

**Investigating Factors That Impact on Attitudes
Towards Self-Injury Using Quantitative Methods**

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2 Abstract

Background: Self-injury is a serious behaviour undertaken by those in distress. Attitudes to self-injury both with and without intent to end life is often studied in terms of professionals working in Accident and Emergency (A&E), with little attention paid to other professionals or non-professionals. There are several potential aspects to one's stigmatising attitudes, such as willingness to help individuals, perceived causes for behaviour, optimism for prognosis and general empathy experienced. Moreover, some research suggests stigmatising attitudes may be different depending on the severity of the self-injury, including the presence or absence of suicidal intent. The aim of this study was to investigate the impact on these factors of the form of self-injury and professional background.

Methods: Using an online survey methodology 436 respondents completed the survey. The attitudes of Mental Health Professionals, Primary Care Professionals and those not working in either of these settings ("Non-Professionals") were compared to explore their attitudes towards self-injury. Participants were randomly shown a vignette depicting either self-injury with or without intent to end life and reported their overall empathy, willingness to help, attributions for the behaviour and optimism for prognosis.

Results: On all measures Non-Professionals reported more negative attitudes than either healthcare professional group, who had similar attitudes towards self-injury. Both professional groups differed in their attitudes towards self-injury with and without suicidal intent on all measures except for optimism for prognosis. Across all professional groups a difference was seen between the optimism for personal and others' intervention.

Conclusions: The study outlined the current attitudes of different healthcare professionals and the general public towards self-injury both with and without intent to end life. Differences in attitudes were seen, showing the potential to improve the

stigmatising attitudes experienced by those who self-injure; methods were suggested by which to do this. Further research is needed in order to assess the clinical effectiveness of attempts to improve stigmatising attitudes.

3 My Epistemological Position

My epistemological position is close to that of a post-positivist or critical realist; I believe there exists a “truth”, and that is the aim of science and research to uncover that truth. However, I acknowledge that each of our individual relationships with and understanding of that truth is imperfect and probabilistic at best; I believe each individual will have a different, socially constructed view of the truth, giving them only one perspective, of many, of the actual “truth”.

I believe the truth is unobtainable, but I believe that science and research should strive instead to understand it as best we can, given our and other people's different viewpoints on it; our views on what is happening will always be coloured by our own lens through which we see the world in an inescapable and invisible way but that does not stop an actual truth from existing. By acknowledging and reflecting on one's own viewpoints, and being transparent about one's blind spots and social lens, when amalgamated with the views of others doing the same, our collective view of the actual truth can become clearer. It is through science I believe views may begin to converge and become more similar with increased understanding, but I acknowledge there will always be an element of social construction to this shared understanding that means the truth can never fully be reached.

In this vein, I would like to acknowledge my position as someone undertaking quantitative research, surrounded by qualitative researchers on my course, in a largely quantitative world. I believe in the value of both quantitative and qualitative research equally; I see the value of both in averaging out the views of many and of deeply focussing on the views of few. I think the interweaving of patterns, nuances, insights and understanding both can give us equally invaluable in different ways and aid us in giving different views of the real truth. I think our own view of the world will colour the way we conduct, produce and consume both types of research, and that this is important to be aware of.

Based on these beliefs the language I will use throughout this document will be of a positivist nature; although throughout I will consider and acknowledge the way my own viewpoint may have affected this research. I have chosen to write in this manner because I feel using positivist language, mixed with consideration of conflicting literature, best encapsulates science's ultimate but unachievable aim for uncovering the single truth. However, by pausing to acknowledge my own lens through which I am conducting this research I hope to also highlight the many different ways this research could have been viewed and interpreted.

Moreover, I am aware this thesis will be public and available for anyone who wishes to read it and that is likely to be read by individuals who hold positivist beliefs. In ideas borrowed from therapeutic concepts, I believe in the important of speaking in a language my audience will understand in order for them to take messages on board as fully as possible; for example, Andersen suggested systemic reflecting teams need to "respect the sameness" of a system and thus to talk of issues in "a not too unusual manner" (1987, p416). I believe that the difference of a philosophical change is too great for the majority of my readers to take on-board alongside helpful differences to clinical practice I anticipate I will be suggesting. Of the two, alternatives to positivism can be discussed elsewhere, whereas improving clinical outcomes will lose weight out of the current context. For this reason I believe a positivist language is the only language that should be used in this context. I feel changing the dominant perception from one of *the* truth to one of viewpoints-on-the-truth is a topic too vast for a piece of work of this size and nature, but is something to which I intend to return in a more appropriate forum.

4 Introduction

4.1 Outline of Introduction Section

This chapter will begin by giving definitions for the terms to be used throughout this piece of work: aiding understanding of the research.

The chapter will then give background information to the study, highlighting the similarities and differences between types of self-injury and giving an overview of the impact of self-injury in the UK. It will consider the impact of perceptions on those who self-injure, especially the perceptions of professionals, and then consider factors which may influence these perceptions. From this discussion, it will be argued that a better understanding of factors influencing perceptions about self-injury will allow for positive change in interactions between professionals and those who self-injure. It is argued this will contribute to more positive experiences for those who self-injure and potentially better outcomes.

Following from this argument, a systematic review of the current literature of factors affecting perceptions of self-injury will be presented including a description of the precise literature search strategy used. This literature review will conclude that there are gaps in the understanding of the differences and similarities in the way self-injury with and without intent to end life is viewed, the perceived causes of behaviour, factors which impact help-giving behaviour and the effect of different professional groups, specifically Primary Care Practitioners and the general public, on perceptions of self-injury.

This leads to the aims of the current study of identifying relationship of key factors with perceptions of self-injury. Finally, the impact of my own views on the topics discussed will be presented.

4.2 Key Concepts Defined

There is a wide range of terminology used throughout the literature to describe intentionally inflicting various degrees of physical injury to one's own body. The terms self-harm, self-injury, self-mutilation, deliberate self-harm, self-inflicted violence, self-injurious behavior, non-suicidal self-injury, suicide attempts, suicidal behavior, parasuicide and others have all been used; there is no universally agreed language used to discuss suicide and non-suicidal self-injuring behaviours (e.g. Nock, Wedig, Janis & Deliberto, 2008; Silverman, 2006; Silverman, Berman, Sanddal, O'Carroll & Joiner, 2007a; Silverman, Berman, Sanddal, O'Carroll & Joiner, Jr, 2007b; Nock, & Favazza, 2009). In order to ease the understanding of the current study, key terms will be defined below.

4.2.1 Non-suicidal self-injury (NSSI)

Some people intentionally inflict physical harm on their own bodies with no intent to end their own life. The Diagnostic and Statistical Manual of Mental Disorders (Fifth ed. [DSM-V]; American Psychiatric Association, [APA], 2013) defines such "nonsuicidal self-injury" as behaviour undertaken "1. To obtain relief from a negative feeling or cognitive state. 2. To resolve an interpersonal difficulty. 3. To induce a positive feeling state." (p803).

It is noted that NSSI is the most significant predictor of later suicide attempts (Franklin et al., 2017). In order to make clear the intentional physical harm but lack of intent for the end of life when referring to these behaviours in the current study, the term non-suicidal self-injury, or NSSI, has been chosen. This follows the usage of others (e.g., Plener, Libal, Keller, Fegert & Muehlenkamp, 2009; Selby, Bender, Gordon, Nock & Joiner, 2012).

It is noted that in the literature behaviours such as skin picking or stereotypic self-injury could be categorised as NSSI behaviours (e.g., Wilhelm, et al., 1999; Duncan, Matson, Bamburg, Cherry & Buckley, 1999; Large, Babidge, Andrews, Storey &

Nielssen, 2009). It is felt by the current author that such behaviour should not be included in the definition of NSSI for the purpose of this project due to the primary motivating factors of these behaviours being normally habitual, social or other similar reasons (APA, 2013). More socially acceptable forms of behaviour, such as body piercing, has also at times be considered for inclusion as a NSSI behaviour (e.g., Clarke & Whittaker 1998), but will not be included in the definition in the present study for similar reasons and due to a lack of clinical relevance.

4.2.2 Suicidal behaviours

The DSM-V (APA, 2013) defines suicidal behaviour as “a behaviour that the individual has undertaken with at least some intent to die” (p801) and Silverman et al. (2007a) suggest any behaviour undertaken with some intent to end life (“non-zero” intent) should be classed as suicidal behaviours. The DSM-V draws the distinction between suicidal ideation and behaviour with suicidal intent; this study is concerned with suicidal behaviour. The terminology “suicidal behaviour(s)” in this document shall be used to refer to behaviours with specific intent to end the life of the individual, regardless of the level of intent or the associated risk of the behaviour.

It is noted that some behaviours may be life threatening, but are not considered suicidal behaviours; examples include extreme sports or careless driving. This is due to the absence of the express wish to end life when undertaking these behaviours.

4.2.3 Self-injury and self-injurious behaviours

Self-injury or self-injurious behaviour (SIB) will be used as umbrella terms, referring to any behaviours that physically harm the self regardless of intent to end life. The usage of this definition follows Nock, Wedig, Janis and Deliberto (2008).

4.3 Background

In this section, background information will be presented which helped identify the inclusion and exclusion criteria for the formal literature.

4.3.1 Why conduct research into self-injury?

SIB is a concerning issue. Over and above the obvious risk to life and distress experienced of those who feel compelled to undertake such behaviour, it is a demand on scarce National Health Service (NHS) resources. The National Institute for Health and Clinical Excellence (NICE, 2011a) estimates the cost to the NHS of long and short-term psychological interventions for SIB to be approximately £52 million per year. The costs to other areas of the NHS, such as A&E departments, are in addition to this.

Individuals undertaking SIB are unfortunately not a rare occurrence in the UK. In 2010, the suicide rate in the UK was 17 per 100,000 in the population (Office National Statistics, 2012). According to a recent House of Commons briefing paper, NSSI has a presentation rate at A&E departments in the UK of 0.6%, or 600 per 100,000 (Baker, 2017) and this figure appears to be on the increase (Bacino, 2014), although some studies dispute this (e.g. Bergen, Hawton, Waters, Cooper & Kapur, 2010). It is thought around 10% of young people undertake NSSI behaviour (e.g., Doyle, Treacy & Sheridan, 2015; Skegg, 2005), with NSSI being more common in females than males and NSSI often continuing into adulthood (e.g. Hawton, Rodham, Evans & Weatherall, 2002).

Several studies have suggested that actual figures for those who undertake self-injurious behaviour may be higher than they appear as many individuals in the UK who self-injure may not present themselves to professionals (e.g. Hawton et al. 2002; Turp, 1999). Moreover, those who present to emergency departments are not necessarily passed onto primary care or mental health services and may only be seen by emergency care professionals (NICE, 2011b).

Indeed, the DSM-V (APA, 2013) notes, “the great majority of individuals who engage in nonsuicidal self-injury do not seek clinical attention. It is not known if this reflects frequency of engagement in the disorder, because accurate reporting is seen as stigmatising, or because the behaviours are experienced positively by the individual who engages in them” (p804). As such, the figures of actual SIB, particularly NSSI, are likely to be higher than recorded figures.

This prevalence of SIB in the UK is concerning considering the distress of those who feel compelled to undertake SIB and their families and social networks, the strain on NHS resources and the potentially life-threatening nature of some of the behaviours. The potential under-reporting of SIB is more startling, as it implies those who would benefit from professional help are not seeking it. A clear understanding and thus amendment of the factors that impact on help-giving behaviour would directly aid those who seek help. A better understanding would allow clinicians and policy-makers to implement changes that improve help-giving, thus reducing client distress and potentially easing the burden on A&E departments.

4.3.2 NSSI and suicidal behaviours; similarities and differences

There is debate in the current literature as to the extent to which NSSI and suicidal behaviours overlap, although surprisingly few studies have investigated this (Wichstrøm, 2009). This is a critical issue considering the fact that the behaviours NSSI is the most significant predictor of later suicide attempts (Franklin et al., 2017) and conversely that most people who have undertaken NSSI will attempt suicide at some point in their lives (Muehlenkamp, 2014). Muehlenkamp (2014) presents a comprehensive overview of thinking in this area, which notes differences between the two behaviours in many areas. These are described in detail in Table 4.1. She notes the key difference often used in the literature is that of intent and function of the behaviour, and notes the common usage of the distinction of “zero” and “non-zero” intent to end life first proposed by O’Carroll et al. (1996, see also Silverman et al., 2007a). Muehlenkamp notes that research or clinical practice requiring distinction based on intent requires either self-report at a time of extreme distress, retrospective

self-report, or outsider reporting, all of which are not ideal for the validity of such assertions.

Table 4.1: Key similarities and differences between NSSI and suicidal behaviours, based Muehlenkamp's (2014) summary

| Area of consideration | Differences between the two SIB | | Similarities between the two SIB |
|--|--|--|--|
| | NSSI | Suicidal Behaviour | |
| Intent and function | <ul style="list-style-type: none"> • <i>No intent to end life</i> • <i>Attraction to life</i> • <i>Aim is to alter conscious state</i> • <i>Primary motivation is often to regulate emotions</i> • <i>Strength of wish to escape unpleasant feelings weaker</i> | <ul style="list-style-type: none"> • <i>Specific intent to end life</i> • <i>Repulsion of life</i> • <i>Aim is to terminate consciousness</i> • <i>Primary motivation is to alleviate burden on others</i> • <i>Strength of wish to escape unpleasant feelings stronger</i> | <ul style="list-style-type: none"> • <i>Both are motivated by multiple factors per episode</i> • <i>Both broadly motivated by regulation of intrapersonal states and environments</i> • <i>Often primarily to reduce or induce certain feelings</i> |
| Course and prevalence rates | <ul style="list-style-type: none"> • <i>Slightly earlier age of onset (13)</i> • <i>Rates decrease with age</i> • <i>Higher prevalence rates</i> • <i>Less cultural variation in prevalence</i> | <ul style="list-style-type: none"> • <i>Slightly later age of onset (16)</i> • <i>Rates often correlate with age</i> • <i>Lower prevalence rates</i> • <i>More variation in prevalence between countries</i> | <ul style="list-style-type: none"> • <i>Peaks in prevalence during adolescence and young adulthood</i> |
| Methods, lethality and frequency | <ul style="list-style-type: none"> • <i>Less lethal behaviours, normally with minimal damage</i> • <i>Cutting most common form of injury</i> • <i>Several methods often used</i> • <i>High frequency of repeat behaviour</i> | <ul style="list-style-type: none"> • <i>Highly lethal methods used</i> • <i>Cutting least common form of injury</i> • <i>The same method normally used</i> • <i>Low frequency of repeat behaviour</i> | NA |
| Race, ethnicity and socioeconomic status | <ul style="list-style-type: none"> • <i>Impact of SES not often considered, but some evidence suggests both high and low SES is a risk factor</i> | <ul style="list-style-type: none"> • <i>Low SES is a risk factor</i> | <ul style="list-style-type: none"> • <i>Some evidence to suggest Caucasians more likely to undertake both forms of SIB</i> |

| | | | |
|-------------------------------|---|--|---|
| Sexual orientation and gender | <ul style="list-style-type: none"> • <i>Impact of gender is unclear – females may or may not have a higher preference</i> | <ul style="list-style-type: none"> • <i>Females more likely to undertake suicidal behaviour, males more likely to die from suicide</i> | <ul style="list-style-type: none"> • <i>Both SIB common and possibly higher in homosexual and bisexual persons</i> • <i>Risk for both behaviours peaks during “coming-out” process, with greater risks for males than females</i> • <i>Methods used for both SIB vary between genders</i> |
| Psychosocial differences | <ul style="list-style-type: none"> • <i>Slightly reduced severity of pathology/ dysfunction</i> | <ul style="list-style-type: none"> • <i>Slightly increased severity of pathology/ dysfunction</i> | <ul style="list-style-type: none"> • <i>Similar risk factors in terms of psychiatric profiles, abuse histories/family environments, personality and cognitive features</i> |
| Psychiatric diagnoses | <ul style="list-style-type: none"> • <i>Can be seen to occur in the absence of a psychiatric diagnosis</i> • <i>Weaker correlations between psychiatric diagnoses and the behaviour</i> | <ul style="list-style-type: none"> • <i>Mostly only seen in the presence of a psychiatric diagnosis</i> • <i>Stronger correlations between psychiatric diagnoses and the behaviour</i> | <ul style="list-style-type: none"> • <i>Both share psychiatric diagnosis as a risk factor for the behaviour</i> • <i>Conversely, in the populations of both SIB a diagnosis is more common than in those who do not self-injure</i> • <i>Both SIB share psychiatric diagnoses linked with the behaviours</i> |
| Abuse and family environment | <ul style="list-style-type: none"> • <i>Childhood sexual abuse a weaker predictor of the behaviour, and may be mediated by other factors. Physical abuse is a stronger predictor</i> | <ul style="list-style-type: none"> • <i>Childhood abuse, especially sexual, a significant risk factor</i> | <ul style="list-style-type: none"> • <i>Negative, chaotic or invalidating family environment a risk factor for both (e.g., poor attachment, poor family functioning, parental criticism)</i> |

| | | | |
|----------------------------|--|---|---|
| Impulsivity and aggression | <ul style="list-style-type: none"> • Behaviour more likely to be unplanned • Impulsivity more proximal risk factor than in suicidal behaviour | <ul style="list-style-type: none"> • Planning more common in more lethal forms of behaviour • Impulsivity a risk factor, but tends to be a more distal risk factor than in NSSI | <ul style="list-style-type: none"> • Both strong relationships with impulsivity and aggression |
| Problem solving abilities | <ul style="list-style-type: none"> • Individuals show difficulty in choosing and their perceived implementation of problem-solving techniques – using less social support and more avoidant methods | <ul style="list-style-type: none"> • Tendency for individuals to display difficulties in problem solving and flexible thinking abilities | NA |
| Feelings of hopelessness | <ul style="list-style-type: none"> • Less likely to show hopelessness and instead perceive choices and change as possible | <ul style="list-style-type: none"> • More likely to show hopelessness, especially a lack of positive future thinking | NA |

Muehlenkamp also notes that the two behaviours are closely correlated and that further research is needed to better understand the relationship between the two behaviours. It is of note that despite Muehlenkamp's thorough and comprehensive account of the similarities and differences of the two behaviours presented, no discussion is given to the similarities and differences between the way these two behaviours are viewed by others or how much each is accepted in society or by those working with SIB. It may be that perceptions of differences may be exacerbated or minimised depending on contextual factors. Both Wichstrøm (2009) and Muehlenkamp (2014) have noted the suggestion that NSSI and suicidal behaviours exist on a continuum, with distinct aetiology for each.

In the DSM-V (APA, 2013), NSSI and suicidal behaviour are listed separately in the section entitled "emerging measures and models"; not being diagnoses for clinical use themselves. It is suggested these "emerging diagnoses" (named "Nonsuicidal Self-Injury" and "Suicidal Behaviour Disorder", respectively) require further research. Their inclusion in this section reflects the sparse knowledgebase about the understanding and aetiology of these behaviours, although their separate behaviours are noted.

In the section entitled "Factors influencing health status and contact with health services", the International Statistical Classification of Diseases and Related Health Problems 10, ([ICD-10]; World Health Organisation [WHO], 1992) lists as a factor "Personal History of Self-Harm, including a Suicide Attempt". It also does not provide diagnostic criteria for SIB and suggests this information "should not be used for international comparisons or primary mortality coding" (p1085). The inclusion of both behaviours under the same entry shows the behaviours are not thought of as vastly different from each other, although again the lack certainty around the behaviours in not being suitable for use in international comparisons and primary mortality coding portrays the lack of certainty around their aetiology.

Despite not being diagnosable conditions in themselves in either the DSM-V (APA, 2013) or the ICD-10 (WHO, 1992), it is interesting to note the position of NICE on

the two forms of SIB, with and without intent to end life; NSSI guidelines were published in 2004 with no reference to suicide (NICE, 2004), while guidelines for *Preventing Suicide in Community and Custodial Setting* are being developed, due for publication in 2018 (NICE, 2016). It is noted, however, that until these are published the extent to which NSSI and suicidal behaviour are viewed differently is not clear and moreover no other NICE guidelines for suicidal behaviour exist: perhaps suggesting that the guidelines for NSSI were previously thought to suffice.

Therefore, there appears to be confusion as to the extent to which a continuum exists between these two behaviours, or indeed if a continuum does exist the nature of this relationship. Further clarification on the similarities and differences of NSSI and suicidal behaviours, including how clinicians working with the two behaviours perceive and react to them, would be helpful in terms of clinical work as well as further research.

4.3.3 Perceptions of self-injury

Considering the extent to which NSSI and suicidal behaviour are viewed as similar or different will have an impact on how they are perceived. Others' perceptions of behaviours feed into stigma faced by the individual undertaking the behaviours. Rüschi, Angermeyer and Corrigan (2005) proposed this was by three components of stigmatising attitudes: stereotype (cognitive), prejudice (emotional) and behaviour (behavioural). However, stigma is a complex and poorly-defined concept, although definitions appear to relate to a social distancing or difference, based on assumptions, stereotypes or reductions which are treated negatively or with discrimination (see Link & Phelan, 2001, for a brief review). As Gross (2010, cited in Shaw and Sandy, 2016) notes, attitudes that compose stigma provide "...ready made reactions to and interpretations of events..." (p367).

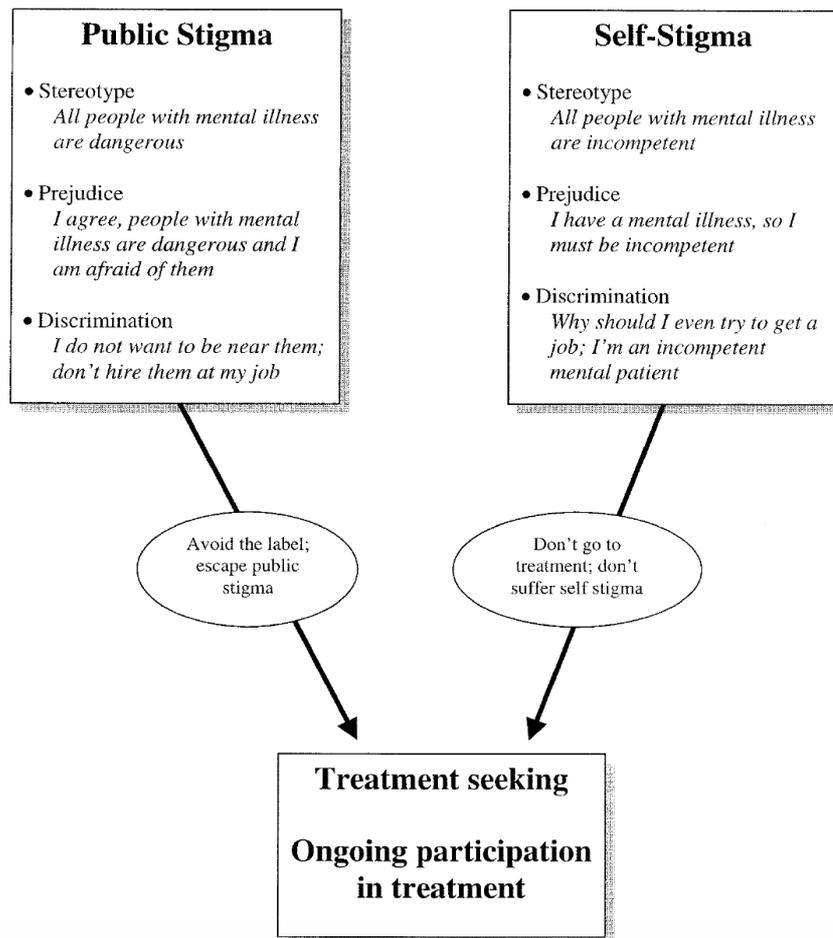
Those with a mental health problem, including those who undertake self-injurious behaviour, often face stigmatising attitudes and shame from the general population (Corrigan, 2004). Stigmatising attitudes create extra suffering for those with a mental

health condition; not only are they experiencing the symptoms of a mental health condition, they are also then experiencing stigmatising attitudes from the public and from themselves, via internalised stigmatising attitudes directed at the self, or “self-stigma” (see Rüsç et al., 2005; Corrigan, 2004). Stigmatising attitudes from the public and from the self have been seen to affect social outcomes and life satisfaction (e.g. Markowitz, 1998).

Corrigan (2004) described the ways both public and self-stigmatising attitudes can affect help-seeking behaviour; this can be seen in Figure 4.1. Others have also noted the negative effects of both public and self-stigmatising attitudes on help-seeking behaviours (e.g., Barney, Griffiths, Jorm & Christensen, 2006; Schomerus & Angermeyer, 2008; Clement et al., 2015), although it is noted differences are seen in the way stigmatising attitudes are experienced within different mental health issues (Angermeyer & Matschinger, 2003). If stigmatising attitudes reduce the likelihood of seeking help, this will obviously delay and thus impact on attempts to intervene quickly with mental health issues.

Figure 4.1: Corrigan's (2004) model suggesting the methods by which stigmatising attitudes can affect help-seeking behaviour

Two Factors That May Influence Whether a Person Who Might Benefit From Mental Health Treatment Actually Seeks It



Stigmatising attitudes are seen not just to affect the help-seeking behaviour; they also negatively impact help-giving behaviour from others when they act towards a stigmatised individual in accordance with the stigmatising beliefs they hold (Corrigan, 2004). This relationship is moderated by the mental health symptoms individuals exhibit, including those of suicidal behaviour (Jorm, Blewitt, Griffiths, Kitchener & Parslow, 2005). As stigmatising attitudes influences behavioural, via behavioural reactions the stigmatising reactions from others have the potential to include the withholding of help (Rüsch et al., 2005; Corrigan, 2000, Link & Phelan, 2001). This has major implications if stigmatising beliefs are held by healthcare professionals; in order to access help individuals who self-injure would need to overcome their own

self-stigmatising beliefs, public stigmatising attitudes and then the stigmatising perceptions and subsequent behaviours of those from whom they seek help.

Indeed, stigmatising attitudes have been seen in the views of health service staff (e.g., Gold, Andrew, Goldman & Schwenk, 2016), including towards those who self-injure (e.g. Platt & Salter, 1987, cited in Timson, Priest & Clark-Carter, 2012; McAllister, Creedy, Moyle & Farrugia, 2002; Alston & Robinson, 1992). Although it is noted that not all views held by health care staff are seen to be negative (see Sidley & Renton, 1996), despite NICE (2011b) guidance calling for a non-judgemental approach to self-injuring individuals, stigmatising attitudes and thus behaviours towards those who self-injure may still exist in healthcare professionals.

Several theories have been proposed to explain the methods through which stigmatising attitudes influence behaviour. It has been suggested that the behavioural are influenced by stigmatising attitudes through the attributions others hold for individuals' behaviour; Weiner's (1980, 1985) model of helping behaviour suggests that the locus and perceived controllability of the behaviour's cause affect the likelihood to offer help to another individual. Others suggest the emotional reaction one experiences to the individual requiring help also mediate the helping behaviour (e.g., Corrigan, 2000, pity compared to anger; Yamauchi & Lee, 1999, anger compared to sympathy; Meyer & Mulherin, 1980, anger compared to concern and empathy). It is of note that none of these studies relate to the emotional reaction and subsequent helping behaviour of individuals towards those who self-injure. This suggests a gap in current understanding pertaining to the mechanisms by which perceptions of behavioural attributions affect help-giving in SIB.

Corrigan and Penn (1999) identified three methods for reducing stigmatising attitudes: *protest* against the stigmatising attitudes, *education* to reduce negative perceptions and *contact* with stigmatised individuals. There is some evidence *protest* and *contact* approaches may be helpful, but according to Penn and Couture's (2002) commentary the effect is small if not unhelpful (protesting against the stigmatising attitudes) or based on methodologically flawed research (contact with the stigmatised group). A

meta-analysis which summarised the evidence base for interventions to reduce or eliminate stigmatising attitudes found support for positive effects of service-user interventions (Griffiths, Carron-Arthur, Parsons & Reid, 2014). However other research supports the view that social contact may not be helpful in that it only reduces stigmatising attitudes in the short-term and does not decrease stigmatising attitudes in the long run (Mehta et al., 2015). Indeed, only 18% of articles in the Griffiths et al. meta-analysis included long-term follow-up data of 6 months or more.

Conversely, education and knowledge to reduce negative perceptions is seen to decrease stigmatising attitudes (see Penn & Couture, 2002; Rüsçh et al., 2005), and indeed, specifically with NSSI it has been seen that training delivered across a range of disciplines can lead to more positive attitudes towards NSSI, an improved self-efficacy in caring for individuals who commit NSSI and a greater closeness with such individuals (Kool, van Meijel, Koekkoek, van der Bijl & Kerkhof, 2014). With stigmatising attitudes generally, the Griffiths et al. meta-analysis also found positive effects of educational interventions to reduce stigmatising attitudes, although the effects may only be seen in the short term (Friedrich, Evans-Lacko, London, Rhydderch, Henderson & Thornicroft, 2013). Indeed, despite promising results in the short-term, large-scale stigmatising attitude-reduction campaigns have not achieved the desired effect (Henderson & Thornicroft, 2013; Smith, 2013); this suggests alternatives ways to challenge the mechanisms by which stigmatising attitudes operate are required. Moreover, the exact content of education programs needed to optimise effectiveness is not clear; Rüsçh et al. (2005) noted, “further empirical work is necessary to find out what strategy and content is best to reduce stigmatizing attitudes and behavior in what target group [sic]” (p536).

Overall, it is not clear the extent to which training is helpful in reducing the negative perceptions involved in stigmatising attitudes, or on what aspects such training should focus. A better understanding of the negative perceptions which lead to stigmatising attitudes and subsequently affecting change in this area through training could lead to a reduction in stigmatising attitudes, and ultimately societal stigma, thereby improving help-seeking experiences for individuals who self-injure.

4.3.4 Different professionals

Considering the impact stigmatising attitudes can have on behaviour, it is of note that although individuals who self-injure could present to a range of different professionals (Turp, 1999), many studies have focussed on the attitudes of A&E staff towards SIB (e.g. Crawford, Geraghty, Street & Simonoff, 2003; Mackay & Barrowclough, 2005; Saunders et al., 2012). While self-injuring individuals do consider medical personnel the least helpful healthcare contact (Warm, Murray and Fox, 2002) it may be helpful to understand the perceptions of a wider range of professionals who may provide care for SIB in order to understand and ultimately impact on the stigmatising attitudes faced by those who self-injure. This could be beneficial in elucidating the relationship between the factors that make different professional backgrounds more or less likely to hold stigmatising views towards those who self-injure.

