he identified a different school he would prefer, and succeeded in gaining his mother's agreement because he worried about other pupils' behaviour. Two other student participants specifically identified LGBTQ+ bullying as the disruptive behaviour they feared. After experiencing this form of bullying Miles, a student participant, left school and went to college. He explained:

oh yeah no they'll like call you slurs in the hallways and… the school will be like we're so welcoming if you're getting bullied you should talk to us… like yeah man I want to be the bean that's going up and complaining oh my god nightmare

As a trans man, Miles did not feel safe to remain in his secondary school during transition and left for college. He did not believe in his school's ability to effectively address abuse. Witnessing homophobic bullying was also a concern for other pupils. Saoirse, a student participant, recalled observing the school's response to gendered and homophobic bullying:

> *there is one girl… her learning was like being affected by bullying… she cut her hair like really short and she dyed it blue ehm and she was getting kinda homophobic slurs kind of … it was the same boys… they were always getting reported for it… when she went to <teachers> they told her that if she grew her hair long and dyed it back to a normal colour they wouldn't have anything to bully her over*

The teachers' response, that gender and sexual non-conformity should be hidden, supports the gender policing of pupils' bodies by their peers. Saoirse suggested that this might have been an effort by teachers to build and maintain positive relationships with disruptive pupils by sacrificing relationships with other pupils. Saoirse described how teachers would interact with some of the more disruptive pupils:

> *they like a lot of the disruptive ones there was some teachers that they were their favourites so they would be joking around laughing with them and you're just kinda sitting there*

A small group of other student participants commented on the negative effect that teacher efforts to include and support disruptive pupils had on their peers. Suzanne, a student participant, commented "its like *'aw we can't give up on young people'* but then she was ruining the life for everybody else*"* Suzanne felt that she had suffered so that people who were very badly behaved could be kept in classes, and could proceed on to university. She also connected this to the closure of special schools, describing pupils with additional support needs 'stood outside in the rain' because they could not bear to go into crowded, noisy mainstream classes.

Another small group of student participants noted disruption but found it did not impact their studies. Mike, a student participant, explained that setting had been protective of his education:

> *after like third year… I was in the better classes… the only people who take those are… not exactly the type of people who are confident enough to just do that you know*

By 'that' Mike referred to verbal bullying, which he understood as the prerogative of the confident and less academic. Being set allowed Mike to avoid these interactions. Asides from any academic

benefit, setting was beneficial to Mike as a protection against bullying. It is unfortunately beyond the scope of this study to examine whether setting increases the amount of verbal bullying experienced by pupils in 'lower' sets.

For Asim, a student participant, disruption was generally handled through the removal of disruptive students. He describes his school prioritising those 'looking to get As' for whom every moment matters, and whose attainment is protected by excluding others from class in 'important' subjects. In lower-status subjects disruption must be compensated in other ways, with pupils whose attainment is valued being given extra time. Asim explained:

> *in subjects like design and manufacture they couldn't remove 27 people so then the teacher would then just in that case just do as best as they can to calm the class down… give me and the other students extra time ehm just to kind of catch up to that… if we didn't make that divide… there we wouldn't have got anything either… which is a sad reality ehm to be honest*

He describes distancing himself from the other students as 'a sad reality to be honest' – a necessary sacrifice to protect his attainment. For Asim, disruptive behaviour was a threat to his attainment, and time lost needed to be compensated.

Abby, a student participant, did not share Asim's perception that the school must address disruption to preserve pupil attainment. While Abby described significant disruption, including flooded classrooms and senior pupils 'always throwing stuff', she recalled being untroubled by it. Instead, she understood coping with disruption as the individual pupil's business:

> *it would just depend like on individuals like so if you wanted to do the work you would just sit and do it while everything else was going on*

Abby saw disruption as a part of life. She placed the onus on the individual to show self-motivation and avoid getting swept up in distractions.

8.2.4 Barrier 4: School environment, teaching and learning

8.2.4.1 Student participants: regurgitating

Many student participants commented on the dominant role of exams in their schooling. Most students felt that assessment drove the N5, Higher and AH courses which they were able to take. Elodie, a student participant, commented that when learning in school:

I just used to like write my History and English and Moddies essays and just kind of just remember them… you would get like the course like spec from the SQA but you could just… go through that learn what you need to know and you're normally ok for the exam

For a number of students, learning in school meant using curricular documents to efficiently prepare for examination. Many referred to this using digestive imagery, particularly 'regurgitation'. For Millie, a student participant "you're going in sitting down and like regurgitating all this information that you've been memorising for five years*".* Jade, a student participant, explained:

in school it was like this stuff you need to know this for your exam everything you were being taught was in the lead up for that… exams would be in like May April May time… even from August they would be right exams constantly talking about it especially when you got to like fifth year with Highers and stuff… I've never actually noticed that but… I realise now

Jade recognised that her school curriculum was restricted to just the material she would be examined on by comparing it to the more expansive education she is receiving at university. The Scottish school year traditionally runs from mid-August until late June. Exam talk dominated teaching from the very beginning

The relationship between exam success and effort proved a barrier for many student participants. Most expressed the belief that effort produced attainment. However, a number of student participants were concerned that their own high attainment had been gained with lower effort than their peers. Matthew explained:

especially with Chemistry I always found myself getting away with not even studying that much and I'm doing good so… which is bad in a way even my Chemistry teacher told me… you're gonnae have a hard time later on

Matthew's teacher promised him future struggles because he was able to do well without performing effort in the expected way.

Another student, Davie, also grappled with the contradiction of excellent exam results without the performance of studying. Davie struggled to explain his success:

*I'm not good wi tests and exams and things like that… in fact I got quite lucky *small chuckle* wi my exams honestly… I would waffle away and probably not do enough studying but I managed to come out with quite good grades somehow… eh so there are probably people*

who are a bit more you know studious and deserving really that that just aren't brilliant at exams

Davie solved the problem of high attainment without the performance of the expected effort by denying that it happened – he is in fact 'not good' at tests and exams even having achieved excellent results. Instead, his results are an undeserved stroke of luck. Pupils who work hard, the 'studious and deserving' merit high attainment. Failing to present the correct habitus to claim that position within the field, Davie can only explain his success in terms of luck. Davie's ability is unspeakable – he cannot express or recognise it.

Perhaps most concerning is Anne, who expresses doubts about the validity of her contextualised admissions to university, given the imagined effort of others:

obviously it's a good thing ehm but… I could be taking up someone's space whose whole drive was to come to university and study at university and that's been their whole focus their whole family was focused on getting them into university and I've like taken their place…

Anne reasons that university acceptance is merited by effort and therefore she has taken the place of a harder working and more deserving non-WP student who did not require contextualised admission.

By identifying effort as the correct and virtuous path to high attainment and university admission, Scottish education has left little space for highly able learners. As Anne's fears of taking a place she didn't deserve show, young people who can achieve excellent results in assessments without making the accepted display of effort can be left with the feeling that they are somehow undeserving or lazy. Young people can be blamed and encouraged to blame themselves for their reaction to inadequate levels of academic challenge.

8.2.4.2 Teacher participants: that is the reality

Teachers also experience the focus on exams as a narrowing of curricular and pedagogic possibility in the Senior phase. However, they interpret this as their response to pressure from universities, pupils and parents. Donny, a teacher participant, explained that the focus on examination results is due to university's focus on academic achievement in fifth year and pupils' and parents' desires, a lack of resources a lack of time and a lack of money. He said:

the impression we get from universities is that the thing they're still more interested in is ability to achieve academically in fifth year with a number of Higher courses… schools will

always be geared up for that… if schools were given the resources and the time and the staff and the space to be all things to all people… you would focus on the right kids for the right things but we can't… the drive comes towards the learning for exams

Donny emphasised that his exam focused approach is not his preference, but instead enforced on him by parents and pupils:

my catchphrase in class when we get to fourth year is I would love to teach you maths but I'm teaching you how to pass your National 5 Maths exam or your Higher Maths exam that's my job… in first second and third year I was really enjoying teaching you Maths now I'm going to teach you how to pass exams because that is the reality… that that's what kids want you to do and that's what parents want you to get the kid through the exam

While recognising the relentless focus on exams, Donny casts this as a reluctant response to requirements from pupils themselves, parents, universities. As a teacher he 'would love to teach you Maths' were he not prevented by pupils and their parents, and by universities' focus on the ability to gain Highers.

Donny also issued warnings about the relationship between attainment and effort. Reflecting on his own experience as a talented young person, Donny comments:

I'm always when kids are telling me how great they are and how they're getting straight As I'm always kinda like well I'm not gonna lie tae ye unless you're kinda ready to put in a shift you're screwed

Like Matthew's teacher, Donny requires pupils to perform effort regardless of academic challenge. The onus is on the pupil to display hard work, even when they do not need to work hard in order to achieve excellent results. Hard work is implicitly treated as a trait – a pupil is hard working, in which case they are a good student, or they are not hard working, in which case they are not a good student and their excellent results are not valid. Bourdieu suggests (1986) that a middle-class habitus can be misrecognised as ability. In this case, an appearance of hard work is misrecognised as merit.

Summary Theme two: (Overcoming) barriers to educational opportunity

Student participants experienced barriers to their learning. These were overwhelmingly connected to school.

Research Question Two asks: What educational barriers were experienced by students from areas of high deprivation in secondary school and beyond? Students identified a range of barriers connected to school, including resources, subject and level restrictions, disrupted environments, and an over-focus on exam preparation.

Barrier 1: **School resources and attainment**

- Students perceived funding and resources as limiting learning opportunities in areas of high deprivation

Barrier 2: **Access to educational opportunity**

- Many students experienced restricted subject choices. This occurred in schools with traditional column structures and in schools with other structures.
- Some schools placed particular restrictions on the study of science, so that it was not possible to study all three sciences in S4/S5
- Access to levels depended on availability within the school and on teacher judgement of individual pupils. Merely possessing the requisite levels of attainment was not enough to guarantee entry to a level.
- Many student participants had not been able to access as many Advanced Higher level courses as they wished to. Some student participants were able to access one, or none.
- For some student participants, other pupils' behaviour had impacted their opportunities to learn in school.

Barrier 3: **School environment and disruption**

- Many students reported experiencing disruption during their education. For some, this shaped their choice of institution. Others experienced less disruption.

Barrier 4: **School environment, teaching and learning**

- For most student participants, the dominance of exam preparation in the senior phase limited their learning opportunities.
- Some pupils believed that exam success was earned through effort, and worried that they had been successful without sufficient effort.

8.3 Theme Three: Accessing inspiring education

The University of Glasgow's 2025 Strategy (University of Glasgow, undated e) states as part of its purpose that "Our teaching inspires students". Students, parents, and WP workers generally shared a vision of higher education as an opportunity to pursue scholarship. However, this view was not shared by teachers and SDS workers in schools. This mismatch of visions is important, as teachers determine which pupils are able to access WP resources in schools.

8.3.1 Subtheme One: Purposes of Higher Education

8.3.1.1 Student participants: a passion for scholarship

One surprising result of this study was the enthusiasm for scholarship and learning expressed by most student participants. It was expected that students would be largely motived by employability and social mobility – a desire to better themselves (Tomlinson, 2017). However, a large number of student participants associated their choice to attend university with pleasure in learning. A passion for learning and a desire for employment and social mobility are not mutually exclusive and many students expressed both. However, the identification of employability and social mobility as the key primary motivators was challenged in these interviews.

Ziegler et al (2017) associate telic learning capital, goal setting, with passion for a subject. However, this does not adequately describe the joyful learning experiences of these former pupils. Nearly all the student participants interviewed expressed joy in learning, in studying, or in a particular subject area. Davie, a student participant, explained his motivations for university study in terms of learning opportunities:

> *its ehm again just sorta that chance tae go and learn frae incredibly intelligent people and go to these lectures and be fascinated with the stuff they come up wi you know*

Interest in learning was explicitly Davie's main reason for attending university. He found 'the stuff' he was learning about fascinating, and found contact with 'incredibly intelligent people' in formal lectures intensely rewarding. He described Scotland's provision of free HE as 'a sorta brilliant opportunity to learn for free basically' and wished that the opportunity to experience 'the culture and getting to know things' could be shared with his best friend from school.

Other students commented on their passion for particular subjects. Hugh, another former pupil explained that his interest in attending university was connected to his strong interest in a particular subject:

> *I did develop a very strong <interest> in linguistics that I did want to pursue at university … if I'd not come across linguistics I don't know… I might not have gone*

Hugh noted that while he can see that people might gain in various ways from university, he only applied to linguistics courses. He was only prepared to attend if he could study the subject he was interested in. For these students, the love of learning was their justification for attending university.

For Jozef, a degree was not a means to a particular career. He explained that computer science was

> *my singular passion… ehm I don't really have any specific career goals its primarily just what I am best <at> and what I enjoy the most as well*

Jozef linked his pleasure in his chosen subject both pleasure and to performance. This was what he was best at and what he enjoyed.

In contrast, Miles (a student participant) took a delight in the subject for its own sake rather than his ability to excel

> *I do like it... I get a lot out of how absurd it can be sometimes... I had a lab just there that was that was like we all got put in a room full of skeletons and we were just told to go and like figure things out about the skeletons from how they look... you'd never get to do that in any other subject... it's so good*

Miles claimed that his subject is universally interesting - that everyone loves and engages with animals - and described using his knowledge of zoology to form social bonds with others.

Some student participants taking vocational degrees such as medicine and teaching also expressed pleasure as well as purpose in their studies. Anne, a student participant studying to become a primary teacher, explained:

> *I thought would just be learning how to play games with the child and teach them maths and English but we're actually needing this background knowledge .... so that is the most interesting... I'm really enjoying that background knowledge*

Anne enjoyed and valued the opportunities for academic study within her teaching degree.

For many student participants, the approach to teaching and learning at university was also preferential to their experiences in secondary school. An unexpected benefit of interviewing first and second year students was their thoughtful comparisons between university education and school education. Many students commented that university education allowed more scope for learning about a subject, and for learning independently. Sammy, a student participant, explained that university education

> *it's not set to… an SQA course's course spec document… I think it's easier to find myself interested in what what I'm doing now because its more specific to interest rather than sitting an exam and passing it… <school> was literally just a whole year of learning from the course assessment spec document and then going and sitting an exam… looking back you kinda realise wow that is an odd way to prepare for university really*

For many students, the move from focusing on assessment to focusing on learning was welcome and beneficial. Jade, a student participant, found it a revelation that education could go beyond exam prep:

> *at school it was… like right so this is a part of the exam… everything that you were learning was definetly you could be asked that… at uni it doesn't feel like that … it really gives you space to you know research stuff for yourself and you don't feel like pressured to be using the information that you've been given in lectures*

Jade's discovery, that learning can take place outside of class, and that research done by the student can be valid, was transformative. She was no longer dependent on her teacher or lecturer to tell her what to know – she could find out for herself. Millie, a student participant explained a similar transformative experience

> *at uni you've actually got to process things and then like draw your own conclusions whereas at at school they were holding your hand… there's a lot more open to interpretation answers you can give here as long as you can justify it well enough it seems to work better than this is right this is wrong*

For Millie, university education included the ability to think for oneself, to draw one's own conclusions and to learn to build an argument justified by evidence. Millie describes constructing her knowledge, rather than receiving it passively.

Learning alone was not gratifying for all students. Cardo, a student, had hoped for intellectual peers:

> *I obviously speak to people and that not a shy person I talk away and all that but I don't know sometimes I feel like um I kind of the first time I came to uni I kinda expected that I would meet people that would want to talk about the work we were doing as well*

Cardo had left his initial STEM degree due to feeling a lack of 'warmth' from other students. He reported continuing dissatisfactions in his relationships with other students and felt frustration that they did not work at the same pace or with the same rigour that he did. Cardo did not anticipate finishing his degree.

Many student participants used their passion for learning to differentiate themselves and position themselves favourably. By comparing their own interest in and engagement with their subject favourably to other students, former pupils asserted their own position in the field of higher education. Millie, a student participant, explicitly identified herself as being more committed to her studies than her peers, commenting:

> *I've met some people on courses I'm like why are you even here like they just don't want to be here I'm just like why are you here then? You know like why would you spend all this time and effort getting here when it's clear that you have no interest in the subject?*

By criticising other students as deficient in passion for their subject, Millie strengthens her own position and asserts her right to enter this field of higher education on the grounds of her own interest in the subject.

An interesting perspective is offered by Sean, a student participant and former scholarship pupil at a prestigious private school, who contrasts his passion for the subject with the attitude of most of his privileged peers, noting:

> *the vast majority of people in my year applied to do business accounting and finance studies… <I> think a lot of that was motivated by the fact that a lot of their parents were wealthy business people and they want to make money as well … I think the vast majority of people at my school applied with money and a career in mind*

Sean explained there is 'nothing wrong' with the functional, vocational attitude he ascribes to his peers, but also stresses that his attitude and that of his close friend is not like that – although his friend did study finance and accounting, it was because she 'loves the subject', not because she is planning a career.