Considering individuals who take their own lives are more likely to present to Primary Care Professionals than Mental Health Professionals prior to their suicide (Luoma, Martin & Pearson, 2002) a comparison of the views of these professionals could be beneficial. The attitudes of professionals such as General Practitioners ([GPs]; e.g. Carr et al., 2004; Currin, Waller & Schmidt, 2009), Mental Health Professionals (e.g. Carr et al., 2004; Nordt, Rössler & Lauber, 2006) and the public (e.g. Jorm, Korten, Jacomb, Christensen & Henderson, 1998; Pescosolido et al., 2010) to other mental health conditions have been considered, but there is an lack of consideration of these professionals' views towards SIB. This suggests investigating the views of these professionals to SIB is both an important and viable avenue for research.

4.4 Summary of background research

In conclusion, SIB is a sign of severe distress, using many NHS resources and causing frustration for those working with individuals who undertake such behaviour. The different behaviours that are encapsulated in the umbrella term SIB are vast and while there are similarities between them, the extent of any differences is not well

understood. Further to this, the methods by which perceptions of and stigmatising attitudes towards SIB impact on help-giving behaviours are not clearly defined. Previous research has mostly focused on the perceptions of medical professionals in A&E contexts towards SIB, and as such the perceptions of other healthcare professionals and the extent to which these views reflect those of the general public are not well understood. Understanding the views of other professionals could highlight methods by which to reduce stigmatising attitudes and improve help-seeking experiences for those who self-injure.

Therefore, it appears useful avenues for further research include the perceptions of NSSI and suicidal behaviour, factors that affect these perceptions and the extent of the similarities and differences between perceptions of these two behaviours.

4.5 Literature Review

In order to conduct further research into the factors that affect perceptions of, and thus stigmatising attitudes towards, SIB a comprehensive literature review was undertaken. This would give a full picture of the current understanding as well as highlight gaps in current knowledge for further consideration. The search strategy for this literature search will be presented below, followed by considerations made when reading the literature. A discussion around the articles that emerged from the search will then follow.

4.5.1 Search strategy

An in-depth literature review was conducted using the databases PsychInfo, PubMed and Scopus on 15th December 2016. Due to the existence of a systematic review article published in 2012 (Saunders, Hawton, Fortune & Farrell; discussed further below), which included articles up to July 2011, articles were searched from 2011 to the date of the search. The search terms used can be seen in Appendix A, which broadly related to attitudes in the UK towards any type of SIB, excluding self-injuring acts related to learning disabilities, brain injury or assisted suicide. Due to

considerable cultural differences that Eskin et al. (2016) saw in attitudes to SIB even within the same cultural zone (Inglehart & Baker, 2000, in Eskin et al., 2016), the use of studies based only in the UK was considered of crucial importance to the present review.

In total this searching produced 230 articles; of these 209 were excluded before full-text review based on the criteria seen in Table 4.2, such as the location and focus of the study. This process gave a total of 21 articles to be read in full, which can be seen in Appendix B. A further 6 studies were excluded after full-text screening, leaving a total of 15 studies to be discussed here. Of these 15, five were review articles, including the Saunders et al. review article that formed the basis of the date parameters for the search. The full review process is shown in diagrammatic form in Figure 4.2

All literature returned by the literature review was considered using Critical Appraisal Skills Program (CASP, 2017a, 2017b) checklists. The results of this quality appraisal process can be seen in Appendix C.

Table 4.2: Inclusion and exclusion criteria for papers used in the present study

| Inclusion Criteria | Exclusion Criteria |
|--|--|
| <ul style="list-style-type: none">Used UK participants (in whole or part) | <ul style="list-style-type: none">Used only none-UK participants |
| <ul style="list-style-type: none">Participants were healthcare professionals or people who had no explicit personal connect to SIB | <ul style="list-style-type: none">Participants were people who undertake self-injuring behaviour, who were at risk of self-injuring behaviour or those recently bereaved by suicide |
| <ul style="list-style-type: none">Study was not considering interventions for reducing SIB | <ul style="list-style-type: none">Study was evaluating an intervention for self-injuring behaviours or a training programme for professionals |
| <ul style="list-style-type: none">Study was not considering neurological factors or pharmacology | <ul style="list-style-type: none">Study was considering neurological factors or pharmacology |
| <ul style="list-style-type: none">Study was concerned with attitudes towards SIB | <ul style="list-style-type: none">Study was investigating causes of SIB (including others' perceptions of causes)Study was concerned with attitudes towards mental ill-health generallyStudy was concerned with attitudes towards self-injuring behaviours in specific, non-healthcare populations, e.g., religious leadersStudy was considering risk factors for SIB or assessing the level of risk in individualsStudy was creating or validating questionnaires to use with individuals who undertake SIB or professionals who work with themStudy was considering quality of care given to people who undertake SIB |
| <ul style="list-style-type: none">Peer-reviewed literature | <ul style="list-style-type: none">Book chapters, letters or editorials |

Figure 4.2: The study review and selection process shown in diagrammatic form



Upon reviewing the reference lists of the articles in this literature review, it became apparent that three articles had not been included in the present review of the literature that appeared relevant. For this reason, Law, Rostill-Brookes and Goodman (2009), Wheatley and Austin-Payne (2009) and Mackay and Barrowclough (2005) were also reviewed using the CASP criteria; this can be seen in Appendix D. Despite being outside the date parameters, they were included as it was felt they either had not been included in the Saunders et al. review (Law et al., 2009; Wheatley & Austin-Payne, 2009) or else they were, but were not considered in the light of topic areas it became apparent from other articles to which they were relevant (Mackay & Barrowclough, 2005). They will be discussed in this literature review, as appropriate.

Upon nearing conclusion of this project, a further search of the literature was conducted covering the period between the previous literature search and the 10th May, 2017. After screening for relevance and duplicates, using the criteria as above, three further articles were identified for full-article screening. Of these, one was found to be relevant and subsequently added to the review of the literature (below). These three articles are detailed in Appendix E.

4.5.2 Interpreting the review of the literature findings

When reviewing this literature, it is of note that several of the studies considered only forensic settings. The unique nature of these settings may mean the results are un-generalisable to other settings. Equally, a significant proportion of the research in this review considered the attitudes of those working specifically with children; it is unclear to what extent attitudes towards adults and children differ (although there is some evidence that professionals' attitudes change with the age of the individual who undertakes SIB; Cleaver, Meerabeau and Maras, 2014). Additionally, the views of medical staff are relatively well represented; however, the views of non-medical staff or indeed the general public is less well represented in these articles. While these factors might limit generalisability, it is of note that these are the only articles investigating attitudes to SIB in the last six years that use a UK sample. As noted above, considering Eskin et al. (2016) saw considerable cross-national variation in

attitudes to SIB even within the same cultural zone (Inglehart & Baker, 2000, in Eskin et al., 2016) the use of a uniquely UK sample in this literature review is potentially of critical importance, over and above potential differences between settings or staff-groups.

While it is of note that some of the studies discussed here are focussed on only one of the types of SIB, the present review is largely amalgamating them under the general term SIB. This will help minimise the effect of unclear definitions in the existing literature where studies often do not distinguish between NSSI and suicidal behaviours, or else do not define their terminology for these behaviours. Considering all the results under the umbrella-term SIB in the present review may be acceptable given the similarities in the behaviours, however it is of note the similarities and differences between the behaviours are not fully understood and that not all of the research presented here may apply to both forms of SIB.

4.5.3 The review article on which the parameters of the literature review are based

The literature review conducted here included literature from 2011 to the time of searching (December 2016). This was due to the existence of the Saunders, Hawton, Fortune & Farrell (2012) systematic review that considered the attitudes and knowledge of clinical professionals towards individuals who self-injure, including factors which impact on those attitudes. Due to the importance of the Saunders et al. article in deciding the date parameters and thus extent of the current search, it will be summarised below, beginning with a summary of the quality of the study.

The CASP systemic review checklist (CASP, 2017a) for this article can also be seen in full in Appendix F. Appraising this review article using this checklist shows that the review is valid and relevant to the current study. Importantly, articles relating to both NSSI and suicidal behaviour were included in the paper. Although it was not clear to what extent all possible attempts had been made to find all relevant articles by other methods, six bibliographic databases were thoroughly searched. Both quantitative and

qualitative research was included and rated for quality using two methods and researcher consensus. It is noted that no papers were excluded on the basis of quality, which may have biased the results, although the authors note a “generally reasonably high” (p206) level of quality in the studies included. The review included 73 studies, 36 of which related to attitudes from the UK.

To summarise the findings, the review noted that the majority of work in this area had been conducted with nursing staff as oppose to doctors, and mostly in general hospital or A&E settings. Doctors and males were seen to have more negative attitudes than nurses or females, although a strong gender-role association was seen which mostly had not been controlled for. Reports of frustration and hopelessness were noted when working with this client group, with some evidence for feelings of both sympathy and hostility. Overall there was “strong evidence of negative staff attitudes” (p214), however, more sympathy was seen in several studies towards those who undertook more serious self-injuring or suicidal behaviour. Despite recent changes in awareness and guidance at the time the review article was written, the review found little difference in the attitudes of clinical staff regardless of when the studies were conducted.

The conclusions of this review article will now be considered alongside the remaining 14 articles in the present review of the literature. This discussion will be organised by relevant topic areas.

4.5.4 General attitudes

The present literature review showed that, generally, attitudes to SIB were not positive; professionals see those who self-injure as time-wasters, attention-seekers, or frustrating to work with (e.g., Cleaver, 2014; Hodgson, 2016; Marzano, Adler & Ciclitira, 2013; Ramluggun, 2013; Rees, Rapport & Snooks, 2015; Saunders et al., 2012; Timson, Priest & Clark-Carter, 2012; Worrall & Jeffery, 2016). Marzano et al.’s study went beyond description to ascribe the negative reactions of professionals as being due to being short-staffed, over-stretched and under-resourced. They also

hypothesized that being accountable for a client's SIB while already stretched may add to the stress professionals experienced, although not all of the participants in the study expressed feeling stress. Passing the responsibility for care of individuals who self-injure to someone else eased the sense of responsibility of the prison staff in this study, but also made them feel more helpless in dealing with these behaviours. Despite this, it is noted that Shaw and Sandy (2016) stated the "claims of negative attitudes should be treated with caution since there is limited evidence to support them" (p. 407) and there was also disagreement as to if the nature of negative attitudes are changing and becoming more benign (Cleaver, 2014) or not (Saunders et al., 2012), although this particular comparison is comparing attitudes to young person's SIB with SIB across ages. An understanding of the current views of healthcare professionals would therefore help in clarifying the general attitudes professionals hold towards those who self-injure. The present review also highlighted the importance of addressing these negative views due to the negative impact they can have on individuals' care (Hodgson, 2015; Shaw & Sandy, 2016; Timson, Priest & Clark-Carter, 2012).

The potential impact of emotional reactions to SIB was also noted; Newton and Bale (2012) saw high levels of both sympathy for and blame of self-injuring individuals within their study. They noted a better understanding of the sympathy/blame relationship could have implications for understanding and addressing professionals' negative views of SIB. Indeed, sympathy has been considered important to several researchers when investigating attitudes to SIB (e.g. Law et al., 2009; Saunders et al., 2012; Wheatley & Austin-Payne, 2009). However research into the impact of sympathy on help-giving behavior directly has been limited: considering instead help-giving behaviour's links to other emotions such as pity (Wheatley & Austin-Payne) or to the type of SIB (Law et al.). Considering the emerging idea that a better understanding is needed of the emotional reaction of professionals to those who self-injure, further research elucidating this relationship may prove beneficial.

The benefits of training on improving attitudes were noted in many studies (e.g., Cleaver, 2014; Hodgson, 2016; Rees, Rapport, Thomas, John & Snooks, 2014;

Saunders et al., 2012; Shaw & Sandy, 2016), although some participants in Ramluggun's (2013) study suggested that the benefits of training might be affected by individuals' pre-existing beliefs; factors such as religious belief are seen to correlate with attitudes towards suicide (Nelson, Collins, Foster & Cooper, 2013). Knowing training experience and pre-existing beliefs may therefore be needed when researching in this area.

It therefore appears that general attitudes towards those who undertake SIB are not positive, although the extent to which this is true in more recent years is unclear. Any negative views may be exacerbated by lack of resources and stressful work environments. There appears to be a link between the emotional reactions of potential helpers and their attitudes to those who self-injure, which might be aided by training experiences and understanding. Further research is required in these areas to better understand ways to positively influence these negative attitudes.

4.5.5 Different professional groups

A difference in attitudes between professional groups was seen (e.g., Law et al., 2009; Saunders et al., 2012). For example, Ramluggun (2013) saw that nurses and prison officers within the same custodial setting saw SIB differently and as such had different ideas about how it should be managed. Worrall and Jeffery (2016) saw differences between medically and non-medically trained staff's views of care that should be offered to those who self-injure within a burns and plastic surgery setting medical staff feeling more uncomfortable, helpless and less motivated to help. Saunders et al. noted that studies generally compared doctors' views to those of nurses and noted differences between the staff groups, however, there was evidence of potentially more positive reactions in those with a mental health background, including psychiatrists, compared to doctors and nurses more generally. Law et al. (2009) saw differences between nursing and clinical psychology students' views of SIB compared to medical or physics students, who felt more anger about SIB with similar pattern in difference in willingness to help. They felt this was due to the level of familiarity each group had with SIB. Similarly, Timson, Priest and Clark-Carter

(2012) saw in their experimental study that Child and Adolescent Mental Health Service (CAMHS) staff overall were more effective and had more knowledge about SIB than both A&E professionals and teachers. A&E professionals were the most negative and the least effective of the three groups, while teachers knew the least about SIB. Although only observing views towards young people who self-injure, not all studies saw a difference between the attitudes of occupational groups towards SIB in children (Cleaver, Meerabeau & Maras, 2014).

Newton and Bale (2012) noted the views of the general public were not often considered in research. They suggested that research around public perceptions of SIB would help determine if negative views held by healthcare professionals were a result of the professional responsibility and demands placed on them when someone self-injures or a reflection of views held more generally by society. Their preliminary study found that generally non-healthcare professionals were sympathetic towards SIB, although the possibility of social desirability bias was high in this study and no health-care comparison group was used. Worrall and Jeffery (2016) also note that attitudes of those without a specific helping professional role should be investigated in order to better understand reactions faced by individuals who self-injure. They felt that if differences were present in attitudes between types of healthcare professionals that differences were also likely to be seen between healthcare professionals and the general public, and that this needed to be investigated further.

The setting in which one worked appeared to be linked to the attitudes towards SIB; regardless of professional training background, Cleaver (2014) noted in her review that those who work in a mental health setting are likely to have more positive attitudes than those working in other settings. The Timson et al. study noted above comparing teachers, A&E professionals and CAMHS staff is also of relevance here. Obviously, however, to some extent staff group will be confounded with setting in these groups. Saunders et al. (2012) suggested that setting could interact with experience to affect professionals' reactions to SIB and Hodgson's (2016) review noted that nurse's frustration and negativity towards SIB varies with work setting, likely affected by the differing time, privacy and resources within the different

settings. The assumption that setting impacts on staff attitudes to SIB is also made in several studies in the criticism leveled at past research for focusing on certain settings or neglecting others, or else in focusing on one setting (e.g., Ramluggun, 2013; Rees et al., 2014; Shaw & Sandy, 2016; Worrall & Jeffery, 2016).

Within professional groups and within settings Artis and Smith (2013) found evidence of different views between how individuals view SIB and how they perceive that *others* perceive SIB within a care setting. They noted that this pluralistic ignorance tended to suggest that while professionals within a department have a sympathetic attitude to SIB, they perceived others in their department to have a negative attitude. If present, it would be easy to see how a cultural negative view of SIB, even if not held by any one individual themselves, could have a negative impact on care self-injuring individuals receive in interactions with healthcare professionals.

There therefore appears to be differences in staff groups as to how SIB is viewed while settings in which staff work and individual factors also appear to play a role. The interactions between service and professional cultures and training is complex and would benefit from further research to tease apart the effects of setting and staff group. Furthermore, it is unclear to what extent the views of healthcare professionals reflect the views of the general public, or indeed what the views of the general public are towards SIB, which could aid the understanding of this complex professional/setting relationship.

4.5.6 Professionals' experience and time since qualifying

Cleaver, Meerabeau and Madras (2014) and Law et al. (2009) saw a difference in attitudes related to the amount of experience professionals had with individuals who undertake SIB, with generally more positive scores seen with more experience. Cleaver et al. saw this was true to a point of about 16 years of experience when attitudes became more negative again. Although confounded by professional training, Law et al. (2009) saw greater familiarity with SIB in nursing and clinical psychology students than medical or physics students, with more anger and less helping behavior

offered by the later group, who it is assumed would have less experience than other groups. However, the review by Saunders et al. (2012) saw that while in psychiatric settings more experience led to improvements in attitude, the reverse was true in hospital settings with more experience leading to more negative attitudes. In their reviews Rees, Rapport, Thomas, John and Snooks (2014) and Cleaver (2014) similarly saw mixed results on the affect of experience on attitudes towards SIB.

One mechanism by which increased experience could affect attitudes is via increased confidence. Shaw and Sandy's (2016) model for education around SIB assumed that time since qualifying was important for professionals working with those who self-injure, as this would lead to more positive behaviour: via increased confidence. Indeed, the impact of confidence is something alluded to in several of the papers in this review, although little attention appears to have been given to it directly. For example, Hodgson (2016) suggest professionals' confidence increases with experience and Saunders et al. (2012) discuss it briefly twice, but not as an important factor in its own right. Considering the assumption that confidence is an influencing factor on attitudes towards SIB, but the lack of explicit evidence to support this, research exploring professionals' confidence in dealing with SIB would be helpful.

Overall, there appears to be mixed results around the impact on attitudes of familiarity with SIB. Familiarity may lead to increased confidence, which may improve attitudes, although this has not yet been tested empirically.

4.5.7 The different types of self-injury

It could be hypothesised that confidence may be improved by a better understanding of SIB. As noted previously, terms for describing NSSI and suicidal behaviour are often used interchangeably or are not well defined. Shaw and Sandy (2016) noted the confusion this can cause for researchers and healthcare workers alike. Indeed, Worrall and Jeffery (2016), noted it would be helpful to compare attitudes towards individuals who engage in NSSI with those who undertake suicidal behaviour to allow a better understanding of the behaviours; research such as this would allow for more

confidence in the generalising of research across the behaviours, or else enable differential research to be conducted to better delineate the two behaviours.

While some researchers do see the two behaviours as interchangeable (e.g., Saunders et al., 2012; Shaw & Sandy, 2016), other researchers do not (e.g., Ramluggun, 2013) and suggest there are subtle differences between the types of SIB. These subtle differences may be reflected in the attitudes and behaviours of those caring for self-injuring individuals; Timson, Priest and Clark-Carter (2012) saw differences in the attitudes of physicians towards those who undertake suicidal behaviour compared to those who undertake NSSI: those self-injuring with intent to end their life were viewed more favourably. Other research has found similar results (Cresswell & Karimova, 2010, cited in Cleaver, 2014; Saini, Chantler & Kapur, 2016).

It therefore appears there is a need to investigate the similarities and differences in views towards NSSI and suicidal behavior to enable a clear conceptualisation of the behaviours and a better understanding of the extent to which the two behaviours need different interventions and research focuses. This would, in turn, allow for more targeted training in working with individuals who undertake both types of SIB, enabling a reduction in stigmatising attitudes.

4.5.8 Theoretical explanations of findings on perceptions of self-injury

Understanding the differences between NSSI and suicidal behavior may be aided by theories from social psychology to better understand the complexities of attitude–behavior links; as Artis and Smith (2013) noted, it is not merely enough to describe outsider’s attitudes, but to understand their link with behavior in order to improve interactions with people who self-injure. Previous studies (e.g., Artis & Smith, 2013; Cleaver, Meerabeau & Maras, 2014; Law et al., 2009; Wheatley & Austin-Payne, 2009; Mackay & Barrowclough, 2005) have studied SIB in the light of social psychology theories in order to elucidate the relationship between attitudes and behavior towards SIB. In their research, Cleaver, Meerabeau and Maradas (2014) found support for Weiner’s attribution theory from social psychology (1980, 1985)

and its use to explain attitudes to SIB. This theory suggests that low perceived control for SIB leads professionals to be more willing to help people who self-injure. Others have also found support for Weiner's theory (Wheatley & Austin-Payne, 2009; Mackay & Barrowclough, 2005) or the similar attribution model of public discrimination (Corrigan, Markowitz, Watson, Rowan & Kubiak, 2003, cited in Law et al., 2009). Wheatley and Austin-Payne saw support for Weiner's attribution theory with the emotional response of "worry" as a potential mediating factor, although they also saw that the emotional response of "sympathy" was linked to feelings of pity and feeling adequately skilled in each of two different settings. Further supporting Weiner's theory, Mackay and Barrowclough noted that behaviours rated as having more control by help-givers elicited more negativity and less help, while conversely stable causes for behavior were rated as having a less optimistic outcome of help, with optimism being correlated with helping behavior. In the Law et al. study, if individuals were seen as responsible, or having control, for the SIB they were met with more anger by the potential help-giver.

Other researchers have used other theories to help explain the stigmatised perceptions of SIB. Developed by Ajzen (1985, 1991, in Shaw & Sandy, 2016), the Theory of Planned Behaviour (TPB) attempts to explain the relationship between attitudes and behaviour, by acknowledging that behaviour is influenced by both psychological and social factors, influenced by motivation, perceived expectations of others and perceptions of barriers and facilitators to behaviour, including efficacy. Shaw and Sandy (2016) were able to explain their findings of factors impacting attitudes of professionals towards NSSI and suicidal behaviour in terms of the TPB. They then took this further to consider how the social psychology model of the TPB could be applied to education programs for working with those who self-injure by creating the Factors Influencing Attitudes to Self-Harm (FASH) model. This model was developed in order to consider the aspects an education program would need in order to impact on attitudes to SIB, allowing for planning and delivery of more effective education activities. While this model may therefore be useful for planning specific training programs, it is unclear how useful it would be when trying to understand factors affecting societal attitudes to SIB.

While Weiner's attribution theory therefore appears to have been applied to studies in terms of SIB, other theories explaining help-giving behaviour in light of SIB appear to be lacking. One such theory which builds upon Weiner's (1980, 1985) model is Betancourt's (1990) attribution-empathy model, which was not seen applied to SIB in the present literature search, despite the evidence for Weiner's model, the evidence that emotional reactions may mediate help-giving behaviour (Wheatley & Austin-Payne, 2009) and the evidence that empathy is a crucial component of the helping relationship in mental health settings (for a review see Reynolds & Scott, 1999). Betancourt's attribution-empathy model suggests attributions for causes of behaviour, attributions for control of behaviour, the help-giver's perspective and empathy the help-giver experiences affect the help-giving behaviour displayed. Although sympathy is briefly considered in some studies discussed in this literature review, empathy is not considered, least in the light of social psychology theories relevant to the topic of helping-behaviour with SIB, as discussed above. It could be that empathy has an important mediating effect on the help-giving behaviours of individuals.

The distinction between these two emotional experiences is important; mostly sympathy is considered to involve feeling or sharing the emotional reaction of another, while empathy is seen as an understanding of the situation of another, including an awareness of oneself as separate from the other with a more active intentionality (e.g., Aring, 1958; Einsenberg, 1988; Switankowsky, 2000; Wispé, 1986). However it is noted that some do not believe the two concepts to be distinct (Jahoda, 2005). Indeed, there is evidence which suggests the emotional reaction one experiences, in terms of sympathy or empathy, is linked to the help-giving behaviour offered (Nightingale, Yarnold & Greenberg, 1991). With the focus of previous research on sympathy and the distinction between the two behaviours, considering the impact of empathy on help-giving behaviour could be very beneficial.

It appears therefore that while some research has been conducted considering social psychological theories that could give a better understanding of help-giving in SIB, more could be done. Research concerning other social psychology models that

investigate the impact of empathy on help-giving behaviour is necessary in order to better understand the factors impacting on stigmatising attitudes.

4.6 Key Points from the Literature Review

The key points from the literature review are summarised in Figure 4.3.

Figure 4.3: The key points from the literature review

- Attitudes in general appear to be negative towards SIB. These attitudes may be affected by factors such as caring responsibility and training.
- Professionals seem to have different views towards SIB. Setting in which professionals work may also impact on this. The views of the general public are not clear.
- Time since qualifying and experience with SIB may have an impact on attitudes, although the relationship appears complex and may be impacted by feelings of confidence.
- Due to mixed opinions, further research is needed into the similarities and differences between NSSI and suicidal behaviour in order to better understand and provide effective interventions for these behaviours.
- Theories from social psychology that include empathy as a factor may be beneficial in gaining a better understanding of attitudes towards and helping of to SIB.

4.7 Rationale, Aim, Research Questions, Hypotheses and Relevance for Clinical Practice

4.7.1 Rationale

There is a need for further research into factors which impact on stigmatising attitudes towards SIB. Specifically, the healthcare professional group to which one belongs, or lack of in the case of the general public, and the impact of empathy on attitudes towards SIB should be considered in order to better understand the impact of these factors on attitudes to SIB. A comparison of attitudes towards each type of SIB is also

needed in order to better understand the similarities and differences between these two behaviours, allowing improvements in policies and interventions.

4.7.2 Research aim

The aim of the research is to gain a better understanding of some of the factors which impact on attitudes towards NSSI and suicidal behaviour, including their similarities and differences.

4.7.3 Research questions

- 1) How does the willingness to help compare of Primary Care Professionals, Mental Health Professionals and Non-Professionals in the different types of self-injury?
- 2) How do the attributions for behaviours compare of Primary Care Professionals, Mental Health Professionals and Non-Professionals in the different types of self-injury?
- 3) How does the optimism for prognosis compare in Primary Care Professionals, Mental Health Professionals and Non-Professionals in the different types of self-injury?
- 4) What is the relationship between empathy and willingness to help in the two self-injurious behaviours?
- 5) To what extent do these results give support to the conceptual idea that NSSI and suicidal behaviour are separate behaviours?

4.7.4 Hypotheses

- 1) The willingness to help self-injuring individuals will be different in each professional group.
- 2) The perceived attributions for self-injuring behaviour will be different in each professional group.

- 3) The optimism for prognosis for self-injuring individuals will be different in each professional group.
- 4) Empathy will predict the willingness to help in cases of self-injury.
- 5) Data will support the conceptual idea that NSSI and suicidal behaviour are separate behaviours.

4.7.5 Relevance for clinical practice

Having a better understanding of how SIB is viewed by certain healthcare professionals and by the public will aid psychologists to create changes in attitudes. Knowing where, and how, to focus efforts of change could have major implications for the experiences of individuals who self-injure by reducing the stigmatising attitudes they face from healthcare professionals and the public, making accessing help easier (e.g., Barney, Griffiths, Jorm & Christensen, 2006; Schomerus & Angermeyer, 2008; Clement et al., 2015).

Similarly, it is a psychologist's role to provide consultation to the teams in which they work (e.g., British Psychological Society, 2012). Knowing the impact of empathy as a causal attribution for stigmatising beliefs will allow for better targeted education for colleagues, be that formal training, in discussion in multi-disciplinary team meetings or in the staff room.

Adding information to the debate around the similarities or differences between NSSI and suicidal behaviour has important implications for policy and guidelines for interventions with these behaviours, especially NICE guidelines, which currently do not have distinct guidance for each behaviour.

4.8 Reflections

At this point I pause to wonder how what I have said has been impacted by my own previous interactions with the world; I have brought my own style of literature

searching, of consuming the existing literature, of summarising that literature and presenting it in written form. I started this project with no real interest in SIB: quite the opposite. I feared the responsibility of undertaking therapy with someone who self-injures and dreaded seeing this information on referrals. I decided to conduct research on this topic in order to expose myself to my fears: allowing me to better serve my future clients. I chose to focus on stigmatising attitudes to SIB, as stigma was a topic about which I did feel passionately. My own negative experiences with some healthcare professionals in a personal capacity has fuelled my belief that the experiences of those who self-injure is likely to be less positive with some healthcare professionals over others.

However, reading the literature has allowed me to emphasise more with the negative reactions and lack of understanding self-injuring individuals are likely to face from many angles and I now feel more passionately about SIB itself. While I still feel uneasy at the thought of the responsibility of working with someone who self-injures, I also feel a confidence in being able to explore their experiences with them in a respectful manner and the positive but, sadly, new experience that is likely to be for them. I began this literature review drawn to *describing* the stigmatising attitudes from different professionals towards SIB in a wish to frame and highlight stigmatising attitudes and now find myself drawn to the prospect of *reducing* these stigmatising beliefs for the sake of the self-injuring individual. A topic, disappointingly, I'm not sure will be covered as directly as I would now like based on the current trajectory the research is on, but if not, I hope to revisit that research area in the future.

5 Methods

5.1 Outline of Methods Section

In this section the study design and rationale for this particular design will be discussed, including the measures used, the methods of participant recruitment and the input of service user consultation. The ethical issues of this design will be considered before the demographics of participants are described and the method of data analysis outlined. The chapter will finish with a section commenting on how my own beliefs may have impacted on this aspect of the research.

5.2 Design

The study used a non-experimental methodology to investigate factors that affect attitudes towards both NSSI and suicidal behaviour. An online vignette and survey approach was used to assess the variables *empathy*, *professional group*, *attributions for behaviours*, *optimism for prognosis* and *willingness to help* in one of the two SIB conditions of NSSI and suicidal behaviour, which was randomly allocated.

Standardised measures were used wherever possible, as discussed below. Empathy, professional group, and the components comprising attitudes to the SIB vignette with which they were presented were assessed in all participants. The professional group (Primary Care Professionals, Mental Health Professionals and Non-Professionals) and type of SIB (NSSI and suicidal behaviour) therefore varied between subjects.

Each participant was asked to complete an online survey, taking fewer than 10 minutes. The software Qualtrics (Qualtrics, 2015) was used as a versatile online survey-building tool that gave flexibility and a professional appearance and was also optimised for participant use on computers, tablets and mobile phones. The data was anonymous, but in addition was securely and appropriately held on Qualtrics servers. Only the principal researcher had access to this Qualtrics account. Qualtrics also has the functionality to undertake random assignment of participants to groups and thus potential bias in randomisation was minimised.