Student participants also used their passion for learning to differentiate themselves from other pupils. Some student participants described being identified as elite scholars within their secondary school. Millie reminisced about peers suggesting that she should apply to Oxford or Cambridge. Maria described herself as "quite like academic at school". Penny described teachers pressuring her to select their subject as she moved into the senior phase. Catrin, a student participant, deployed her comparative lack of resources in secondary school to argue that she is in fact a better pupil that her more privileged peers, explaining they had:

> *so many resources that I was never given in school… I feel like if I was given more resources in school I maybe wouldn't have had to work so hard for my grades… I feel like I came to uni and I'm still working just as hard and I think that's why you can kind of see it in the grades*

Catrin identifies her comparative educational deprivation as the cause of her academic success in HE.

8.3.1.2 Teacher participants: fair?

The teacher participants interviewed expressed mixed feelings about widening participation in HE. In sharp contrast to the views students espoused, teacher participants saw young people's HE aspirations as driven by career. Amy, a teacher participant, explained:

> *it is a career option at the end… there's not that many that just say oh I'm just going to do geography and I don't know what I'll do at the end… a lot of them are more you know they've got a real career aspiration I think more so… certainly than I did*

Amy believes modern young people are different to her because they are less subject based and more career based – a marked contrast to the views of students. This led to a critical appreciation of WP and a stress on new opportunities such as graduate apprenticeships. Donny, a teacher participant, suggested that:

> *I think you'll find the university application rates have really dropped especially because kids have found other things… I know of two or three kids who have left school dropped out of uni and have gone on to find different kinds of apprenticeships and different kinds of places*

Although Donny's speculations about HE application and acceptance rates are not reflective of the Scottish reality, which has seen record applications in 2022 and a rise on 2019's pre-pandemic acceptance rates (UCAS, 2022), his scepticism about the value of HE resembles that of the other teachers interviewed. Like them, Donny sees HE as an increasingly less valid vocational route, rather than as an opportunity to take pleasure in learning about a subject one cares about. His views were shared by other teacher participants, such as Amy, who also felt that "high fliers" might be better served by opportunities such as apprenticeships.

Teacher participants also expressed concerns over the fairness of WP. Mike, a teacher participant, worried that a post code based system can lead to unfairness or even deceit. Mike was sympathetic to young people who understood WP programmes such as Reach as instances of unfair advantage rather than as redressing social inequality:

> *I've had young people who have come in and said and have literally said to me I work much harder than that person I'm not getting access to go to Reach therefore I don't get adjusted grades… I actually agree they're right you know … <barriers are> not just based on a post code*

Teachers also expressed concern about identifying a particular group for intervention. Amy, a teacher participant explained "obviously it's not just those pupils that we need to make sure reach their potential it's all of them" Amy worried that undue focus on pupils experiencing particular barriers to education distracted from those pupils not experiencing such barriers. She saw this focus not as reparative, but as an additional benefit that other pupils were excluded from. Donny, a teacher participant, expressed concern that some young people only elected to study at university because they achieved the required results:

> *I'm always very sceptical of those kids who get to the end of their fifth year get five As and then decide they want to be a lawyer or they want to be a doctor… I'm kinda like well why did you not want to do that when you told me in third year that you wanted to work in the Care Bear factory for the rest of your life… it can be a red flag*

For Donny, a young person who forms an ambition at the beginning of S6 to enter a high tariff profession must be suspected of insincerity in their ambitions. Donny feels that by S3, a young person should know whether or not they plan to attend university and that a late change of mind in response to academic success is a 'red flag' – a reason to be wary that their change of mind is not correctly motivated. This suggests that if WP had encouraged previously uninterested young people in Donny's school to consider HE, Donny might find that questionable or even inappropriate.

8.3.1.3 Family participants: love of learning

In contrast to teachers, family participants were well aware that student participants were motivated in their degree studies by pleasure in learning and scholarship. Jenny, Davie's aunt, reported Davie's history of enthusiasm for education:

> *he was very keen on school… the joke in the family was you know where does he get that from … he hated being off school for any reason… his school reports all through his school time you know have been you know very positive and he's a delight to teach…so yeah I'd say keen*

Asked specifically about his motivations for university study, Jenny explained:

> *I think ehm to learn more … to to get qualifications… a good career and money at the end of the day which is what we all want… aye to do well to have a good life you know but also to keep learning I think that's one of the big things*

Jenny ascribed to Davie conventional motives, the career and money 'which is what we wall want'. But she also begins and ends with learning. Davie himself described university as "*that chance tae go and learn frae incredibly intelligent people and go to these lectures and be fascinated with the stuff they come up wi".* Jenny's description of Davie's motives was very close to those he reported for himself.

Amanda, Abby's mother, also saw her daughter as motivated by a love of learning:

> *she loves to study she's very proactive in that sense… she very much needed a lot of support but not in any way to encourage or motivate her to study she's very much likes to study that's one of her key interests… you maybe understand how that feels… I think she sees herself in your position one day doing a PhD or something like that*

Amanda drew a distinction between her daughter's love of learning and her need for emotional support through the process of education. Abby made a late decision to study geography rather than medicine, which her mother explained Abby saw as offering fewer opportunities for further study:

> *she really just likes to study …I think that was one of the things she wrestled with coming away from medicine… she says that it's you know that only gives you one option and we tried to explain to her it doesn't give you one option … but I think ultimately for her she just really enjoys studying*

Julia, Bethany's mother, described her daughter's attitude saying *"yes yes she loves she loves learning"* and went on to contextualise her daughter's hard work through interest in the subject she was studying:

> *it is personal interest… if the topic or the level of learning is more advanced sometimes it requires a lot of work but sometimes is just our focus and passion and interest for the subject… I think that's the key*

Although Bethany was taking a professional degree, her mother saw her focus as on learning rather than qualification. Of the group of parents who were interviewed, none identified their child's primary interest in HE to be career, job, or money. Career aspirations were contextualised by their child's love of learning.

8.3.1.4 SDS participants: a sceptical eye

It was only possible to interview two SDS workers who engage with pupils about their career plans and their subject choices, which is a significant limitation.

Both SDS participants expressed caution about university as a choice for young people. Lizzie, an SDS participant, described the need for SDS to 'keep a kinda an eye on' universities, as she feels that their employment statistics are unreliable:

> *if you look on a university's page it will say 99.9. employability success but then when you look closer these people are in Costa and things like that they're maybe not in the industry that they actually want so we're tryin tae say can we improve that… SDS will look at what the education system are offering now… is it good enough*

In public facing documents, SDS describes cooperative working between SDS, universities, colleges and schools on careers education (Hooley et al, 2021). However, Lizzie perceives SDS as monitoring the quality of educational offerings.

Lizzie's scepticism about HE employment statistics suggests a wider doubt about the value of higher education in gaining access to a career. Like the teacher participants, both Helen and Lizzie expressed reservations about Higher Education. Lizzie expressed concerns that university is wrongly seen as a marker of success:

I still think there's a lot associated with going to university equals success and I don't know that that's quite true… I think if you can bring up more options we're bringing in the graduate apprenticeship

Lizzie resisted the idea of individuals going to university to study their chosen subject as the best route, and suggested approaches such as graduate apprenticeship, describing them as 'great'. This fits with the SDS emphasis on employability and serving the needs of industry in order to support the Scottish economy. Higher education became valid when it directly met the employment needs of an industry partner. Helen also stressed the need for 'light challenging' of university plans, and explained:

I think from the subject choice interviews you definitely hear I want to stay on to S6 and go to university all the time… <I tell them> oh you don't have to do that you know… just making sure they've really explored all their all their opportunities all routes and pathways… one of the big ones at the moment being graduate apprenticeships

However, Helen also discussed the difficulties in obtaining an apprenticeship, the challenges around the competitive interview process, and the need for family support to enter highly competitive areas such as joinery. Helen described how social and cultural capital can help young people access apprenticeships:

through people that you know is still the most common way to get an apprenticeship… I had a boy that I was helping… who had an interview for an apprenticeship and it was his auntie that sent it through and then his dad took him out to meet them there… it's that kind of networking side of things isn't it which does make a difference

Helen's recognition of the key role of social capital in gaining apprenticeships is particularly interesting given the active role both SDS workers take in suggesting apprenticeships as potentially preferable to university. It raises the possibility that what makes apprenticeships a 'better option' for young people is not just their connection to industry but also their relation to social capital – having an apprenticeship allows a young person to demonstrate that they possessed the social capital to gain that apprenticeship.

8.3.1.5 WP participants: preaching to the choir

Like SDS, Widening Participation involves outside bodies coming into schools to work with young people, offering them support in making decisions and finding routes towards their preferred futures. However, there are interesting differences in the scope and scale of the work that WP are empowered to do, and in the degree to which their aim – to widening participation in higher education – is shared by the schools in which they work.

WP participants did not in most cases see themselves as creating a desire in young people to attend university. Instead, they understood their work as responding to the existing desires and aspirations of young people. Ewan, a WP participant, explained:

> *I'm glibly saying we're preaching to the choir… we're working with young people who the school were identifying as eligible for the programmes and on that route to the university*

Identification is another key issue, with young people's participation in WP largely depending on how they are perceived by their school. Drew, a WP participant, explained how access to young people depends on their teachers' knowledge and evaluation of them:

> *the way that we've done it in the West is… the schools will nominate a teacher and that teacher then is kind of responsible for helping us to identify pupils… what we do is give the teachers as much information as we can in terms of what it is the pupils need really to be … the subjects that they're studying but also … the academic demands to get in*

Access to WP through school was then made available to those young people who matched the teacher's understanding of what a WP should be, both in terms of their subjects and in terms of their perceived ability to meet academic demands.

Added to this were differences in school engagement. Rachel, a WP participant, explained that not all schools were equally interested in WP participation:

> *there are some schools that have we know have loads of kids … that would be eligible for our programmes but they just don't respond they do not want to talk to us*

Rachel described a spectrum of schools from unresponsive schools to highly engaged – with a spectrum of experiences for the young people concerned.

When asked to explain what motivates young people to engage with HE, widening participation participants acknowledged young people's pleasure in studying. Rachel explained that while some young people have a career path pre-identified, for most their HE plans are based in pleasure:

> *most of it's like "aw yeah ah like maths so ah'm gonna go study maths" and you're just like ok thank you for telling me that... I would say probably most of them are more kind of subject focused*

Drew, a widening participation worker, acknowledges a range of motivations:

> *for a lot it probably is to do with the fact that they're aware of it it will improve their you know their salary… I'm sure some of them go there though because they want the experience… I'm sure some of them yeah they love learning I'm sure some of them they just want to do it because of that …. I think the large majority is because that's all the only thing they've ever wanted to do*

Although describing a wider range of motivations than Rachel, Drew acknowledges the love of learning in his account.

8.3.2 Subtheme Two: Widening Participation

8.3.2.1 Student participants: access

Pupils from SIMD deciles 1-4 who are seen as having potential and talent are able to access WP such as Top UP and Reach while they are in secondary school. However, this access depends on how their teachers perceive them. In the group of former pupils interviewed, most had been offered WP. Many were offered WP through their secondary school, although not all who lived in eligible SIMD deciles were offered WP in school. Some were offered WP only as part of their contextualised admission, even though their SIMD would have made them eligible for WP interventions in secondary school. Entitlement to provision did not result in access to services for all pupils, even pupils within the same school. Pupils were usually not aware of why they had not been selected for WP. Paul, a former pupil, commented "never heard of it before to be honest". Despite being an SIMD 1 pupil, Paul was not offered WP. Paul left school during his sixth year due to Covid disruption but would have been eligible for Top Up in S5. His excellent academic record may have suggested to his teachers that he could not benefit from contextualised admission – he already had five As in his Highers so a lower tariff was unlikely to benefit him. Paul could potentially have benefitted from other aspects of the Top Up

course such as social interactions with likeminded peers, discussion of courses and institutions which might be open to him, or the chance to build a supportive relationship with a WP worker.

Jade, another former pupil who lived in SIMD 3, described a similar experience:

> *no I only ever heard about with the summer school at Glasgow when I got … my condition(al) I was like what is that … you would think they would like let us know the different things that were available to you… looking back I'm like, oh god*

Unlike Paul, Jade's mixed academic record indicated that a contextualised offer through Top Up might have benefitted her – as proved to be the case when she applied to university. Her more uncertain academic position might also indicate that she could benefit from additional support in making the decision about university application. However, Jade felt herself to be overlooked as a potential student in a school where many students had very high attainment:

> *I wasn't I wasn't dead smart and I wouldn't say I was stupid I was just in the middle…yeah but I think with my school everybody just got such good grades like and I would always be like that uh they got like all As and… it didn't seem as if anybody really noticed… what was happening with me*

Both these students were not able to access WP in secondary school because they were not put forward for it. Their teachers were not inspired to suggest them for HE. They did not see them as appropriate candidates or saw others as more deserving candidates.

In contrast, one student, Alison, reported receiving WP despite not meeting eligibility criteria, which restrict WP to pupils living in SIMD 1-4, or those who are care-experienced. While at secondary school Alison lived in an SIMD 9 area, was not in receipt of EMA and had parents working in professional jobs – including a father who was an academic at the local university. Alison benefitted from interventions from S3, from a mentor, and from the Reach programme. She was offered support with the personal statement and UCAT (UCAT, 2023), visits to the university, talks on gateways to medicine and mock interviews. Alison commented that "I think I think everyone knew that I wanted to be a doctor" Alison's school was inspired to provide opportunities for Alison's higher education. They saw her as a potential WP student and so she was able to benefit from rich and wide-ranging support.

WP is often understood as being triggered by pupil characteristics. If a pupil has 'potential and talent' then WP will help to ensure that their 'background' is not a barrier to entry into HE. However, this

small group of pupils indicates the difficulties with this understanding. The two students who were not included in WP have different characteristics. Paul's academic strength contrasts with Jade's comparative academic weakness, yet both are excluded from WP participation despite their eligibility. Paul and Jade are students at University of Glasgow – they have demonstrated the potential and talent to thrive for at least the first part of their UG education. Yet their potential and talent was not enough to gain them WP access in school. In contrast, Alison's school perceived her "potential and talent" as a young medic and were inspired to enable access to support which would not normally have been open to her. Access to resources available in the school depended not on individual pupils' potential and talent, but on teacher judgements about their 'potential and talent'.

Summary Theme Three: Accessing inspiring education

Interviews suggest that Access to Higher Education was moderated by individual perceptions of the purpose of education, and by teacher perceptions of pupils' 'potential and talent'.

Research Question Three asks: What role do conceptualisations of potential, talent and ability play in creating or overcoming barriers to Widening Participation to Higher Education for students from areas of high deprivation? The mismatch of perceptions of the purpose of HE between teachers who tended to understand HE as functional, and students who were inspired to further study was considerable. This mismatch had the potential to influence which young people were offered WP support in secondary school.

Subtheme: Purposes of Higher Education

- Student participants identified pleasure in studying as a key motivation to study at university.
- Pleasure as a motivation is recognised by parents and WP workers, but largely missing in the accounts offered by teachers and SDS.
- Teachers and SDS workers stress the importance of career as a motive for study.
- Teachers and SDS workers also stress the importance of challenging young people's HE plans, and encouraging other options such as apprenticeships

Subtheme: Widening Participation

- WP workers depend on teachers to put pupils forward for WP intervention
- Pupils depend on teachers to access WP

In Chapter 8, interviews were analysed using reflexive thematic analysis and three key themes were constructed. These key themes were:

Theme One: Instability, contradiction and discomfort; fractured understandings of potential, talent and ability

- Talent and potential are key concepts in how the University of Glasgow articulates and justifies its WP practice. However, students, teachers, SDS and WP do not share a strong common understanding of potential or talent. The interviews suggest a fractured, mutually and sometimes self-contradictory understanding of these three concepts.

Theme two: (Overcoming) barriers to educational opportunity

- Students identified a range of barriers connected to school, including resources, subject and level restrictions, disrupted environments, and an over-focus on exam preparation.

Theme Three: Accessing inspiring education

- Interviews suggest that Access to Higher Education was moderated by individual perceptions of the purpose of education, and by teacher perceptions of pupils' 'potential and talent'. The mismatch of perceptions of the purpose of HE between teachers who tended to understand HE as functional, and students who were inspired to further study was considerable. Pupils depended on teachers to access WP.

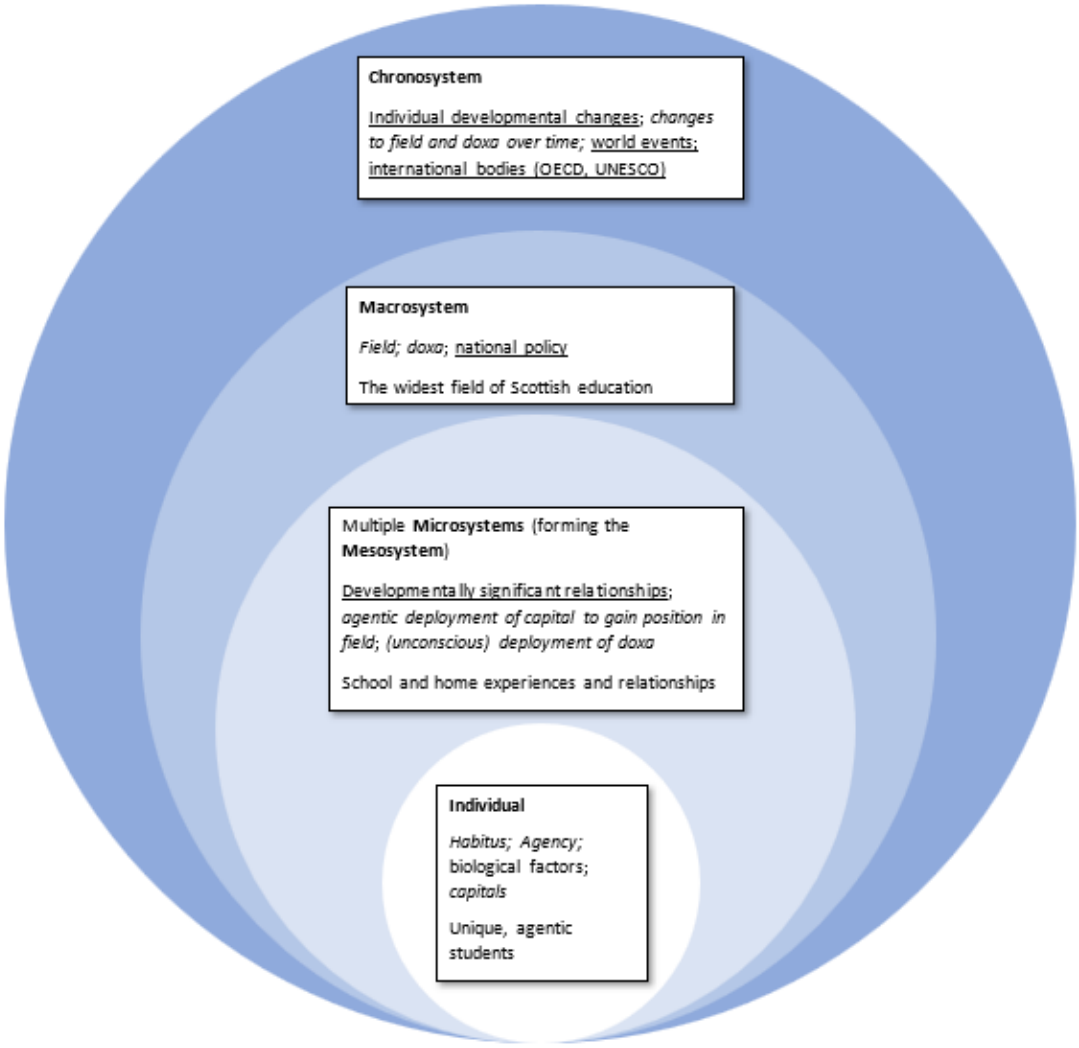
Chapter Nine discusses the empirical findings through the lens of Bourdieu and Bronfenbrenner's theoretical models and in relation to the literature review. Potential, talent and ability are examined at the individual, meso and macro levels.

9 Chapter Nine: Discussion

Chapter Nine examines the empirical findings from the secondary data, survey data and interviews through an integration of Bourdieu's and Bronfenbrenner's models. Potential, talent and ability are examined at each level in relation to the models and the literature review. Findings are discussed at the individual, mesosystem and macrosystem level.

This chapter returns to Bronfenbrenner's bioecological model (1977, 1992) to look at three levels – the individual, the mesosystem (primarily focusing on the school microsystem) and the macrosystem of Scottish education. In order to examine the key issue of understandings of potential, talent and ability and their relationship to Higher Education choices and experiences for Scottish young people from areas of high deprivation, the structure offered by Bronfenbrenner's model was integrated with the analytic tools from Bourdieu's theory of practice (1972). In the diagram below (Figure 15) the levels of Bronfenbrenner's bioecological model are written in bold. The analytic tools from Bourdieu's theory of practice are included in italics, and relevant features of Bronfenbrenner's theory of development are underlined. Notes are added in plain text to add information about how the diagram articulates with Scottish education. The diagram as a whole illustrates how these two theories were used together in this study, and how they relate to Scottish education. The chapter integrates findings from the secondary, survey and interview data across these levels, contextualising individual findings within levels, and within the research as a whole. These integrated findings are then discussed in relation to the literature and the wider theoretical contexts, showing the particular applicability of Bronfenbrenner and Bourdieu's systemic theories in understanding potential, talent and ability in Scottish WP. The chapter demonstrates how Bourdieu's habitus, field and doxa can be used to analyse young people's experiences in Scottish education at individual, microsystemic and macrosystemic levels and how this can deepen our understanding of how key terms such as potential, talent and ability operate in Scottish education. The chapter concludes with an analysis of potential and talent and their inability to cohere into stable meaning or meanings within particular educational contexts and levels. The tautology and indeterminacy of potential and talent will lead to their identification as empty signifiers – terms whose utility in social discourse depends on their lack of meaning (please see Section 4.5 for further discussion).

Figure 15: Bioecological model of Scottish Education



9.1 Individual

9.1.1 Attainment and HE

Individual attainment is the primary determinant of which students are able to access HE. The University of Glasgow provided data on SIMD 1 and 2 students between 2015 and 2019 for this study. This data showed that SIMD 1 and 2 students between 16 and 20 were more likely to be female than male (1.58:1). SIMD 1 students had a slightly higher (mean=6.61) number of Highers to SIMD 2 students (mean = 6.54) but a slightly lower number of Advanced Highers (mean = 1.23) to SIMD 2 students (mean = 1.39). However, when Higher and Advanced Higher grades were converted to a

numeric score, SIMD 1 students had a lower mean total to SIMD 2 students (SIMD 1 mean = 53.78, SIMD 2 mean = 56.23).

A similar pattern of attainment can also be discerned in the survey data, where students have similar numbers of Higher qualifications regardless of their SIMD (KW test, p=0.450). SIMD 1 students have lower numbers of A passes than students from SIMD 3, 4 or 5. Students from SIMD 1 had lower numbers of Advanced Highers than students from SIMD 4 or 5, and lower numbers of As at Advanced Higher

This study focused on students from areas of deprivation who were sufficiently successful and motivated to gain access to Higher Education. The secondary data findings and survey data findings suggest that students from areas of high deprivation may have experienced barriers to education in secondary school. Taken alongside the secondary data findings, survey data suggests that students at the University of Glasgow from SIMD 1 and 2 tend to have as many Highers as their peers from more affluent areas, but lower Higher attainment, lower numbers of Advanced Higher and lower attainment in Advanced Higher. To some extent this may be explained by contextualised admission, where lower attainment and lower numbers of qualifications are required of students from SIMD 1 and 2. However, Advanced Higher is only rarely a qualification required for particular courses so this does not seem a plausible explanation for disparity in Advanced Higher qualifications and attainment. Contextualised admissions, which often require lower numbers of qualifications for SIMD 1 and 2 students, might suggest that SIMD 1 and 2 students would have lower numbers of Highers. This does not seem to be the case. This might be because most applicants have similar numbers of Highers, and so reducing the number of Highers required is not helpful, or because applicants with higher numbers of Highers are preferred by university Admissions services. These findings broadly accord with the Scottish Commission for Wider Access (CoWA 2015, 2016), which identifies lower attainment in school as a barrier for Scottish pupils from areas of high deprivation in accessing higher education (HE). The findings from this study can be interpreted as a snapshot of contextualized admissions in action, with lower attaining pupils from areas of high deprivation successfully accessing HE. However, it raises questions as to whether lowering the number of Highers is as effective as lowering grade requirements.

Contextualised admissions also implicitly challenge the validity of qualifications as a measure of suitability for HE and rejects the notion that fair access is unproblematically achieved by equal access for equally qualified individuals (Boliver, 2013). Scott (2019) sees value in area measures, seeing their potential to provoke greater institutional change in universities than individual level measures. Area

based contextualised admissions can thus be understood as an acknowledgement that 'naturally' highly able pupils may attain lower grades due to an adverse environment and would flourish in a more appropriate environment. These area-based measures are intended to mitigate environmental factors so that the most 'naturally' able may be identified and selected, despite an environment which did not nurture their ability, potential and talent. As a result, it is perhaps not particularly surprising that in this study schoolteachers also described discomfort with contextualised admissions, and its implicit critique of the educational environment provided to pupils. Teacher engagement with WP policy can be understood as the microsystemic translation of macrosystemic policy, as individual teachers enact – or resist – putting WP into practice (Bronfenbrenner, 1992). Teacher resistance to contextualised admissions as fair access could, of course, be a straightforward response to an inadequate measure of deprivation. However, it is also possible that teachers are responding to a threat to one of the 'natural' rules of the school field – that qualifications are an unproblematic measure of pupil merit. Teacher responses to contextualised admissions can be interpreted using Bourdieu's ideas of field, doxa, capital and habitus (Maton, 2014, Thomson 2014). Within the field of school, attainment though exams is a 'natural part' of the school microsystem, measures of both pupil merit and school success. Contextualised admissions threaten that by suggesting that exam performance is affected by factors other than individual pupil merit. For teachers, contextualised admissions may be experienced as un-natural, unfair and threatening. Contextualised admissions can lead to the 'wrong' pupils going to university – those whose habitus does not fit the field. Pupils who are successful without performing effort in the correct way, pupils who are successful but also behave in ways which the school experiences as disruptive, pupils whose gender or sexuality does not fit can all benefit from contextualised admissions and gain entry into the field of university despite their lower standing in the field of school. Scott (2019) stressed that schools must not be seen as a pipeline to university, and that their mission was broader and could not fully align with that of universities. However, school discomfort with contextualised admissions could be understood as resulting not from their broader mission, but from unquestioned assumptions about who should go to university and why they might want to go there.

Survey data also explored students' attitudes to university study. Students reported anticipating (mean=4.20) and experiencing (mean = 4.38) interest in their course at similar levels across SIMD quintiles. Students from areas of high deprivation are not less interested in learning and scholarship than their more privileged peers, as indeed their presence in the University of Glasgow demonstrates. This contradicts the position put forward by Wooldridge (2021) who contended that expanding access to elite institutions is not worthwhile as most people do not want access to academic education. The

SIMD 1 and 2 students, WP students and EMA receiving students surveyed were not less academically or more vocationally oriented than their more privileged peers. Access to an elite institution was important to these students because of the educational opportunities it offered them, just as it was for their more affluent peers. Most students reported pleasure in the enhanced opportunities for learned offered by university. This echoes Coleman et al (2015) who stress the liberating effect of moving to a suitable learning environment for highly able pupils. Students' expectations of university leading to a career or to a well-paid job were also similar across SIMD quintiles. Students were more positive about university leading to a career (mean = 4.18) than high pay (mean =3.68). Despite perceptions that university study was particularly important for social mobility for less advantaged students (Milburn, 2012) there seemed to be no significant difference in attitudes to career or pay by SIMD quintile, and no indication of association between lower SIMD and lower aspiration (Rainford, 2021). Attitudes to potential, talent and ability were also similar across SIMD quintiles. Students were unsure whether talent and hard work were necessary for university success and were unsure or disagreed that getting into university was a marker of intelligence. Students did agree that they had the ability to do well at university. Students were also unsure or disagreed that exams indicated potential to do well at university. This is surprising given the key role that exam results play in university admissions. This contrasts with the research such as Ferguson, James and Madeley (2002) whose systematic literature review of British medical school performance indicated a moderate association between exam results and success in medical school and Fleming (2002) who identified exam success as the only factor predictive of university success.

9.1.2 Potential, Talent and Ability

Interviews indicated that students had unstable and contradictory views on potential, talent and ability, whether these were traits or a result of environmental factors, and whether potential, talent and ability mattered for university study. Some students described potential as a trait, but were unclear on whether this trait was inborn, fixed or developed. Other students rejected inborn trait-based explanations in favour of natural preferences, but struggled to explain the development of these preferences. Other students focused on notable performance, either in life or in exam performance. Students had difficulty articulating their ideas, with some students challenging whether potential was a meaningful term. This conceptual instability is relevant for survey results – it is possible that students' semantic differences may have clouded responses to questions on potential. Student 'trait' understandings of potential echo in some measure those proposed by Turhan and Stevens (2020) who described potential as a trait whose expression could be limited by cognitive

development, lack of knowledge or low confidence. This 'trait understanding' shifts focus casting cognitive ability as a limiting trait to 'potential' as a limiting trait. Although the vocabulary changes, the limitation remains as an individual factor. Potential is also important for Milburn (2012) as a justification for WP. However, like the students interviewed, Milburn does not offer a clear, consistent explanation of what potential might be.

Student views on talent largely fell into two groups, those who saw talent as an innate trait and those who understood it as the result of hard work. Students also struggled to explain talent, and their explanations were often unclear and self-contradictory, such as explanations which defined talent as innate but also rejected the idea of inborn traits. Again, this calls into question the responses to survey questions about talent. It is not clear which understanding or understandings of the terms was intended by respondents. WP has long been articulated in terms of allowing those with talent opportunities which will support their flourishing (Flude, 1974). More recently, Scott (2022) identified the need to support "Talented and motivate individuals to achieve their full potential by removing barriers [sic]" without explaining what talent – or motivation – actually were, nor how they might be discerned. Scott's comment, alongside similar pronouncements by Milburn (2012) underlines how intertwined – and how ill defined - talent and potential are in the WP literature, as well as in the student interviews.

Students expressed more discomfort with the idea of cognitive ability or intelligence than expected. While some were comfortable with the idea of intelligence as an individual difference, others critiqued this notion and some rejected the idea of cognitive ability altogether, preferring to link academic success to traits such as 'grit'. Even when attempting to describe high capacity for learning, students sometimes avoided language such as 'ability' or 'intelligence'. This finding echoes the survey findings, where students were unsure or disagreed that gaining entry to university was a marker of intelligence. Some students were also uncomfortable with the idea that exams test ability, which resonates with the survey finding that students were unsure or disagreed with the idea that exams indicate potential to succeed at university. Ability as a missing factor in Scottish WP is reflected in the literature. Ability is mentioned in the Milburn report (2012) but is considerably less salient in the Scottish WP literature (CoWA 2015, 2016, Scott 2019, Scott 2022). Part of this may be a reflexive association with ability and elitism in Scottish education (Sutherland & Stack, 2014). Bourdieu (1986) understands ability and talent as investment of time and capital, where academic attainment is bounded by access to educational resources so that high ability means a habitus that fits well within a school field which reproduces existing social inequalities and favours pupils whose habitus matches

those of the dominant social group. Within the doxa of the school field, it seems natural that attainment is due to individual merit of some kind, whether that is expressed as ability, talent, potential or hard work. Although students did not tend to identify ability as the natural trait which explained academic success, they did often identify some innate individual trait as an explanation. While this might be 'grit' or effort or innate preference or even, for one participant 'luck' in exams, it could fulfil the same function of explaining success as a result of individual difference – a key point for students seeking to explain why their life course differed from that of their peers. The notion of 'luck' as the key discriminating factor echoes Colemen et al (2015), who noted that gifted pupils will often stress their similarities to peers. A student who claims to differ only due to luck is asserting his similarity to those around him. However, some students did discuss the different experiences that pupils could have within different schools, and within the same school and its implications for understanding attainment, potential and ability. Student perceptions of schools and of the exam system will be discussed later in this chapter.

In interviews, most students identified pleasure as a key reason they engaged in university study, describing university as offering rich learning experiences, inspiring lectures and opportunities for deep independent study and learning. Many students also favourably contrasted their own subject interest and pleasure in learning with their more affluent peers. The perception that more affluent students take less delight in their studies and have less interest in the subjects they select is not supported by the survey data, which indicated minimal difference between SIMD quintiles. It is possible that students who have experienced WP or who come from an SIMD 1 or 2 area may gain position within the HE field by asserting their identity as 'good students' who are passionate about their subject and about learning. It is also possible that students who were always highly academically successful at school may retain that identity as they move into HE. A third possible interpretation is that seeing themselves as 'good students' allows them to understand previous educational deprivation as a strength. Having entered the HE field by virtue of the shaky academic capital of contextualised admissions, WP students can be understood as asserting their worth through a different kind of academic capital – their passion, their enthusiasm and their commitment to learning or to their particular subject (Bourdieu and Wacquant, 1992).

9.2 Mesosystem

Both Bronfenbrenner (1977, 1992, 2001) and Ziegler (Ziegler and Philipson (2012), Ziegler et al, (2014), Ziegler et al, 2017) stress the importance of interactions between individuals and their environments. Both theorists stress the agency of the individual in seeking out appropriate

environments and influencing their environments. However, the resources available in those environments, and the funding available for such resources, can support or restrict individual development.