5.3 Measures

5.3.1 The Basic Empathy Scale (BES)

To investigate Betancourt's attribution-empathy model of helping behaviour, a measure of empathy was needed. Betancourt (1990) used only a single question on a seven point Likert scale to assess empathy, however it was felt a more thorough assessment of empathy was required here due to potentially small effect sizes. The Basic Empathy Scale (BES; Jolliffe & Farrington, 2006) is a widely used scale for measuring general trait empathy, which is newer than other measures of empathy (e.g., Hogan Empathy Scale, Hogan, 1969, cited in Jolliffe & Farrington, 2006; Interpersonal Reactivity Index, Davis, 1980). The BES presents respondents with 20 statements aimed at assessing aspects of empathy that respondents rate on a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". Agreement with 12 of the statements indicates higher empathy (e.g., "I can usually work out when people are cheerful") and agreement with the remaining eight indicate lower empathy (e.g., "Other people's feelings don't bother me at all"). These eight statements are reverse coded. Nine of the statements comprise the cognitive empathy scale (e.g., "I have trouble figuring out when my friends are happy") and the remaining 11 comprise the affective empathy scale (e.g., "I often get swept up in my friend's feelings"). Once relevant items are reverse coded all 20 statements are totalled to give the overall BES empathy score; possible scores ranged from 20 (low empathy) to 100 (high empathy).

Jolliffe & Farrington (2006) demonstrated the BES has construct, convergent and divergent validity. Others have seen the BES to have a Cronbach's alpha of around .71 (cognitive empathy) and .84 (affective empathy) in adults (Carré, Stefaniak, D'Ambrosio, Bensalah & Besche-Richard, 2013). It has been shown to be reliable and valid in a range of cross-cultural situations (e.g., France: D'Ambrosio, Olivier, Didon & Besche, 2009; China: Geng, Xia & Qin, 2012; Portugal: Pechorro, Ray, Salas-Wright, Maroco & Gonçalves, 2015). Unlike other empathy measures (e.g., Interpersonal Reactivity Index), the BES does not show positive correlations with

measures of social desirability (r range -0.11 to 0.03 across sexes, subscales and total; for all $p < .05$; Jolliffe & Farrington, 2006).

The BES was therefore chosen as a quick but thorough, reliable measure of general trait empathy which could be used to assess aspects of Betancourt's (1990) attribution-empathy model of helping behaviour.

5.3.2 The Attribution for Others' Behaviour Questionnaire (AOBQ)

The purpose of the original Attributional Style Questionnaire (ASQ; Peterson et al., 1982) is to assess the general attributional style individuals have for the causes of their own behaviour. The ASQ has 12 different hypothetical events (six were assumed to be positive and six were assumed to be negative) which respondents are asked to imagine apply to them. They then state what they believe to be the cause of the situation: if this cause is due to themselves or others (internality), if it likely to be present in the future (stability), if it is a specific or general cause (globality) and how important they rate the situation to be. Answers are given as ratings on a 7-point Likert scale, with two response anchors that vary for each question, for example, "Will never be present again" and "Will always be present". Scores are gained for each aspect of attribution by summing the responses for each aspect and dividing by the number of situations used in the calculation. Higher scores indicate more broadly negative attributions for the behaviours.

The ASQ has been used in many studies (e.g., Kneebone & Dewar, 2017; Lyon, Bentall & Startup, 1999; Tennen & Herzberger, 1987; Winter et al., 2015) and is considered a valid and reliable method of assessing the attributional style of individuals. It has comparable means and standard deviations for each question asked, suggesting the items can be summed to give an overall score (Peterson et al., 1982). Acceptable Cronbach's alphas of $r = .75$ and $r = .72$ were seen for the positive and negative subscales, respectively (Peterson et al.). The Cronbach's alphas reflecting the three separate attributional aspects (internality, stability and globality) across both positive and negative events showed a mean reliability of $r = .54$ (range $r = .44$ to

$r=.69$), the range for the negative event subscales, as SIB would be, was $r=.46$ to $r=.69$. The test-retest reliabilities ranged from $r=.57$ to $r=.70$ overall, $r=.57$ to $r=.69$ for negative events, suggesting this is a valid method of assessing general attributional attitudes.

While the ASQ assesses respondents' rating of their attributions for *their own* behaviours, Mackay and Barrowclough (2005) used questions based on the ASQ to assess the attributions of respondents for *others'* behaviour, via a vignette presentation. Mackay and Barrowclough asked four questions of respondents corresponding to their attributions for controllability, stability of cause, stability of outcome and internality. They reasoned for inclusion of the stability of outcome question in addition to the stability of cause question as past research suggests that the information about the causal attribution can be gained from the perceived nature of the outcome (see Stratton, Munton, Hanks, Heard & Davidson, 1986, cited in Mackay & Barrowclough). It was not clear in the Mackay and Barrowclough paper why they changed the question from one of globality to controllability. However, upon consideration it was felt that questioning the degree of control over the behaviour, as Mackay and Barrowclough did, was felt to be more appropriate for assessing the attributions of others than it was to question globality. In Mackay and Barrowclough's study higher scores on the control and stability scales represented more negative views of the attributions for behaviours, as did lower scores on the internality scale.

The Attribution for Others' Behaviour Questionnaire (AOBQ) was developed based on the descriptions of the ASQ in both of these studies. The AOBQ is likely to be very similar in wording to the version of the ASQ used by Mackay and Barrowclough, however, as Mackay and Barrowclough did not detail and were unavailable to confirm the exact wording they used in their study there may be slight variations between the wording used in their study and the present study. One difference noted is that higher scoring on all items in the AOBQ indicates more negative attributions for behaviours, unlike in Mackay and Barrowclough's version of the ASQ where lower scores on the internality question represented more negative attributions. The wording used here can be seen in Table 5.1. The range of possible scores is 4-28.

Table 5.1: The statements used in the AOBQ

| Statement used in the AOBQ |
|--|
| Jane's self-harming / suicidal behaviour is controllable. |
| Jane's self-harming / suicidal behaviour is due to something specific. |
| Jane's self-harming / suicidal behaviour will be repeated. |
| Jane is to blame for her self-harming / suicidal behaviour. |

Note: In all cases "self-harming" or "suicidal" was deleted as appropriate for the vignette participants received

Although Mackay and Barrowclough referred to their questions as the ASQ throughout their study, it was felt here that the questions were markedly different to the ASQ. Referring to the current questions as the AOBQ was decided upon to highlight the differences between that which was originally developed and validated by Peterson et al. and that which was used here.

The AOBQ was therefore chosen as a short measure of attributions, a similar version of which has been successfully used by Mackay and Barrowclough. Moreover, the AOBQ involves only slight amendments from a widely used, reliable and valid measure of attributions for personal behaviour.

5.3.3 The Optimism/Pessimism Scale

Based on the Optimism/Pessimism Scale developed by Moores and Grant (1976), Mackay and Barrowclough devised the Optimism/Pessimism scale to measure optimism for positively influencing the future behaviour of a self-injuring individual via two statements, each relating to one of personal and unspecified health service input. Responses were given on a 7-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". Possible scores ranged from 2-14 and higher scores indicated greater optimism.

In the present study, the Optimism/Pessimism Scale was altered slightly to make the wording applicable to both healthcare professionals and Non-Professionals alike. The questions were also changed to statements in order to keep the answer options consistent throughout the survey. The original questions and the changes made to the text can be seen in Table 5.2.

Table 5.2: The amendments made to the Optimism/Pessimism Scale questions used in the current study compared to those used by Mackay and Barrowclough (2005)

| Question used in Mackay and Barrowclough | Amended Statement used in Current Study |
|---|---|
| To what extent do you think that your personal input in A&E would have a positive impact in reducing Jane's self-harming behaviour in the future? | I personally could have a positive impact on reducing Jane's self-harming / suicidal behaviour in the future |
| To what extent do you think that any follow-up treatment offered to Jane would be successful in changing her behaviour? | Other people could have a positive impact on reducing Jane's self-harming / suicidal behaviour in the future. |

Note: In all cases "self-harming" or "suicidal" was deleted as appropriate for the vignette participants received

The Optimism/Pessimism Scale was therefore used in order to follow and extend the work of Mackay and Barrowclough in assessing different professionals' views of SIB in others using a quick to administer scale suitable for online administration.

5.3.4 The Helping Behaviour Scale

The Helping Behaviour Scale, developed by Mackay and Barrowclough, measures the willingness of the respondent to help to another individual by assessing respondents' views that support is deserved. It consists of three questions related to staff's willingness to prioritise the person described in a vignette, to offer extra time and support to that person and the likelihood of the staff referring the individual to another service. Answers are given on a 5-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree". The three questions had an acceptable Cronbach's

alpha coefficient ($\alpha=.75$), meaning the three responses could be summed to a single score. The range of this summed score was 3-21; higher scores indicated more helping behaviour.

The Helping Behaviour Scale is therefore reliable and quick to administer. It was used in order to follow and extend the work of Mackay and Barrowclough in assessing different professionals' views of SIB in others.

As the Mackay and Barrowclough paper was aimed at only healthcare professionals, small amendments to the questions were needed for the present study. These can be seen in Table 5.3.

Table 5.3: The amendments made to the Helping Behaviour Scale questions used in the current study compared to those used by Mackay and Barrowclough (2005)

| Question used in Mackay and Barrowclough | Amended Question used in Current Study |
|---|---|
| Given the busy nature of your work, is Jane someone you would perceive as low or high priority, in terms of staff time and NHS resources? | Is Jane someone you would perceive as high priority in terms of staff time and NHS resources? |
| Is Jane someone you would be willing to offer extra time and support to in the A&E Department? | Is Jane someone who you think should receive your time and support? |
| Is Jane someone you would consider referring to another appropriate service? | Is Jane someone who you think should receive a referral to specialist mental health services? |

5.4 Rationale for Study Design

It was anticipated that a large proportion of the Primary Care Professionals' group would consist of GPs and that this particular profession would be hard to recruit (K. Sullivan, personal communication, October 2, 2015 A. Firkins, personal communication, January 15, 2016; A. Siddaway, personal communication, January 14, 2016) due to their high workload (Royal College of General Practitioners, RCGP, 2015) and so reduced time and propensity to undertake research. The survey itself was

therefore kept deliberately brief to aid recruitment and completion rates and moreover all questions were closed response to facilitate quick responding by participants.

Many studies have successfully used questionnaires to assess the attitudes of healthcare staff towards people who self-injure (for reviews and discussion see Kodaka, Poštuvan, Inagaki & Yamada, 2010; Karman, Kool, Poslawsky & van Meijel, 2015). Moreover, the use of online questionnaires in research has gained much interest in recent years (e.g., Kongsved, Basnov, Holm-Christensen & Hjollund, 2007; Meyerson & Tryon, 2003; Riva, Teruzzi & Anolli, 2003; Vallejo, Jordán, Díaz, Comeche & Ortega, 2007;), including with healthcare professionals (Braithwaite, Emery, de Lusignan & Sutton, 2003); they have been shown to be reliable, valid, representative, cost effective and efficient. They also allow for a large, wide sample to be contacted relatively quickly and easily; this is important as it was expected a large sample was required in this study due to anticipated small effect sizes. The specific questionnaires chosen here have the benefits of being valid, reliable, quick to administer and/or used previously in similar research studies.

Vignettes have proved useful and effective methods for assessing attitudes to and attributions for SIB in many studies (e.g., Law et al., 2009; Wheatley and Austin-Payne, 2009; Mackay and Barrowclough, 2005). However, as younger ages were associated with less control over the situation in which they found themselves, age of the self-injuring individual was found to affect the likelihood of willingness to help (Cleaver, Meerabeau & Maradas, 2014). For this reason in order to highlight potential differences in helping behaviour as fully as possible an adult scenario was chosen for vignettes.

The comments of Newton and Bale (2012) are noted in that quantitative methodology can be strongly influenced by the exact definition of SIB employed, obviously potentially impacting on participant responses with no chance to explore the understanding of the SIB with respondents. For this reason, it is sensible to allow respondents to define the limits of SIB under investigation for themselves by giving clear and obvious forms of SIB in examples used in vignettes.

5.5 Procedure

Participants were first asked demographic questions relating to their age, gender, professional background and, for the two healthcare professions, the number of years since qualification. The minimum possible useful data was collected here in order to minimise the size of the survey, encouraging participation and reducing attrition. This was considered especially important for GPs, who it was anticipated it would be a hard-to-engage sample due to their high workloads (RCGP, 2015). However, key factors thought to be potentially important to the research questions were included.

Next, participants were presented with the Basic Empathy Scale (Jolliffe & Farrington, 2006), as described previously. This was presented over three pages with the Likert scale repeated at the top of each page in order to aid participants in keeping the Likert scale in mind when answering.

Participants were then asked the frequency with which they have contact with people who undertook each form of SIB. These were closed-response questions, with answer options of *daily, weekly, monthly, half yearly, yearly, less than yearly* or *I have never had contact with someone who undertakes this behaviour*. The use of the phrasing “contact” with no further definition of what constitutes contact or either type of SIB was used in order to allow respondents to interpret both of these concepts in ways that suited them and their experiences, as well as serving to keep the questions quick to read to positively impact on attrition.

Next the online software Qualtrics randomly presented one of the vignettes to respondents. The vignettes presented a woman called Jane who has self-injured by cutting her wrists with either “minor” or “deep” cuts and with corresponding intent to end life being absent or present. Extra information other than the type of SIB was included in the vignettes in order to increase ecological validity. The content of the SIB vignette is presented in Figure 5.1 for comparison between vignettes both are presented in Appendix G. It was crucial that the controllability of the precipitant of

SIB and the stability of SIB occurrence for Jane were held consistent in each vignette in order to increase experimental validity as these factors were seen to influence help-giving behaviour (see Mackay & Barrowclough, 2005). Mackay and Barrowclough saw that those who presented with an uncontrollable precipitant (the death of a close friend as oppose to financial debts) and more frequent presentation (those presenting with their sixth episode of SIB as oppose to their first) were viewed as more likely to present to A&E again. As such, the vignette used here sought to find a middle-ground between extremities by using an uncontrollable precipitant with first presentation in order to attempt to create an “average” vignette, in the expectation this would capture more nuanced differences between respondents than a vignette displaying behaviours which are known to both elicit more or less negative views. This specific combination was chosen as it was felt that a vignette containing a sixth presentation would potentially be more distressing for Non-Professionals to encounter.

Figure 5.1 The Content of the NSSI Vignette

Jane is a 27-year-old white, single, unemployed woman who currently lives alone. Six months ago a close friend died and since then she has been feeling lonely and struggling with grief. She is often upset and tearful. She has minor cuts on her wrists. She performed the cuts on purpose but with no intention of killing herself. This is the first occasion that Jane has cut herself.

Participants were then asked their opinions about the version of Jane’s SIB with which they had been presented. They were asked their views on the controllability, specificity of cause, likelihood of repetition and blame for Jane’s behaviour using the AOBQ, as described previously. Opinions on the optimism for Jane’s prognosis were gained next, using the amended Optimism/Pessimism Questionnaire described previously.

Finally, participants were asked their opinions on the extent to which Jane deserved the support offered to her using the amended Helping Behaviour Scale. Again, the amendments to this scale are described previously. Figure 5.2 summarises with what

participants were presented when they participated in the study. The order of items and measures presented to participants was not randomised for the reasons seen in Table 5.4. Screenshots showing online presentation of the questionnaires can be seen in Appendix H.

Figure 5.2: Diagram showing the presentation order of the questionnaires, including the elements common to both self-injury groups and those elements unique to each randomised group

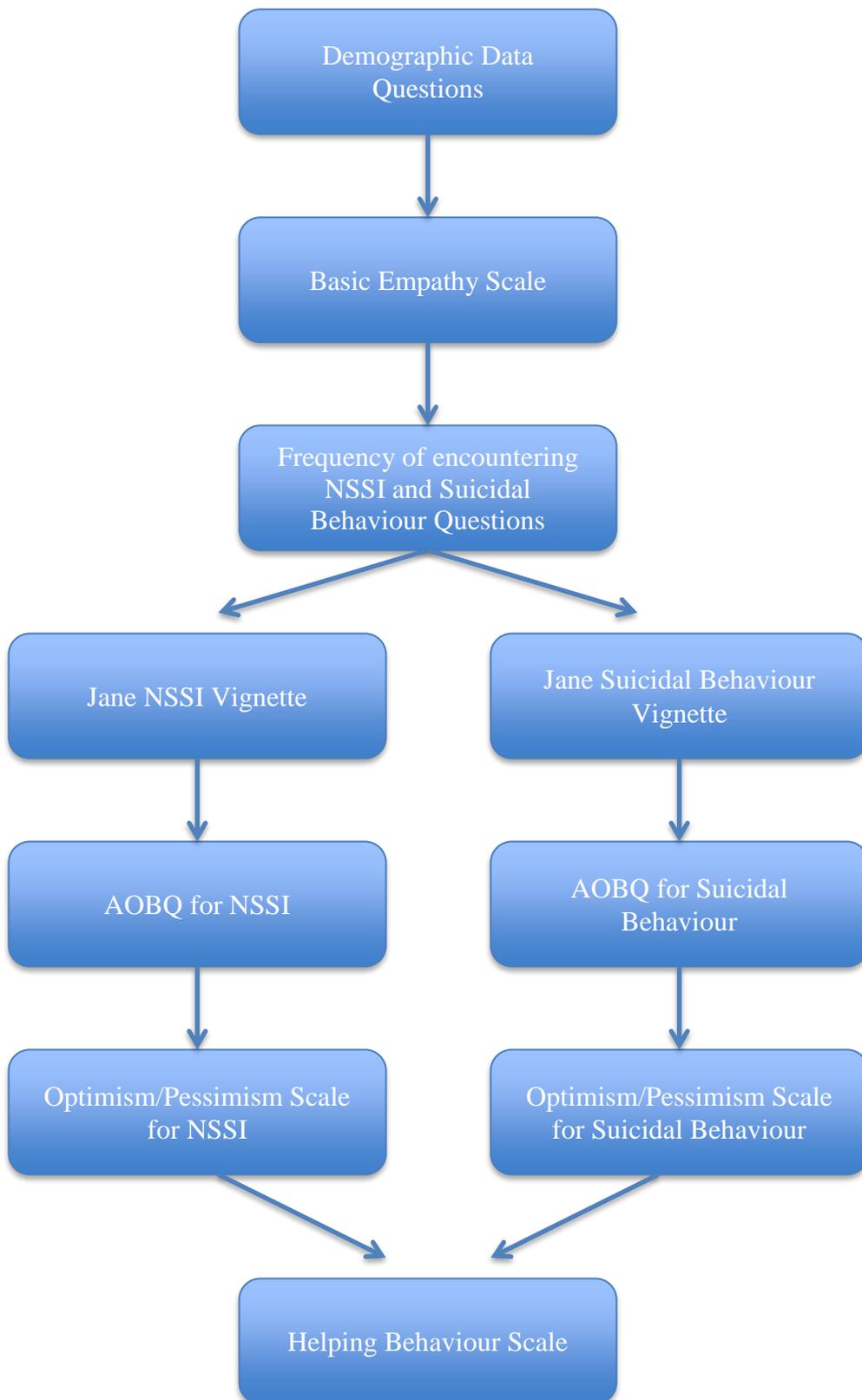


Table 5.4: The reasons for the non-randomisation of the presentation of items in the study

| Aspect presented | Reasons for specific order of measure presentation | Reasons for specific order of item presentation |
|---|---|---|
| Demographic data | Straightforward demographic questions to ease participants into the survey allowing them to answer later questions aware of what (minimal) personal data was asked of them | As these were factual items it was more appropriate to present them in logical order to make participants feel at ease with a professional survey |
| BES | This was presented before the vignettes in order that the SIB condition did not influence responses to this measure | The measure had been trialled and proved reliable in its present ordering of items |
| Frequency of encountering SIB questions | These questions were presented before the SIB vignettes in order to prevent participants feeling limited as to what counts as NSSI or suicidal behaviour. They were presented after the BES in order to avoid influencing the BES with thoughts/memories of empathy-inducing situations | NSSI question presented first in order to highlight the distinction between the two questions (by using and highlighting the longer word “without” versus “with” in the phrase “with/without suicidal intent” in each question) |
| Vignette | This needed to be presented after the BES but before any measures which relied on it | The information in the vignette and the order in which this was presented was based on the vignettes used successfully by Mackay and Barrowclough (2005) and reflected the presentation of a typical referral |
| AOBQ | It was hypothesised upon reading the vignettes attributions for the behaviour would be the logical first question – again giving confidence in the research | The order has proved reliable in other research, such as in Peterson et al (1982) and in Mackay and Barrowclough (2005) |
| Optimism/Pessimism Scale | It was hypothesised the perceived causes would impact on the positivity over outcome and this order would draw out the most accurate Optimism/Pessimism ratings by guiding participants through their emotional and cognitive responses to the vignette | It was felt the questions would make more sense to be presented in the same order, signalling to respondents that they should not include themselves in the “other people” question |
| Helping Behaviour Scale | Presenting these questions last further guided participants through their response to the vignette. Further, as these questions were identical for both types of SIB this eased construction of the survey using the online survey software | This order was used and proved effective in Mackay and Barrowclough (2005) |

5.6 Recruitment

All data was collected between the 5th July, 2016 and the 28th March, 2017. Data collection was stopped at this time due to the limited timeframe in which to conduct the project.

It was planned that three groups of participants would be recruited in relation to their professional involvement with those who self-injure: Mental Health Professionals, Primary Care Professionals and those not involved in either of these healthcare professions (henceforth known as “Non-Professionals”). It was hypothesised these three groups would have both different experiences of and training for working with individuals who self-injure and as such an analysis of differences in attitude and empathy between groups would be of interest. For the purposes of this study, any professional who was trained in mental health was considered a Mental Health Professional, regardless of where they currently worked. If clients had received no training in mental health but currently or had previously worked in a general healthcare Primary Care setting (i.e., excluding dentists, IAPT workers, etc), they were included in the Primary Care Professionals’ group. Any other respondents, including non general healthcare primary care professionals (eg, dentists) and non-clinical staff in Mental Health Services or Primary Care Services were included in the Non-Professionals’ group. More details of the professional background within each group follows in section 5.10.2. It is noted, of course, that while those not involved in either healthcare setting described here are henceforth referred to as “Non-Professionals”, that it would be more accurate to call them “Respondents who are not professionals of the two healthcare groups considered here”; they may be professionals in their career or indeed a different type of healthcare professional to those considered here. While several alternative names for this group were considered, none seemed both accurate and concise; for reasons of brevity “Non-Professionals” will be used.

A purposive, snowball sampling method was employed, using researcher contacts and gate-keepers to key stakeholder groups via word of mouth, email contact and social

networking sites. Gatekeepers to key stakeholder groups were recruited from online information, professional conferences and by personal suggestion. On social networking sites personal contacts often encouraged participation by promoting the post on their own social network page or by actively distributing the link to their named contacts. More detail of methods used to recruit participants can be seen in Table 5.5.

Knowing the recruitment origin of participants usually aids in determining the extent to which a sample is representative. The sheer variety of methods used in the present study is suggestive of a broad and representative sample; however, for transparency Table 5.5 also gives an indication of the recruitment origins of participants in order to aid this judgement. The recruitment source of each respondent was not tracked and as such it is not possible to know exactly how many respondents arrived through each recruitment channel. The colour-coding used on the table suggests from where the researcher felt participants were recruited based on the timing of incoming responses.

Table 5.5: The methods by which the participant groups were targeted. Red shows suspected low recruitment via this method, orange shows suspected average recruitment via this method and green shows suspected high recruitment via this method

| Recruitment Method | Example of Recruitment Method | Groups at which Recruitment Method was Aimed | | | |
|---|--|--|-----------------------------|-------------------|---------------|
| | | Primary Care Professionals | Mental Health Professionals | Non-Professionals | Professionals |
| Networking at professional conferences | "Best Practice" Conferences | ✓ | | ✓ | |
| Twitter | Personal twitter feed | ✓ | | ✓ | |
| Emails to gatekeepers of key stakeholder groups | National list of GP practices who engage in research, Lead for GP consortium | ✓ | ✓ | | |
| Facebook "group" pages | UK Locum & Sessional GP Group | ✓ | ✓ | | |
| Online professionals' forums | Clinpsy.co.uk | ✓ | ✓ | | |
| Researcher's personal Facebook page | - | | ✓ | | ✓ |
| Personal contacts and their acquaintances | - | ✓ | ✓ | | ✓ |

5.7 Inclusion and exclusion criteria

As it was thought all people would fit into one of the three professional groups, there were no exclusion criteria in this regard. Due to ethical concerns of exposing children to vignettes concerning SIB, the minimum age for completing the survey was 18. This also avoided any confounds of age impacting on the groups (as those under 18 would always be in the Non-Professional's group).

The second exclusion criterion of the study was individuals who were currently undertaking SIB, as defined by the individual. No limit was defined as to what "currently" meant, as it was felt that this would allow individuals to best decide for themselves if they currently contemplate SIB, rather than imposing a time limit or

definition as constructed by the researcher. It was felt this should be an exclusion criterion in order to avoid upsetting, distressing or normalising SIB for participants by presenting them with the SIB vignette. It was also felt that those who currently self-injure may have different views on the vignette, which may affect the results.

5.8 Research Consultation

It was considered important to gain non-psychologist's perspectives on the research, in order to assess the accessibility of both the survey and the outcomes. A small group of non-psychologists, including a GP, the husband of a GP and a practice nurse, were asked for feedback in this regard. They suggested the use of an online survey for ease of access and to reduce paper surveys becoming lost and forgotten; research requiring minimal time/effort (in order to encourage completion and reduce drop-out); several avenues for recruitment (e.g., specific online forums) and a short and clear opening page.

The same small group of individuals was also asked for their views on the framing of the conclusions and recommendations. As GPs are busy professionals with a very demanding job (RCGP, 2015), it was considered important that the conclusions be delivered with positive and practical recommendations that would be both understood and realistic for busy non-psychology professionals to receive.

5.9 Ethical Issues

As the project was asking the opinions of people who do not currently undertake SIB the risks of the project were considered low. Non-Professionals completing the questionnaire, who are less likely to have experienced or heard stories of those who self-injure, may have experienced a sense of sadness, anger or injustice at the situations depicted in the vignettes.

While these ethical concerns were important aspects to consider when designing and implementing the research, they need not have prevented the research. Past research

suggests that being asked questions about SIB does not cause significant or lasting distress or increase risk of the same and that it may actually have beneficial effects on mood (e.g., Biddle et al., 2013; Dazzi, Gribble, Wessely & Fear, 2014; Gould et al., 2005; Reynolds, Lindenboim, Comtois, Murray & Linehan, 2006; Rivlin, Marzano, Hawton & Fazel 2012; Cukrowicz, Smith & Poindexter, 2010); for those who do experience distress, the effects are short-lived (Biddle et al., 2013; Eynan et al., 2014). Therefore, past research suggests it is not harmful to ask about SIB. Considering this, it could be argued that to not conduct research in this area hinders efforts to identify important advances in supporting individuals who do self-injure. However, participants were encouraged to access existing social support, their GP or national support services such as The Samaritans and the National Self-Harm Network if they did feel the study had affected them.

Informed consent was gained from all participants prior to their participation in the study. This consisted of a short paragraph advertising the study which varied depending on the audience and the format of the recruitment (an example can be seen in Appendix I). The online link contained in the initial recruitment paragraph took participants to two pages of information about the study, including details of the purpose of the study, how the study would be conducted, storage and deletion of information and their right to withdraw (see Appendix J). Following this was a consent form on which participants could leave or withdraw their consent to take part in the study, should they wish (see Appendix K). Either at the end of the study or at the point at which their responses indicated they were not eligible or did not wish to continue in the study debrief information was presented to all participants, including forms of support (see Appendix L).

To aid in these considerations of ethical issues the British Psychological Society (2013) guidance on conducting internet-mediated research was consulted to ensure the study was ethically acceptable. Ethical approval was then sought through the University of Hertfordshire School of Life and Medical Sciences Research Committee (Reference UH Protocol Number: LMS/PGR/UH/02437) and one amendment was made to this ethics application extending the length of data collection and the number

of participants to be recruited due to attrition affecting the power with the planned number of participants recruited. The approval letters from the University of Hertfordshire Ethics Committee can be seen in Appendix M. Guidance was sought regarding the requirement for NHS Research Ethics Committee ethics through the NHS Health Research Authority decision tool (n.d.); it was concluded that NHS ethical approval was not required (as seen in Appendix N).

5.10 Participants

5.10.1 Sample size and effect size

Effect size is a vital part of quantitative research; significance values are heavily influenced by sample size, which effect sizes are not. Moreover significance values convey nothing of the size of the difference under scrutiny, only the likelihood of seeing such a difference given the null hypothesis (Cohen, 1990). In 1988, Cohen highlighted the importance of effect sizes and suggested the Cohen's d values to be considered small (0.2), medium (0.5) and large (0.8) effect sizes, but noted that there were risks in holding these figures rigidly. With this in mind, the effect size of the study was considered both when designing the study and after analysis.

It was hoped that a minimum of 180 participants would be recruited. This would allow an effect size of 0.4 (Cohen's d ; Cohen, 1988) to be found with 70% power for analyses conducted on the entire sample. While this is lower than the usual 80% power convention it was felt 70% power was achievable given the practical time constraints of the project. Table 5.6 shows the number of participants needed to achieve the relevant power at each of the given effect sizes. These were calculated using G*Power (Version 3.1.2) computer software (Buchner, Erdfelder, Faul & Lang, 2009).

Table 5.6: The number of participants needed to achieve the relevant power at each of the given effect sizes

| Effect size (Cohen's d) | Power | | |
|-------------------------|-------|-----|-----|
| | 70% | 80% | 90% |
| 0.5 | 105 | 130 | 175 |
| 0.4 | 160 | 200 | 270 |
| 0.3 | 280 | 350 | 480 |

A total of 528 people were recruited. Recruitment was stopped at this point due to the timescale of the project. Of these, 26 gave no information at all in the survey; it is assumed a large proportion of these respondents were gatekeepers of key stakeholder groups who were scanning the survey when considering passing it on to their contacts. A further 36 gave no responses past the demographic information. Of the remaining respondents, 30 did not reach or answer the final page of questions of the survey, giving a total of 436 who undertook the entire survey; a dropout rate of 6.44% for those who began the main survey and 13.15% for those who began the demographic questions. Attrition was therefore considered to be low.