9.2.1 Resources

Resources were identified as a barrier to education by students. Interview data suggested that students who had attended school in areas of high deprivation perceived funding as limiting their learning opportunities and access to resources. Students perceived their schools as badly funded and commented on staffing problems and irregularities as a key issue in their learning. Interviews with teachers did not generally raise the same issues, although one teacher did comment that resource restrictions limited the range of learning opportunities that could be offered. The secondary data, examined in conjunction with publicly available information on SIMD percentages per school, also showed that students from SIMD 1 & 2 who attended schools where most students were SIMD 1 had the lowest number of Advanced Highers. Students who attended schools where most students were SIMD 5 had the highest number of Advanced Highers. This suggests that attending a school where most students are SIMD 5 may make it easier to access Advanced Higher qualifications or make it more desirable to access Advanced Higher qualifications. Interview data offered support for disparities in Advanced Higher access (AH), with access to AH varying from a conventional progression through to impossible. Some students reported inability to access AH due to timetabling constraints within their own school. For others, AH study required attending a different school or the Hub at Glasgow Caledonian University, with consequent travel issues. Even when AH was available in the school, it sometimes required attending at unconventional times or being taught by outside tutors rather than teachers. Some students also described difficulties in gaining and maintaining access to these qualifications. One student described encouragement from teachers to terminate his AH study as he did not need the qualification for his university applications. Access challenges may partly explain the finding from the secondary data that SIMD 1 and 2 students at majority SIMD 3, 4 and 5 schools are more likely to gain AH. AH may also be seen as a lower priority for some groups of students. However, students who had taken AH tended to describe AH as a learning opportunity rather than an entry requirement. Some students also described AH as a helpful preparation for first year university. This is particularly concerning if this preparation is not available to SIMD 1 & 2 students. Taken together, these three strands suggest that not only is Advanced Higher access more challenging for young people from lower SIMD quintiles, but also that they would like to have greater Advanced Higher access to a wider range of subjects than they currently do.

In interviews, students reported particular difficulties in accessing STEM subjects. Despite the Scottish Government (2014) commitment to STEM education, many students described school subject choice structures which did not support selecting Physics, Chemistry and Biology. Some associated the freedom to study all three sciences at the same time with elite, private education, which echoed findings it the literature which suggest that STEM access is more restricted for Scottish pupils in areas of high deprivation (Shapiro and Priestley, 2020). While pupils were able to leave with all three sciences, this required a 'crash' Higher in sixth year – a more challenging route. Despite this teachers, justified restrictions on the study of three sciences in terms of avoiding cognitive overload, perhaps suggesting implicit concerns about lower ability in areas of high deprivation.

These findings re-cast the venerable discourse of 'aspiration' (Kettley, 2007; Rainford, 2021). The majority of students interviewed wanted more access to higher level qualifications at school than was available to them and aspired to greater attainment than their school circumstances supported. By interpreting lower attainment in terms of low individual aspiration, a structural limitation is understood as an individual personality trait (albeit one associated with poverty). Structures which reproduce existing educational inequities disappear, and inequitable outcomes are understood as a result of deficits within the disadvantaged (Bourdieu and Passeron, 1990). It is notable that while CoWA (2015, 2016) does acknowledge variable levels of access to subjects and levels across Scottish schools, Scott (2019) broadly rejects inequitable access to subjects for pupils in areas of high deprivation as an issue. Instead, Scott (2019) indicates his belief that access to just under 75% of the subjects available to more affluent peers – a little more than one in four subjects unavailable - is not a significant concern. Likewise, there is no acknowledgement that a young person passionate about a particular subject or subject area might perform less well when forced by circumstances to study subjects that lay outside that domain. Scott (2019) reported that head teachers wished universities to take a greater role in delivery of Advanced Higher qualifications – perhaps indicating a feeling amongst head teachers that these more advanced qualifications lay outside the school remit.

Ziegler's Actiotope theory (Ziegler and Philipson (2012), Ziegler et al, (2014), Ziegler et al, 2017) suggests that a young person can only develop excellence when able to access an environment which makes excellence possible. The potential for excellent action is not a trait within the child but instead is produced by interactions between the child and an appropriate educational environment. All the students interviewed in this study had sought out the educational environment of university, sometimes displaying extraordinary levels of persistence and commitment in order to do so, and nearly all were finding it well matched to their educational needs. A few students had also been able

to select their secondary school environment, seeking out schools where they could thrive intellectually. However, many students described an impoverished, exam focused learning experience. There is some irony in the fact that, due to the Scottish Attainment Challenge and the Pupil Equity Fund (Scottish Parliament, 2022; Scottish Government, 2022) participants in schools with high numbers of SIMD 1 and 2 students were very likely to attend in better funded schools than their neighbours in more affluent areas. This group of learners were unaware of the additional funding, which was generally not spent on resources that would help them to develop excellence. The Scottish Attainment Challenge focused on 'literacy, numeracy, and health and wellbeing' (Scottish Parliament, 2022:43), which offered little potential to improve outcomes for highly able young people who were already literate, numerate and not perceived as having welfare concerns. Indeed, the Pupil Equity Fund guidelines (Scottish Government, 2022) do not mention the challenges of high ability as an additional support need, or the difficulties of identifying underachievement in this group. This may be because pupils experiencing poverty are not thought of as potentially highly able, or possibly because high ability is seen as obviating the need for additional support, despite government Additional Support Needs guidance which identifies high ability as an additional support need (Scottish Government (2017b). However, the guidelines (Scottish Government, 2022) also do not identify challenges any other particular ASN, so it is possible that head teachers, and other teaching staff, were expected to interpret this guidance in the light of existing ASN legislation.

Student reports of different access to subjects and levels between and within schools echo the work of Gillborn et al (2012) who describe how racialised teacher expectations of young people led to an accumulation of small shaping judgements, decisions and interventions which resulted in a restricted curriculum and lower access to higher status examinations for those young people. The students and teachers in this study reported a similar effect for young people from areas of high deprivation in this study, including restricted curriculum, and lower access to more challenging subjects. Students also noted particular challenges for LGBTQ+ students, whose experience of bullying and abuse was met with teacher encouragement to hide their identity and conform to mainstream gender presentation. Direct teacher encouragement to conform may offer additional context for the masking of LGBT+ identities noted by Dunne (2023).

Even when access to Higher was possible, encouragement to select subjects perceived as 'easier' could well lead to a pupil perception that academic success was not for them. Ziegler and Philipson's Actiotope model describes how environmental advantage or disadvantage accumulates, with comparatively small differences leading to potentially large effects. While it seems very likely that

other environmental factors are significant in determining attainment, it seems possible that lower access to preferred subjects and restricted access to Advanced Higher may explain part of lower attainment for pupils from areas of high deprivation. It also seems to indicate that teachers may have lower expectations of academic success for pupils from areas of high deprivation, and that this may actually create barriers. This is particularly significant given the perception described by Scott (2019) that teacher-assessed grades are more accurate than examination grades. This study suggests that just as in the US, England, Wales and Switzerland, Scottish teachers may struggle to evaluate the attainment of lower SES pupils (Ready and Wright, 2011; Doyle et al, 2023; Batruch et al, 2017). The perception that teacher assessments are more equitable and more correct could in fact disadvantage pupils from areas of high deprivation, as well as those from other marginalised groups.

A question remains how students come to value academic success (and use it to support their position in HE) if their teachers do generally hold negative views towards it. Is this evidence for a 'natural' bent or genetic predisposition for academic study amongst these highly able learners which does not require a nurturing environment, as Harden (2021) or Woolridge (2021) might suggest? While individual ability is very likely to be a factor in seeking out academic success, that need not exclude the influences of a nurturing environment. While teachers are not necessarily supportive of HE, this does not mean they are not supportive of academic success. Indeed, teachers are incentivised to support high attainment. As will be discussed in greater depth in the Macrosystem section, teacher accountability does not include HE admissions but school attainment is tracked and teachers can access such data through the Insight website (Scottish Government, 2023b). Teacher engagement with exam success may be translated by young people into a value for academic achievement and for learning more generally. This structural accountability may well translate into teacher efforts to nurture attainment as best they can. It is also possible that students are finding value in scholarship due to input from family or from peers, by seeing parents, older siblings or the siblings of friends succeed in university or simply by having parents who value their passion for learning. The three parents interviewed all identified their children as having a passion for learning and nurtured and supported their children's learning. There also remains a possibility that teachers' reports of their practice omit descriptions of how they nurture a passion for learning because doing so is such a natural part of their professional life that it passes unspoken. This is particularly concerning as its omission in the discussion of teachers' practice could lead to its impact being undervalued or its significance not communicated to new generations of teachers. More conscious talent development on the part of teachers and schools could support highly able learners in developing excellence (Dai, 2020).

Mesosystemic barriers to education for young people from areas of high deprivation are significant not just because they make it more difficult for young people with potential, talent and ability to reach HE, but because educational environments shape the development of potential, talent and ability. When young people's access to subjects and levels is foreclosed, when educational environments subtly or overtly dissuade young people from learning, barriers are erected not just for the display of potential, talent and ability, but for the formation of potential, talent and ability.

9.2.2 Potential, Talent, Ability

Interviews with teachers indicated a scattered understanding of potential. Potential was understood in terms of financial barriers to HE choices, attainment in exams and positive destinations after school. Two of the three teachers interviewed stressed the importance of non-academic potential in terms of capacity to travel or capacity and commitment to work. Teachers seemed to largely view talent in terms of innate traits and stressed that it could not be improved with effort and that it was a poor indicator of future success. Teachers made limited reference to academic ability, although some suggested that lack of ability might make university an inappropriate goal for some young people. Teachers made slight reference to high ability or intelligence, notably Amy's discussion of 'high fliers' who would be better served by apprenticeship than university. The focus of this small group of teachers on non-academic potential, the negative effects of talent and ability as a barrier to attainment and access suggests a less than positive view in some Scottish schools of the pursuit of academic excellence or joy in learning. A focus on non-academic potential might discourage the offer of Advanced Higher qualifications which are even less likely to be required to achieve non-academic 'positive destinations', and whose capacity to improve disciplinary knowledge has little apparent value. The findings from the teachers interviewed for this study indicate that the approach recommended by Wooldridge (2022), whereby teachers refrain from promoting academic instruction for all, is perhaps more widely adopted by Scottish teachers than might have been anticipated. However, the difference in subject and level offer across schools, and the restricted offer to pupils from areas of high deprivation, suggests more factors than the 'wider mission' of schools referred to by Scott (2019) may be at play here. Bourdieu and Passeron (1990) suggest that a key purpose of schools is to reproduce existing structures of inequality. Seen through this lens, the subtly restricted offering of high value subjects and courses to pupils from areas of high deprivation and its justification in terms of pupils uninterest or incapacity serves a reproductive purpose. Lower attainment for pupils from areas of high deprivation within an apparently meritocratic system – or even, given additional investment such as the Scottish Attainment Challenge – 'proves' that pupils

from areas of high deprivation are naturally unsuited for or uninterested in academic learning and scholarship. Further investigation into teacher attitudes, perceptions and beliefs and how these relate to wider educational forces within the macrosystem would be an intriguing 'next step' in exploring teacher and pupil attitudes towards the purpose of education, and higher education.

9.3 Macrosystem

Scottish schools exist within the wider Scottish education macrosystem, influenced and shaped by Scottish government priorities and bodies such as Education Scotland and the Scottish Qualification Authority. Funding patterns for local authorities and schools circumscribe school resources (Audit Scotland, 2021) and governmental policy commitments can further direct where resources are targeted such as the Pupil Equity Fund (Scottish Government, 2022). Governmental instruments such as Insight (Scottish Government, 2023b) can also shape practice, as schools strive to meet accountability targets.

9.3.1 Accountability

Interview data indicated that pupils were very conscious of the impact of accountability measures on their educational experience in school. Students expressed the view that subject and level choices for individual pupils were influenced by school desires to perform well in league tables and other accountability measures. This took different forms in different schools with some students reporting pressure to sit higher level qualifications and others reporting pressure to sit lower level qualifications in order to support school rankings. One pupil described his school pushing subjects seen as less academically demanding in order to produce more Higher passes, even though these subjects might be less relevant for pupils' future plans. A focus on exam results rather than education is also suggested by pupil descriptions of secondary education as effortfully cramming required information and regurgitating it in exams. Students who were able to attain excellent results without cramming worried that their success was less valid than that of their peers who had to study hard to achieve the same results. Teachers were also very concerned that academic success without the performance of effort was invalid. Merit lay not in good results, but in good results achieved in the correct fashion. Teachers did not mention accountability, government policy or league tables when explaining their exam focus. Instead, teachers expressed the belief that exam focused education was pressed upon them by universities, parents, and pupils. Both survey and secondary data indicated that lower SIMD was associated with lower exam results, particularly at Advanced Higher. It is possible that school choices motivated by accountability targets may encourage access to high tariff exams for more

affluent young people who display the expected habitus of 'good student' in ways which fit well within the school field and subtly disadvantage young people who are less able to perform this role (Maton, 2014, Thomson, 2014). As a result, particularly able young people from SIMD 1 and 2 may find themselves paradoxically disadvantaged by their own high ability which allows them to succeed without the expected performance of effort and whose very success casts them as a bad pupil. Given the acute awareness of the attainment gap (CoWA, 2015) in Scottish education, SIMD 1 & 2 pupils who perform well are already deviating from expectation. This can lead to 'Catch-22' situations, where teachers deem SIMD 1 & 2 students unsuitable for university if they form HE aspirations before knowing what level of attainment will be possible for them, but also unsuitable for university if they form HE aspirations after receiving excellent exam results. This means that for some pupils there is no 'correct' time to aspire to HE.

9.3.2 Widening Participation

Another significant current in the macrosystem of Scottish education is the commitment to widening access to Higher Education. Widening Participation (WP) at the University of Glasgow can be understood as an institutional response to this current, with specialist workers employed and supported to promote inclusion of disadvantaged learners with potential and talent using strategies such as contextualised or adjusted admissions. The effects of contextualised admissions could be seen in the survey data, where lower results at Higher and Advanced Higher (although not lower numbers of qualifications at Higher) was associated with lower SIMD. Interviews with WP workers suggested that they understood their mission as collaborating with schools to promote a shared outcome. WP workers were dependent on schools to facilitate their contact with young people. However, teachers expressed mixed views on WP, suggesting that it was unfair to identify one group for special help, that it was a system which young people might attempt to defraud, and that HE itself was not a positive choice for young people. Despite a two hundred year history of Scottish universities including less affluent students in an effort to support the economy and produce schoolteachers (Davie, 1961), WP is not recognised by teachers as a natural or normal part of schooling. Teachers expressed enthusiasm for apprenticeships, but not for HE. One teacher stressed the importance of apprenticeships for academically successful 'high fliers' while another (wrongly) predicted lowered applications as young people focused on apprenticeships. One teacher also expressed doubt about the validity of a young person's motivations if they decided to pursue HE after receiving excellent exam results. This perception clashes with the efforts by WP workers to encourage and inspire young people to pursue HE. The teachers and WP workers interviewed also described

differing views on what motivates young people to pursue HE, with the teachers seeing HE as a route to a career. The WP workers, in contrast, seemed more aware that young people may choose HE out of a genuine love of learning or interest in a particular subject. However, this must be interpreted with due caution – small numbers of staff were interviewed during a global pandemic, which may well have influenced how questions were answered.

WP perceptions closely resembled the motivations reported by students. Survey data indicated that students were highly motivated by interest in their course, interest in their subject as well as by hopes of a career. High pay was a lower motivator for young people than interest in their subject or the belief that a degree was worthwhile for its own sake. These findings did not significantly vary by SIMD. Interviews with students, however, suggested that some young people from lower SIMD quintiles saw themselves as better students than their more affluent peers because they were more motivated by interest in their subject and love of learning, and less motivated by financial considerations. This attitude was also discernible in interviews with parents, who believed students as a group to be motivated by career and money, but who for the most part saw their own child as motivated by love of learning. However, teachers largely rejected love of learning or passion for a subject as a motivation for HE study. The scepticism expressed by teacher with regard to WP echoes that expressed by head teachers who expressed discomfort with identifying pupils from areas of high deprivation as a group (Scott, 2019). Head teachers were also concerned that WP should not be an easy way in to higher education, which echoes concerns from teachers in this study that WP may benefit the wrong pupils. Given the small number of teachers interviewed, it was not possible to fully discern whether teachers felt that HE was inappropriate for pupils from areas of high deprivation, or whether teachers held the more extreme position that university was wrong for all pupils. However, teachers and SDS workers did report encouraging pupils to consider options other than HE and expressed significantly more positive attitudes towards apprenticeships. This mirrors research by Johnson et al, (2009) who described teachers' perception that HE is not suitable for everyone.

It is not possible to definitely state from the findings in this study whether emphasis on vocational education in Scottish education is a change in the doxa of the field. Certainly, resonances between this study's findings on teacher attitudes and the existing literature suggest that the belief that some pupils are inherently unsuitable for university, is of long standing. However, it is possible that the emphasis on vocational study and apprenticeship for pupils with high attainment is new. It is also notable that Sean, the student participant who had attended a high attaining and successful private school, reported no encouragement to consider apprenticeship – instead, he believed his peers saw

university as a route to high pay and career. University as a route towards vocation was not generally discussed by the teachers interviewed for this study. This suggests that one function of an emphasis on vocational education may be to re-create and re-affirm unequal access to academic education, where young people from areas of high deprivation are encouraged to follow 'appropriate' vocational routes (Bourdieu and Passeron, 1990) An emphasis on vocational routes allows teachers and SDS workers to encourage young people to follow pathways which seem more 'natural' and suitable. Ironically, a vocational focus can make even HE palatable through routes such as graduate apprenticeships. Despite small objective numbers of graduate apprenticeships, teachers were keen to discuss these as important and superior routes for young people into employment. Teacher caution and scepticism around university and, specifically, WP could present a barrier to HE access for young people from areas of high deprivation.

9.3.3 Scottish Index of Multiple Deprivation

The suitability of the Scottish Index of Multiple Deprivation (SIMD) has been the source of considerable discourse (Scott, REF; Gorard et al, 2019, Boliver et al, 2015) about whether it is an appropriate measure for determining access to WP. Most students interviewed in this study had heard of WP and were largely positive in their views on WP. However, not all students who were eligible for WP through SIMD had been offered WP. This included both highly academically successful students, and students who had experienced more challenges accessing HE. One student from a very affluent area with professional parents had experienced WP through the Reach programme as part of her school's efforts to support her medical ambitions. Another student expressed her disappointment that living on the wrong side of the street denied her access to WP, despite being in receipt of EMA. Teachers interviewed expressed concerns over the fairness of area-based WP interventions, noting that barriers could not always be identified via post code, and that the pupils who lived in SIMD 1 & 2 areas might in fact be less 'hard working' that those who do not – again, identifying effort as a marker of pupil merit. Teachers also expressed reservations about any scheme which identifies a particular group for additional support and express a preference for treating young people as individuals. Scott (2019) critiques individual level measures of WP access as allowing university practices to go unchallenged. Teacher comments indicate that SIMD has indeed evoked some discomfort and challenged some school practices, such as the focus on the individual pupil rather than the groups to which the pupil may belong. However, with teacher accountability focused on positive destinations rather than progression to HE, teachers have considerable latitude to interpret WP so that the pupils they see as plausible HE students can be supported and the remainder are not. WP workers usually

depend on teachers' recommendations for school-based WP work, although access to contextualised admissions and summer school can open WP to a larger group of students.

There can be no doubt that area-based measures of deprivation such as SIMD will include some young people who have not experienced deprivation and will exclude others who have experienced deprivation. However, consideration of the effect of SIMD should also include those young people whose eligibility is missed, or who are included despite not being eligible. Teacher encounters with SIMD include a degree of interpretation, so that teacher views on fairness and what makes an appropriate WP candidate, within the doxa of the school field, influence and shape who is given access to this resource – whether or not they objectively meet the criteria (Thomson, 2014). To improve access to HE for Scottish young people who have experienced deprivation, it is certainly important to select appropriate area and individual measures. For example, extending WP to students who had received EMA but who lay slightly outside post-code boundaries could alleviate some geographical unfairness. However, it is essential to look at how teachers understand and apply WP, to examine teacher attitudes to HE and to provide continuing professional development so that staff can understand the complex intersection of poverty and education (CoWA, 2016).

Bourdieu and Passeron (1990) wrote thirty years ago about French education, and described a system of reproduction of inequality. Scottish schools exist in a very different education macrosystem (Bronfenbrenner, 1992) and their doxa are also different from those of 1990s France. However, this thesis suggests that Scottish schools do play a part in reproducing educational inequality, and that highly able pupils from areas of high deprivation are not able to access education as readily as their more privileged peers. In particular, Scottish teachers' inability to recognise their pupils' passion for learning and for subject knowledge makes it difficult for them to understand why pupils may wish to carry on into HE. The dominance of vocational education in Scottish teachers' discussion of educational purpose is extremely concerning for the education of highly able pupils in areas of high deprivation. However, these pupils are finding their education passions, finding routes to HE, and finding deep joy in learning and scholarship within a university context. The question for Scottish education is whether it is possible for schools to support pupil joy in learning and passion for scholarship.

9.3.4 Understanding Potential, Talent and Ability

The concepts of potential and talent are deeply embedded in the discourse around Widening Participation. In their report for the Russell Group, Turhan and Stevens (2020) describe potential as a

trait which can be suppressed by other factors. Audit Scotland (2021) suggest that student potential may be more accurately judged by teachers than by assessments. The Milburn Report (2012), a key text in this thesis and in the reshaping of Widening Participation, makes extensive use of potential and talent, and emphasises the importance of ensuring that "those with potential, irrespective of background, get the places they deserve" (Milburn, 2012:2). The University of Glasgow underpins its account of WP as an effort to "identify your full talent and potential regardless of background or life circumstances" (University of Glasgow, undated f). However, students do not share a strong common understanding of potential or talent. Students described potential as a challenging or contested topic, critiqued its validity, expressed contradictory ideas or leaned heavily on hedging language. Talent was also unclear for students, whose explanations of talent were often self-contradictory, simultaneously depending upon and rejecting the idea of innate talent. These findings suggest that 'Potential and talent' may perhaps be best understood as an empty signifier by virtue of its internal tensions and contradictions. 'Potential and talent' must be understood as referring to attainment in school qualifications, as slight modification of qualification requirements is the primary method by which people with 'potential and talent' are admitted to university. However, 'potential and talent' must also be understood as not referring to attainment in qualifications, as the justification for varying qualification requirements for pupils from areas of high deprivation is that their 'potential and talent' is inadequately measured by attainment in qualifications.

Tautology and indeterminacy are certainly a feature of how groups involved with WP understand 'potential and talent'. Interview data suggested that parents, teachers, SDS, WP and, of course, students largely do not share meanings between or even within groups. Wacquant (2022: loc 1213) suggests that "agreement by folk and expert constructs is taken as empirical validation of the notion" so that not only do these different groups believe they are using the same term to mean the same things, they perceive the use of the term by the other group to prove its existence. Teachers, SDS workers and WP workers do not share the same understanding of potential and talent. Students hold a range of views, many of which do not overlap with those held by the professionals they interact with. It is possible that the linguistic emptiness of 'potential and talent' may be useful in WP work, because it allows practitioners and students with a range of views to assume a shared understanding and a shared project, while continuing to propagate the existing structures of their roles within their institutions. The (albeit) limited interviews with WP and teaching staff suggest different ideas of WP. The perception of a shared WP project, where WP support students whose potential and talent was identified by their teachers, may not fully reflect how teachers and SDS workers perceive their role. Instead, teachers and SDS workers describe challenging young people's HE aspirations and

encouraging them to examine other options. The perceived shared project of WP, underpinned by the empty signifier ‘potential and talent’, may conceal very different goals and aims.

Integrating Bourdieu and Bronfenbrenner's models, Chapter Nine examined the empirical findings from the secondary data, survey data and interviews. Potential, talent and ability are examined at each level in relation to the models and the literature review.

Individual:

- the tension between attainment as a measure of individual potential, talent and ability and attainment as constrained by environment is examined
- students' positive attitudes to academic study across SIMD quintiles challenges ideas of a vocational or social mobility orientation for students from the areas of highest deprivation
- student ideas of potential and talent were unstable and fragmented and many were uncomfortable with the idea of cognitive ability or intelligence

Mesosystem:

- students identified lack of resources as a barrier to their education
- many students wished to study more Advanced Higher qualifications than were available in their school, challenging the suggestion that low aspiration caused their lower attainment
- interviews with a small group of teachers stressed non-academic potential, innate and immutable levels of talent, and suggested that low academic ability might limit student success. Teachers perceived students as motivated by pay and career rather than love of learning.

Macrosystem:

- students identified school accountability measures as influencing their access to subjects and levels, as well as encouraging exam-focused pedagogies
- Scottish commitment to widening participation elicited mixed views. The caution teachers described in interviews was echoed in the literature, perhaps reflecting doxa within the
- education field
- The interpretation of SIMD-based WP eligibility criteria seemed to disadvantage some SIMD 1 and 2 students and advantage some from SIMD 3, 4 and 5, perhaps giving scope for the reproduction of existing educational inequity.
- use of potential, talent and ability in policy as contrasted with the use by teachers, students, parents, careers workers and WP workers suggested that these terms might operate as 'empty signifiers'

In the light of this discussion, Chapter Ten outlines the conclusions and recommendations of this study. Each research question is answered in turn, limitations of the study are considered, and the unique contributions and recommendations of the research are identified.

10 Chapter Ten: Conclusions and Recommendations for Future Research and Practice

Chapter Ten will present the key findings from this study. It will highlight the unique contributions of the research and the implications for future practice. Recommendations for researchers, local authorities, teachers and WP workers will be made. Limitations of the study will be identified, and the study will be contextualised within recent developments in the senior phase of Scottish education.

This thesis is a mixed methods study that sought to explore how young people from areas of deprivation understand ability and how this influenced their decisions to apply to higher education. Through the use of secondary data, questionnaires and interviews the thesis sought to answer the following questions:

> RQ 1 How do Scottish widening participation students at the University of Glasgow, their teachers, parents, WP workers and SDS workers understand potential, talent and ability?
>
> RQ 2 What educational barriers were experienced by students from areas of high deprivation in secondary school and beyond?
>
> RQ 3 What role do conceptualisations of potential, talent and ability play in creating or overcoming barriers to Widening Participation to Higher Education for students from areas of high deprivation?

This final chapter provides a discussion of the implications of this research for widening participation with a particular emphasis on high ability. Recommendations to help universities, widening participation workers, local authorities and schools with suggestions for future research in this field are made. Section 10.2 looks at the key findings of the study. It includes a discussion of the significance of the findings in terms of the understanding of high ability and the ongoing work around widening participation in Scotland. Section 10.3 addresses the limitations of the study. This includes some general methodological challenges, as well as some specific challenges and limitations of the study due to the Covid-19 pandemic and subsequent lockdown. Section 10.4 provides recommendations for current and future widening participation activity particularly related to high ability as well as recommendations for future important directions in researching this area. The

chapter ends with a critical reflection of ongoing discussions about the independent review of qualifications and assessment that was undertaken by the Scottish Government.

10.1 Key Findings from the study

This section summarises the key findings of the thesis in relation to the three research questions.

10.1.1 RQ 1 How do Scottish widening participation students at the University of Glasgow, their teachers, parents, WP workers and SDS workers understand potential, talent and ability?

This study focused on one highly selective, Russell group Scottish university and results show the fragmented and scattered understandings of potential, talent and ability amongst students, teachers, parents, SDS workers and WP workers. Students did not share a common understanding of potential and talent and were largely uncomfortable with discussion of ability. Students were prepared to discuss their differences from other pupils in their school in terms of effort, or luck, but were less willing to describe themselves as highly able. However, students did assert their perceived superiority to other, non-WP students on their courses, believing themselves to be more interested in the subject and more committed to learning. Teachers stressed the salience of non-academic potential and talent. There was some evidence that teachers were suspicious of attainment that was not accompanied by the correct display of effort. Teachers were also very cautious about the validity of HE for young people, suggesting that vocational paths might be more suitable, particularly for 'high fliers' in areas of high deprivation. Teachers and SDS workers expressed a perceived duty to caution against HE. Teachers viewed young people from areas of high deprivation who did not aspire to university until they had the required results with suspicion but were also disapproving of those young people who formed an aspiration without evidence of the correct level of attainment – a Catch-22 for the young people concerned. However, students' understandings of themselves as good students by virtue of their enthusiasm for learning or passion for a particular subject, allowed them to assert standing in the field of HE.

10.1.2 RQ 2 What educational barriers were experienced by students from areas of high deprivation in secondary school and beyond?

One key barrier to education for students was the lack of a shared sense of educational purpose with their teachers. Students expressed dissatisfaction with the teacher-led focus on exam preparation which characterised the senior phase of secondary school, which many found restrictive. Students commented on secondary school learning which focused on identifying the right answer for the

exam, pedagogy which stressed studying the course rubric rather than the subject and which gave few opportunities for open ended study or questioning of received wisdom. Students also described the distorting effect of school accountability measures, and the feeling of alienation from their attainment which served the interests of the school. This was in contrast to the delight and pleasure in independent learning and scholarship which characterised learning within the HE context. Another significant barrier for students was limited access to subjects and levels of qualification in school, particularly Advanced Higher level courses, and the learning opportunities such courses provide. Access to three sciences was particularly challenging for students who wished to enter high demand professions such as medicine, or who had a particular interest in STEM. Students also sometimes experienced teacher advice as being more concerned with promoting the good of the school, and not the good of the individual young person. Another educational barrier was the disrupted learning environments experienced or feared by students, particularly LGBTQ+ students, which sometimes shaped students' choice of secondary school or experience within secondary school.

10.1.3 RQ 3 What role do conceptualisations of potential, talent and ability play in creating or overcoming barriers to Widening Participation to Higher Education for students from areas of high deprivation?

Potential and talent function as 'empty signifiers' with different meanings ascribed by different groups, while the perception of a shared meaning and therefore a shared WP enterprise is maintained by the use of the same terminology. Ability is largely missing from the WP discourse of students, teachers, parents, SDS and WP workers. The capacity of potential and talent to function in this way is important as WP practices such as contextualised admissions are potentially disruptive. School structures reify qualifications as measures of pupil worth, whether that worth is understood as potential, talent, ability (or even grit, effort or aspiration). Contextualised admissions threaten these structures by suggesting that qualifications are not absolute but only relative measures of pupil worth and offering routes into HE for young people who would otherwise be considered unworthy. To deploy a Bourdieusian lens, contextualised admissions operate to grant pupils academic capital and therefore advantage on the field of HE which they did not have on the field of secondary education. The semantic emptiness of potential and talent gives some scope for teachers to adapt WP in ways which matched the doxa of their field by using WP to give advantage to (sometimes highly privileged) pupils who matched their idea of a normal or natural student. Contextualised admissions both overcome and create a barrier towards the inclusion of highly able learners from areas of high deprivation by at once asserting the worth of young people from such areas despite their lower

attainment, and by creating mechanisms which can be (wittingly or unwittingly) exploited to maintain the educational status quo.

10.2 Limitations of the study

Due in part to the global pandemic, this research has some limitations. The secondary data which was shared by the university was limited only to SIMD 1 and 2 students and so comparisons between groups was not possible. The survey sample was smaller and less representative of the wider student body than might have been hoped, perhaps as a result of lockdown limitations on publicising the study. The use of Likert scales in the survey as interval rather than ordinal data means it is difficult to assert with confidence that the degree of fervency between strongly agree and agree is exactly equivalent to that between unsure and disagree. Treating the data which arises from Likert scales as interval is widely accepted, and its use as part of this mixed methods study has been done with an awareness of the tensions around this decision. Likewise, the use of significance testing for data which arises from a non-random sample must always be treated with caution, even though this approach is not uncommon.

Recruitment of teaching staff was quite limited, which may be connected to teaching staff workload during the pandemic. However, the aim of teacher interviews was not to produce generalisable findings, but to better understand teacher understandings of potential, talent, ability, HE and WP. The contributions of the staff who were interviewed brought to the fore a number of salient and concerning issues which, as will be touched on below, warrant further research in the future.

10.3 Contribution to Knowledge and Recommendations

Despite their limited role in existing widening participation literature, understandings of potential, talent and ability are important in widening participation in higher education for Scottish young people. Potential, talent and ability are often central to the literature in the field of high ability studies but in spite of recent developments in talent development there remains an issue on how young people from areas of high deprivation are accommodated. This study offers two main contributions to the fields of both widening participation and high ability studies.

Underpinning the findings in this study is the recognition that Scottish widening participation students are likely to be highly able. The findings therefore contribute to, and challenge, the prevailing understanding in the literature which presents students from areas of high deprivation in terms of deficits. Recognising that Scottish widening participation students includes highly able

learners could shift the emphasis from perceived deficits as evident in the literature towards the strengths they may have demonstrated as learners who have thrived in less favourable environments.

This thesis contributes to the field of high ability studies by presenting the lived experiences of an under researched group, namely Scottish highly able students. These students are notable as they provided an opportunity to conduct research into highly able learners from areas of high deprivation who have successfully navigated barriers to learning. Given the ongoing efforts in high ability studies and gifted education to include minoritised young people, this study of widening participation students offers insights into the barriers to learning that such young people may experience, as well as the strategies and supports they have deployed to overcome these barriers .

Notwithstanding the small scale of this study, a novel contribution to the field of widening participation is also made as the findings challenge existing perceptions of widening participation students as motivated by social mobility and presents evidence that it is the love of learning which motivates this group of widening participation students. By restoring high ability to the field of widening participation this research demonstrates an interdisciplinary approach which offers the potential for researchers to better understand WP students' needs, their motives and their experiences in higher education.

The study offers a fresh perspective on established talent development models by looking at them through the lens of widening participation. Thus a novel contribution to the field of high ability is the analysis of 'potential' and 'talent' as empty signifiers. Uniquely combining Wacquant's semantic indeterminacy with Laclau's empty signifier has allowed for understanding of how educational stakeholders (in this case students, teachers, WP workers, schools and universities) use semantically empty terms such as 'potential' and 'talent'. The emptiness of these terms hold semantic space so that different meanings can be ascribed by stakeholders as suits the discursive needs of the moment. Ascribing expedient meanings to potential and talent allows stakeholders to reproduce existing social relations so that those who are perceived as deserving according to the existing doxa of the field enjoy the benefits of policy which might otherwise be genuinely transformative and disruptive of school hierarchies. Understanding how these empty signifiers can be used to undermine potentially transformative policy and reproduce existing and familiar structures is essential if genuine education transformation is sought in the field of high ability, and in the practice of widening participation.