Missing data was also considered to be low; excluding questions only applicable to professionals (such as years since qualification) and the frequency of contact with suicidal behaviour (due to an admin error causing lost data for this question), of the 436 who reached the end of the survey 90.6% (n=395) answered all questions asked of them. Those who did not answer all questions generally answered most, as the overall percentage of missing data for these 436 respondents was 1.48%. As the missing data was low, all analyses were conducted with all available data and imputations for missing data were deemed not necessary and were not undertaken.

As all analyses will therefore contain a minimum of 395 respondents, the achieved power for ANOVA analyses is therefore between 80% - 90% power to find effect size of 0.3 and over 90% power to find an effect size of 0.4. However, it is noted due to

the additional inclusion of incomplete data sets, where applicable, the power may be higher than this for individual analyses.

5.10.2 Demographics

The demographics of the participants can be seen in Table 5.7 to Table 5.9. Table 5.7 and Table 5.8 show the demographics both for the entire sample and broken down by those who completed the survey and those who did not. Table 5.9 shows the time since completion of training for the two professional groups.

As can be seen from Table 5.7, there were more female (n=347) than male (n=125) participants or those who did not identify with either of these genders (n=2). Most were in the age range 26-35 (n=258). There were similar numbers of participants in each of the Primary Care Professionals (n=126) and Non-Professionals (n=138) groups, with a large proportion who were Mental Health Professionals (n=221).

Table 5.7 also shows basic frequencies and percentages of the available data comparing those who completed the survey (“completers”, n=436) with those who did not (“non-completers”, n=92). This table shows there appears to be a few differences between the completers and non-completers. Many non-completers failed to complete the initial demographic information (between 46-54%) suggesting they ceased answering the survey early on in their viewing of it. With low attrition, expected small effect sizes between groups and a sample size of only 30 in the non-completers group (after those with no relevant information are excluded) statistical analyses were not conducted between completers and non-completers.

Table 5.7: Basic demographic data for participants, overall and by those who did and did not complete the survey

| | Completers (n=436) | Non-completers (n=92) | Total (n=528) |
|-------------------------------|--------------------|-----------------------|---------------|
| Gender (%) | | | |
| Male | 114 (26) | 11 (12) | 125 (24) |
| Female | 313 (72) | 34 (37) | 347 (66) |
| Other | 1 (<1) | 1 (1) | 2 (<1) |
| No response | 8 (2) | 46 (50) | 54 (10) |
| Age Band (%) | | | |
| 17 or under* | 0 | 1 (1) | 1 (<1) |
| 18-19 | 14 (3) | 4 (4) | 18 (3) |
| 20-25 | 28 (6) | 2 (2) | 30 (6) |
| 26-30 | 156 (36) | 10 (11) | 166 (31) |
| 31-35 | 83 (19) | 9 (10) | 92 (17) |
| 36-40 | 29 (7) | 6 (7) | 35 (7) |
| 41-45 | 33 (8) | 4 (4) | 37 (7) |
| 46-50 | 30 (7) | 3 (3) | 33 (6) |
| 51-55 | 29 (7) | 3 (3) | 32 (6) |
| 56-60 | 12 (3) | 1 (1) | 13 (3) |
| 60 or older | 8 (2) | 0 | 8 (2) |
| No response | 14 (3) | 49 (54) | 63 (12) |
| Professional Group (%) | | | |
| Primary Care Professional | 116 (27) | 10 (11) | 126 (24) |
| Mental Health Professional | 201 (46) | 20 (22) | 221 (42) |
| Non-Professionals | 118 (27) | 20 (22) | 138 (26) |
| No response | 1 (<1) | 42 (46) | 43 (8) |

* The participant who indicated their age was 17 or under was automatically redirected to an information page that ended the survey. This participant counts as a "non-completer" as they began, but did not finish, the survey.

It is noted, for example, that someone identifying as a Mental Health Professional may be working in Primary Care or that an administrator in a Primary Care setting may identify as a Primary Care professional. For the purpose of this study, all respondents who had received Mental Health training, regardless of their current employment, were included in the Mental Health Professionals' group. All those who worked in Primary Care setting where one might expect a range of conditions to present (e.g., GP surgeries, paramedics) were included in the Primary Care Professionals' group.

Any respondents working in non-general healthcare Primary Care settings (e.g., dentist, IAPT professional) were not included in this group. Any administrative staff for either healthcare setting were allocated to the Non-Professionals' group so that this group included all those whom do not have clinical contact with individuals who undertake SIB. As such, upon identifying with each broad category of professional background further questions specific to that professional background were asked in order to assign participants to more appropriate groups for the purpose of this study. In this respect, for example, Practice Nurses with a Mental Health training background were included in the Mental Health Professional's group, despite identifying with the Primary Care Professionals in the initial question and administrative staff in Mental Health settings were included in the Non-Professionals' group. Table 5.8 shows the full list of professional training backgrounds included within each of the participant groups used in the present study of Primary Care Professional, Mental Health Professionals and Non-Professionals.

Table 5.8 also shows that similar proportions of specific professional training backgrounds within the broad professional groups completed the survey as those who did not complete it. The majority of Primary Care Professionals who completed the survey were GPs (n=86) and the majority of Mental Health Professionals who completed the survey were psychologists (n=172). The vast proportion of those in the Non-Professionals' group who completed the survey were not connected to mental health or primary care services in any way (n=114). This table also shows a slightly different proportion of people completed their training 0-1 year ago in the survey completers (5%) compared to those who did not complete the survey (17%); however this difference has not been tested for statistical significance. Overall, 47% of participants were currently undertaking their professional training.

Table 5.8: The characteristics of the different professional groups overall and by those who did and did not complete the survey

| | Completers | Non-completers | Total |
|---|------------|----------------|-----------|
| Breakdown of the Primary Care Professionals' Group (%) | | | |
| General Practitioner | 86 (74) | 7 (70) | 93 (74) |
| Practice Nurse NOT of a mental health nurse training background | 8 (7) | 3 (30) | 11 (9) |
| Primary Care worker in another general healthcare setting | 8 (7) | 0 | 8 (6) |
| Other | 14 (12) | 0 | 14 (11) |
| Total | 116 (100) | 10 (100) | 126 (100) |
| Breakdown of the Mental Health Professionals' Group (%) | | | |
| Psychiatrist | 1 (<1) | 0 | 1 (<1) |
| Psychologist | 172 (86) | 16 (80) | 188 (85) |
| Social Worker | 0 | 0 | 0 |
| Occupational Therapist | 1 (<1) | 1 (5) | 2 (1) |
| Support Worker or Healthcare Assistant | 10 (5) | 2 (10) | 12 (5) |
| Practice Nurse WITH a mental health nurse training background | 2 (1) | 0 | 2 (1) |
| Other | 15 (8) | 1 (5) | 16 (3) |
| Total | 201 (100) | 0 | 221 (100) |
| Breakdown of the Non-Professional's group | | | |
| Unspecified | 114 (97) | 19 (95) | 133 (96) |
| Primary Care worker in a specialist setting (non-general healthcare, e.g., dentist) | 1 (1) | 0 | 1 (1) |
| Administrative staff, primary care setting | 2 (2) | 0 | 2 (1) |
| Administrative staff, mental healthcare setting | 1 (1) | 1 (1) | 2 (1) |
| Total | 118 (100) | 20 (100) | 138 (100) |
| Time since completion of professional training for role (if relevant) | | | |
| 0-1 year ago | 17 (5) | 5 (17) | 22 (6) |
| 2-5 years ago | 33 (10) | 2 (7) | 35 (10) |
| 6-10 years ago | 18 (6) | 2 (7) | 20 (6) |
| 11-15 years ago | 16 (5) | 1 (3) | 17 (5) |
| 16 years ago or more | 56 (18) | 6 (20) | 62 (18) |
| Currently undertaking main professional training for this role | 152 (48) | 12 (40) | 164 (47) |
| Not undertaken professional training for this role | 22 (7) | 2 (7) | 24 (7) |
| No response | 3 (1) | 0 | 3 (1) |
| Total | 317 (100) | 30 (100) | 347 (100) |

Note: the proportion of respondents not responding to professional role for each profession is not possible to calculate due to the way this variable was calculated

Due to the high proportion of respondents undertaking their professional training and the potential impact this may have on the results of analyses comparing professional groups, the training status of Primary Care and Mental Health Professionals are shown in Table 5.9. It can be seen that the Mental Health Professionals group seemed to have a higher proportion of participants currently in training (69%) than the Primary Care group (10%). The impact of training status (including those who have not undertaken any training) was therefore considered before undertaking further analysis on the data.

Table 5.9: Breakdown of the time since completing professional training for the healthcare professionals groups

| Time since completion of professional training for role (%) | Primary Care Professionals (n=126) | Mental Health Professionals (n=221) | Overall (n=344) |
|--|------------------------------------|-------------------------------------|-----------------|
| 0-1 year ago | 9 (7) | 13 (6) | 22 (6) |
| 2-5 years ago | 20 (16) | 15 (7) | 35 (10) |
| 6-10 years ago | 14 (11) | 6 (3) | 20 (6) |
| 11-15 years ago | 12 (10) | 5 (2) | 17 (5) |
| 16 years ago or more | 54 (43) | 8 (4) | 62 (18) |
| Currently undertaking main professional training for this role | 12 (10) | 152 (69) | 164 (47) |
| Not undertaken professional training for this role | 3 (2) | 21 (10) | 24 (7) |
| No response | 2 (2) | 1 (1) | 3 (1) |

5.10.3 Descriptives

Table 5.10 presents descriptive statistics on the demographics of respondents who saw each version of the vignette. It shows across each type of SIB condition all demographic factors considered were broadly similar.

Table 5.10: The demographics of respondents who saw each vignette

| | NSSI vignette (%) | Suicidal Behaviour vignette (%) |
|---|-------------------|---------------------------------|
| Professional Group (n=435) | | |
| Primary Care Role | 63 (29) | 53 (25) |
| Mental Health Role | 108 (49) | 93 (43) |
| Non-Professional | 48 (22) | 70 (32) |
| Total | 219 (100) | 216 (100) |
| Gender (n=444) | | |
| Male | 51 (23) | 66 (30) |
| Female | 174 (77) | 152 (70) |
| Other | 1 (<1) | 0 |
| Total | 226 (100) | 218 (100) |
| Years since training completed (n=230) | | |
| 0-1 year ago | 11 (6) | 8 (5) |
| 2-5 years ago | 15 (8) | 20 (13) |
| 6-10 years ago | 9 (5) | 11 (7) |
| 11-15 years ago | 11 (6) | 5 (3) |
| 16 of more years ago | 33 (19) | 24 (16) |
| Currently undertaken training | 85 (48) | 72 (47) |
| No Training for role | 14 (8) | 12 (8) |
| Total | 178 (100) | 152 (100) |
| Age in years (n=438) | | |
| 18-25 | 24 (11) | 20 (9) |
| 26-35 | 118 (53) | 131 (61) |
| 36-45 | 34 (15) | 30 (14) |
| 46-55 | 35 (16) | 25 (12) |
| 56 and over | 13 (6) | 8 (4) |
| Total | 224 (100) | 214 (100) |

The frequency of contact with each of the forms of SIB, broken down by professional group, can be seen in Table 5.11. As discussed previously, the terms “contact” and both types of SIB were not defined by the questions in the survey; respondents were free to define these concepts in the way that fit with their own experiences. Table 5.11 shows that few participants in either of the healthcare professional groups “never” had contact with individuals who undertook SIB of either type; this is in contrast to Non-

Professionals (0-5% compared to 51%, respectively). At the other end of the continuum, however, the percentages of each professional group having daily contact with each of NSSI (9%, 7% and 7% respectively as presented in the table) and suicidal behaviour (1%, 2% and 1% respectively as presented in the table) were broadly similar. Generally, however, across the other frequency groups the Non-Professionals appeared to have reduced contact compared to both types of healthcare professional. The two types of healthcare professional appeared to have broadly similar contact with each type of SIB. Table 5.11 also shows that the number of people who responded to the question regarding their frequency of contact with suicidal behaviour is lower than for the same question concerning NSSI. This is at least in part due to an administration error in the operation of the online survey software that affected the responses of the first 80 participants to complete the survey.

Table 5.11: The frequency with which participants had contact with individuals who undertake each of NSSI and suicidal behaviour, by professional group

| | | Frequency of contact (%) | | | | | | | Total | |
|-----------------------------|--|--|----------|----------|-------------|---------|------------------|---------|-----------|-----------|
| | | Daily | Weekly | Monthly | Half yearly | Yearly | Less than yearly | Never | | |
| Level of Dependent Variable | Primary Care Role | Contact with NSSI | 11 (9) | 41 (35) | 45 (38) | 12 (10) | 1 (1) | 6 (5) | 2 (2) | 118 (100) |
| | | Contact with suicidal behaviour | 1 (1) | 9 (8) | 26 (24) | 40 (37) | 11 (10) | 22 (20) | 0 | 109 (100) |
| | Mental Health Role | Contact with NSSI | 15 (7) | 75 (37) | 67 (33) | 23 (11) | 7 (3) | 14 (7) | 3 (2) | 204 (100) |
| | | Contact with suicidal behaviour | 3 (2) | 22 (12) | 56 (30) | 45 (24) | 20 (11) | 33 (18) | 10 (5) | 189 (100) |
| | Non Professionals | Contact with NSSI | 8 (7) | 14 (12) | 15 (13) | 9 (8) | 5 (4) | 26 (23) | 37 (33) | 114 (100) |
| | | Contact with suicidal behaviour | 1 (1) | 2 (3) | 3 (4) | 2 (3) | 2 (3) | 25 (35) | 37 (51) | 72 (100) |
| Total | Contact with NSSI | 34 (8) | 130 (30) | 127 (29) | 44 (10) | 13 (3) | 46 (11) | 42 (10) | 436 (100) | |
| | Contact with suicidal behaviour | 5 (1) | 33 (9) | 83 (23) | 87 (24) | 33 (9) | 80 (22) | 47 (13) | 370 (100) | |

Similar numbers of participants dropped out of the survey after being presented with each vignette; ten participants dropped out after seeing the NSSI vignette and nine dropped out after the suicidal behaviour vignette. This suggests little bias in the data in this regard.

5.11 Data Analysis

All data was analysed using quantitative methodology. As will be discussed in the following chapter, there were some concerns over the data meeting the assumptions of parametric tests. For this reason, investigations concerning the first three research questions (willingness to help, attributions for behaviours and optimism for prognosis across professional groups and type of SIB) were conducted using robust independent factorial ANOVAs. The relationship between empathy and willingness to help was analysed using multiple regression with bootstrapped data. The final research question concerning the similarities and differences of NSSI and suicidal behaviour is a conceptual question that was addressed based on the results of the four analyses.

The computer programme *Statistical Package for the Social Sciences, Macintosh Version 22* (IBM Corp.) was used for all data analyses. The detail of the analysis will be discussed in the following chapter. An example of the coding used can be seen in Appendix O. Due to the vast quantity of coding it has not all been included in the appendices, but it is available for the interested reader online via <http://bit.ly/SPSSdocs>. Due to the vast quantity of output from the analysis these are also not available in the appendices, but can also be accessed online via this link.

5.12 Reflections

My relationship with the methodology of this research has evolved. I viewed research into the attitudes of GPs in particular as essential research due to my own preconceptions and negative assumptions of GP appointments and the lack of previous research. This view, combined with the warning I'd been given about difficulties recruiting this particular population, gave me the message it was essential and yet

foolish research to undertake. Always keen to rise to a challenge and being a firm believer in the concept of research, and thus that no topic or area is too difficult to be researched without some creativity, I threw myself into the task. I was determined to succeed. I felt I owed it the self-injuring clients I lack confidence in seeing as well as to myself as a consumer of NHS services. (Perhaps if I could gain the time and attention of GPs in a research context I would feel compensated for the time I felt I had been denied with them in personal appointments?)

As recruitment progressed, however, and I began to speak with people in Primary Care settings I began to gain a better understanding of the complex system of Primary Care and the real struggles GPs and other Primary Care Professionals face. My motivation moved from one of anger at my own rushed personal GP consultations, to one of helping stretched, stressed GPs to navigate the complex system in which they work with an individual who self-injures. I think these enlightening conversations allowed for me to take a more curious and open attitude in later communication with Primary Care Professionals. In emails requesting support and especially during in-depth conversations at conferences with Primary Care Professionals, I've no doubt that my newfound understanding and curiosity made aiding my recruitment much more appealing, either with direct completion of the survey or else cascading the link to their networks. This probably gave me a higher recruitment rate than I otherwise might have received.

It is a positive aspect of this type of distal research, mostly lacking face-to-face contact with those who complete the survey once gate-keepers have agreed to distribute it, that my own changes in my relationship with GPs and with the research itself will have had a minimal impact on responses given. Indeed, the change is likely to have served to increase response rates (and thus generalisability) by making me more amenable to key gatekeepers while having virtually no impact on the actual responses collected from the individuals to whom it was cascaded.

It is of note that other participant groups were less well-recruited than GPs. I initially focussed my recruitment efforts on GPs at the neglect of the other two research groups

and even other Primary Care Professionals such as Practice Nurses. Partly due to my initial want for justice, partly due to the warnings I had been given. Mental Health Professionals, for example, I took for granted would be empathetic to a trainee psychologist and would gladly complete a quick survey: forgetting that Mental Health Professionals are also busy professionals working in a pressured system. I suspect, however, that at no point will I interpret their resultant lower response numbers as me “being dismissed” in the same way I would have done were it GPs who had lower response numbers before my increased appreciation of their role. This is telling of the high regard in which I already hold Mental Health Professionals. I will endeavour to monitor the potential impact of my prior assumptions, positive and negative, on my future work.

6 Results

6.1 Outline of Results Section

In this section, the full quantitative analysis of the data will be discussed. Of 528 participants, all with available data will be included in each analysis. The number included in each analysis will therefore vary and will be stated clearly.

First in the chapter, the data will be explored statistically, including investigating if the data meets the assumptions of parametric tests and considering participant characteristics that may affect further analyses. Based on these considerations, appropriate analysis will be conducted for each of the four non-conceptual research questions in turn. The results of these analyses will be presented in a combination of written, table and graphical form. Additional exploratory analyses, which do not relate to the research questions, will then be presented.

This chapter will then be summarised. The chapter will conclude with a reflective section contemplating my thoughts on this aspect of the research.

6.2 Data exploration

6.2.1 Assumptions of parametric tests

It is important the data be analysed to see if it meets the assumptions of parametric testing to enable a decision to be made about which analyses to conduct. There are four assumptions for parametric tests (e.g., Field, 2005; Howell, 2006). These are:

- **Linearity:** Data has a linear relationship and is at least of interval level
- **Independence:** Data is independent of other data
- **Homogeneity of variances:** Data from multiple groups have similar variance
- **Normality:** Data is normally distributed

6.2.1.1 The assumption of linearity

The assumption of linearity is met as a Likert scale data is interval based (Field, 2013).

6.2.1.2 The assumption of independence

The assumption of independence is met as it is assumed participants did not confer or otherwise influence one another's responses in any way.

6.2.1.3 The assumption of homogeneity of variance

For all statistical testing contained in this chapter the homogeneity of variance was considered for each analysis. The results of these analyses of Levene's tests of homogeneous variances can be seen in Appendix P. This appendix shows some of the Levene's tests suggested significant variations in the variances between groups. However, it is noted that there are concerns regarding the reliability of Levene's tests with larger samples and unequal groups (Field, 2013) such as the case in the present study. Other formal tests of homogeneous variances are also limited by the need for small samples or equal sample sizes (e.g., Hartley's FMax; Field, 2013). As such, when applicable the use of visual assessments for homogeneity of variances will be conducted and statistical adjustments made where necessary. The outcome of these assessments of homogeneous variances will be considered in turn prior to each main analysis.

6.2.1.4 The assumption of normality

There are several methods for assessing the assumption of normally distributed data. Formal tests can be used but in larger datasets, such as in the present study, they can

be heavily affected by small deviations from normality when the deviation would not affect the tests run (Field, 2013). Indeed, Ghasemi and Zahediasl (2012) suggested that with large samples such as in the present study formal significance tests of normality should not be used at all. Instead, visual scanning of the data presented graphically can be useful, as can considering the values of skewness and kurtosis (Field, 2013). It is noted that some, though not all, argue that with large samples such as here the violation of the assumptions of normality is not concerning and should not rule out parametric tests (Elliott & Woodward, 2007; Field, 2013; Pallant, 2007).

With these considerations in mind, formal tests of normality were not used; instead the z-scores of the skewness and kurtosis test statistics were considered and visual representations of the data inspected. Appendix Q shows all the materials taken into consideration when assessing normality of the data for the overall samples and Appendix R shows the same for the different levels of each independent variable. Appendix S shows this information for the additional analyses undertaken. Guidelines for acceptable levels for z-scores of the test statistics for skewness and kurtosis are 1.96 standard deviations ($p < .05$ level; Field, 2005, 2013). These appendices show the statistics in the present study mostly are below this limit, although there are some exceptions. With larger samples the skewness and kurtosis statistics can be misleading, however, and visual indications should be used instead (Field, 2005, 2013; Tabachnik & Fidell, 2001); the graphs show mostly normal distributions, although there are again some exceptions.

6.2.1.5 Violations of assumptions

Where the homogeneous variances or normality assumptions have not been met, bootstrapping methods will be applied to the analysis using Bonferroni-corrected tests and 1000 samples, unless stated otherwise. Bootstrapping allows consideration of measures of accuracy of the sample estimate (the mean). Bootstrapping is seen as preferable to transforming the data (Field, 2013) due to the implications transformations have of changing the constructs originally measured (Games, 1984;

Grayson, 2004, both cited in Field, 2013), the potential decrease in accuracy of the test-statistics (Games & Lucas, 1966, cited in Field, 2013), the potential for the issue to not be solved (Wright & Field, 2009) and the potential increase in the Type II error rate (Russell & Dean, 2000). Comparative non-parametric tests were not used due to the unpopularity or unavailability of the non-parametric tests needed (Scheirer-Ray-Hare Kruskal-Wallis extension in terms of the two-way ANOVA, Dytham, 1999; no alternative to regression, Field, 2013;) and the relative lack of power in non-parametric tests (e.g., Field, 2013; Howell, 2006).

6.2.2 Effects of Gender

Given past research on the effects of gender on reactions to SIB (e.g., Mackay & Barrowclough, 2005) it was considered prudent to consider the effect of gender on the responses given. Males and females were compared in this analysis; those who indicated their gender was something other than one of these two options were excluded from the analysis due to a small sample size.

As the data was normally distributed (see Appendix T), independent samples t-tests were conducted to ascertain the effects of gender on the analysis. As some of the data showed unequal variances, and as there are concerns over the reliability of Levene's tests with large sample sizes (Field, 2013), results of the t-tests are presented in Table 6.1 both where equal variances are and are not assumed. It is noted that in all cases altering this assumption does not change the significance level of the p value in its relation to the 95% confidence level.

As can be seen Table 6.1, in cases of NSSI males and females did not score significantly differently on willingness to help, attributions for behaviours or optimism for prognosis (for all $p > .05$). With suicidal behaviour, males and females scored significantly differently on willingness to help ($t(81.85) = -3.26, p = .002$) and attributions for behaviours ($t(213) = 2.75, p = .007$), with females being more likely to help and with less negative attributions. In suicidal behaviour, as in NSSI, there was no difference between the genders for optimism for prognosis ($t(213) = -1.03, p = .303$).

In both types of SIB condition there is a significant effect of gender on empathy scores, with females showing more empathy than males (for all $p < .05$).

Table 6.1: The results of the independent samples t-tests for differences in gender when homogeneous variances both are and are not assumed

| Type of Self-injurious Behaviour | Group | Helping Behaviour Score | Attributions for Others' Behaviour Score | Optimism/Pessimism Score | Empathy Score |
|----------------------------------|-----------------------------|----------------------------|--|---------------------------|----------------------------|
| NSSI | Male | n=49, M=10.53, SD=1.93 | n=49, M=17.14, SD=3.14 | n=47, M=11.45, SD=1.54 | n=50, M=75.72, SD=8.22 |
| | Female | n=164, M=10.81, SD=1.96 | n=166, M=16.98, SD=2.68 | n=164, M=11.19, SD=1.72 | n=172, M=80.25, SD=6.7 |
| | Equal variances assumed | $t(211)=-0.88, p=.38^*$ | $t(213)=0.36, p=.723^*$ | $t(209)=0.93, p=.356^*$ | $t(220)=-3.96, p<.001^*$ |
| | Equal variances not assumed | $t(79.85)=-0.89, p=.376$ | $t(69.81)=0.33, p=.746$ | $t(81.71)=0.98, p=.329$ | $t(69.44)=-3.56, p=.001$ |
| Suicidal behaviour | Male | n=65, M=11.37, SD=2.35 | n=66, M=16.92, SD=2.80 | n=66, M=11.06, SD=1.87 | n=65, M=74.15, SD=8.90 |
| | Female | n=147, M=12.38, SD=1.30 | n=149, M=15.90, SD=2.39 | n=149, M=11.30, SD=1.44 | n=149, M=80.23, SD=6.71 |
| | Equal variances assumed | $t(210)=-4.02, p<.001$ | $t(213)=2.75, p=.007^*$ | $t(213)=-1.03, p=.303^*$ | $t(212)=-5.50, p<.001$ |
| | Equal variances not assumed | $t(81.85)=-3.26, p=.002^*$ | $t(108.94)=2.59, p=.011$ | $t(100.34)=-0.94, p=.353$ | $t(97.14)=-4.93, p<.001^*$ |

* denotes the assumptions recommended from the results of the Levene's test

6.2.3 Effects of training status

A large number of respondents were undertaking their professional training for their role (47.3%). Due to the potential impact experience may have on reactions to SIB (Cleaver, 2014; Cleaver, Meerabeau and Madras, 2014; Law et al., 2009; Rees, Rapport, Thomas, John & Snooks, 2014; Saunders et al., 2012), the impact of training status was considered statistically in order to ascertain the number of groups to be included in further analysis.

As the data was largely normally distributed (see Appendix U) and showed homogeneity of variances, independent samples t-tests were conducted between those in training or without training and those who had completed training in each of the healthcare professionals groups. These tests showed no significant differences between those with completed training and those without in either healthcare group (see Table 6.2). However, as noted above, in light of concerns regarding the reliability of Levene's tests with larger samples (Field, 2013), the results of the t-test were also considered where adjustments had been made for unequal variances (see Appendix V). These were also all non-significant at the $p < .05$ level.

Based on these results, in order to conserve power in subsequent analyses those in training or with no specific training for their role were included with those who had completed training for their role.

Table 6.2: The results of the independent samples t-tests of the differences in qualified status within the professional groups for each dependent variable when homogeneous variances are assumed

| | Type of Self-injurious Behaviour | Group | Helping Behaviour Score | Attributions for Others' Behaviour Score | Optimism/ Pessimism Score | Empathy Score |
|-----------------------------|----------------------------------|----------------------------|-------------------------|--|---------------------------|------------------------|
| Primary Care Professionals | NSSI | Qualified N, Mean and SD | n=55, M=11.09, SD=1.95; | n=55, M=16.96 SD=2.81 | n=54, M=11.41, SD=1.69 | n=56, M=79.54, SD=6.97 |
| | | Unqualified N, Mean and SD | n=8, M=10.75, SD=1.75 | n=8, M=18.0, SD=1.69 | n=8, M=11.63, SD=2.26 | n=8, M=79.54, SD=8.77 |
| | | t statistic | $t(61)=0.47, p=.641$ | $t(61)=-1.01, p=.315$ | $t(60)=-0.33, p=.746$ | $t(62)=0.52, p=.606$ |
| | Suicidal behaviour | Qualified N, Mean and SD | n=45, M=12.16, SD=1.94 | n=46, M=16.15 SD=2.4 | n=46, M=11.3, SD=1.53 | n=74, M=77.31, SD=7.21 |
| | | Unqualified N, Mean and SD | n=6, M=11.5, SD=1.22 | n=6, M=15.5, SD=2.51 | n=6, M=11.83, SD=0.98 | n=6, M=77.5, SD=9.57 |
| | | t statistic | $t(49)=0.80, p=.427$ | $t(50)=0.62, p=.537$ | $t(50)=-0.82, p=.416$ | $t(49)=-0.06, p=.954$ |
| Mental Health Professionals | NSSI | Qualified N, Mean and SD | n=21, M=10.95, SD=2.48 | n=21, M=16.86 SD=1.88 | n=20, M=11.35, SD=1.63 | n=23, M=79.52, SD=6.54 |
| | | Unqualified N, Mean and SD | n=84, M=10.73, SD=1.92 | n=86, M=16.62, SD=2.66 | n=84, M=11.38, SD=1.35 | n=89, M=80.63, SD=6.65 |
| | | t statistic | $t(103)=0.45, p=.651$ | $t(105)=0.39, p=.696$ | $t(102)=-0.09, p=.930$ | $t(110)=-0.71, p=.477$ |
| | Suicidal behaviour | Qualified N, Mean and SD | n=19, M=12.53, SD=1.22 | n=19, M=16.16, SD=2.39 | n=19, M=11.9, SD=1.63 | n=19, M=79.26, SD=9.16 |
| | | N Unqualified, Mean and SD | n=74, M=12.5, SD=1.35 | n=74, M=15.7, SD=2.29 | n=74, M=11.61, SD=1.26 | n=74, M=80.77, SD=7.0 |
| | | t statistic | $t(91)=0.08, p=.939$ | $t(91)=0.77, p=.445$ | $t(91)=-0.83, p=.408$ | $t(91)=-0.78, p=.435$ |

6.3 Effects of professional group and type of self-injury on willingness to help

The first research question examined whether Primary Care Professionals, Mental Health Professionals and Non-Professionals differed in their attitudes towards giving their own and NHS time and effort to help individuals who undertake different forms of SIB.

Appendix P shows some possible evidence of unequal variances in the variables comprising this analysis, and therefore this research question was investigated using a bootstrapped 2x3 independent factorial ANOVA, where n=433.

Table 6.3 shows the means and standard deviations for this analysis. In comparing the willingness to help of the three professional groups, the ANOVA showed a significant main effect of professional group ($F(2, 427)=5.89, p=.003,$) with a small-medium effect size ($h_p^2=.027$). Non-Professionals had significantly lower helping scores than both Primary Care Professionals (BCa $p=.012$) and Mental Health Professionals (BCa $p=.001$), although the two types of healthcare professional did not differ in their helping score (BCa $p=.627$). This indicates Non-Professionals are slightly less inclined than healthcare professionals to help individuals who self-injure.