The contributions give rise to a number of recommendations. The recommendations made in this study are for researchers, local authorities, teachers and WP workers. However, it recommends no

changes to young people themselves. The young people in this study overwhelmingly showed themselves to be passionate and committed learners, who successfully overcame sometimes extraordinary obstacles to reach their academic goals. This study emphatically rejects a deficit model of highly able young people from areas of high deprivation – it is their circumstances and environment, not the young people themselves, which need to change.

10.3.1 Research:

Further research, particularly larger scale survey data, could offer more generalisable insight into the attitudes of teachers and SDS workers towards the purpose, nature and value of HE, and of WP. However, qualitative research which focuses on how individuals understand themselves, their roles and their situations is also crucial. Interviews could also offer more insights into how attitudes have formed, and what social and political influences within the education macrosystem might be shaping these attitudes.

Another avenue for research would be collection of data on qualification subject and level availability across schools and local authorities. This would allow the availability of subjects and levels to be considered in conjunction with SIMD. Survey and interviews conducted at secondary schools could also illuminate whether the positive attitudes towards learning described in this study are common across all pupils or specific to the highly able. Despite the widely used rhetoric of the field of WP, and in the field of gifted education, talent and potential are not traits within young people which should be identified and nurtured. Nor is the Achievement Gap a straightforward result of a deficit of aspiration, or a lack of interest in academic study, amongst young people from areas of high deprivation. Bringing together the fields of high ability studies and WP to HE enables this study to illuminate the crucial role of environmental factors such as narrow or unavailable academic opportunities. The role of teacher perceptions and misperceptions in determining which pupils' potential and talent is recognised, and which pupils are able to avail themselves of opportunities such as WP interventions is central to this thesis and challenges assumptions about the reliability of teacher judgement in selecting pupils for academic opportunities.

Research and scholarship which centres the voice of highly able widening participation students could also offer important insights into how HE can best serve this group, both in terms of student recruitment which speaks to WP students passion for learning and in terms of HE pedagogies which support these students to engage in rich, open ended, individual study of the subjects they are passionate about. Research which draws on high ability studies as well as widening participation

literature will support the development of pedagogies which fit the actual, not the assumed widening participation student.

10.3.2 Local Authorities:

To improve practice in schools for the future, local authorities must prioritise greater access to the full range of subjects and levels of qualifications for young people from areas of high deprivation. This has the potential to improve attainment and support young people to learn deeply about the subjects which they are passionate about. Students in secondary schools are often unaware of restrictions on their choice of subjects, particularly the 'three sciences' problem in S3/S4 and the restrictions on Advanced Higher access in S6, until they make contact with more privileged peers. This study recommends that local authorities support schools to ensure that pupils are made aware of the subjects and levels likely to be available to them as early as possible in school. Improving provision is also key, and local authorities must offer sufficient resources and staffing so that schools can offer a range of subjects to all pupils. A potential avenue towards improved provision for young people in areas of high deprivation is through the deployment of the online learning skills developed by teaching staff during the global pandemic, possibly with support from HE institutions. However, online learning requires adequate technological resources to be provided to staff and pupils, and adequate time and resources for young people and teachers to learn to use online systems effectively.

10.3.3 Teachers:

This research suggests that teachers may not always fully understand potential and talent, or indeed the aims and purposes of HE and WP to HE. Teacher education which raises and explores the ideas underpinning WP might help teachers appreciate, the benefits that academic study and HE can offer young people, and particularly highly able young people. It is also possible that further education on teacher bias might challenge, or even change, teacher beliefs about which pupils can benefit from academic education.

Teachers could also benefit from heightened awareness of the joy that some young people take in learning, and the significance for them of studying the subjects they are passionate about at a high level, even when particular qualifications are not a requirement for access into higher education. Knowledge of the frustration and discomfort that many highly able young people experience when exam preparation crowds out the study of academic subjects might suggest alternative pedagogies which could suit this group of learners better. Knowledge of the awareness that young people have of

school attainment targets and the alienation that this can cause might suggest de-emphasising school attainment targets in communications with pupils. Supporting individual pupils to make subject and level choices which are optimal for the pupil might help to shift the perception that teachers encourage choices which benefit the school, not the pupil. Awareness of the profound effect that concerns about bullying can have on LGBT pupils, including choice of school and the decision to leave school entirely, might also suggest to teachers that more effective action be taken to reduce homophobia and transphobia in schools. This might include a move away from suggesting that young people hide their gender identity or sexuality to avoid bullying, and building trust such that pupils believe reporting homophobic and transphobic abuse will be worthwhile.

10.3.4 WP workers:

WP practice is often delivered through schools, where teacher knowledge of pupils is deployed to identify pupils from areas of high deprivation with potential and talent for WP interventions and depends on a shared mission between universities and schools. WP interventions which provide opportunities for young people to self-nominate, or which include all young people without requiring teacher nomination, may offer a way to include more young people who could benefit from WP opportunities but whose schools or teachers do not perceive them as potential WP candidates. This will require support for WP workers both from universities and from government. Universities can support WP practice by encouraging the recognition that some WP students will be highly able learners who are motivated by a desire to learn. Government could support WP practice by funding interventions which engage all young people rather than a teacher selected group, by valuing early interventions before subject choices are made, and by careful attention to any potentially distorting effects of accountability measures, ensuring that the requirement to evidence good practice does not prevent good practice.

10.4 Final Thoughts

Just before this thesis was submitted, the Scottish Government Independent Review Group led by Professor Louise Hayward released *It's Our Future - Independent Review of Qualifications and Assessment: report* (Scottish Government, 2023c). This report suggests alternatives to the current exam-focused Senior Phase of secondary education through a portfolio approach that includes group project and skills for work alongside recognition of extracurricular activities, a lowered emphasis on examinations and a greater reliance on teacher judgement through continuous assessment. While the new portfolio continues to include academic study, the three-part structure suggests that this will now form only part of how schools assess pupils. This is of some concern for pupils like the students

interviewed in this study. While these students did describe disadvantage due to the undue focus on exams, they overwhelmingly flourished in the enriched academic learning environment of HE. Reforms to Scottish qualifications which lower the focus on academic learning seem unlikely to facilitate the provision of enriched academic study at secondary school level. However, Scottish qualification reform which provided opportunities for deep and wide engagement with academic learning and scholarship and assessment practices could benefit these young people. Assessments, including examinations, which focused on providing the opportunity to recognise and reward pupils' knowledge and skills without rewarding rote learning could encourage learning and teaching practices in schools which would support the development of genuine excellence in Scottish education for all learners, including the highly able from areas of high deprivation. However, this study shows that increased reliance on teacher judgement may disadvantage marginalised pupils, including those from areas of high deprivation. Teacher perceptions of the aspirations appropriate to young people from areas of high deprivation and teacher misrecognition of these young people's attitudes to academic study has the potential to perpetuate or even wide the achievement gap.

Looking at WP through a high ability lens brings into focus the passionate commitment of students from areas of high deprivation to learning and their joy in learning. Recognising and nurturing students' passion for scholarship offers a path to close the attainment gap. It remains to be seen whether Scottish education will elect to take that path.

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12 Appendices

12.1 Appendix One

Table 21: Qualifications by College

College	Qualification
Arts	Master of Arts MA - languages Master of Arts (Dumfries)
Social Science	Master of Arts (Soc) Master in Education Bachelor of Laws Bachelor of Arts (SocSci(Hons)) Bachelor of Technological Ed Master of Arts (Ed) Bachelor of Accountancy
Science and Engineering	Bachelor of Science (Scis) Master in Science (SE) Bachelor of Engineering Master of Engineering Bachelor of Science (Dumfries)
MVLS	Bachelor of Science (LS) MBChB Bachelor of Dental Surgery BVMS Bachelor of Science (VetBioSci) Bachelor of Nursing

Table 22: Indicative list of Entry Requirements by Course

Course	Entry Requirements	Contextualised/Adjusted Entry requirements for WP students)
Education with Primary Teaching Qualification (MEduc)	AAABB (ABBB in S5 minimum for consideration)	MD20: BBBB (also other target groups) MD40: AABB
English Literature (MA)	AAAAA Higher or AAAA Higher +B Advanced Higher (BBBB S5 minimum for consideration)	MD20: BBBB (also other target groups) MD40: AABB
Psychology (BSc/MS/MA(SocSci))	AAABB at S5 will be considered. Typically S6 entrants will have AAAAAA at Higher. B at Advanced Higher is equivalent to A at Higher.	MD20: ABBBB (also other target groups) MD40: AAABB (minimum requirement of ABB in S5)
Aeronautical Engineering (BEng)	AABB at S5 will be considered. Typically S6 entrants will have AAAAA at Higher (B at	BEng: MD20: BBBB (also other target groups) BEng: MD40: AABB

	Advanced Higher is equivalent to A at Higher)	
Medicine (MBChB)	AAAAA Higher at end of S5 + BBB Advanced Higher or AB Advanced Higher + B Higher in S6	AAABB Higher at end of S5 + BBB Advanced Higher or AB Advanced Higher + B Higher in S6
History (MA/MA(SocSci))	AAAAA Higher or AAAA Higher + B Advanced Higher (BBBB S5 minimum for consideration)	MD20: BBBB (also other target groups*) MD40: AABB* (minimum requirement of ABB in S5)
Mathematics BSc/MA/MSci/MA(SocSci)	BBBB at S5 will be considered. Typically S6 entrants will have AAAAA at Higher. B at Advanced Higher is equivalent to A at Higher.	MD20: BBBB (also other target groups) MD40: AABB (minimum requirement of ABB in S5)
Sociology MA(SocSci)/MA	AAAAAA Higher or AAAA + BB Advanced Higher (AAABB S5 minimum for consideration)	MD20: ABBBB (also other target groups) MD40: AAABB (ABB S5 minimum for consideration)

Table 23: Mean Advanced Higher by Local Authority

Local Authority	Number of students	Mean Advanced Higher
Shetland Islands	<5	0.00
East Lothian	7	0.86
North Lanarkshire	344	0.96
West Dunbartonshire	159	1.18
Glasgow	761	1.19
Western Isles	10	1.20
Angus	10	1.30
Inverclyde	48	1.31
Dumfries & Galloway	64	1.37
Dundee	8	1.37
South Lanarkshire	238	1.37
North Ayrshire	114	1.38
East Ayrshire	86	1.41
East Renfrewshire	54	1.44
Renfrewshire	126	1.44
East Dunbartonshire	64	1.47
South Ayrshire	57	1.47
Scottish Borders	12	1.50
Clackmannanshire	12	1.58
Stirling	26	1.58
West Lothian	36	1.58
Argyll & Bute	24	1.67
Falkirk	38	1.68
Edinburgh	40	1.75
Fife	42	1.76

Highland	41	1.78
Midlothian	11	1.91
Perthshire & Kinross	26	1.96
Aberdeen	9	2.11
Moray	<5	2.33
Aberdeenshire	6	2.50
Orkney Islands	<5	3.00

12.2 Appendix Two

12.2.1 Age by SIMD

Table 24: Age by SIMD

SIMD	W Stat	p.value
1	0.8908340	7.075188e-05
2	0.8245680	4.074942e-06
3	0.8464731	1.048849e-05
4	0.8907862	4.165980e-05
5	0.8581372	9.267658e-09

Figure 16: Age by SIMD Box Plot

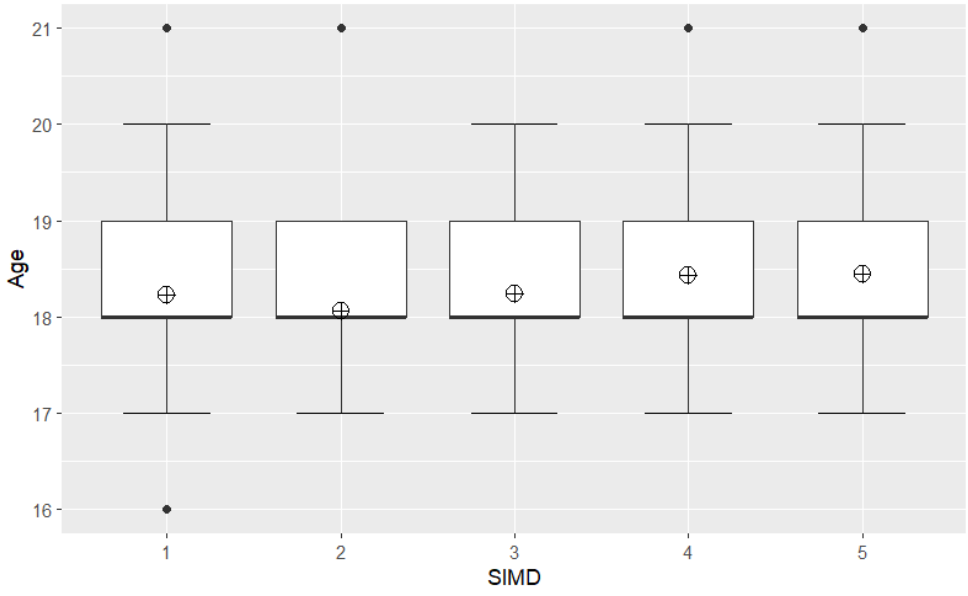
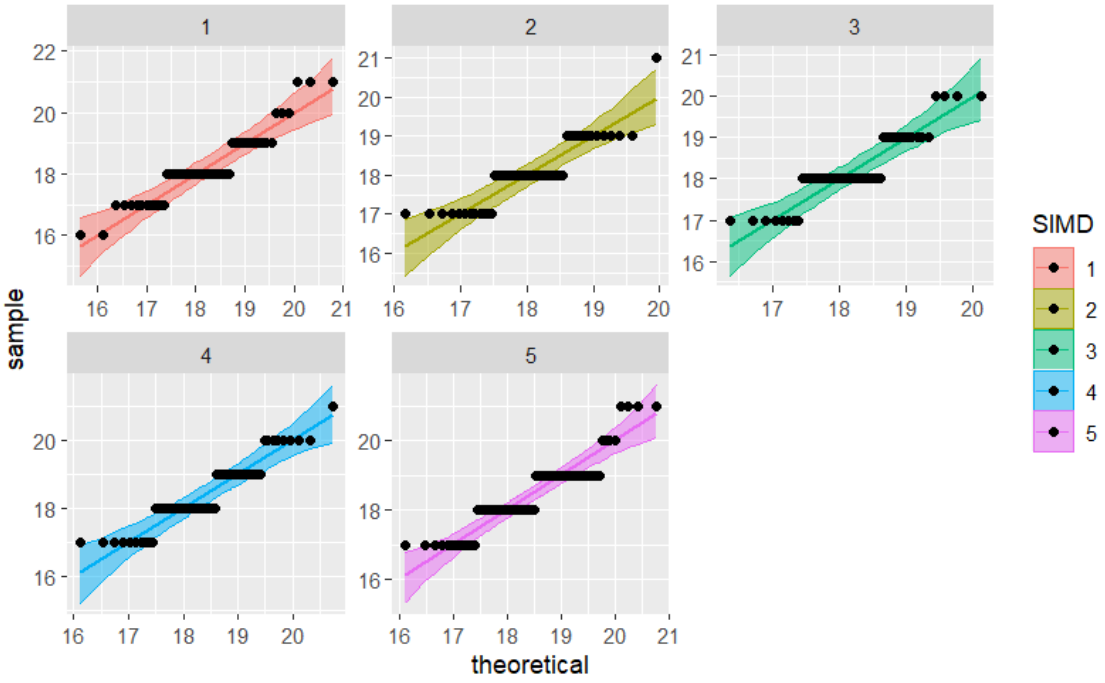


Figure 17: QQ Plot Age by SIMD




```
        Kruskal-Wallis rank sum test

data:  Age by SIMD
Kruskal-Wallis chi-squared = 8.754, df = 4, p-value = 0.06755
```