Table 6.3: Means and standard deviations for the levels of the independent variables in the analysis of willingness to help

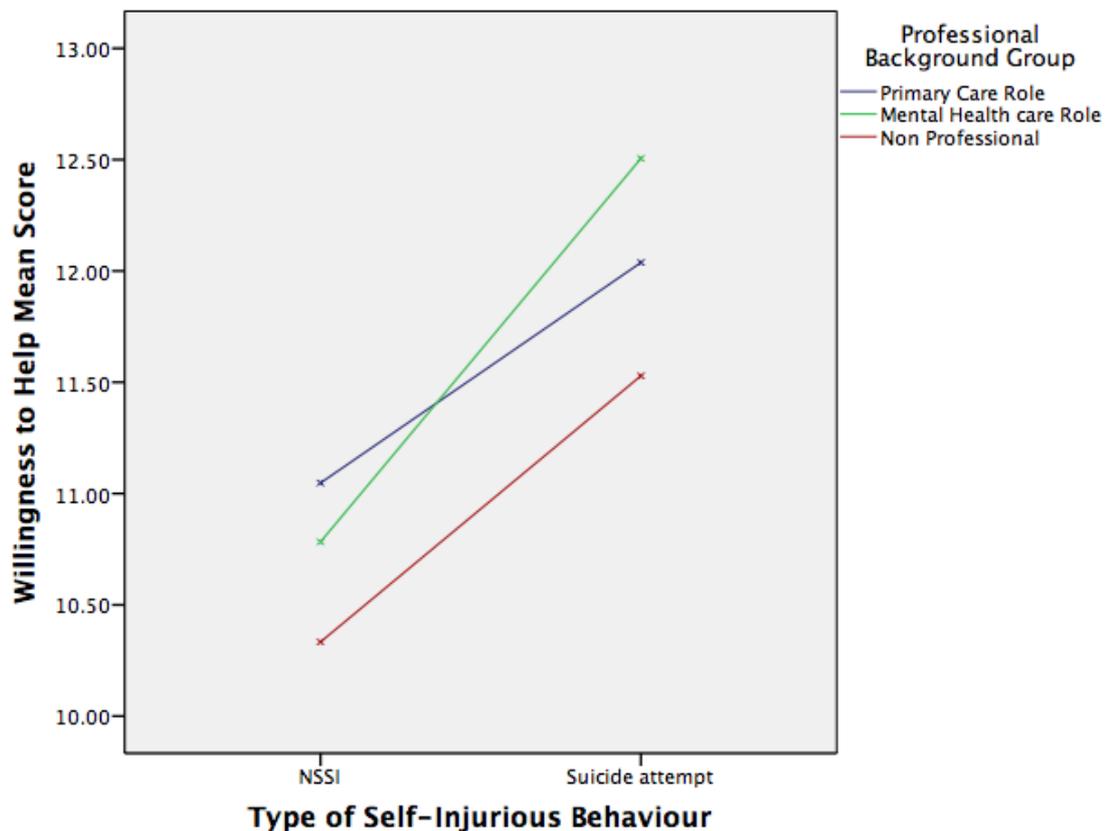
| Dimension | Mean [BCa 95% CI] | Standard Deviation [BCa 95% CI] |
|-----------------------------|--------------------------|---------------------------------|
| Non-Professionals | $M=11.04$ [10.69, 11.37] | $SD=1.97$ [1.63, 2.40] |
| Primary Care Professionals | $M=11.50$ [11.13, 11.87] | $SD=1.94$ [1.69, 2.15] |
| Mental Health Professionals | $M=11.59$ [11.32, 11.85] | $SD=1.93$ [1.71, 2.15] |
| NSSI | $M=10.76$ [10.51, 11.01] | $SD=1.93$ [1.77, 2.11] |
| Suicidal Behaviour | $M=12.07$ [11.83, 12.29] | $SD=1.74$ [1.51, 1.97] |

In comparing willingness to help in cases of NSSI and suicidal behaviour there was a significant main effect of type of SIB ($F(1, 427)=51.35, p<.001, \text{BCa } p=.001$) with a medium-large effect size ($h_p^2=.11$, Gray & Kinnear, 2012). This suggests individuals

are more inclined by a considerable amount to help someone who is suicidal than someone who is undertaking NSSI.

There was no statistically significant interaction effect between professional background and type of SIB ($F(2, 427)=1.67, p=.186$). It is noted that the graph of the results appears to show an interaction effect (see Figure 6.1), however the ANOVA analysis gives the partial eta squared as $h_p^2=.008$ for the interaction, which is a very small effect size (Gray & Kinnear, 2012) and considerably smaller than the effect sizes of the main effects above. It appears therefore there may be a small interaction effect that the current test was underpowered to detect statistically, however due to the small effect of any interaction the potential implications of an undetected interaction effect being undetected is not a major concern.

Figure 6.1: Graphically presented output from the 2x3 factorial ANOVA investigating the effect of professional group and type of self-injurious behaviour on willingness to help



Individuals who undertake SIB are therefore met with less willingness to help if the SIB is NSSI or if the potential help-giver is not a healthcare professional.

It is of note that generally, across all levels of both independent variables considered, scores for this measure were around half of the maximum possible (range 10.76 [NSSI] – 12.07 [suicidal behaviour], possible range 3-21).

6.4 Effects of professional group and type of self-injury on attributions for behaviours

The second research question examined whether Primary Care Professionals, Mental Health Professionals and Non-Professionals differed in their assumed causes for others' SIB when presented with different forms of SIB.

As Mackay and Barrowclough (2005) did not offer reliability information for their version of the ASQ, and as the wording of the questions may have changed from this in the present study, the Cronbach's alpha of the AOBQ was considered. As the scale wording was amended for, and answers were given based on, the vignette seen the scale was considered for each type of SIB separately. In the case of NSSI, the AOBQ had a Cronbach's alpha of .30 based on 220 cases; in the case of suicidal behaviour the AOBQ had a Cronbach's alpha of .14 based on 219 cases. When considered across SIB, the Cronbach's alpha of the scale was .24 based on 439 cases. These Cronbach's alpha levels are therefore low, however based on the low number of questions and answer options this may be expected (Loewenthal, 2004; Tavakol & Dennick, 2011).

As there was some evidence of unequal variance (see Appendix P) this analysis was investigated using a bootstrapped 2x3 independent factorial ANOVA, where n=433.

The means and standard deviations for this analysis can be seen in Table 6.4. In comparing the attributions for others' behaviour between the three professional groups the ANOVA showed a significant main effect of professional group ($F(2, 427)=4.16$, $p=.016$) with a small-medium effect size of $h_p^2=.019$ (Gray & Kinnear, 2012). The

Bonferroni-corrected analysis showed that Non-Professionals and Mental Healthcare Professionals differed significantly ($p=.010$). However, Primary Care Professionals did not differ significantly from either Mental Healthcare Professionals (BCa $p=.156$) nor Non-Professionals (BCa $p=.204$). This suggests that Mental Health Professionals have slightly more positive attributions for behaviours than Non-Professionals, who are more likely to perceive negative causes for behaviour in terms of controllability, stability of cause, stability of outcome or internality.

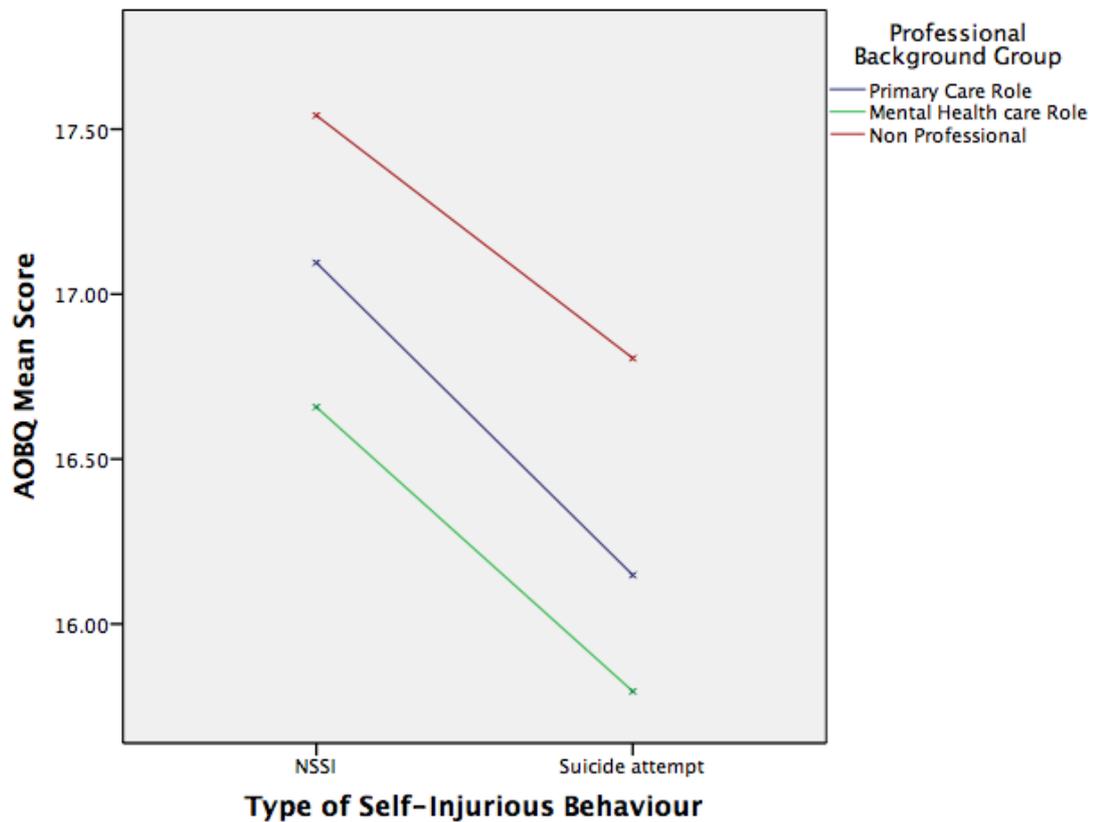
Table 6.4: Means and standard deviations for the main effects in the analysis of attributions for behaviour

| Dimension | Mean [BCa 95% CI] | Standard Deviation [BCa 95% CI] |
|-----------------------------|--------------------------|---------------------------------|
| Non-Professionals | $M=17.06$ [16.46, 17.63] | $SD=3.14$ [2.77, 3.21] |
| Primary Care Professionals | $M=16.68$ [16.21, 17.16] | $SD=2.59$ [2.32, 2.83] |
| Mental Health Professionals | $M=16.27$ [15.92, 16.59] | $SD=2.43$ [2.22, 2.64] |
| NSSI | $M=16.99$ [16.63, 17.34] | $SD=2.77$ [2.52, 3.00] |
| Suicidal Behaviour | $M=16.19$ [15.87, 16.52] | $SD=2.56$ [2.37, 2.73] |

The attributions for others' behaviour between NSSI and suicidal behaviour were significantly more negative in cases of NSSI than for suicidal behaviour ($F(1, 427)=10.66, p=.001, \text{BCa } p=.003.$) with a small-medium effect size ($h_p^2=.024$; Gray & Kinnear, 2012). This indicates that NSSI is construed in a more negative light than suicidal behaviour, in terms of perceived controllability, stability of cause, stability of outcome or internality.

No statistically significant interaction effect was seen between the two variables ($F(2, 427)=0.01, p=.990$). It is noted that the graph of the results does not appear to show an interaction effect (see Figure 6.2) and the output from the ANOVA analysis gives the partial eta squared as $h_p^2<.001$ for the interaction, which confirms this finding.

Figure 6.2: Graphically presented output from the 2x3 factorial ANOVA investigating the effect of professional group and type of self-injurious behaviour on attributions for behaviours



It is of note that generally, across all levels of both independent variables, scores for this measure were slightly over half of the maximum possible score (range of means 16.19 [suicidal behaviour] – 17.06 [Non-Professionals], possible range 4-28).

6.5 Effects of professional group and type of self-injury on optimism for prognosis

The third research question considered whether professionals and Non-Professionals differed in their optimism for the prognosis for others' SIB when presented with different forms of SIB.

As no reliability information for the Optimism/Pessimism scale was available from Mackay and Barrowclough (2005), the Cronbach's alpha of the two items comprising

the scale was calculated. The analysis showed a Cronbach's alpha of .53 based on 435 cases, with a correlation of $r=.39$. It was seen that the means of the two items were $M=5.25$ (optimism of personal input) and $M=5.97$ (optimism for other people's input). Considering the number of items in the scale and the number of possible response points, this scale therefore has acceptable reliability (Loewenthal, 2004; Tavakol & Dennick, 2011).

As there was some evidence of unequal variances (see Appendix P) this research question was investigated using a bootstrapped 2x3 independent factorial ANOVA, where $n=429$.

The means and standard deviations for this analysis can be seen in Table 6.5. Comparing the professional groups, the ANOVA showed a significant, medium-sized ($h_p^2=.06$; Gray & Kinnear, 2012) main effect of professional group ($F(2, 423)=14.28$, $p<.001$). Analysis revealed Non-Professionals had significantly lower Optimism/Pessimism scores than both Primary Care Professionals (BCa $p=.002$) and Mental Health Professionals (BCa $p=.001$), although the two types of healthcare professional did not differ significantly in their helping score (BCa $p=.398$). This suggests that Non-Professionals lack optimism for the future outcomes of SIB compared to healthcare professionals.

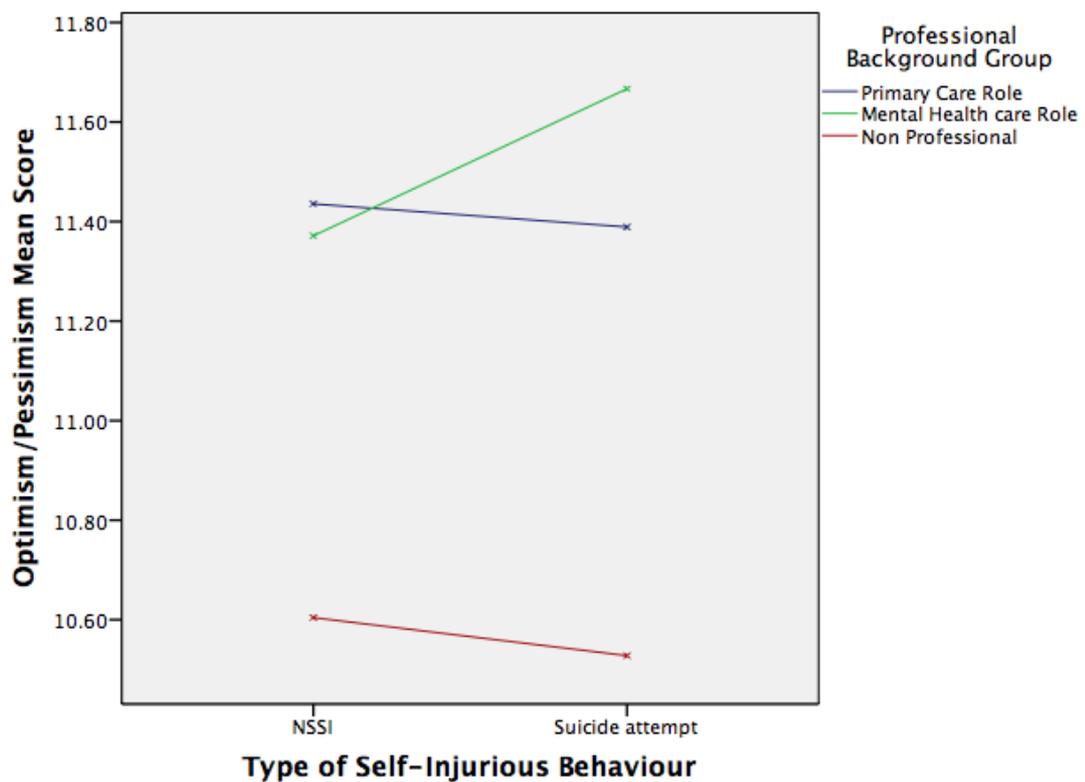
Table 6.5: Means and standard deviations for the main effects in the analysis of optimism for prognosis

| Dimension | Mean [BCa 95% CI] | Standard Deviation [BCa 95% CI] |
|-----------------------------|----------------------|---------------------------------|
| Non-Professionals | 10.55 [10.22, 10.88] | 1.87 [1.66, 2.07] |
| Primary Care Professionals | 11.39 [11.08, 11.68] | 1.61 [1.38, 1.81] |
| Mental Health Professionals | 11.52 [11.34, 11.70] | 1.37 [1.23, 1.48] |
| NSSI | 11.23 [11.00, 11.46] | 1.69 [1.52, 1.83] |
| Suicidal Behaviour | 11.21 [11.01, 11.43] | 1.58 [1.41, 1.74] |

NSSI and suicidal behaviour were seen to have similar perceived likely outcomes after personal and specialist input; the main effect of type of SIB was non-significant ($F(1, 423)=0.03, p=.862$; BCa $p=.870$). Indeed, the effect size indicates virtually no effect ($h_p^2 < .001$).

There was no statistically significant interaction effect between professional group and type of SIB ($F(2, 423)=0.68, p=.506$). It is noted that the graph of the results appears to show an interaction effect may be present (see Figure 6.3) but the observed partial eta squared for the interaction was $h_p^2=.003$, which suggests any interaction had little effect (Gray & Kinnear, 2012). As before, these results may imply an underpowered test to detect an interaction, however due to the small effect size of the interaction this is not a major concern.

Figure 6.3: Graphically presented output from the 2x3 factorial ANOVA investigating the effect of professional group and type of self-injurious behavior on Optimism/Pessimism score



Of the possible range of scores of 2-14, the range of mean scores obtained across all levels of the Optimism/Pessimism Scale was 10.55 (Non-Professionals) – 11.52 (Mental Health Professionals).

6.6 The relationship between individuals' empathy levels and their willingness to help

The fourth research question considered if the level of empathy of an individual impacted on individuals' willingness to help those who self-injure, and if this had an impact over and above professional group and type of SIB. A multiple linear regression was used to investigate this research question, where $n=430$.

Standard procedures for exploring the suitability of data for regression analyses were employed (Field, 2013). Standardised residuals, Cooks' distances, diagnostic statistics

and multicollinearity were considered in full, as can be seen in Appendix W. No issues were seen in the data in these regards. A robust multiple regression was performed due to concerns over normality (see Appendix Q and Appendix R).

The results of the regression analysis (see Table 6.6) show that after all other variables have been entered into the regression model the empathy score of individuals was a significant predictor of willingness to help. This is of note as Nunnally and Bernstein (1994, cited in Hunsley & Meyer, 2003) noted variables in the social sciences are often intertwined and as such variables entered into regression analyses as a third variable will have small effects over and above other variables. As such, Hunsley and Meyer suggested that third variables entered into regression analyses with a semipartial r of .15 to .20 offer reasonable contributions to the regression equation. The semipartial r for empathy in this analysis is .20, which therefore shows empathy has a reasonable effect on willingness to help. This indicates that more empathetic individuals are more willing to help those who undertake SIB. The analysis also confirms the results above, that both professional group and type of SIB impact willingness to help towards those who self-injure.

Table 6.6: Results of the regression analysis of predictors of willingness to help, with 95% corrected and accelerated confidence intervals reported in parentheses

| | Regression Coefficient (<i>B</i>) | Standard Error of Regression Coefficient (<i>SE B</i>) | Standardised betas (<i>β</i>) | Significance (<i>p</i>) |
|---|--|--|---------------------------------|---------------------------|
| Step 1. Note: $R^2=.12$ (medium effect size, $p<.001$) | | | | |
| Constant | 12.07 (11.82, 12.31) | 0.13 | - | $p<.001$ |
| Type of Self-injury | -1.31 (-1.66, -0.96) | 0.18 | -.33 | $p<.001$ |
| Step 2. Note: $\Delta R^2=.025$ (small effect size, $p=.002$) | | | | |
| Constant | 11.60 (11.24, 11.96) | 0.18 | - | $p<.001$ |
| Type of Self-injury | -1.38 (-1.73, -1.03) | 0.17 | -.35 | $p<.001$ |
| Non Professional vs Primary Care Professional | 0.63 (0.16, 1.11) | 0.24 | .14 | $p=.009$ |
| Non Professional vs Mental Health Professional | 0.72 (0.30, 1.14) | 0.21 | .18 | $p=.001$ |
| Step 3. Note: $\Delta R^2=.040$ (small effect size, $p<.001$) | | | | |
| Constant | 7.59 (5.83, 9.35) | 0.90 | - | $p<.001$ |
| Type of Self-injury | -1.42 (-1.76, -1.08) | 0.17 | -.36 | $p<.001$ |
| Non Professional vs Primary Care Professional | 0.54 (0.08, 1.01) | 0.24 | .12 | $p=.022$ |
| Non Professional vs Mental Health Professional | 0.52 (0.11, 0.94) | 0.21 | .13 | $p=.015$ |
| BES Score | 0.05 (0.03, 0.08) | 0.01 | .21 | $p<.001$ |

Confidence intervals and standard errors are based on 1000 bootstrap samples.

Effect sizes based on guidelines by Cohen (1988) and Gray and Kinnear (2012).

The overall mean score on the BES was 78.85 (BCa CI [78.12, 79.62], $SD=7.65$, BCa CI [7.10, 8.14]); the possible range of scores was 20-100.

6.7 Additional findings of interest

During the calculation of the Cronbach's alpha for the Optimism/Pessimism scale, patterns were noted in the descriptive statistics which appeared to show people felt more positive about the outcome for the self-injuring individual if others offered support ($M=5.97$, $SD=0.82$) over themselves ($M=5.25$, $SD=1.14$). This apparent finding was considered interesting and so was explored statistically and is discussed below.

As the analysis above suggested there was a significant main effect of professional group but not of type of SIB in considering the optimism for prognosis of those who self-injure, only the variable professional group will be used in this analysis. Although overall optimism for prognosis was seen not to be affected by completion of training, it was hypothesised training completion might affect confidence levels in one's own abilities. Therefore those who had completed training for their professional role were analysed separately to those who had not.

The data can be assumed to be independent and linear and of interval level from the design of the research (see Section 6.2.1) and the assumption of homogeneous variances is not relevant (see Appendix P). Due to some potentially non-normal distributions with concerning values for skewness and kurtosis (see Appendix S) bootstrapping was applied to the paired-samples t-test. In all cases 1000 bootstrap samples were used, except for the case of unqualified Primary Care Professionals, where 999 samples were used. The results of these analyses can be seen in Table 6.7.

Table 6.7: The results of the analysis of optimism for own versus others' input for each separate professional group

| Group | Optimism for own input (Mean and SD with BCa 95% CI) | Optimism for other's input (Mean and SD with BCa 95% CI) | T statistic and significance value | Effect size (<i>d</i>) and interpretation |
|--|---|--|---|---|
| Non-Professionals (n=120) | <i>M</i> =4.59, [4.28, 4.94] SD=1.38, [1.16, 1.56] | <i>M</i> =5.97, [5.84, 6.08] SD=0.90, [0.77, 1.01] | <i>t</i> (119)=-10.88 <i>p</i> =.001 | <i>d</i> =1.0 large effect size |
| Unqualified Primary Care Professionals (n=14) | <i>M</i> =5.57, [4.92, 6.14] SD=1.09, [0.74, 1.33] | <i>M</i> =6.14, [5.64, 6.64] SD=0.86, [0.74, 0.92] | <i>t</i> (13)=-2.51 <i>p</i> =.039 | <i>d</i> =0.52 medium effect size |
| Qualified Primary Care Professionals (n=100) | <i>M</i> =5.42, [5.15, 5.67] SD=1.07, [0.92, 1.20] | <i>M</i> =5.94, [5.69, 6.15] SD=0.83, [0.70, 0.95] | <i>t</i> (99)=-5.10 <i>p</i> =.001 | <i>d</i> =0.49 medium effect size |
| Unqualified Mental Health Professionals (n=158) | <i>M</i> =5.54, [5.45, 5.62] SD=0.82, [0.70, 0.92] | <i>M</i> =5.95, [5.87, 6.03] SD=0.70, [0.61, 0.78] | <i>t</i> (157)=-6.60 <i>p</i> =.001 | <i>d</i> =0.5 medium effect size |
| Qualified Mental Health Professionals (n=39) | <i>M</i> =5.59, [5.21, 5.92] SD=0.91, [0.79, 1.00] | <i>M</i> =6.03, [5.67, 6.36] SD=0.96, [0.81, 1.07] | <i>t</i> (38)=-2.99 <i>p</i> =.001 | <i>d</i> =0.48 medium effect size |

Note: effect sizes were calculated using the guidelines in Field (2013) and Morris and DeShon, (2002). The interpretation of them was based on Cohen (1988)

These additional analyses show that all groups feel significantly less optimistic when considering their own input for someone who self-injures compared to others' input. In the majority of groups this is a medium effect size ($d=0.48$ to $d=0.52$), except in the case on Non-Professionals where this is a large effect size ($d=1.0$). This implies for all groups there is less confidence in one's own ability to help someone who self-injures with a perception that others are more able to create positive outcomes concerning those who self-injure.

6.8 Summary of results

6.8.1 Hypothesis 1 - The willingness to help self-injuring individuals will be different in each professional group

Non-Professionals were significantly less willing to help than either healthcare professional. People were less willing to help individuals who undertaken NSSI than suicidal behaviour. The type of SIB was seen to impact on the willingness to help of individuals to a medium-large extent compared with the small-medium effect of professional group. There was no significant interaction effect between these two variables.

6.8.2 Hypothesis 2 - The perceived attributions for self-injuring behaviour will be different in each professional group

There were significant differences between some, but not all, of the professional groups in terms of attributions for behaviours. The effect of type of SIB on attributions for behaviours had a similar effect size as professional group. There was no significant interaction effect between these two variables.

6.8.3 Hypothesis 3 - The optimism for prognosis for self-injuring individuals will be different in each professional group

Professional group was seen to have a medium sized effect on the optimism for prognosis, both healthcare professionals being more optimistic than Non-Professionals but not significantly different from each other. There was no significant effect of type of SIB or interaction between type of SIB and professional group.

6.8.4 Hypothesis 4 - Empathy will predict the willingness to help in cases of self-injury

The regression analyses confirmed that professional group and type of SIB had an impact on willingness to help. After accounting for the effects of these variables, the empathy of individuals had a small effect size in predicting the willingness to help self-injuring individuals.

6.8.5 Hypothesis 5 - These results taken together will support the conceptual idea that NSSI and suicidal behaviour are separate behaviours

Evidence has been collected which adds to the discussion around the similarities of perceptions of the two behaviours; the results showed some differences in perceptions between willingness to help and attributions for behaviours, although optimism for prognosis was the same for the two types of SIB.

6.8.6 Additional analysis of interest

Patterns in the data suggested individuals might feel more optimistic about others helping a self-injuring individual rather than helping personally. There were significant medium or large differences between the optimism for personal and others' intervention in all professional groups analysed.

6.9 Reflections

This chapter has highlighted several things for me. Most importantly for me, it has highlighted other people's misunderstanding of quantitative data. In discussions with others I've had comments from fellow trainee psychologists ranging from "Isn't that a bit easy for an thesis?", to "I bet you're doing stats I've never even heard of!" and even "Can't you just massage the figures to say what you want?". Each of these comments leaves me frustrated at the misunderstanding and mistrust of quantitative research held by some fellow psychologists. As a reaction to this, I found myself more determined than ever to do the most thorough analysis I could and I spent far longer on this section than I planned. I have felt more determined than ever to demonstrate good quantitative analysis can be honest, in-depth and yet understandable, just as in qualitative research. I wonder if the balance between in-depth and accessible has always come through? With the extra pressure of a word limit, this has not always been an easy line to tread.

This chapter has highlighted for me the need for us all to pigeonhole one another. As I was previously pigeonholing "dismissive" GPs, I have been given the position of "*solely* quantitative researcher". I have experienced feeling frustrated, unheard and unacknowledged in my beliefs that *both* research methodologies have worth and value... and yet there I was not listening to and not acknowledging the difficulties of working in Primary Care. These lessons over the frustration of stereotypes over something as trivial as a chosen research methodology are nothing compared to the damage that could be done to professional working relationships or even the experiences of clients; I hope moving forwards I can put this new insight to good use.

In terms of the data itself, I've no doubt that my own biases had influence over my analysis. For example, I certainly considered the pros and cons, but on some level I suspect the initial messages about parametric versus non-parametric tests that I received when I was first introduced to statistics (the erroneous message that parametric tests are always "better") influenced me to choose bootstrapped parametric

tests over their non-parametric equivalents. It does not pass me by, however, that these results and their reach might be different had I conducted different analysis.

The analysis will have been impacted in other ways too; not just how the analysis were conducted, or with what tests, but even what was investigated. I had a wealth of information available to me, and the additional analysis I chose to conduct was on the optimism, or confidence, of personal versus others' input. This no doubt stems in part from my own feeling of personal helplessness yet longed-for hope for people who self-injure. I felt relief upon investigating the Hot Potato Effect and finding Mental Health Professionals, who are surely best positioned to offer help, mostly feel similarly to me. Not only did I feel relief because I was not alone in feeling this way, but because I had something to write about in the upcoming discussion section that did not criticise GPs given my new-found understanding and appreciation of their role. Instead I had an insight into the apparent training or support needs of Mental Health Professionals that could be commented on. I'm struck by how much a little less "othering" and a little more understanding can induce so much empathy and compassion. I'm hopeful I can use this insight in my recommendations resulting from this research.

7 Discussion

7.1 Outline of Discussion Section

This chapter will consider the results described in the previous chapter in terms of their implications for understanding and clinical practice and their relationship with existing literature. The study had five research questions and related hypotheses, each of which will be discussed in turn, followed by a discussion around the additional analysis of interesting patterns noted in the data. The clinical relevance of the findings of the study will be considered next.

A consideration of the study quality will be considered, in terms of the CASP criteria used in the literature review as well as additional quality criteria for thoroughness. Important limitations of the study will then be discussed in further detail.

Leading on from this discussion will be recommendations for future research directions, focusing on addressing the limitations of the present study, further clarifying points of uncertainty or developing ways to apply the results clinically. Finally, self-reflections on this section will be presented.