12.2.2 Number of Highers by SIMD

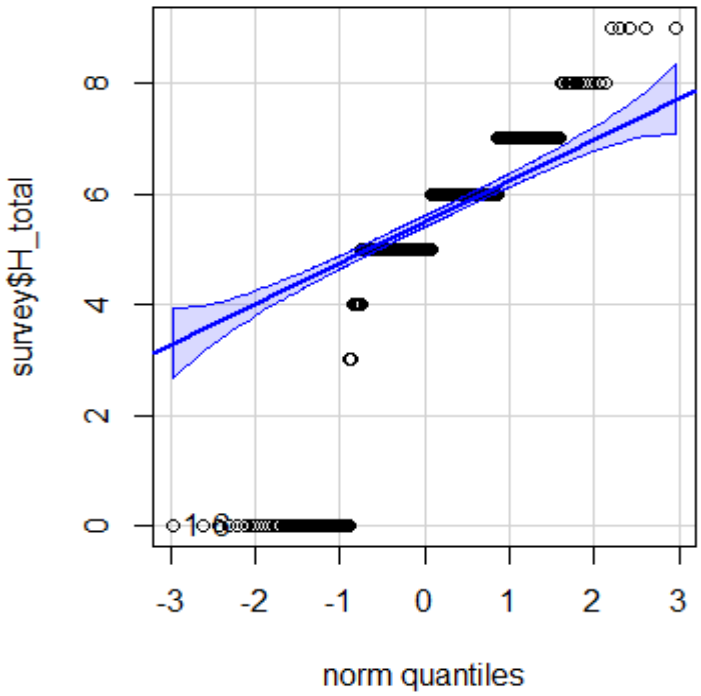
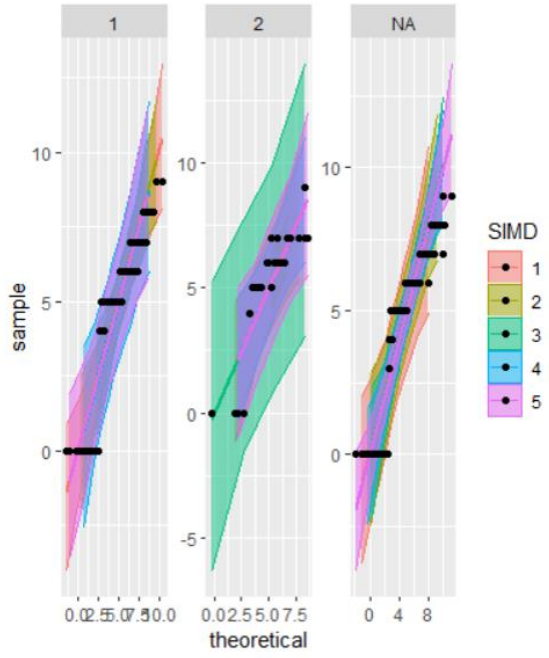


Figure 18: QQ Plot Highers by SIMD



12.2.3 Number of Higher Results by WP acceptance

Figure 19: Highers by WP acceptance

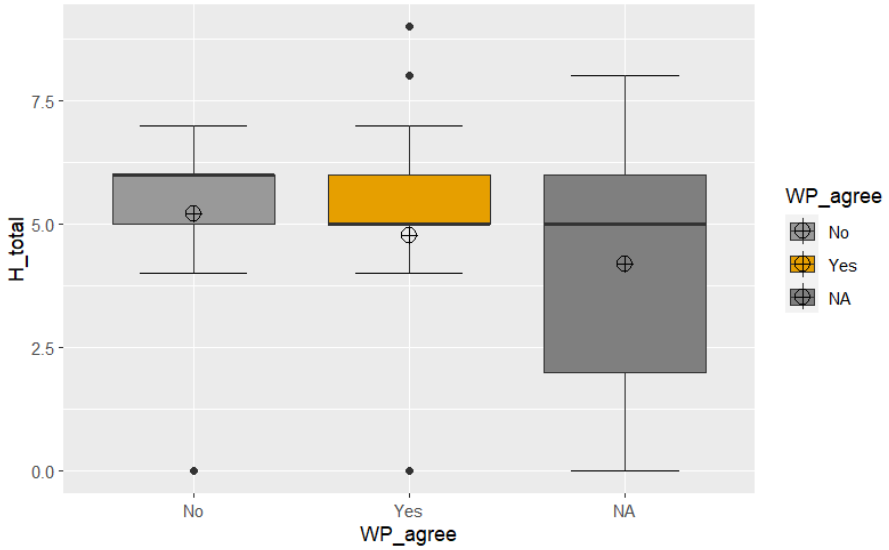
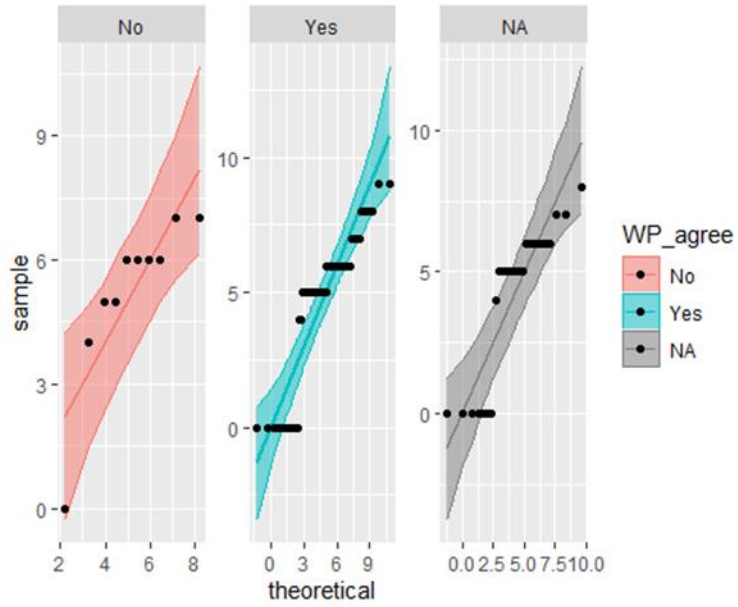


Table 25: Shapiro-Wilk test number of Highers by WP offer

WP_agree	W Stat	p.value
No	0.7584086	4.517792e-03
Yes	0.7982203	1.814392e-08
NA	0.7823798	6.881055e-05

Figure 20: QQ Plot Highers by WP Acceptance




```
Wilcoxon rank sum test with continuity correction
```

```
data:  H_total by WP_agree
W = 397.5, p-value = 0.5322
alternative hypothesis: true location shift is not equal to 0
95 percent confidence interval:
 -0.9999932  1.0000213
sample estimates:
difference in location
          2.948885e-05

difference in location
          2.948885e-05
```

12.2.4 A Grades at Higher by SIMD

Figure 21: A Grades at Higher by SIMD

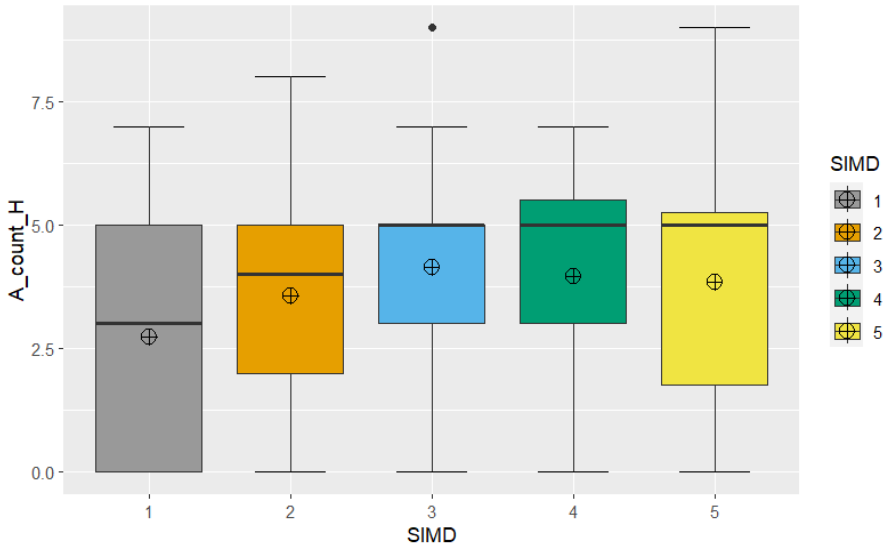
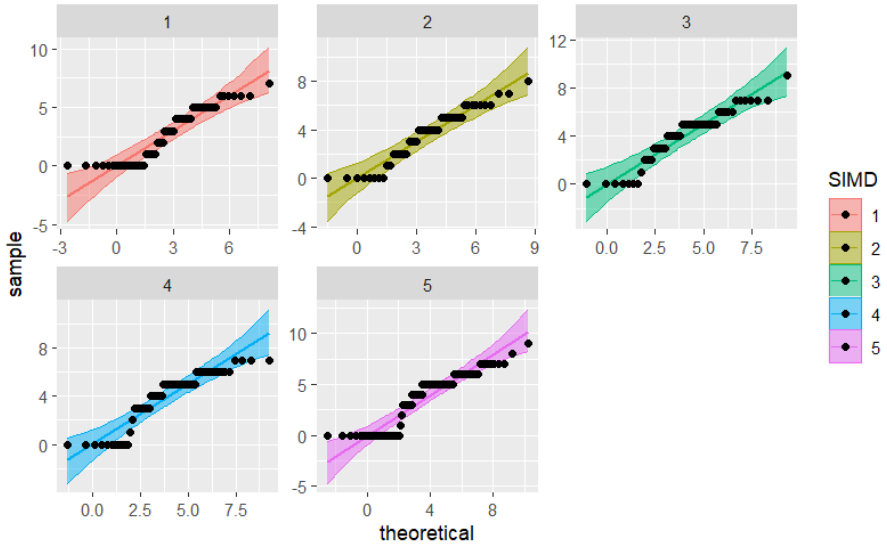


Table 26: Shapiro-Wilk test A Grades at Higher by SIMD

SIMD	SIMD	SIMD
1	0.8793019	2.888097e-05
2	0.9315830	7.035397e-03
3	0.9169216	1.624868e-03
4	0.8558777	2.891669e-06
5	0.8576901	8.898658e-09

Figure 22: QQ Plot A Grades at Higher by SIMD




```
        Kruskal-Wallis rank sum test

data:  A_count_H by SIMD
Kruskal-Wallis chi-squared = 13.098, df = 4, p-value = 0.01081
```

```
        Bartlett test of homogeneity of variances

data:  A_count_H by SIMD
Bartlett's K-squared = 1.491, df = 4, p-value = 0.8282

Levene's Test for Homogeneity of Variance (center = median)
       Df F value Pr(>F)
group   4  0.4742 0.7547
      325
```

Table 27: Dunn's test A Grades at Higher by SIMD

Comparison	Z	P.unadj	P.adj
1 - 2	-1.6676158	0.095392013	0.95392013
1 - 3	-2.9751428	0.002928522	0.02928522
2 - 3	-1.2323853	0.217805172	1.00000000
1 - 4	-2.9308887	0.003379939	0.03379939
2 - 4	-1.0955091	0.273293664	1.00000000
3 - 4	0.2009835	0.840711484	1.00000000
1 - 5	-3.0124978	0.002591073	0.02591073
2 - 5	-0.9601366	0.336986461	1.00000000
3 - 5	0.4776261	0.632916373	1.00000000
4 - 5	0.2730826	0.784789739	1.00000000

12.2.5 Advanced Higher by SIMD

Figure 23: Advanced Higher by SIMD

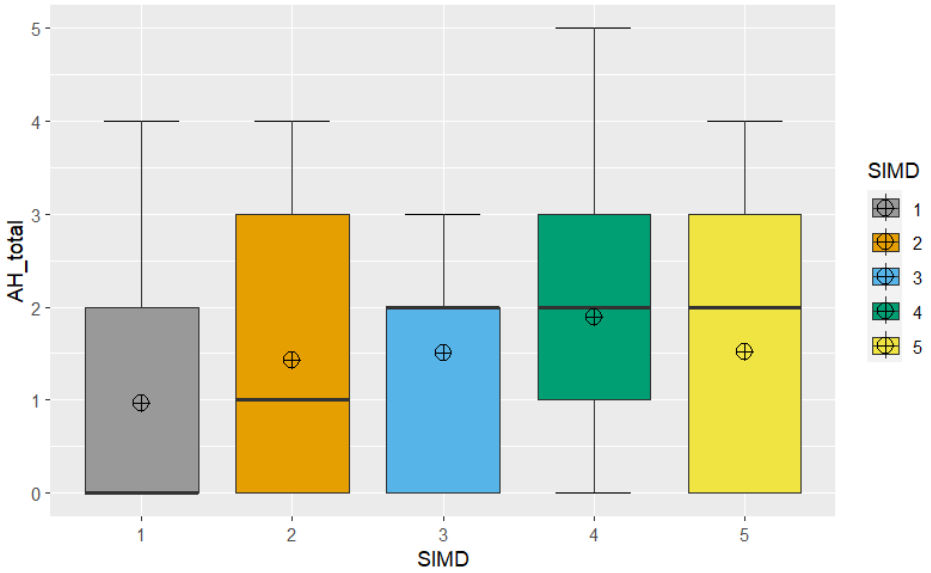
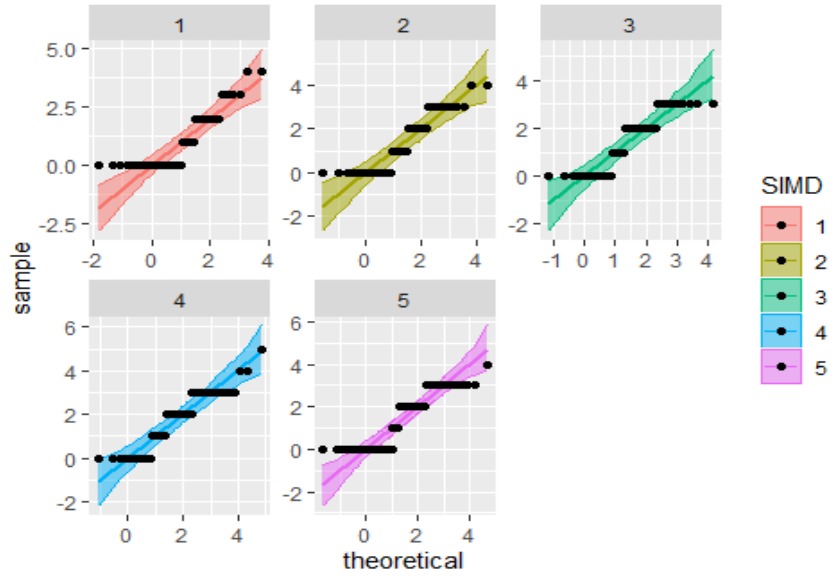


Table 28: Shapiro-Wilk test Numbers of Advanced Highers by SIMD

SIMD	W Stat	p.value
1	0.7773480	4.639190e-08
2	0.8581074	3.045683e-05
3	0.8349271	5.191250e-06
4	0.8890244	3.605165e-05
5	0.8265358	6.270905e-10

Figure 24: QQ Plot Advanced Higher by SIMD




```
        Kruskal-Wallis rank sum test

data:  AH_total by SIMD
```

```
Kruskal-Wallis chi-squared = 17.193, df = 4, p-value = 0.001773


        Bartlett test of homogeneity of variances

data:  AH_total by SIMD
Bartlett's K-squared = 0.73283, df = 4, p-value = 0.9472

Levene's Test for Homogeneity of Variance (center = median)
       Df F value Pr(>F)
group   4  0.3138 0.8687
      325
```

Table 29: Dunn's test Number of Advanced Highers by SIMD

Comparison	Z	P.unadj	P.adj
1 - 2	-1.98188865	4.749170e-02	0.4749170494
1 - 3	-2.37584040	1.750903e-02	0.1750903422
2 - 3	-0.35591719	7.219026e-01	1.0000000000
1 - 4	-4.09104729	4.294295e-05	0.0004294295
2 - 4	-1.88007892	6.009732e-02	0.6009732246
3 - 4	-1.52318462	1.277125e-01	1.0000000000
1 - 5	-2.83272430	4.615317e-03	0.0461531739
2 - 5	-0.43850914	6.610172e-01	1.0000000000
3 - 5	-0.02549781	9.796579e-01	1.0000000000
4 - 5	1.78248622	7.466998e-02	0.7466997595

Figure 25: Grade As at Advanced Higher by SIMD

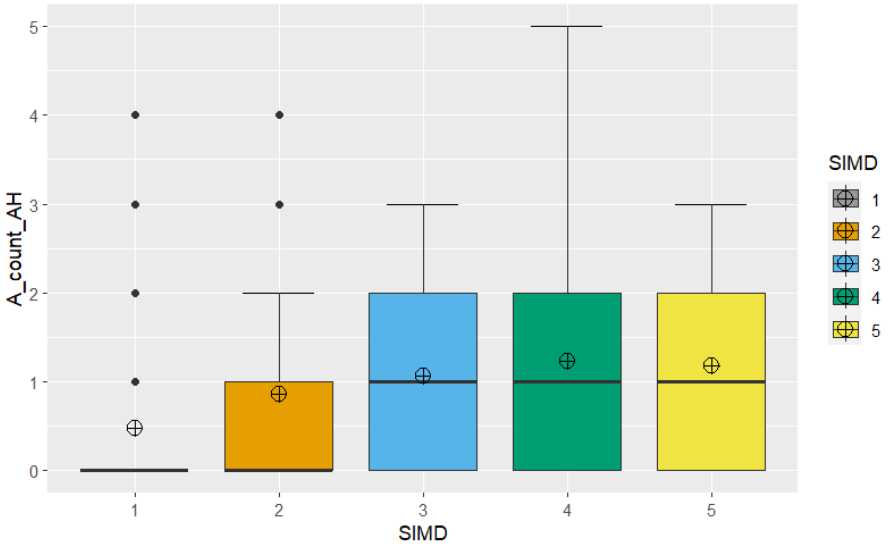
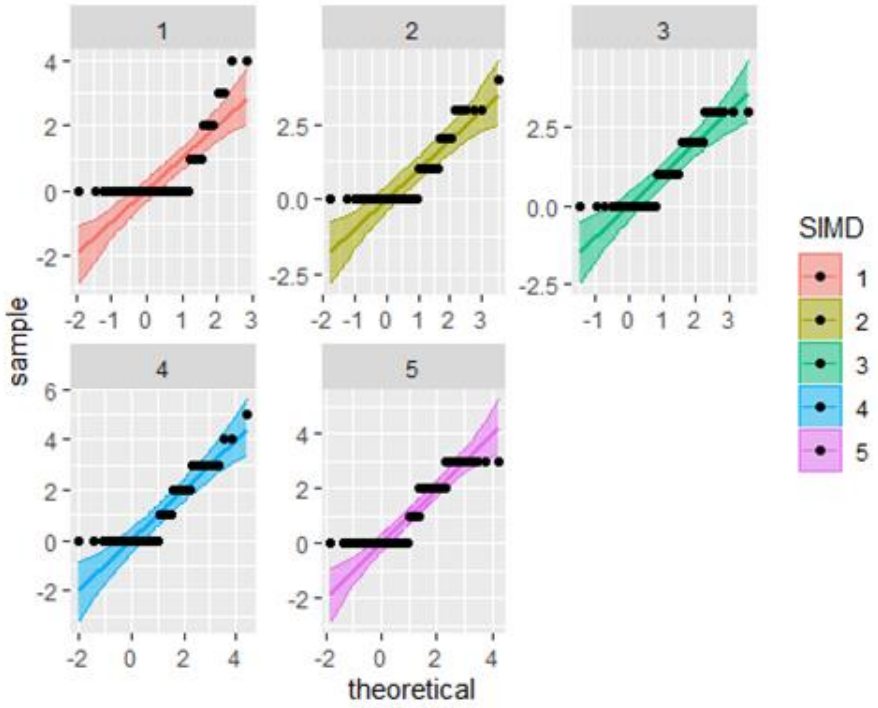