7.2 Discussion of findings

7.2.1 Hypothesis 1 - The willingness to help self-injuring individuals will be different in each professional group

7.2.1.1 *The effects of type of self-injury*

It is concerning that all three professional groups were less willing to help NSSI than suicidal behaviour considering NSSI is often thought of as a precursor to suicidal behaviour (Joiner, 2006; Whitlock et al., 2013) and can additionally have serious implications if more harm is done than intended. While obviously suicidal behaviour may have more of a temporal pressure to intervention than NSSI, the latter still

implies a significant level of distress and if nothing else is worthy of support in order to avoid it progressing into suicidal behaviour. If only the “more serious” of the behaviours receives the support individuals seek when they reach out regarding their SIB this may push individuals to begin or continue with the more immediately threatening of the two behaviours; thus this has serious implications for interventions. These findings support the conclusions of Saunders et al. (2012) in terms of attitudes towards those who undertook suicidal behaviour being viewed more positively than those who undertook NSSI.

This finding of a medium-large effect size for differences in willingness to help in the two different types of SIB is concerning and could have large implications for research, policy and treatment; it is easy to imagine how, of two referrals into a service, the one for NSSI might be picked up more reluctantly than the one for suicidal behaviour if it is seen as less deserving of help. If the therapist lacks enthusiasm for working with an individual this could have major implications for the therapy process (e.g., Blow, Sprenkle & Davis, 2007; Eisler, 2006; Simon, 2006). Equally, it is easy to imagine how research and policy may lean towards refining interventions and guidelines for working with suicidal behaviour over NSSI, leaving this less help-eliciting behaviour subtly neglected.

7.2.1.2 The effects of professional group

The results of the analysis imply that Non Professionals feel that those who self-injure are less deserving of help than do healthcare professionals, which echo the stigmatising attitudes present in society seen in other studies (e.g., Corrigan, 2000; Corrigan, 2004; Rüsch, Angermeyer & Corrigan, 2005; Link & Phelan, 2001). However, it is noted that the Helping Behaviour Scale was comprised of only three questions, one of which was “Is Jane Someone who you think should receive your time and support?”. It may be that Non-Professionals themselves feel less *able* to help such individuals personally, and thus feel they should not attempt to help for fear of “saying the wrong thing”, rather than because they are unwilling to help. The questions of the Helping Behaviour Scale have not been considered individually to

further investigate this, although it is noted from the means of the optimism for personal input question in the Optimism/Pessimism Scale that this may be a contributory factor as Non-Professionals showed less optimism for personal input than all other groups.

The similarities between the willingness to help of the two healthcare professionals are in contrast to previous literature, which found different attitudes between healthcare professionals (e.g., Law et al., 2009; Saunders et al., 2012; Worrall & Jeffery, 2016; Warm, Murray & Fox, 2002) and instead supports research which found no differences between the attitudes of occupational groups towards those who self-injure (Cleaver, Meerabeau & Maras, 2014).

Stigmatising attitudes have been seen in the views of healthcare professionals towards those who self-injure (e.g., Cleaver, 2014; Hodgson, 2016; Marzano, Adler & Ciclitira, 2015; Ramluggun, 2013; Saunders et al., 2012; Timson, Priest & Clark-Carter, 2012; Worrall & Jeffery, 2016) and NICE guidelines (2013) note the punitive and judgemental attitudes staff may exhibit. Newton and Bale (2012) suggested professionals would have negative views of SIB, perhaps due to stigmatising attitudes of the public or else the responsibility for care that professionals have. The similarities between healthcare professionals and Non-Professionals seen here, however, do not support these hypotheses. Instead these results appear to mirror the conclusions of Shaw and Sandy (2016) that there is limited evidence supporting claims of negative views of healthcare staff in comparison to the non-professionals considered here. It may be the type of healthcare professional in the current study view SIB differently to the types of healthcare professional considered in previous studies. Previous studies have focussed on staff in A&E departments (e.g., Saunders et al., 2012) where the main focus on improving physical health and immediate threat to life could cause frustration for A&E professionals when the physical harm with which they are presented is self-inflicted. In the present study Primary Care and Mental Health Professionals especially are less focussed solely on the physical health of an individual.

It is of note that previous research found self-injuring individuals consider medically-trained personnel specifically to be the least helpful contact regarding their SIB (Warm, Murray and Fox, 2002). In the present study there is a confound with medical training and professional group; the Primary Care Professionals group being mostly, but not exclusively, medically trained and the Mental Health Professionals Group being mostly, but not exclusively, non-medically trained. Considering this, it is of note that Primary Care Professionals did not appear less willing to help than Mental Health Professionals. It may be that professionals in other medical settings, such as A&E departments, are less helpful due to the culture or focus of the setting or the predispositions of professionals attracted to such settings. Alternatively it could be a result of more recent improvements in understanding and attitudes compared to previous research, or else a result of a selection bias in the self-selecting nature of the current sample.

Scores for this measure were around a half of those possible. The implication is that there is the potential for more help that could be offered to those who undertake SIB.

7.2.2 Hypothesis 2 - The perceived attributions for self-injuring behaviour will be different in each professional group

7.2.2.1 The effects of type of self-injury

These results indicate that individuals are more likely to have more positive attributions for suicidal behaviour than for NSSI, which is supportive of the results of the Saunders et al. (2012) review. It may be that the seriousness and the presumed desperation of suicidal behaviour causes individuals to be less judgemental of the behaviour. This has important implications in terms of the subtly stigmatising attitudes and hypothesised resultant reduced caring response someone who undertakes NSSI might experience. As above, negative attributions for NSSI compared to suicidal behaviour may be more likely to reinforce beginning or continuing with suicidal behaviour.

7.2.2.2 The effects of professional group

It was reassuring in terms of the efficacy of training programs that those with presumably most training, Mental Health Professionals, were most understanding of SIB. This finding, taken with Primary Care Professionals not being significantly different to either Mental Health Professionals or Non-Professionals, appears in contrast to previous results which noted strong evidence for negative professional attitudes (e.g., Cleaver, 2014; Hodgson, 2016; Marzano, Adler & Ciclitira, 2015; Ramluggun, 2013; Saunders et al., 2012; Timson, Priest & Clark-Carter, 2012; Worrall & Jeffery, 2016) and instead again supports the conclusions of Shaw and Sandy (2016) in noting that there is limited evidence of negative attitudes by professionals towards those who self-injure. It is important to note however that while healthcare professionals in the current study do not hold more negative attitudes than Non-Professionals, the translation of their attributions for behaviour scores into real-world behaviour and interactions with individuals who self-injure is not known; while they may be more positive than Non-Professionals, their views may actually still be negative. As the attributions investigated here are self-reported attributions, rather than the experience of those attributions by those who self-injure, it is unclear exactly how these attitudes are experienced by individuals who self-injure.

It is noted that the attributions of Primary Care Professionals for SIB may need further investigation; although Primary Care Professionals were not significantly different to either of the other groups, the pattern of results demonstrate Primary Care Professionals attribute causes for SIB to causes other than internal or stable factors to a lesser extent than Non-Professionals. As the effect size was small-medium for professional group, it may be that the study did not have the required power to find an effect of this size. There are therefore difficulties drawing firm conclusions around the existence of any differences between healthcare professionals towards SIB. Further investigation would provide clearer evidence on support for differences (e.g., Law et al., 2009; Saunders et al., 2012; Worrall & Jeffery, 2016) or similarities (Cleaver et al., 2014) in the attitudes of different healthcare professionals. Indeed, the small-medium effect size and potential for low power could explain these mixed results.

It is clear that in relation to Mental Health Professionals, Non-Professionals have more blaming attributions for SIB. Previous research has suggested that attempts to educate individuals would be the most effective way to reduce stigmatising attitudes (Penn & Couture, 2002; Rüsçh et al., 2005). It is assumed Primary Care Professionals would also be exposed to any educational interventions aimed at Non-Professionals, which may serve to positively impact on the attributions of both of these groups.

The use of education to reduce stigmatising attitudes is further supported here by the assumption that Mental Health Professionals, presumably having had the most training in working with SIB and thus the experts in understanding it compared to other professions, had the lowest attribution scores of all three groups. Primary Care Professionals, presumably the next most educated in regards to treating SIB, had the next lowest score. This is in line with previous research on the effects of education and training on stigmatising attitudes (e.g., Cleaver, 2014; Friedrich et al., 2013; Hodgson, 2016; Kool, van Meijel, Koekkoek, van der Bijl & Kerkhof, 2014; Penn & Couture, 2002; Rees, Rapport, Thomas, John & Snooks, 2014; Rüsçh et al., 2005; Saunders et al., 2012; Shaw & Sandy, 2016).

However, it is noted that in the present study the broad professional background of respondents was used to indicate their specialist training or experience in relation to SIB. It is possible that respondents in each professional group had more or less experience than assumed, such as those who had taken additional training courses or personal study, which was not investigated here. Indeed, the self-selecting nature of the study may mean that those who are more interested in SIB, and thus were more likely to have additional experience or undertaken additional training, participated in the study. If this were the case this presumably would have had an impact across both healthcare groups to at least some degree. The range of means obtained for attributions for behaviours across different groups suggests that there is room for improvement in others' attributions for SIB, regardless of professional group.

7.2.3 Hypothesis 3 - The optimism for prognosis for self-injuring individuals will be different in each professional group

7.2.3.1 The Effect of type of self-injury

The prospect of positive outcomes after interventions in both forms of SIB was seen as equally likely. This implies that NSSI and suicidal behaviour are both seen in equal standing in terms of the outcome of intervention. Interestingly, this is true across all professional groups and thus it does not appear to be affected by training. It is noted that due to the paucity of research into effective treatments for NSSI (e.g., Saunders and Smith, 2016; Turner, Austin & Chapman, 2014) any comparisons between the effectiveness of the two cannot be based on scientific research and so the similarity seen here between groups is presumably based on wider cultural perceptions.

It is interesting to consider in both forms of SIB others' attributions for behaviours in contrast to their optimism for prognosis. While previously it was seen the attributions for the two behaviours were subtly different, this does not impact on the perceptions of the effectiveness of interventions. It is unclear from the current data if the interventions are seen as positive compared to other mental health interventions, or indeed if the causes are similar to those assumed as causes in other mental health issues. What can be inferred from these results, however, is that the perceived cause of the behaviour is not the only thing that affects attitudes towards others' optimism for prognosis. As noted above, the therapist's perceptions of intervention can have implications for recovery (e.g., Blow, Sprenkle & Davis, 2007; Eisler, 2006; Simon, 2006) and hence further investigation into factors that affect optimism for prognosis could be an important avenue for further research.

7.2.3.2 The effects of professional group

The higher optimism for treatment seen in both healthcare professionals compared to Non-Professionals is a promising finding in terms of belief in treatments offered, as

belief in treatment offered is known to affect the efficacy of treatments (e.g., Blow, Sprenkle & Davis, 2007; Eisler, 2006; Simon, 2006). It is noted the Optimism/Pessimism scale covered both the perceived effectiveness of interventions from self and from others. Therefore the medium-sized effect of professional group may reflect either, or both of, healthcare professionals feeling more positive over the potential interventions of others or healthcare professionals feeling more optimistic in personally helping individuals who self-injure.

While it may be assumed that healthcare professionals will feel more positive about their own input due to their professional skills, Non-Professionals may have felt positive in terms of the social support they were personally able to offer. Further investigation of the effect of professional group differences would allow for a better understanding of these results, allowing appropriate education around support both Non-Professionals and healthcare professionals could offer. However, the limited effectiveness of professional interventions for SIB is noted in terms of healthcare professionals' input (Hawton et al., 2015, 2016).

Overall, the means for the different levels of professional groups suggest that the optimism for input with individuals is relatively high: over two thirds of the possible maximum score. Although obviously showing room for improvement, this suggests that individuals believe there is generally a positive outcome that can be expected for individuals who self-injure, despite respondents being seen to offer relatively less help than could be offered to such individuals.

7.2.4 Hypothesis 4 - Empathy will predict the willingness to help in cases of self-injury

The results showed that over and above the variables already noted to impact on willingness to help (type of SIB and professional group) the amount of general trait empathy one exhibits has a small but significant effect on an individuals' willingness to help.

These results support previous findings that the emotional reaction one experiences mediate helping behaviour, including emotional reactions relating to empathy (e.g., Corrigan, 2000; Meyer & Mulherin, 1980; Reynolds & Scott, 1999; Yamauchi & Lee, 1999), although in the present study general empathy was considered prior to presentation of the SIB scenario: measuring general trait empathy rather than empathy specifically in reaction to someone who self-injures. Support was therefore found for Betancourt's (1990) model of helping behaviour that suggested the empathy of an individual influences their helping behaviour. Thus increasing the empathic abilities of individuals, as well as positively affecting their attributions for behaviours seen above, may be important in increasing help-seeking experiences of self-injuring individuals.

There are many studies that show that empathy can be successfully increased using brief interventions (see Butters, 2010 for a review) including with medical students (e.g., Mercer & Reynolds, 2002; Shapiro, Morrison & Boker, 2004). The present results suggest such intervention could be beneficial. While an obvious approach to increasing empathy would therefore be to increase empathy training for healthcare professionals, some research has found very high levels of empathy can lead to personal distress and self-neglect (see Ferguson, 2016, for a discussion). Considering the relatively small effect size of the impact of empathy over and above other variables and the potential for increased distress for professionals working with SIB further research is needed to fully explore the impact of empathy training. Other methods for increasing empathy, such as longer primary care consultation times (Mercer & Reynolds, 2002) could also be considered, with similar consideration of the potential strain on professionals.

Indeed, as it was seen above that Non-Professionals were the least willing to help in cases of SIB it could be argued that methods to increase empathy in this group would be beneficial. It is noted, however, that national empathy training is hard to conceive in practice. It may be that focusing on reducing stigmatising attitudes in Non-Professionals in other ways, such as educational media campaigns, are more practical and thus helpful.

7.2.5 Hypothesis 5 - These results taken together will support the conceptual idea that NSSI and suicidal behaviour are separate behaviours

The results here can be used to add to the discussion about the extent to which NSSI and suicidal behaviours should be viewed and thus treated as the same (e.g., Saunders et al., 2012; Shaw and Sandy, 2016) or not (e.g., Ramluggun, 2013; Timson, Priest & Clark-Carter (2012), finding evidence for the latter in some, but not all, contexts.

The difference between the scores for NSSI and suicidal behaviours on willingness to help and attributions for behaviours and differences between how males and females see these same factors in NSSI and suicidal behaviour suggests the two behaviours are not viewed identically by others, although the judgement of optimism being similar for the two behaviours suggests that the behaviours are indeed viewed as similar in some respects. The differences in views of the two behaviours should also be considered in the context of the stronger relationship between type of SIB and willingness to help than the relationship between type of SIB and attributions for behaviours. Apparently, therefore, while people assume only small differences in causal attributions for each SIB they have a much lower desire to help those who undertake NSSI than they do for those who undertake suicidal behaviour. While this does not comment on the extent to which the behaviours in themselves actually are different, it adds useful information regarding the subtly different ways others may approach them.

These findings do not conflict with the idea that the behaviours exist on a continuum (e.g., Muehlenkamp, 2014; Wichstrøm, 2009); whereby the behaviours are seen as subtly differing reactions to similar causes along the continuum. It would also appear on this continuum that more help is elicited at one end than the other. It would be interesting to further investigate the individual survey items comprising the Helping Behaviour Scale to better understand the nature of the willingness to help with each type of SIB, but unfortunately that is outside the scope of this study.

It is highlighted that the extent to which there are actual similarities and differences between these two behaviours has not been addressed. Instead, as suggested would be helpful by Worrall and Jeffery (2016), this research has contributed to a better understanding of individuals' reactions to these two behaviours. This work can be used to reduce the confusion between the two SIB that Shaw and Sandy (2016) noted existed for researchers and healthcare workers alike.

7.2.6 A Note on the Interaction Effects

Having considered the investigations of each hypothesis separately, it may be helpful to consider the investigation as a whole. All interaction effects considered in the investigation of all the hypotheses in the study were non-significant and showed very small effect sizes ($\leq .008$), however, the analysis may not have had the power to detect an interaction of this size. While the effect size of any individual interaction is small, it is of note that a similar pattern of results can be seen in all three ANOVA analyses undertaken: Non-Professionals and Primary Care Professionals appear similar in their views while Mental Health Professionals appear to differ from the other two groups. While these apparent interactions may have occurred by chance, it may be that Mental Health Professionals have subtly different views not seen in this study due to a lack of power. Due to this repeated pattern, further research with higher power may be warranted. However, in light of the small effect sizes any difference may prove to be of little clinical relevance.

7.2.7 Additional analyses

Having considered the planned analysis for the hypotheses generated from the review of the literature, attention is turned towards the additional analysis. As noted in the literature review, confidence in working with people who self-injure is something that is often alluded to as being important, but is not often considered as a factor in its own right (e.g., Hodgson, 2016; Saunders et al, 2012; Shaw & Sandy, 2016). The means of each item in the optimism/pessimism scale showed individuals were more likely to be optimistic than pessimistic for both personal and others' input. However,

the finding here that respondents across all professional groups tended to assume others were better placed to work with self-injuring individuals than the respondent themselves suggests personal confidence for helping this client group is lower than it could otherwise be.

Ireland et al. (in prep) observed what they called the “Hot Potato” effect, whereby a young person who self-injures is pushed between professionals for support, feeling helpless as a result. They suggested this was due to poor communication between the professionals supporting the young person, although they suggested it could also occur due to the contagion of distress and the resultant difficulties in responding helpfully (e.g., Smith et al., 2015).

Indeed, Obando-Medina, Kullgren and Dahlblom (2014) noted this very same “Hot Potato” effect due to a lack of confidence in helping those who self-injure in their study of Primary Care Professionals in Nicaragua. They noted in this qualitative study that often nurses lacked confidence and hence referred self-injuring individuals to doctors who in turn lacked confidence and so referred on to Mental Health Professionals. It is of note that Evans (2006) hypothesised a similar Hot Potato effect may occur in Mental Health settings with patients with high levels of risk.

These results are considered in the context of Marzano et al.’s (2015) study, in which they noted that passing the responsibility for care of individuals who self-injure to others eased professionals’ sense of responsibility but contributed to feelings of helplessness in dealing with SIB in the future. It is possible that for Non-Professionals and Primary Care Professionals the process of referring individuals on to others increases their own lack of optimism for their personal input with those who self-injure.

The results found in the present study suggest that the Hot Potato effect may occur due to a lack of personal optimism or confidence in personal intervention skills when faced with a client who self-injures.

It is of concern that the present study found this lack of optimism in personal abilities to support self-injuring individuals in Mental Health Professionals whom are theoretically best positioned to help. These results may be an effect of Mental Health Professionals being more likely to be aware of the limited effectiveness of interventions for SIB (Hawton et al., 2015, 2016).

However, many Mental Health services in the UK include an on-call “Crisis Team”, who specifically help those who are at the point of feeling the urge to self-injure, while other Mental Health Professionals provide longer term support towards mental well-being and recovery, with reduced SIB being a part of this recovery. It could be that the use of such Crisis Teams is serving to deskill other Mental Health Professionals and make them less confident in their own skills in helping those who self-injure in the longer term; this hypothesis would require further research as data on specific employment details such as service in which Mental Health Professionals worked was not collected here. Moreover, it is not clear the extent to which respondents were answering in terms of their ability to help in the short-term, with the immediate urge to self-injure, or with longer-term interventions for reducing individuals’ frequency of experiencing the urge to self-injure.

7.3 Clinical Relevance

In the similarities and differences seen between each professional group in terms of willingness to help, attributions for behaviours and optimism/pessimism, this research has provided a better understanding of the attitudes of three distinct groups of individuals towards SIB. It has highlighted that Non-Professionals have more potential to improve their perceptions of SIB, although it has shown room for potential improvement in healthcare professionals too. The similarities between the views of different healthcare professionals can be used to increase cooperation and team working across these healthcare settings.

The observation that general trait empathy impacts on one’s willingness to help, over and above other factors known to impact willingness to help suggests increasing

empathy could be an effective way to positively affect helping behaviour in a way that would improve experiences of both those who self-injure and those with other health conditions, both mental and physical (e.g., Bellet & Maloney, 1991; Halpern, 2003). This is especially important considering the context of the current healthcare system within the UK; there are financial constraints (e.g., Robertson, Wenzel, Thompson & Charles, 2017) and stigmatising attitudes surround all forms of mental illness (Corrigan, 2004), not just SIB. General training in increasing empathy of healthcare professionals in a transferable manner may therefore prove an effective way to improve individuals' experiences across the NHS, although the potential impact of increased empathy on professionals should be considered.

The differences in the views of respondents towards NSSI and suicidal behaviour show in terms of clinical, research and policy implications that there is a need for a clearer understanding of NSSI and suicidal behaviours for all involved. The confusion around the degree of similarity between these two behaviours is likely to distract from understanding the best way to help those who self-injure (Shaw and Sandy, 2016; Worrall and Jeffery, 2016). Ensuring all those working with SIB are aware of the potential differences in implicit behaviour that may result from different views of NSSI and suicidal behaviour for them and for others could have important clinical implications in terms of improved care.

The lower confidence of all groups, but especially Mental Health Professionals, in terms of the Hot Potato effect is also of clinical relevance. Lacking confidence means Healthcare Professionals are less likely to be enthusiastic about working with clients who self-injure, impacting on the care given (e.g., Blow, Sprenkle & Davis, 2007; Eisler, 2006; Simon, 2006). Thus, improving the confidence of Healthcare Professionals appears to be an important consideration. It is noted that a full literature review covering the Hot Potato effect has not been conducted and would be needed before the full clinical relevance of this finding could be ascertained.

Therefore, noting the limitations of previous work, as described by Newton and Bale (2012) and Worrall and Jeffery (2016), this work has identified the views of Non-

Professionals towards those who self-injure and thus has made important steps in both understanding the views of this group and allowing for comparisons between Non-Professionals and the views of different healthcare professionals. By describing this current picture understanding has been enhanced and, moving forward, steps can be made towards decreasing such stigmatising attitudes.

7.4 Study Quality

The quality of this study was considered in terms of the CASP criteria and the CONSORT (Consolidated Standards of Reporting Trials, 2010) criteria for evaluating the quality of this research. The CASP criteria were used to mirror the literature review. However, as there did not exist a specific CASP checklist for this study design, general CASP criteria were used alongside the CONSORT criteria in order to enhance this assessment of study quality. The major strengths and limitations of the study in terms of the CASP and CONSORT criteria can be seen in Table 7.1.

Table 7.1: The strengths and limitations of the study in terms of both the CASP and CONSORT criteria of study quality

| Strengths | Limitations |
|---|---|
| <p>+ Clearly focused research questions</p> <p>+ A thorough literature review was conducted (including searching the reference lists of articles)</p> <p>+ Specific hypotheses were identified</p> <p>+ Confidence intervals were given, and bootstrapping used. This meant results were precise and clear</p> <p>+ There was a large and varied sample</p> <p>+ Participants were randomised to SIB group (randomisation to professional group was not practically or ethically possible) and this was done by the computer software to minimise human bias in group allocation</p> <p>+ Participants were blind to the content of the alternative SIB group</p> <p>+ The quantitative, brief self-report survey methodology was appropriate considering the target population and estimated small effect size requiring large participant numbers</p> <p>+ Thorough analysis was conducted, including the testing for parametric assumptions, and results were not overstated; the interpretation was consistent with the results</p> <p>+ Effect sizes were presented and considered in the discussion of results</p> <p>+ Despite being quantitative research where it is not the norm, the researcher's own role and position and their effect on research was considered throughout</p> <p>+ There was a clear definition and distinction between pre defined and exploratory analysis</p> <p>+ Ethical issues were thoroughly considered and addressed</p> <p>+ A clear statement of findings was given</p> <p>+ A power analysis was undertaken</p> <p>+ A clear description of the design was given in the methods</p> <p>+ The date of the commencement and ending of recruitment were stated with a clear description of why recruitment was stopped at this time</p> <p>+ The extent to which the results can be generalised was considered</p> | <p>- The literature search did not include unpublished studies, non-English language studies and those identified after contact with experts</p> <p>- The locations in which data was collected was not clear</p> <p>- Some analyses of potential interest were not conducted, e.g., the effect of either professional group or type of SIB on the different aspects of the AOBQ</p> <p>- The majority of achieved effect sizes were mostly small affecting the relevance and clinical significance of the study</p> <p>- Professional group was confounded with source of participants to some extent</p> <p>- Some of the analyses may have been underpowered to find small effect sizes</p> <p>- The methods of randomisation used within the Qualtrics computer programme were not clear (e.g., blocking, etc)</p> <p>- Some of the achieved group sizes of sub-groups were small</p> |

7.5 Limitations

While the CASP and CONSORT criteria consider the general quality of research, the unique limitations of the study can be considered further. For example, it is unclear the extent to which the results found are specific to intentional SIB or could be generalised to other mental health issues. Further quantitative or qualitative research would be helpful considering other self-destructive behaviours, such as binge-eating or stereotypic SIB, as well as other mental health issues more generally.

The measures in the current study may have limited the results; the lack of normal data and possible ceiling effects suggests that the measures may have lacked some sensitivity. Observer reports may be more sensitive to factors such as empathy (Butters, 2010), and may be a fruitful avenue for further study, especially client-rated reports, to whom the perception of empathy is perhaps most important. The present study, however, specifically aimed to include the busy and hard-to-reach GP population that meant self-reports were a practical method for these investigations.

It is also noted that the Helping Behaviour Scale assessed respondents' views on how deserving Jane was of support, rather than the actual form of help offered. This focus is beneficial in terms of NHS policies that limit the choice of clinicians in responding to such behaviour, and so differences are more likely to be seen. However, it is noted it does not entirely circumnavigate the issue of differing risk in the two vignettes, which may have impacted on the reactions of respondents. This is a possible mediating issue between reactions to the two forms of SIB. However, it is noted that this would impact all professional groups equally; as such differences seen between the professional groups towards the two SIB was not related to the concept of risk.

The order of the measures used should also be noted. While the precise ordering of the questionnaires was decided upon for valid methodological reasons, as discussed in Table 5.4, this non-randomisation will have impacted on the results gained here. For example, while the BES was presented before the type of SIB in order to avoid the

type of SIB presented impacting the empathy felt, it must be considered that the BES may have primed participants as to the nature of the study and thus impacted on their subsequent responses, either subconsciously or through social desirability bias. It is of note however that this would presumably have impacted all participant groups equally, or even if not, would have impacted on the type of SIB equally. Moreover, scores resulting from questionnaires presented after the BES and vignettes were compared between participants, rather than to an absolute value or standard which participants were expected to reach.

It is of note that generally in the findings discussed here differences tend to relate to an average of one or two points' difference on the Likert scale used. However, standard deviations and confidence intervals were often also small, with confidence intervals of broadly around half a Likert scale point. It is noted the clinical relevance of such differences are hard to define due to the lack of standardised measures used, and thus the utility of these findings are hard to clarify; for example, differences between the attributions for behaviours may reflect differing levels of negative attribution scores, rather than positive and negative attributions per se. However with no data available for how clinically significant these results are this study offers a good starting point for this investigation.

In the present study there were some factors in relation to the sample that were unavoidable limitations given the scope and timescale of the project. One limitation was that both professional groups largely consisted of one particular profession each, with a lack of time to recruit more professions within each broad professional group. For example, this is likely to have affected the generalisability of results of the Primary Care Professionals group because doctors tend to view SIB more negatively than nurses (Saunders et al., 2012). Therefore, the Primary Care Professionals group may not be reflective of GPs, Primary Care nurses, or Primary Care staff overall due to the distributions of professions within this group. A similar situation may also be true in the Mental Health Professional group, consisting mainly of Psychologists. Given more time, more targeted sampling may have helped address this issue.

Another potential limitation of the sample was a lack of consideration of aspects of diversity or current workplace, which may have impacted on participants' responses (e.g., Cleaver, 2014; Hodgson, 2016; Saunders et al., 2012; Timson, Priest & Clark-Carter, 2012). However, these were deliberately not collected here in order to keep the survey brief and thus encourage participation.

Other factors were not explored as fully as they could have been: the effect of increasing experience in terms of contact or time since qualifying was not considered in detail, which has previously been seen to impact on results (Cleaver et al., 2014; Mehta et al., 2015; Penn & Couture, 2002; Saunders et al., 2012; Shaw & Sandy, 2016; Rees, Rapport, Thomas, John & Snooks, 2014). Furthermore, a high proportion of participants were also in the age range 26-35 (48.8%), which may have skewed results. These factors were not considered here due to the small group sizes involved and the resultant low power, but these factors would be interesting avenues for further research.

Baring these limitations of the sample in mind the generalisability of the results could be questioned; however, the broad recruitment strategy will have aided in creating a representative sample with generalisable results. It is noted that the sample was limited to computer-literate respondents, although it is assumed that most people of working age, whom this research was aimed at, would be able to access the survey in this manner.

7.6 Recommendations

This study has been beneficial in describing the current attitudes of different professional groups towards SIB. Important next steps would include using qualitative methods and triangulating results to contribute to understanding of potential ways to improve this current situation.

Training courses specific to SIB covering types and causes for behaviour as well as courses aimed to increase empathy would be beneficial areas for further research,

including considering the cost-effectiveness, content, recipients' wellbeing and delivery methods of such courses to ensure the most ethical and effective interventions are delivered. Indeed, professionals may show less empathy than they could in order to protect themselves from the stress of their workloads. An exploration of this hypothesis may be helpful.

Further investigation of the additional analysis of the "Hot Potato" effect, in terms of the severity and how to minimise it, would also be an important avenue for further research. This could especially be true in the case of Mental Health Professionals, who one would expect to feel most confident in undertaking work with people who self-injure.

The implications for policy and practice should also be considered. There may be an effect of subtle biases against those who undertake NSSI compared to suicidal behaviour and as such these potential biases should be considered and accounted for. This would help to ensure that NSSI is not overlooked compared to suicidal behaviour in guidelines and policy.

In future studies it could prove useful to look at self-stigmatising attitudes and the degree of similarity of attitudes towards each of the SIB in this regard. This would have required further recruitment in the present study that was outside the scope of this project. Future work, including those who self-injure, would benefit from a better understanding of what "acceptable" levels of the dependent variables are in order to draw conclusions on differences between groups.