Table 30: Shapiro Wilk test Advanced Higher by SIMD

SIMD	W Stat	p.value
1	0.5422790	2.747911e-12
2	0.7451015	7.319637e-08
3	0.8203215	2.215493e-06
4	0.8267984	4.081308e-07

5	0.7994920	7.979462e-11

Figure 26: Advanced Higher by SIMD




```
Kruskal-Wallis rank sum test

data:  A_count_AH by SIMD
Kruskal-Wallis chi-squared = 19.937, df = 4, p-value = 0.000514


        Bartlett test of homogeneity of variances

data:  A_count_AH by SIMD
Bartlett's K-squared = 5.3124, df = 4, p-value = 0.2567
```

Table 31: Dunn's test Grade As at Advanced Higher by SIMD

Comparison	Z	P.unadj	P.adj
1 - 2	-1.93707568	0.0527360932	0.527360932
1 - 3	-3.11581228	0.0018343901	0.018343901
2 - 3	-1.10648319	0.2685174343	1.000000000
1 - 4	-3.58702239	0.0003344756	0.003344756
2 - 4	-1.44615505	0.1481337169	1.000000000
3 - 4	-0.28730171	0.7738813144	1.000000000
1 - 5	-4.04603384	0.0000520927	0.000520927

2 - 5	-1.62918214	0.1032744657	1.000000000
3 - 5	-0.34886466	0.7271909144	1.000000000
4 - 5	-0.03252369	0.9740544220	1.000000000

Table 32: Dunn's test Q23 'Normal for people like me' by SIMD

Comparison	Z	P.unadj	P.adj
1 - 2	-1.3615175	1.733502e-01	1.0000000000
1 - 3	-0.9073673	3.642126e-01	1.0000000000
2 - 3	0.4482458	6.539758e-01	1.0000000000
1 - 4	-2.1400757	3.234865e-02	0.3234864839
2 - 4	-0.6539426	5.131488e-01	1.0000000000
3 - 4	-1.1373086	2.554093e-01	1.0000000000
1 - 5	-3.9260197	8.636309e-05	0.0008636309
2 - 5	-2.1622393	3.059974e-02	0.3059973676
3 - 5	-2.7197616	6.532900e-03	0.0653289992
4 - 5	-1.5635282	1.179284e-01	1.0000000000

12.2.5.1 Q24 'Similar' by SIMD

Table 33: Dunn's test Q24 'Similar' by SIMD

Comparison	Z	P.unadj	P.adj
1 - 2	-0.8231503	4.104225e-01	1.000000e+00
1 - 3	-2.3467222	1.893937e-02	1.893937e-01
2 - 3	-1.4476690	1.477096e-01	1.000000e+00
1 - 4	-1.8864062	5.924023e-02	5.924023e-01
2 - 4	-0.9589614	3.375782e-01	1.000000e+00
3 - 4	0.5676914	5.702445e-01	1.000000e+00
1 - 5	-4.8545627	1.206527e-06	1.206527e-05
2 - 5	-3.6390991	2.735935e-04	2.735935e-03
3 - 5	-1.9847488	4.717242e-02	4.717242e-01
4 - 5	-2.8016343	5.084448e-03	5.084448e-02

Table 34: Attitudes to study and gender

Gender	All		*male*		*female*		*other*		KW test[a]		
	n	%	n	%	n	%	n	%			
No. of students	330	100	84	25	228	69	18	5			
	mean	*SD*	*mean*	*SD*	*mean*	*SD*	*mean*	*SD*	Chi-squared	df	p-value
Anticipated											
Q20 Interest in course	4.20	0.78	4.25	0.82	4.17	0.77	4.33	0.77	1.4571	2	0.4826
Q21 Interest in course content	4.51	0.72	4.59	0.66	4.48	0.72	4.50	0.86	2.0637	2	0.3563
Q21 enjoyed subject at school	4.22	0.93	4.40	0.90	4.17	0.94	4.00	0.91	6.9403	2	0.0311*
Q21 High grades in subject	4.26	0.90	4.46	0.78	4.21	0.95	4.11	0.76	6.0918	2	0.0475*
Q20 Help with career	4.25	0.81	4.34	0.75	4.25	0.83	3.89	0.76	6.1154	2	0.047*
Q20 Uni leads to well-paid job	3.84	0.87	3.96	0.88	3.82	0.87	3.50	0.62	7.2395	2	0.0268*
Current views											
Q23 Interest in course/subject	4.38	0.79	4.40	0.79	4.37	0.77	4.39	1.04	1.0322	2	0.5968
Q24 Worthwhile for own sake	3.87	1.00	3.73	1.12	3.93	0.95	3.78	1.00	2.1064	2	0.3488
Q23 Help with career	4.18	0.87	4.40	0.66	4.14	0.90	3.53	1.07	12.62	2	0.001818***
Q24 Well paid job	3.68	1.07	4.02	0.89	3.54	1.12	3.89	0.90	12.188	2	0.002257***
Q24 Better life with degree	3.68	0.97	4.00	0.89	3.57	0.99	3.50	0.86	13.002	2	0.001502***
Q23 Uni live up to potential	4.08	0.90	4.26	0.88	4.05	0.89	3.67	0.91	10.189	2	0.00613***
Q23 Ability to do well at uni	4.07	0.83	4.15	0.81	4.03	0.84	4.17	0.62	1.7347	2	0.4201
Q24 Exams show uni potential	2.67	1.17	2.84	1.30	2.63	1.12	2.33	0.97	2.7751	2	0.2497
Q24 Need talent & work for uni	3.16	1.11	3.20	1.21	3.14	1.09	3.17	0.98	0.24505	2	0.8847
Q24 Uni means intelligent	2.77	1.10	2.58	1.18	2.85	1.07	2.61	1.04	4.2424	2	0.1199
Q23 Normal for people like me	3.57	1.08	3.56	1.17	3.56	1.07	3.72	0.89	0.23526	2	0.889
Q24 Most ppl like me go to uni	3.37	1.09	3.49	1.17	3.29	1.08	3.83	0.51	5.6592	2	0.05904

*n=330 [a]=Kruskal-Wallis test *** p=0.00 **p=0.01 *p=0.05*

Table 35: Attitudes to study and WP offer

WP offered	All		Yes		No		unsure		unaware		KW test[a]		
	n	%	n	%	n	%	n	%	n	%			
No. of students	330	100	136	41	91	27	37	11	66	20			
	mean	*SD*	*mean*	*SD*	*mean*	*SD*	*mean*	*SD*	*mean*	*SD*	Chi-squared	df	p-value
Anticipated													
Q20 Interest in course	4.20	0.78	4.29	0.76	4.22	0.79	3.97	0.86	4.12	0.75	5.9269	3	0.1152
Q21 Interest in course content	4.51	0.72	4.52	0.73	4.47	0.70	4.65	0.67	4.47	0.73	3.0096	3	0.3901
Q21 enjoyed subject at school	4.22	0.93	4.19	0.99	4.12	0.89	4.46	0.73	4.26	0.96	4.8479	3	0.1833
Q21 High grades in subject	4.26	0.90	4.16	1.00	4.23	0.80	4.51	0.73	4.39	0.89	7.4939	3	0.05771
Q20 Help with career	4.25	0.81	4.30	0.89	4.31	0.66	4.22	0.79	4.11	0.84	4.4866	3	0.2135
Q20 Uni leads to well-paid job	3.84	0.87	3.88	0.93	3.89	0.77	3.65	0.82	3.79	0.89	3.4952	3	0.3214
Current views													
Q23 Interest in course/subject	4.38	0.79	4.39	0.83	4.37	0.71	4.42	0.81	4.36	0.80	0.66756	3	0.8808
Q24 Worthwhile for own sake	3.87	1.00	3.84	1.10	3.91	0.93	4.03	0.83	3.80	0.98	1.1725	3	0.7596
Q23 Help with career	4.18	0.87	4.21	0.93	4.21	0.78	4.03	0.98	4.17	0.81	1.5673	3	0.6668
Q24 Well paid job	3.68	1.07	3.48	1.15	3.85	1.03	3.67	0.94	3.88	0.97	8.4525	3	0.03753*
Q24 Better life with degree	3.68	0.97	3.66	1.00	3.76	0.97	3.67	0.94	3.61	0.94	1.1901	3	0.7554
Q23 Uni live up to potential	4.08	0.90	4.04	0.93	4.20	0.76	3.94	0.97	4.07	0.95	1.7112	3	0.6344
Q23 Ability to do well at uni	4.07	0.83	3.95	0.87	4.20	0.76	3.97	0.86	4.17	0.78	6.2585	3	0.09969
Q24 Exams show uni potential	2.67	1.17	2.62	1.25	2.76	1.18	2.57	0.90	2.71	1.12	1.1545	3	0.7639
Q24 Need talent & work for uni	3.16	1.11	3.23	1.15	3.11	1.06	2.94	1.20	3.20	1.05	2.19	3	0.5339
Q24 Uni means intelligent	2.77	1.10	2.65	1.10	2.94	1.12	3.00	1.03	2.65	1.09	6.1841	3	0.103
Q23 Normal for people like me	3.57	1.08	3.25	1.15	3.77	0.99	3.59	1.04	3.92	0.91	21.238	3	9.393e-05***
Q24 Most ppl like me go to uni	3.37	1.09	3.04	1.16	3.65	0.98	3.46	0.96	3.64	0.97	22.148	3	6.076e-05

*n=330 [a]=Kruskal-Wallis test *** p=0.00 **p=0.01 *p=0.05*

Table 36: Attitudes to study and EMA

EMA	All		*yes*		*no*		KW test[a]		
	n	*%*	n	*%*	n	*%*			
No. of students	330	100	77	23	253	77			
	mean	*SD*	*mean*	*SD*	*mean*	*SD*	Chi-squared	df	p-value
Anticipated									
Q20 Interest in course	4.20	0.78	4.27	0.74	4.18	0.79	0.56292	1	0.4531
Q21 Interest in course content	4.51	0.72	4.56	0.72	4.50	0.72	0.58521	1	0.4443
Q21 enjoyed subject at school	4.22	0.93	4.20	0.95	4.22	0.93	0.026625	1	0.8704
Q21 High grades in subject	4.26	0.90	4.25	0.88	4.27	0.91	0.13301	1	0.7153
Q20 Help with career	4.25	0.81	4.21	0.89	4.27	0.79	0.040708	1	0.8401
Q20 Uni leads to well-paid job	3.84	0.87	3.90	0.98	3.82	0.83	0.89726	1	0.3435
Current views									
Q23 Interest in course/subject	4.38	0.79	4.35	0.82	4.39	0.78	0.11643	1	0.7329
Q24 Worthwhile for own sake	3.87	1.00	3.88	0.97	3.87	1.01	0.0076938	1	0.9301
Q23 Help with career	4.18	0.87	4.31	0.84	4.14	0.88	2.7621	1	0.09652
Q24 Well paid job	3.68	1.07	3.75	1.01	3.66	1.09	0.24316	1	0.6219
Q24 Better life with degree	3.68	0.97	3.82	0.95	3.64	0.98	2.0424	1	0.153
Q23 Uni live up to potential	4.08	0.90	4.14	0.82	4.06	0.92	0.20267	1	0.6526
Q23 Ability to do well at uni	4.07	0.83	3.90	0.90	4.12	0.80	4.2224	1	0.03989*
Q24 Exams show uni potential	2.67	1.17	2.56	1.27	2.71	1.13	1.4375	1	0.2305
Q24 Need talent & work for uni	3.16	1.11	3.08	1.15	3.18	1.10	0.45943	1	0.4979
Q24 Uni means intelligent	2.77	1.10	2.67	1.15	2.80	1.09	1.0562	1	0.3041
Q23 Normal for people like me	3.57	1.08	3.18	1.15	3.68	1.04	12.399	1	0.0004297***
Q24 Most ppl like me go to uni	3.37	1.09	2.96	1.21	3.50	1.02	12.579	1	0.0003902***

*n=330 [a]=Kruskal-Wallis test *** p=0.00 **p=0.01 *p=0.05*

Table 37: Attitudes to study and College

College	All		*Arts*		*MVLS*		*Soc Sci*		*Sci & Eng*		KW test[a]		
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*			
No. of students	330	100	83	25	71	21	78	24	95	29			
	mean	*SD*	*mean*	*SD*	*mean*	*SD*	*mean*	*SD*	*mean*	*SD*	Chi-squared	df	p-value
Anticipated													
Q20 Interest in course	4.20	0.78	4.11	0.85	4.53	0.58	4.11	0.74	4.10	0.83	16.421	3	0.0009295***
Q21 Interest in course content	4.51	0.72	4.47	0.83	4.78	0.41	4.40	0.74	4.45	0.72	13.763	3	0.003245***
Q21 enjoyed subject at school	4.22	0.93	4.35	0.95	4.33	0.72	4.41	0.82	4.41	0.82	26.103	3	9.074e-06***
Q21 High grades in subject	4.26	0.90	4.26	1.02	4.34	0.68	3.92	1.03	4.52	0.73	20.093	3	0.0001624***
Q20 Help with career	4.25	0.81	3.89	0.96	4.60	0.62	4.31	0.65	4.26	0.80	29.471	3	1.783e-06***
Q20 Uni leads to well-paid job	3.84	0.87	3.46	0.91	3.93	0.87	4.00	0.75	3.97	0.84	22.11	3	6.189e-05***
Current views													
Q23 Interest in course/subject	4.38	0.79	4.33	0.89	4.63	0.48	4.31	0.78	4.30	0.86	7.8748	3	0.04867*
Q24 Worthwhile for own sake	3.87	1.00	3.94	0.99	3.91	1.01	3.95	0.92	3.73	1.06	3.0186	3	0.3888
Q23 Help with career	4.18	0.87	3.71	1.08	4.48	0.69	4.41	0.69	4.17	0.77	32.357	3	4.402e-07***
Q24 Well paid job	3.68	1.07	3.69	1.08	3.34	1.21	3.73	0.99	3.88	1.00	9.3405	3	0.02509*
Q24 Better life with degree	3.68	0.97	3.81	0.95	3.55	1.04	3.64	0.92	3.68	0.99	3.0139	3	0.3895
Q23 Uni live up to potential	4.08	0.90	3.94	1.04	4.088	0.82	4.23	0.77	4.08	0.92	3.0354	3	0.3862
Q23 Ability to do well at uni	4.07	0.83	3.96	0.93	4.07	0.78	4.14	0.70	4.09	0.88	1.3097	3	0.7268
Q24 Exams show uni potential	2.67	1.17	2.59	1.17	2.44	1.14	2.83	1.14	2.79	1.19	5.9779	3	0.1127
Q24 Need talent & work for uni	3.16	1.11	2.96	1.20	3.27	1.09	3.28	1.03	3.13	1.11	4.0527	3	0.2558
Q24 Uni means intelligent	2.77	1.10	2.84	1.15	2.78	1.16	2.88	0.99	2.59	1.09	3.5932	3	0.3089
Q23 Normal for people like me	3.57	1.08	3.44	1.14	3.38	1.19	3.51	1.06	3.85	0.93	8.7363	3	0.03301*
Q24 Most ppl like me go to uni	3.37	1.09	3.22	1.05	3.27	1.12	3.35	1.13	3.59	1.06	7.0243	3	0.07113

*n=330 [a]=Kruskal-Wallis test *** p=0.00 **p=0.01 *p=0.05*