The aim of the present study was to consider perceptions of SIB in terms of the cognitive aspects of stigmatising responses. Considering the extent to which the present results concerning stigmatising attitudes transfer into stigmatising behaviour could also extend this study further and provide valuable information for improving the situation for those who self-injure.

7.7 Conclusions

In conclusion, this study has measured the attitudes of a range of different professionals' attitudes towards SIB with and without intent to end life. By gaining a large sample using a range of recruitment methods the results are likely to be generalisable, although the sample was self-selecting and was limited in the scope of professionals who were recruited. The brief survey methodology ensured a high recruitment rate of hard-to-reach professionals working in busy settings.

The findings have shown that Mental Health and Primary Care Professionals have similar willingness to help, attributions for behaviours, and optimism for prognosis of treatment in SIB. Non-healthcare professionals showed less positive attitudes in all regards.

There were also differences between NSSI and suicidal behaviour in terms of individuals' willingness to help and their attributions for behaviours, however individuals' optimism for prognosis in each behaviour were similar. Taken together, these results are suggestive of SIB with and without suicidal intent being distinct, but similar behaviours.

Empathy was seen to be a factor influencing willingness to help in SIB, above the impact of professional group and type of SIB. Although a small effect of empathy was seen, the implications were discussed in terms of models of helping behaviour and in empathy being translatable to other healthcare situations.

It was seen that all professional groups felt less optimistic about personally helping a self-injuring individual than they did about someone else helping that individual. This was taken as a lack of confidence in working with SIB and the need for further research in this area was discussed.

These results have highlighted the current attitudes towards SIB; moving forwards further research is needed to ascertain how best to positively influence these attitudes.

Training sessions in SIB and empathy have been suggested as possible options to trial and evaluate.

7.8 Reflections

My discussion section and final conclusions have led me to my final reflective section. In writing this discussion section I have been struck again by my immense sense of relief; Primary Care Professionals are not negatively implicated in the results. I appreciate these results both for my own sake, and obviously for those who self-injure. I feel very lucky that I have ended with conclusions that can both help those who self-injure and which do not criticise any professional group. I had been quick to criticise and want to point blame, and yet it strikes me now with stretched NHS resources and staff under pressure how easy it is to blame other departments or teams when so much more may actually be possible if we were to work together for the common aim of the health of those in our care.

I find myself drawn to the various similarities and differences between views of NSSI and suicidal behaviour. How can it be that people find them so similar in outcome prognosis and yet the difference in willingness to help be so much more varied? I find myself draw to further research in this area. I wonder how helpful this research would be, however; perhaps it would be more helpful initially to work out how to improve attitudes in ways suggested by this research rather than to further describe them. Going forward I want to ensure that I continue to conduct research that will be helpful to my clients, not just research that satisfies my own intellectual curiosity.

Research that I feel would be both beneficial and intellectually stimulating is the “Hot Potato” effect. I find this fascinating and at times struggled to stick to my original research questions and hypotheses for want of further exploring this with the data I had. Indeed, finding this by chance after looking through the detailed descriptive statistics, I often found myself wondering what other findings lay unearthed in the data. I am excited about further exploring the descriptive statistics in the future for other hidden results of interest, but I found my drive to continue with the original

project wavering. In situations unlike a doctoral thesis where an external drive to see the project through to completion is not present (perhaps in busy NHS settings where one is researching out of personal desire rather than because it is integral to the service) it is easy to see how important and useful research could easily get lost: going unpublished and unheard. My willingness to change direction, despite all my work to that point, shocked me. I will monitor my attention and commit to finish and endeavour to publish all my research for the benefit of clients and as an ethical responsibility to those who gave their time to the project.

Originally, as detailed previously, I decided to conduct research in the area of SIB due to my own lack of confidence and unfamiliarity with the area; I wanted to improve my understanding in order to empathise and thus work better with the clients I see. I find surprising the discovery that all professionals, including qualified Mental Health Professionals, tend to lack optimism for prognosis when working personally with an individual who self-injures, compared to when others work with the individual. It appears I am not the only one with room for more confidence in working with this client group. While this is reassuring that I am not lacking confidence that others have, it is concerning that others feel this way at all. I note that I felt compelled to act on this lack of confidence; being a trainee psychologist with time devoted to a research project afforded me this luxury. I wonder however, with high workloads and competing pressures, if other Mental Health Professionals have the time to address their lack of confidence? Or if they feel able to even voice their lack of confidence? I felt anxious when I committed to paper my own admission of a lack of confidence: what would that say about my training? My readiness to qualify? My future career? Clearly I ultimately felt this admission was not ill-advised, but if, as someone not yet qualified, it felt hard to admit, what must it be like to admit that several years post qualification: when supervising trainees, heading a team or running a service? How would that admission be viewed by others? I wonder if this lack of confidence is present exclusively when working with those who self-injure, or if it is present when working with other mental health issues too? And if so, if it permeates all mental health professionals equally?

My attempt to answer five modest research questions has unveiled further unanswered questions. While the “incompleteness” of these unanswered questions is frustrating, I’ve no doubt that both these questions and the research skills I’ve developed while uncovering them will make me a better clinical psychologist. Via my planned continued research throughout my career I’m aware that I may have a list of unanswered questions growing exponentially; with this, I’m struck by how true it is that although my journey through clinical psychology training is coming to an end, my learning is certainly not.

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9 Appendices

9.1 List of appendices

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Appendix A

The search strategy used, including precise search terms, in each of the three databases searched

Scopus:

(TITLE ("self-harm*" OR "self harm*" OR "self-injur*" OR "self injur*" OR suicid* OR nssi OR sib OR "non-suicidal self*" OR "nonsuicidal self*" OR "self inflict*") OR TITLE ("self-inflict" OR "self destruct*" OR "self-destruct*" OR "self mutilat*" OR "self-mutilat*" OR "suicid* ideation") AND TITLE (belie* OR view* OR react* OR opinion OR interven* OR hope* OR responses OR stigma OR attitud* OR perspective OR view* OR empath* OR react*) OR TITLE (prejudice OR opinion OR blame OR othering OR optimis* OR pessimis* OR hope* OR attribut* OR culture OR stereotype* OR perception*) AND TITLE-ABS-KEY (uk OR "U.K." OR "united kingdom" OR england OR britain OR british) AND NOT TITLE-ABS-KEY ("learning disabilit*" OR "intellectual disabilit*" OR "mental* retard*" OR "brain injur*" OR euthanasia OR "assisted suicide")) AND PUBYEAR > 2010

PsychInfo:

ti("self-harm*" OR "self harm*" OR "self-injur*" OR "self injur*" OR suicid* OR NSSI OR SIB OR "non-suicidal self*" OR "nonsuicidal self*" OR "self inflict*" OR "self-inflict" OR "self destruct*" OR "self-destruct*" OR "self mutilat*" OR "self-mutilat*" OR "suicid* ideation") AND ti(belie* OR view* OR react* OR opinion OR interven* OR hope* OR responses OR stigma OR attitud* OR perspective OR view* OR empath* OR react* OR prejudice OR opinion OR blame OR othering OR optimis* OR pessimis* OR hope* OR attribut* OR culture OR stereotype* OR perception*) AND (UK OR "U.K." OR "united kingdom" OR England OR Britain OR British) NOT ("learning disabilit*" OR "intellectual disabilit*" OR "mental* retard*" OR "brain injur*" OR euthanasia OR "assisted suicide")

PubMed:

(((((("self-harm"[Title] OR "self harm"[Title] OR "self-injur"[Title] OR "self injur"[Title] OR suicid*[Title] OR NSSI[Title] OR SIB[Title] OR "non-suicidal self"[Title] OR "nonsuicidal self"[Title] OR "self inflict"[Title] OR "self-inflict"[Title] OR "self destruct"[Title] OR "self-destruct"[Title] OR "self mutilat"[Title] OR "self-mutilat"[Title] OR "suicid* ideation"[Title])) AND (belie*[Title] OR view*[Title] OR react*[Title] OR opinion[Title] OR interven*[Title] OR hope*[Title] OR responses[Title] OR stigma[Title] OR attitud*[Title] OR perspective[Title] OR view*[Title] OR empath*[Title] OR react*[Title] OR prejudice[Title] OR opinion[Title] OR blame[Title] OR othering[Title] OR optimis*[Title] OR pessimis*[Title] OR hope*[Title] OR attribut*[Title] OR culture[Title] OR stereotype*[Title] OR perception*[Title])) AND (UK OR "U.K." OR "united kingdom" OR England OR Britain OR British)) AND ("2011"[Date - Publication] : "3000"[Date - Publication])) NOT ("learning disabilit*" OR "intellectual disabilit*" OR "mental* retard*" OR "brain injur*" OR euthanasia OR "assisted suicide")

Appendix B

The 21 articles identified for further reading from the in-depth review of the literature. Those in grey are those that were excluded after the full-texts were read

| Author(s) | Article Title | Publication Date |
|---|--|------------------|
| Artis, L., Smith, J.R. | Emergency department staff attitudes toward people who self-harm: exploring the influences of norms and identity | 2013 |
| Cleaver, K. | Attitudes of emergency care staff towards young people who self-harm: A scoping review | 2014 |
| Cleaver, K., Meerabeau, L., Maras, P. | Attitudes towards young people who self-harm: Age, an influencing factor | 2014 |
| Cwik, J.C., Till, B., Bieda, A., Blackwell, S. E., Walter, C., Teismann, T. | Measuring attitudes towards suicide: Preliminary evaluation of an attitude towards suicide scale | 2017 |
| Eskin. et al. | Cross-national comparisons of attitudes towards suicide and suicidal persons in university students from 12 countries | 2016 |
| Fleet, D., Mintz, R. | Counsellors' perceptions of client progression when working with clients who intentionally self-harm and the impact such work has on the therapist | 2013 |
| Hay, A., Majumder, P., Fosker, H., Karim, K., O'Reilly, M. | The views and opinions of CAMHS professionals on their role and the role of others in attending to children who self-harm | 2015 |
| Hodgson, K. | Nurses' attitudes towards patients hospitalised for self-harm | 2016 |
| Knowles, S. E., Townsend, E., Anderson, M. P. | Youth justice staff attitudes towards screening for self-harm | 2012 |
| Marzano, L., Adler, J.R., Ciclitira, K. | Responding to repetitive, non-suicidal self-harm in an English male prison: Staff experiences, reactions, and concerns | 2015 |
| Nelson J.C., Collins A., Foster T., Cooper S.J. | Religious beliefs and attitudes toward suicide in a cohort of medical students at Queen's University Belfast | 2013 |

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|--|--|------|
| Newton, C. Bale, C. | A qualitative analysis of perceptions of self-harm in members of the general public | 2012 |
| Ramluggun P. | A critical exploration of the management of self-harm in a male custodial setting: Qualitative findings of a comparative analysis of prison staff views on self-harm | 2013 |
| Rees, N., Rapport, F., Snooks, H. | Perceptions of paramedics and emergency staff about the care they provide to people who self-harm: Constructivist metasynthesis of the qualitative literature | 2015 |
| Rees, N., Rapport, F., Snooks, H., John, A., Patel C. | How do emergency ambulance paramedics view the care they provide to people who self harm?: Ways and means | 2016 |
| Rees, N., Rapport, F., Thomas, G., John, A., Snooks, H. | Perceptions of paramedic and emergency care workers of those who self harm: A systematic review of the quantitative literature | 2014 |
| Sandy, P.T. | Motives for self-harm: Views of nurses in a secure unit | 2013 |
| Saunders, K. E. A., Hawton, K., Fortune, S., Farrell, S. | Attitudes and knowledge of clinical staff regarding people who self-harm: A systematic review | 2012 |
| Shaw, D.G., Sandy, P.T. | Mental health nurses attitudes toward self-harm: Curricular implications | 2016 |
| Timson, D., Priest, H., Clark-Carter, D. | Adolescents who self-harm: Professional staff knowledge, attitudes and training needs | 2012 |
| Worrall, R.L., Jeffery, S. | Survey of Attitudes to Self-Harm Patients Within a Burns and Plastic Surgery Department | 2016 |

Appendix C

The results of CASP quality considerations of the 14 articles included in the review of the literature (excluding Saunders et al., 2012)

| Author(s) and publication date | Negatives of research methodology | Positives of research methodology |
|--------------------------------|--|--|
| Artis and Smith (2013) | <ul style="list-style-type: none">• One A&E department used.• Ages of participants not clear.• Saturation may not have been reached.• Researcher's own role stated, but impact not considered explicitly (esp. not in data collection and interpretation).• Triangulation, respondent checking data etc. not considered; only one analyst. | <ul style="list-style-type: none">• Aims clearly stated.• Ethics briefly considered.• Saturation considered (although "may not have been reached").• Researcher's position considered briefly.• Examples clear for each theme.• Clinical implications considered. |
| Cleaver (2014) (review) | <ul style="list-style-type: none">• Only nurses' views considered.• Only views towards adolescent SIB considered.• Research question not clearly stated.• Only primary research in peer reviewed articles considered.• Methodology of how themes arrived at were unclear. | <ul style="list-style-type: none">• Both NSSI and suicidal behaviour considered.• UK mostly UK-based.• Six databases searched.• Methodology for critical appraisal clear.• Inconsistent findings considered.• Qualitative and quantitative papers considered.• Reference lists followed up.• Range of settings considered.• Study aims clearly stated. |

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| Cleaver, Meerabeau and Maras (2014) | <ul style="list-style-type: none"> • Mixed methods – quantitative aspect only exploratory/pilot as un-validated questionnaires used. • A&E and paramedics only. • Self-harming in children only considered. • 17% response rate. No explanation of how qualitative participants chosen, why quantitative uptake was so low or how this might have affected results. • Saturation of data not discussed. • Researcher’s impact on study not addressed. • Ethical considerations are brief. | <ul style="list-style-type: none"> • Clearly defined the aims of the research. • Clearly defined the implications of the research. • Lots of quotes to show data in qualitative aspect. • Data exceptions considered in qualitative aspect. |
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| <p>Eskin, Kujan, Voracek, Shaheen, Carta, Sun, Flood, Poyrazli, Janghorbani, Yoshimasu, Mechri, Khader, Aidoudi, Bakhshi, Harlak, Ahmead, Moro, Nawafleh, Phillips, Abuderman, Tran and Tsuno (2016)</p> | <ul style="list-style-type: none"> • Not necessarily representative of countries sampled (university students used). • Questionnaires (presumably) translated into different languages that could cause differences in nuances in answers (if/how translated not made clear). • Many other social factors that could affect suicide not considered or only briefly considered which could confound with country data. • Researchers confounded with country data. • Not clear if all questionnaires were previously validated. • UK ethics committee stopped the study early due to concerns. • High numbers of questionnaires excluded in some countries, which could skew results. • Many statistical tests and it is unclear if the alpha rate was adjusted accordingly. • Impact of research not really considered. • Suicidal behaviour only considered. | <ul style="list-style-type: none"> • Anonymous questionnaire design used limits social desirability bias. • Ethical approval considered in all countries. • Overall very large sample size. • Used some validated measures and further tested the internal consistency of these measures in this study. • Number of participation refusals noted (although not considered further). • Multi-site study apparently conducted effectively. • Research questions clearly stated. |
| <p>Hodgeson (2016) (review)</p> | <ul style="list-style-type: none"> • Participants were nurses only • Only NSSI was considered. • International literature considered – potential confounds. • Recommendations for future research were limited. • Limited description of how or why chosen methodology used (e.g.. Themes). • Potential impact of setting not considered. | <ul style="list-style-type: none"> • Large range of settings considered in the findings – potentially more generalisable. • Literature review methods were clearly defined. • It was stated which tool was used to assess research quality. • Current policy was considered. • Recommendations for improving practice were considered. • |

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| Marzano, Adler and Ciclitira (2015) | <ul style="list-style-type: none"> • Participants not well described - no mean ages, genders, etc. • Only one example given per theme/topic and not always stated how many had that view. • Only NSSI. • Impact of staff views not clear. • One local and "under resourced" prison used for recruitment. • Prison staff population - mostly male. • Researcher's own position and influence not considered. | <ul style="list-style-type: none"> • Considered further research opportunities. • Aims and research questions clearly stated. • Good consideration of confidentiality/ anonymity. • Clear how themes derived from data. • Research considered in terms of current policy. • Both healthcare and prison guards included (both medically and non medically trained). |
| Nelson, Collins, Foster, Cooper (2013) | <ul style="list-style-type: none"> • One cohort at one university. • Young age range. • Only trainee medics used. • Only suicide considered. • Data collected in early 2000s – attitudes may have changed prior to write-up. • Impact on clinical work or further research not discussed. • Aims and research questions not clear. | <ul style="list-style-type: none"> • Ethics briefly considered considering article length. • Checked internal consistency of measures used. • Conveyed much information in a small number of words. |

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|------------------------|---|---|
| Newton, Bale (2012) | <ul style="list-style-type: none"> • Research questions not stated. • No in-study comparisons of public and professional views. • Not clear which researcher analysed data. • Accents included in written quotes – this could threaten confidentiality. • Generally one quote per point. • Very small sample size (though qualitative). • Participants were acquaintances of acquaintances - narrow sample and increase social desirability? • No explanation of how sample selected or why recruitment ended at 7 (e.g., saturation or practical constraints). • Participant welfare after participation not made clear. • Triangulation, respondent validation etc. not considered. • No clear statement of findings. • Only NSSI considered. | <ul style="list-style-type: none"> • Research aims clearly stated. • Ethics (briefly) considered. • Consideration of impact of researcher views (but brief and general). • Appropriate qualitative approach used in exploratory study. • Despite limited space about half of the interview schedule was made explicit. • Contradictory evidence taking into account in analysis. • Findings discussed in depth. • Briefly considers the way the research could be used. • Briefly considers further research needed. |
| Ramluggun (2013) | <ul style="list-style-type: none"> • Prison staff – may not generalise. • Research questions not clearly stated. • Single prison used. • Participant characteristics poorly defined (no gender, age, etc.). • Not always several examples given for themes/points. | <ul style="list-style-type: none"> • Aims clearly stated. • Ethics clearly thought about and described. • Transcribed within 24 hours of interview (although by professional transcriber). • Emerging themes explored as data collected. • Transcripts and final themes checked with individual participants. • Good description of how themes arrived at. • Researcher considered effect of self on participant responses. • Data triangulated. • Implications for practice considered. |

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| Rees, Rapport and Snooks (2015) (review) | <ul style="list-style-type: none"> • Only paramedics and emergency staff's views considered. • Only NSSI considered. • Only Qualitative studies considered. • International studies considered. | <ul style="list-style-type: none"> • Thorough description of the method employed for selecting papers • Considered the quality of papers individually using Burns' guidance (1989, in Rees et al., 2015). |
| Rees, Rapport, Thomas, John and Snooks (2014) (review) | <ul style="list-style-type: none"> • Quantitive research only considered. • Search terms used limited. • Only included attitudes to NSSI. • Only emergency staff's views considered. • International studies included. • Results consisted mostly of self-report measures rather than experimental research. | <ul style="list-style-type: none"> • Four databases used and searching methodology explicit. • The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Liberati, Tetzlaff & Altman, 2009, in Rees et al., 2014). |
| Shaw and Sandy (2016) | <ul style="list-style-type: none"> • Forensic setting only used. • MH nurses only. • One forensic unit covered. • Recruitment "purposively sampled" but no real further information given on sampling. | <ul style="list-style-type: none"> • Covers both NSSI and SB - and explicitly states as much. • Aims clearly stated. • Pilot interviews carried out. • Data saturation considered and achieved. • Good description of sample. • Two authors conducted blind reliability checks. • Ethics carefully considered. • Transparent methods in giving example interview questions and stating number of times themes seen. • Multi-method study. • Considers research quality in terms of qualitative research (method used) rather than applying quantitative markers of quality. |

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| Timson, Priest and Clark-Carter (2012) | <ul style="list-style-type: none"> • Adolescent focus only. • Small geographical area. • Uptake varied across professions. • Correlational – included speculation of factors not explored in themselves. | <ul style="list-style-type: none"> • Reliability and internal consistency assessed and considered acceptable of included data. • Data where reliability or internal consistency not acceptable excluded. • Power considered and robust. • Sample description thorough. |
| <hr/> | | |
| Worrall and Jeffery (2016) | <ul style="list-style-type: none"> • No statistical tests in quantitative section. • The study did not rule-out data if data spoiled - process for judging spoiled data unclear. • Only self-harm not suicidal behaviour. | <ul style="list-style-type: none"> • Mixed methods. • Good description of sample characteristics. |

Appendix D

The results of the CASP quality considerations of the three articles included in the review of the literature after searching the reference lists of included studies

| Author(s) and publication date | Negatives of research methodology | Positives of research methodology |
|---------------------------------------|--|--|
| Law, Rostill-Brookes & Goodman (2009) | <ul style="list-style-type: none"> • Adolescents only in sample. • Students only in sample. • Research questions not clearly stated. • Clinical psychology student group significantly older than all other groups. • Groups confounded with gender (medical and physics students more likely to be male). • Generalisability questioned - two universities, all students and differential completion rates across professions. • Social desirability means self-report might not relate to behaviours. • Ecological validity of vignettes questioned. | <ul style="list-style-type: none"> • Large sample size with both healthcare and general population in sample. • Aim clearly stated. • Assumptions about assigned causes validated as representative by unique and blind sample. • Likelihood of social desirability impacting results tested. • Reliability/internal consistency of scales considered/tested. • Parametric testing considerations clearly taken into account. • Power considered. • Impact of research considered. |
| Mackay and Barrowclough (2005) | <ul style="list-style-type: none"> • A&E staff only in sample. • One region of England only in sample. • No explicit consideration of measure validity/reliability seen. • Definitions of SIB not given. • Low response rate (49%). • Impact of confidence in dealing with SIB not considered. • Department protocols limit effect of one of the variables (propensity to help). | <ul style="list-style-type: none"> • Characteristics of non-returns considered to a degree (but limited). • Case vignette contained extra information to make them more ecologically valid. • Consideration given to assumption of parametric tests. • Aims and hypotheses clearly stated. |

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| Wheatley and Austin-Payne (2009) | <ul style="list-style-type: none"> • Only nursing staff used (both qualified and unqualified). • Only adolescent or adult secure setting used. • Gender of respondents not considered. • Age not collected or considered. • Validity of questionnaires used not or only briefly considered. • One provider used. • Very low response rate (12%). • Limitations of study not considered by authors. | <ul style="list-style-type: none"> • Aims stated, (but not concise). • Vignette used clearly considered in detail. • Reasons for chosen methodology explained and relevant. • Power considered. • Assessed actual knowledge of respondents, not just based on familiarity or training reports. • Implications for practice considered. |
|--|--|--|

Appendix E

Details of the three articles identified for full-text screening following the additional review of the literature undertaken near the completion of the project (10th May, 2017). Those in grey are those that were excluded after the full-texts were read

| Author(s) | Article Title | Publication Date |
|--|---|------------------|
| James, K., Samuels, I., Moran, P. & Stewart, D. | Harm reduction as a strategy for supporting people who self-harm on mental health wards: the views and experiences of practitioners | 2017 |
| Saini, P., Chantler, K. & Kapur, N. | General practitioners' perspectives on primary care consultations for suicidal patients | 2016 |
| Saini, P., Chantler, K. & Kapur, N. | GPs' views and perspectives on patient nonadherence to treatment in primary care prior to suicide | 2017 |

Appendix F
Full CASP review of the Saunders Hawton, Fortune and Farrell (2012) literature review using the Systematic Review Checklist (2017)

| CASP question | Response |
|--|---|
| <i>A – are the results of the review valid?</i> | |
| 1) Did the review address a clearly focussed question? An issue can be “focussed” in terms of: <ul style="list-style-type: none"> • The population studied • The intervention given • The outcome considered | <ul style="list-style-type: none"> • The aims were clearly stated (“to summarise current knowledge of clinical staff, including factors that influence them and the impact of training”), but a clearly focussed research question was not present • The population studied was focussed on qualified staff members only, with no/few trainees and general public • Only observational studies were used, not experimental studies • The outcome was descriptive in nature due to the inclusion of qualitative studies |
| 2) Did the authors look for the right type of papers? “The best sort of studies” would: <ul style="list-style-type: none"> • Address the reviews question • Have an appropriate study design (usually RCTs for papers evaluating interventions) | <ul style="list-style-type: none"> • The authors achieved their aim successfully • The authors used papers with an appropriate study design (observational, etc) for the research question |
| <i>Reflection point - is it worth continuing?</i> | |
| 3) Do you think all the important, relevant studies were included? Look for: <ul style="list-style-type: none"> • Which bibliographic databases were used • Follow up from reference lists • Personal contact with experts • Search for unpublished as well as published studies • Search for non-English language studies | <ul style="list-style-type: none"> • Six databases were searched: AMED, British Nursing Index, CINAHL, International Bibliography of Social Sciences, MEDLINE and PsychInfo • Full and thorough list of search terms used were given • It was not stated if reference lists were followed up, if unpublished studies had been included in the search or if the authors had made contact with experts in the field to ask for papers, although it is noted that two of the authors work at the <i>Centre for Suicide Research</i> • Non-English language studies were not included |

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| <p>4) Did the review's authors do enough to assess the quality of the included studies? The authors need to consider the rigour of the studies they have identified. Lack of rigour may affect the studies' results. ("All that glitters is not gold" Merchant of Venice – Act II Scene 7)</p> | <ul style="list-style-type: none"> • Two quality appraisal tools were used on the papers resulting from the literature search: the Social Care Institute for Excellence quality assessment tool and Critical Appraisal Skills Programme's "Ten questions to help you make sense of Qualitative Research" • Quality ratings given by author consensus, although quantitative research automatically gained two rating points which qualitative research had to earn • Better articles given more weight in the findings, although it is not clear to what extent this weighting had an effect |
| <p>5) Did the results of the review have been combined, was it reasonable to do so? Consider whether:</p> <ul style="list-style-type: none"> • The results were similar from study to study • The results of all the included studies are clearly displayed • The results of the different studies are similar • The reasons for any variations in results are discussed | <ul style="list-style-type: none"> • The results of different studies were mostly similar • The results of the included studies were not clearly displayed, but were discussed clearly • Variations in results were discussed, but potential reasons for this were discussed less |

B – What are the results?

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|--|--|
| <p>6) What are the overall results of the review?</p> <p>Consider:</p> <ul style="list-style-type: none"> • If you are clear about the review’s “bottom line” results • What these are (numerically if appropriate) • How were the results expressed (NNT, odds ratio, etc) | <ul style="list-style-type: none"> • The results of the review were summarised in themes in the prose • The results of the review were clear: <ul style="list-style-type: none"> ○ Those in a medical setting had more negative views than others ○ Attitudes were different depending on if the client was viewed as seeking attention or as having a mental health problem ○ The gender of the individual had an effect (females were seen more positively) ○ Nurses were more positive than doctors ○ Psychiatrists were more positive ○ Training helps improve attitudes ○ There are practical difficulties in helping those who self-harm which impact attitudes (e.g., confidential space, lack of resources) ○ More experience with self-harm leads to more negative views |
|--|--|

| | |
|--|---|
| <p>7) How precise are the results?</p> <p>Look at the confidence intervals, if given</p> | <ul style="list-style-type: none"> • Six themes were presented. It is hard to assess how precise these themes were as authors did not present thorough methodology on how themes arrived at or the impact of their own views on the forming of these themes • The inclusion of international studies may have made the results less precise |
|--|---|

C – Will the results help locally?

| | |
|--|---|
| <p>8) Can the results be applied to the local population?</p> <p>Consider whether:</p> <ul style="list-style-type: none"> • The patients covered by the review could be sufficiently different to your population to cause concern • Your local setting is likely to differ much from that of the review | <ul style="list-style-type: none"> • Results can partly be applied to the UK – these results extend further than in the current study • The views of medical, nursing and emergency care staff seem to have been well documented, however views of other professionals (GPs, Mental health professionals, the general public) are less well presented |
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| <p>9) Were all the important outcomes considered?</p> <p>Consider whether:</p> <ul style="list-style-type: none"> • Is there other information you would like to have seen | <ul style="list-style-type: none"> • The validity of social psychology theories for factors which influence views was not well considered. • Cultural influences were not explored as fully as they could have been • The views of trainee professionals in different fields could have been explored |
| <hr/> <p>10) Are the benefits worth the harms and costs?</p> <p>Consider:</p> <ul style="list-style-type: none"> • Even if this is not addressed by the review, what do you think? | <hr/> <ul style="list-style-type: none"> • As the review was not of experimental literature, no interventions were conducted and thus no harms were a direct result of interventions under review • The review itself showed much time had been given by medical staff to research into the area of attitudes towards SIB, which potentially takes time away from patient care • The benefits of improving understanding of self injuring behaviour result from the review <hr/> |

Appendix G

The content of each of the “Jane” vignettes. Note the titles given below are to guide the current reader and were not given to participants of the study

Jane NSSI Vignette

Jane is a 27-year-old white, single, unemployed woman who currently lives alone. Six months ago a close friend died and since then she has been feeling lonely and struggling with grief. She is often upset and tearful. She has minor cuts on her wrists. She performed the cuts on purpose but with no intention of killing herself. This is the first occasion that Jane has cut herself.

Jane Suicidal Behaviour Vignette

Jane is a 27-year-old white, single, unemployed woman who currently lives alone. Six months ago a close friend died and since then she has been feeling lonely and struggling with grief. She is often upset and tearful. She has deep cuts in her wrists. She performed the cuts on purpose with a clear intent to end her life. This is the first occasion that Jane has cut herself.

Appendix H

Example screenshots of the online presentation of the questionnaires and vignettes, with the “Suicidal Behaviour” condition showing. Further questions for exploring professional background would have been presented were it applicable, based on answer options.

Note: The Basic Empathy Scale is concealed due to conditions in its terms of use

I would describe myself as someone who ...

... currently works in a primary care setting (e.g., GP surgery, paramedic, dentist)

... currently works in a mental health setting (e.g., CMHT, IAPT)

... has previously worked in primary care settings (e.g., GP surgery) but no longer does so

... has previously worked in mental health care settings (e.g. CMHT, IAPT) but no longer does so

... does not and never has worked in a primary care or mental health care setting

I would describe myself as someone who ...

... currently works in a primary care setting (e.g., GP surgery, paramedic, dentist)

... currently works in a mental health setting (e.g., CMHT, IAPT)

... has previously worked in primary care settings (e.g., GP surgery) but no longer does so

... has previously worked in mental health care settings (e.g. CMHT, IAPT) but no longer does so

... does not and never has worked in a primary care or mental health care setting

>>

How do you define your gender?

What is your age?

>>

Please click to rate each of the following statements.

| | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|--|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Note: The questions comprising the Basic Empathy Scale are concealed due to conditions in the terms of use of this questionnaire

| | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|--|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please click to rate each of the following statements.

| | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|--|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
|  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

>>

Roughly, please state how frequently you have contact with someone who undertakes non-suicidal self-harming behaviour (with no intention of killing themselves).

Roughly, please state how frequently you have contact with someone who undertakes suicidal behaviour (with deliberate intention of killing themselves).

>>

Please read the following vignette and answer the questions that follow.

Jane is a 27-year-old white, single, unemployed woman who currently lives alone. Six months ago a close friend died and since then she has been feeling lonely and struggling with grief. She is often upset and tearful. She has deep cuts in her wrists. She performed the cuts on purpose with a clear intent to end her life. This is the first occasion that Jane has cut herself.

>>

Please click to rate each of the following statements.

| | Strongly Disagree | Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|-----------------------|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|-----------------------|
| Jane's suicidal behaviour is controllable. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Jane's suicidal behaviour is due to something specific. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Jane's suicidal behaviour will be repeated. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Jane is to blame for her suicidal behaviour. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please click to rate each of the following statements.

| | Strongly Disagree | Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Agree | Strongly Agree |
|--|-----------------------|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|-----------------------|
| I personally could have a positive impact on reducing Jane's suicidal behaviour in the future. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other people could have a positive impact on reducing Jane's suicidal behaviour in the future. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

>>

Please click to rate each of the following statements.

| | Strongly Disagree | Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|-----------------------|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|-----------------------|
| Is Jane someone you would perceive as high priority in terms of staff time and NHS resources? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Is Jane someone who you think should receive your time and support? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Is Jane someone who you think should receive a referral to specialist mental health services? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

>>

Appendix I

An example of a short advertising paragraph used in the study. This example was used to recruit GPs via emails to gatekeepers of key stakeholder groups

I am conducting a clinical psychology doctoral study into factors which affect attitudes towards self harm, including individuals' empathy for and experience of those who self-harm.

The target groups for my study include GPs due to their frequent contact with people who self harm, but limited time to engage with the patient during brief appointments. The study involves a short (approx. 6 minute) online survey, and along with further information about the study it can be accessed

here: https://herts.eu.qualtrics.com/SE/?SID=SV_3aDVJWRIsTpQfSI

The study is being conducted by myself, Shelley Bartlett, and supervised by Dr Keith Sullivan.

It has ethical approval from The University of Hertfordshire (ethics approval number LMS/PGR/UH/02437).

Thank you in advance for your help.

Shelley Bartlett

(Trainee Clinical Psychologist, University of Hertfordshire)

Appendix J

The information given to participants on the initial Information Pages of the online survey

Title of study

Exploring factors affecting attitudes to self-injurious behaviour: intent of self-injury, professional status and levels of empathy.

Introduction

You are being invited to take part in a study. Before you decide whether to do so, it is important that you understand the research that is being done and what your involvement will include. Please take the time to read the following information carefully and discuss it with others if you wish. Do not hesitate to ask anything that is not clear or for any further information you would like to help you make your decision by contacting the principal researcher: s.bartlett4@herts.ac.uk Please do take your time to decide whether or not you wish to take part. The University's regulations governing the conduct of studies involving human participants can be accessed via this link: <http://sitem.herts.ac.uk/secreg/upr/RE01.htm>

Thank you for reading this.

What is the purpose of this study?

To investigate different attitudes to people who self harm with and without intent to end their life

Do I have to take part?

It is completely up to you whether or not you decide to take part in this study. If you do decide to take part you will be asked to give your consent to do so on the next page. Agreeing to join the study does not mean that you have to complete it. You are free to withdraw at any stage without giving a reason. To withdraw, simply close your internet browser window containing this survey.

Are there any restrictions that may prevent me from participating?

This study is interested in general practitioners, mental health professionals with professional training required for their role and non-professionals. If you currently or recently have undertaken self-harm with or without the intent to end your life we ask that you do not participate in this study.

How long will it take to complete the survey?

If you decide to take part in this study, the survey will take approximately 10 minutes to complete.

What will happen to me if I take part?

If you decide to participate and click “continue” below, you will be taken through to a page asking for your consent to continue. The survey follows on from this and can be navigated using the buttons at the bottom of the screen.

What are the possible disadvantages, risks or side effects of taking part?

The study is considered to have few disadvantages. However, the topic of self-harm with and without suicidal intent can be emotive so please consider your personal wellbeing before, during and after taking part in this survey. We advise you to speak with your GP or contact other support services. A list of support services is available at the end of the survey. The survey will take about 10 minutes of your time, so please ensure you can spare 10 minutes before undertaking the survey.

What are the possible benefits of taking part?

By taking part, you will benefit personally from an opportunity to personally reflect on the difficult experience of self-harm with and without suicidal intent. You will be helping to contribute to the knowledgebase which may help those who undertake suicidal and non-suicidal self-harm.

How will my taking part in this study be kept confidential?

All data entered will be stored on secure servers, and will be deleted securely once retrieved. Once retrieved, only the principal investigator will have access to the data, which will be securely stored electronically. Names and contact details will **NOT** be asked for. All responses will be reported anonymously in reports.

What will happen to the data collected within this study?

Data is securely stored on online servers until the survey closes, at which point the data will be downloaded and the server data securely deleted. The downloaded data will be securely stored. It may be used in further studies with similar aims up until September 2018, at which point it will be securely deleted. Some of the data might be used in a further study conducted at the University of Cambridge to test and improve one of the questionnaires, which may extend beyond September 2018.

Who has reviewed this study?

This study has been reviewed by:

The University of Hertfordshire Health and Human Sciences Ethics Committee with Delegated Authority

The UH protocol number is LMS/PGR/UH/02437.

Who can I contact if I have any questions?

If you would like further information or would like to discuss any details of this study, please get in touch with me, by emailing: s.bartlett4@herts.ac.uk

Although we hope it is not the case, if you have any complaints or concerns about any aspect of the way you have been approached or treated during the course of this study, please write to the University of Hertfordshire's Secretary and Registrar.

Thank you very much for reading this information and giving consideration to taking part in this study.

If you wish to participate in the above study, please click the **continue** button below.

If you do **not** wish to participate in the above study, please click the **exit** button below.

Appendix K

The consent form presented to participants before the online survey

UNIVERSITY OF HERTFORDSHIRE

Exploring factors affecting attitudes to self-injurious behaviour: intent of self-injury, professional status and levels of empathy.

CONSENT TO PARTICIPATE

I hereby freely agree to take part in the study entitled:

Exploring factors affecting attitudes to self-injurious behaviour: intent of self-injury, professional status and levels of empathy.

1 I confirm that I have read the Participant Information on the previous page giving particulars of the study, including its aim(s), methods and design, the names and contact details of key people and, as appropriate, the risks and potential benefits, and any plans for follow-up studies using the data. I have been given details of my involvement in the study. I understand I can keep a copy of Participant Information on the previous page and can gain further copies by emailing the principal investigator, via: s.bartlett4@herts.ac.uk

2 I have been assured that I may withdraw from the study at any time without disadvantage or having to give a reason.

3 I have been told that if I suffer any negative feelings as a result of the study with which I feel I need support I should speak to my GP in order to access such support.

4 I have been told how information relating to me (data obtained in the course of the study, and data provided by me about myself) will be handled: how it will be kept secure, who will have access to it, and how it will or may be used.

5 I understand the principal investigator is Shelley Bartlett, of the University of Hertfordshire, UK. I understand that should I wish to contact her with any questions about the study I may do so at any point via email: s.bartlett4@herts.ac.uk

If you consent to **all** of the above, please click the **confirm** button below.

If you do **not** consent to all of the above, please click the **decline** button below.

Appendix L

The debrief information presented to participants at the end of the online study

PROJECT TITLE: Comparing different professionals' attitudes towards non-suicidal self-injurious behaviour and attempted suicide and considering factors which impact on these attitudes.

Debriefing information

Many thanks for taking part in this research. Your responses will be invaluable to the research and in furthering its aims.

This aim of this study is to improve understanding of factors affecting people's perceptions of non-suicidal self-harm and attempted suicide.

Research has shown that many factors affect how non-suicidal self-harm and attempted suicide are viewed, these include gender, profession and apparent cause. As yet, no research has compared the effect of these factors on non suicidal self-harm as oppose to attempted suicide, and no study has considered the level of empathy one feels as a factor in the views of individuals. Examining the factors that affect people's views of non-suicidal self-harm and attempted suicide, and comparing the way the factors affect how the two types of behaviour are viewed in comparison to each other, will help build an understanding of ways to increase empathy and understanding of people who undertake this behaviour. This is expected to lead to less stigma and more positive help-seeking experiences towards no-suicidal self-harming and suicidal individuals from professionals and non-professionals alike.

The information that you have shared will be confidential. All data will be destroyed once all research is concluded. As a participant, you have the right to withdraw the information you have provided at any time.

I hope that completing this questionnaire has been a positive experience for you. Should it have brought any difficult feelings or concerns up for you, please make contact with any existing support networks, or link up with your GP. I have also listed some resources and help-lines below that you may find useful.

The Samaritans

Website: www.samaritans.org/

Tel: 08457 909090

National Self Harm Network

Website: www.nshn.co.uk/about.html

Support Helpline 0800 622 6000 (7pm-11pm Thursday-Saturday, 6.10pm-10.30pm Sunday)

If you have any further questions or would like to be informed as to the outcome of this study, then please contact me at the email address below.

If you have any comments or complaints to make about your involvement in this research, please contact my supervisor, Dr. Keith Sullivan, or the University of Hertfordshire Ethics and Research Office whose details are below.

Name of researcher: **Shelley Bartlett**; Email: s.bartlett4@herts.ac.uk

Name of supervisor: **Dr Keith Sullivan**; Email: k.sullivan3@herts.ac.uk

Department of Clinical Psychology

University of Hertfordshire

College Lane Campus

Hatfield

AL10 9AB

Ethics and Research Office

Faculty of Health and Human Sciences,

University of Hertfordshire

Hatfield

AL10 9AAB

Tel: 01707 285996

Thank you again for participating in this study.

Appendix M

The Ethical Approval Letters from the University of Hertfordshire School of Life and Medical Sciences Ethics Committee granting permission for the study to continue after consideration of relevant ethical issues



UNIVERSITY OF HERTFORDSHIRE

HEALTH AND HUMAN SCIENCES

ETHICS APPROVAL NOTIFICATION

TO Shelley Bartlett

CC Dr Keith Sullivan

FROM Dr Richard Southern, Health and Human Sciences, ECDA Chairman

DATE 05/07/16

Protocol number: **LMS/PGR/UH/02437**

Title of study: Comparing different professionals' attitudes towards non-suicidal self-injurious behaviour and attempted suicide and considering factors which impact on these attitudes.

Your application for ethics approval has been accepted and approved by the ECDA for your School.

This approval is valid:

From: 05/07/16

To: 28/02/17

Please note:

If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and your completed consent paperwork to this ECDA once your study is complete.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1. Should you amend any aspect of your research, or wish to apply for an extension to your study, you will need your supervisor's approval and must complete and submit form EC2. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1 may need to be completed prior to the study being undertaken.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately. Failure to report adverse circumstance/s would be considered misconduct.

Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Students must include this Approval Notification with their submission.

HEALTH AND HUMAN SCIENCES ECDA

ETHICS APPROVAL NOTIFICATION

TO Shelley Bartlett
CC Dr Keith Sullivan
FROM Dr Richard Southern, Health and Human Sciences ECDA Acting Chair
DATE 03/03/2017

Protocol number: aLMS/PGR/UH/02437(1)

Title of study: Comparing different professionals' attitudes towards non-suicidal self-injurious behaviour and attempted suicide and considering factors which impact on these attitudes.

Your application to modify and extend the existing protocol as detailed below has been accepted and approved by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

Modification: Maximum number of participants to be recruited increased to 600.

This approval is valid:

From: 03/03/2017

To: 28/03/2017

Additional workers: no additional workers named.

Please note:

Any conditions relating to the original protocol approval remain and must be complied with.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1 or as detailed in the EC2 request. Should you amend any further aspect of your research, or wish to apply for an extension to your study, you will need your supervisor's approval and must complete and submit a further EC2 request. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1 may need to be completed prior to the study being undertaken.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately. Failure to report adverse circumstance/s would be considered misconduct.

Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Students must include this Approval Notification with their submission.

Appendix N

The outcomes of the NHS Health Research Authority Research Decision Tool, showing NHS ethical approval was not needed for this study in any of the four nations comprising the United Kingdom

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MRC Medical Research Council **NHS** Health Research Authority

Do I need NHS REC approval?

I To print your result with title and IRAS Project ID please enter your details below:

Title of your research:

Comparing different professionals' attitudes towards non-suicidal self-injurious behaviour and attempted suicide and considering factors which impact on these attitudes.

IRAS Project ID (if available):

NA

Your answers to the following questions indicate that you do not need NHS REC approval for sites in England. However, you may need other approvals.

You have answered 'YES' to: Is your study research?

You answered 'NO' to all of these questions:

Question Set 1

- Is your study a clinical trial of an investigational medicinal product?
- Is your study one or more of the following: A non-CE marked medical device, or a device which has been modified or is being used outside of its CE mark intended purpose, and the study is conducted by or with the support of the manufacturer or another commercial company (including university spin-out company) to provide data for CE marking purposes?
- Does your study involve exposure to any ionising radiation?
- Does your study involve the processing of disclosable protected information on the Register of the Human Fertilisation and Embryology Authority by researchers, without consent?
- Is your study a clinical trial involving the participation of practising midwives?

Question Set 2

- Will your study involve research participants identified from, or because of their past or present use of services (adult and children's healthcare within the NHS and adult social

- care), for which the UK health departments are responsible (including services provided under contract with the private or voluntary sectors), including participants recruited through these services as healthy controls?
- Will your research involve collection of tissue or information from any users of these services (adult and children's healthcare within the NHS and adult social care)? This may include users who have died within the last 100 years.
- Will your research involve the use of previously collected tissue or information from which the research team could identify individual past or present users of these services (adult and children's healthcare within the NHS and adult social care), either directly from that tissue or information, or from its combination with other tissue or information likely to come into their possession?
- Will your research involve research participants identified because of their status as relatives or carers of past or present users of these services (adult and children's healthcare within the NHS and adult social care)?

Question Set 3

- Will your research involve the storage of relevant material from the living or deceased on premises in the UK, but not Scotland, without an appropriate licence from the Human Tissue Authority (HTA)? This includes storage of imported material.
- Will your research involve storage or use of relevant material from the living, collected on or after 1st September 2006, and the research is not within the terms of consent from the donors, and the research does not come under another NHS REC approval?
- Will your research involve the analysis of DNA from bodily material, collected on or after 1st September 2006, and this analysis is not within the terms of consent for research from the donor?

Question Set 4

- Will your research involve at any stage intrusive procedures with adults who lack capacity to consent for themselves, including participants retained in study following the loss of capacity?
- Is your research health-related and involving prisoners?
- Does your research involve xenotransplantation?
- Is your research a social care project funded by the Department of Health?

If your research extends beyond England find out if you need NHS REC approval by selecting the 'OTHER UK COUNTRIES' button below.

[OTHER UK COUNTRIES](#)

If, after visiting all relevant UK countries, this decision tool suggests that you do not require NHS REC approval follow this link for final confirmation and further information.

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Do I need NHS REC approval?

I To print your result with title and IRAS Project ID please enter your details below:

Title of your research:

Comparing different professionals' attitudes towards non-suicidal self-injurious behaviour and attempted suicide and considering factors which impact on these attitudes.

IRAS Project ID (if available):

NA

Your answers to the following questions indicate that you do not need NHS REC approval for sites in Scotland. However, you may need other approvals.

You have answered 'YES' to: Is your study research?

You answered 'NO' to all of these questions:

Question Set 1

- Is your study a clinical trial of an investigational medicinal product?
- Is your study one or more of the following: A non-CE marked medical device, or a device which has been modified or is being used outside of its CE mark intended purpose, and the study is conducted by or with the support of the manufacturer or another commercial company (including university spin-out company) to provide data for CE marking purposes?
- Does your study involve exposure to any ionising radiation?
- Does your study involve the processing of disclosable protected information on the Register of the Human Fertilisation and Embryology Authority by researchers, without consent?
- Is your study a clinical trial involving the participation of practising midwives?

Question Set 2

- Will your study involve research participants identified from, or because of their past or present use of services (adult and children's healthcare within the NHS), for which the UK

health departments are responsible (including services provided under contract with the private or voluntary sectors), including participants recruited through these services as healthy controls?

- Will your research involve collection of tissue or information from any users of these services (adult and children's healthcare within the NHS)? This may include users who have died within the last 100 years.
- Will your research involve the use of previously collected tissue or information from which the research team could identify individual past or present users of these services (adult and children's healthcare within the NHS), either directly from that tissue or information, or from its combination with other tissue or information likely to come into their possession?

Question Set 3

- Does your research involve recruiting adults who lack capacity to consent for themselves, including participants retained in study following the loss of capacity?
- Will your research involve whole organs retained from a post mortem examination carried out on the instructions of the Procurator Fiscal?
- Will your research involve the analysis of DNA from bodily material, collected on or after 1st September 2006, and this analysis is not within the terms of consent for research from the donor?

Question Set 4

- Is your research health-related and involving prisoners?
- Does your research involve xenotransplantation?
- Is your research a social care project funded by the Department of Health (England)?

If your research extends beyond Scotland find out if you need NHS REC approval by selecting the 'OTHER UK COUNTRIES' button below.

[OTHER UK COUNTRIES](#)

If, after visiting all relevant UK countries, this decision tool suggests that you do not require NHS REC approval follow [this link](#) for final confirmation and further information.

[Print This Page](#)

NOTE: If using Internet Explorer please use browser print function.

[About this tool](#) [Feedback](#) [Contact](#) [Glossary](#)

straight to content.



MRC
Medical
Research
Council



NHS
Health Research Authority

Do I need NHS REC approval?

1 To print your result with title and IRAS Project ID please enter your details below:

Title of your research:

Comparing different professionals' attitudes towards non-suicidal self-injurious behaviour and attempted suicide and considering factors which impact on these attitudes.

IRAS Project ID (if available):

NA

Your answers to the following questions indicate that you do not need NHS REC approval for sites in Wales. However, you may need other approvals.

You have answered 'YES' to: Is your study research?

You answered 'NO' to all of these questions:

Question Set 1

- Is your study a clinical trial of an investigational medicinal product?
- Is your study one or more of the following: A non-CE marked medical device, or a device which has been modified or is being used outside of its CE mark intended purpose, and the study is conducted by or with the support of the manufacturer or another commercial company (including university spin-out company) to provide data for CE marking purposes?
- Does your study involve exposure to any ionising radiation?
- Does your study involve the processing of disclosable protected information on the Register of the Human Fertilisation and Embryology Authority by researchers, without consent?
- Is your study a clinical trial involving the participation of practising midwives?

Question Set 2

- Will your study involve research participants identified from, or because of their past or present use of services (adult and children's healthcare within the NHS and adult social

- care), for which the UK health departments are responsible (including services provided under contract with the private or voluntary sectors), including participants recruited through these services as healthy controls?
- Will your research involve collection of tissue or information from any users of these services (adult and children's healthcare within the NHS and adult social care)? This may include users who have died within the last 100 years.
- Will your research involve the use of previously collected tissue or information from which the research team could identify individual past or present users of these services (adult and children's healthcare within the NHS and adult social care), either directly from that tissue or information, or from its combination with other tissue or information likely to come into their possession?
- Will your study involve patients (or information about patients) receiving treatment in or for the purposes of an independent hospital or independent clinic?

Question Set 3

- Will your research involve the storage of relevant material from the living or deceased on premises in the UK, but not Scotland, without an appropriate licence from the Human Tissue Authority (HTA)? This includes storage of imported material.
- Will your research involve storage or use of relevant material from the living, collected on or after 1st September 2006, and the research is not within the terms of consent from the donors, and the research does not come under another NHS REC approval?
- Will your research involve the analysis of DNA from bodily material, collected on or after 1st September 2006, and this analysis is not within the terms of consent for research from the donor?

Question Set 4

- Will your research involve at any stage intrusive procedures with adults who lack capacity to consent for themselves, including participants retained in study following the loss of capacity?
- Is your research health-related and involving prisoners?
- Does your research involve xenotransplantation?
- Is your research a social care project funded by the Department of Health?

If your research extends beyond Wales find out if you need NHS REC approval by selecting the 'OTHER UK COUNTRIES' button below.

OTHER UK COUNTRIES

If, after visiting all relevant UK countries, this decision tool suggests that you do not require NHS REC approval follow [this link](#) for final confirmation and further information.

Print This Page

straight to content.



Do I need NHS REC approval?

I To print your result with title and IRAS Project ID please enter your details below:

Title of your research:

Comparing different professionals' attitudes towards non-suicidal self-injurious behaviour and attempted suicide and considering factors which impact on these attitudes.

IRAS Project ID (if available):

NA

Your answers to the following questions indicate that you do not need NHS REC approval for sites in Northern Ireland. However, you may need other approvals.

You have answered 'YES' to: Is your study research?

You answered 'NO' to all of these questions:

Question Set 1

- Is your study a clinical trial of an investigational medicinal product?
- Is your study one or more of the following: A non-CE marked medical device, or a device which has been modified or is being used outside of its CE mark intended purpose, and the study is conducted by or with the support of the manufacturer or another commercial company (including university spin-out company) to provide data for CE marking purposes?
- Does your study involve exposure to any ionising radiation?
- Does your study involve the processing of disclosable protected information on the Register of the Human Fertilisation and Embryology Authority by researchers, without consent?
- Is your study a clinical trial involving the participation of practising midwives?

Question Set 2

- Will your study involve research participants identified from, or because of their past or present use of services (adult and children's healthcare within the HSC adult and

children's social care), for which the UK health departments are responsible (including services provided under contract with the private or voluntary sectors), including participants recruited through these services as healthy controls?

- Will your research involve collection of tissue or information from any users of these services (adult and children's healthcare within the HSC adult and children's social care)? This may include users who have died within the last 100 years.
- Will your research involve the use of previously collected tissue or information from which the research team could identify individual past or present users of these services (adult and children's healthcare within the HSC adult and children's social care), either directly from that tissue or information, or from its combination with other tissue or information likely to come into their possession?
- Will your study involve patients (or information about patients) receiving treatment in or for the purposes of an independent hospital, independent clinic or independent medical agency?
- Will your research involve residents (or information about residents) at a residential care home or nursing home?

Question Set 3

- Will your research involve the storage of relevant material from the living or deceased on premises in the UK, but not Scotland, without an appropriate licence from the Human Tissue Authority (HTA)? This includes storage of imported material.
- Will your research involve storage or use of relevant material from the living, collected on or after 1st September 2006, and the research is not within the terms of consent from the donors, and the research does not come under another NHS REC approval?
- Will your research involve the analysis of DNA from bodily material, collected on or after 1st September 2006, and this analysis is not within the terms of consent for research from the donor?

Question Set 4

- Is your research health-related and involving prisoners?
- Does your research involve xenotransplantation?
- Is your research a social care project funded by the Department of Health (England)?

If your research extends beyond Northern Ireland find out if you need NHS REC approval by selecting the 'OTHER UK COUNTRIES' button below.

OTHER UK COUNTRIES

If, after visiting all relevant UK countries, this decision tool suggests that you do not require NHS REC approval follow this link for final confirmation and further information.

Appendix O

The Syntax commands used in the analysis, showing the precise methods and options used in the analysis

Figure 9.1: Creating useful variable labels, relabeling variable and value labels and basic data cleaning

```
Title Exploring professionals views of self harm.  
SUBTITLE renaming and labelling variables.  
  
RENAME VARIABLES (Q26 Q25 Q27 = InfoPage Consent ConsentDeclined).  
VARIABLE LABELS  
InfoPage 'Information Page'  
Consent 'Consent page'  
ConsentDeclined 'Consent declined thank you page'.
```

Figure 9.2: Creating groupings within the data (e.g., creating questionnaire total sum scores)

```
Title Exploring professionals views of self harm.  
subtitle adding up scores from questionnaires.  
subtitle recoding negative Qs to be positive scores.  
  
RECODE BES_Q1 (1=5) (2=4) (3=3) (4=2) (5=1) (MISSING=SYSMIS) INTO BES_Q1RecodeNeg.  
VARIABLE LABELS BES_Q1RecodeNeg 'BES_Q1 recoded due Negative Qs_Friends emotions'.  
execute.  
  
VALUE LABELS  
BES_Q1RecodeNeg  
1 'Strongly Agree'  
2 'Agree'  
3 'Neither Agree nor Disagree'  
4 'Disagree'  
5 'Strongly Disagree'.  
execute.  
  
subtitle NSSI Optimism pessimism overall score.  
  
compute NSSIOP_Sum = SUM.2(NSSIOP_Personal,NSSIOP_Others).  
execute.
```

```
variable labels NSSIOP_Sum 'NSSI Optimism Pessimism Total Score'.
```

```
execute.
```

```
subtitle Suicide Optimism pessimism overall score.
```

```
compute SuicOP_Sum = SUM.2(SuicOP_Personal,SuicOP_Others).
```

```
execute.
```

```
variable labels SuicOP_Sum 'Suicide Optimism Pessimism Total Score'.
```

```
execute.
```

```
subtitle Computing who completed survey (based 3Q on final page).
```

```
RECODE HelpBehaveQ3 (1=1) (2=1) (3=1) (4=1) (5=1) (6=1) (7=1) (MISSING=2) INTO  
CompletedHelpQ3.
```

```
VARIABLE LABELS CompletedHelpQ3 'Those who reached the end of survey helpQ3'.
```

```
execute.
```

```
VALUE LABELS
```

```
CompletedHelpQ3
```

```
1 'Complete'
```

```
2 'Not Complete'.
```

```
execute.
```

```
RECODE HelpBehaveQ2 (1=1) (2=1) (3=1) (4=1) (5=1) (6=1) (7=1) (MISSING=2) INTO  
CompletedHelpQ2.
```

```
VARIABLE LABELS CompletedHelpQ2 'Those who reached the end of survey helpQ2'.
```

```
execute.
```

```
VALUE LABELS
```

```
CompletedHelpQ2
```

```
1 'Complete'
```

```
2 'Not Complete'.
```

```
execute.
```

```
RECODE HelpBehaveQ1 (1=1) (2=1) (3=1) (4=1) (5=1) (6=1) (7=1) (MISSING=2) INTO  
CompletedHelpQ1.
```

```
VARIABLE LABELS CompletedHelpQ1 'Those who reached the end of survey helpQ1'.
```

```
execute.
```

VALUE LABELS

CompletedHelpQ1

1 'Complete'

2 'Not Complete'.

execute.

compute CompletedSurvey = SUM.3(CompletedHelpQ3,CompletedHelpQ2,CompletedHelpQ1).

execute.

variable labels CompletedSurvey 'Completed any of 3Qs on final page'.

execute.

recode CompletedSurvey (3=1) (4=1) (5=1) (6=2).

execute.

VALUE LABELS

CompletedSurvey

1 'Complete'

2 'Not Complete'.

execute.

subtitle moving participants to appropriate Professional Groups.

IF (PriCareRole = 1) ProfBackGrouped= 1.

IF (PriCareRole = 3) ProfBackGrouped= 1.

IF (PriCareRole = 4) ProfBackGrouped= 1.

IF (PriCareRole = 5) ProfBackGrouped= 3.

IF (PriCareRole = 6) ProfBackGrouped= 3.

IF (PriCareRole = 7) ProfBackGrouped= 1.

IF (PriCareRole = 2) ProfBackGrouped= 2.

subtitle making a SIB type grouping variable.

RECODE

JaneNSSIRead

(1=1) INTO SIBtypeGroup.

RECODE

JaneSuicRead

```

(1=2) INTO SIBtypeGroup.
VARIABLE LABELS SIBtypeGroup 'Type of SIB condition'.
EXECUTE.
value labels
SIBtypeGroup
1 'NSSI'
2 'Suicide attempt'.
Execute.

subtitle seperating out trained from untrained professionals.

recode ProfTrainTime (1=1) (2=1) (3=1) (4=1) (5=1) (6=2) (7=2) (MISSING=SYSMIS) INTO
InTrain.
variable labels InTrain 'In training or no training'.
value labels
InTrain
1 'Training ended'
2 'In or no training for role'.
execute.

IF (ProfBackGrouped = 1 and InTrain=1) ProfBackGroupQual= 1.
IF (ProfBackGrouped = 2 and InTrain=1) ProfBackGroupQual= 2.
IF (ProfBackGrouped = 3) ProfBackGroupQual= 3.
IF (ProfBackGrouped = 1 and InTrain=2) ProfBackGroupQual= 4.
IF (ProfBackGrouped = 2 and InTrain=2) ProfBackGroupQual= 5.
execute.

variable labels ProfBackGroupQual 'Professional Background inc Qualified status'.
value labels
ProfBackGroupQual
1 'Primary Care Professional Qualified'
2 'Mental Health Professional Qualified'
3 'General Public'
4 'Primary Care Professional not Qualified'
5 'Mental Health Professional not Qualified'.
execute.

```

Figure 9.3: Basic descriptive statistics

subtitle basic descriptive statistic.

FREQUENCIES Consent, ProfBack, ProfBackGrouped, PriCareRole, MenHealthRole, ProfTrainTime, Gender, Age NSSIContFreq, SBContFreq, JaneNSSIRead, JaneSuicRead, CompletedSurvey.

*data dropout and missing case analysis - all.

```
MVA VARIABLES=InfoPage Consent ConsentDeclined ProfBack PriCareRole MenHealthRole
ProfTrainTime
  Gender Age Under18 BES_Q1 BES_Q2 BES_Q3 BES_Q4 BES_Q5 BES_Q6 BES_Q7 BES_Q8
BES_Q9 BES_Q10 BES_Q11
  BES_Q12 BES_Q13 BES_Q14 BES_Q15 BES_Q16 BES_Q17 BES_Q18 BES_Q19 BES_Q20
NSSIContFreq SBContFreq
  JaneNSSIRead NSSIASQ_Control NSSIASQ_Specif NSSIASQ_Repeat NSSIASQ_Jblame
NSSIOP_Personal
  NSSIOP_Others JaneSuicRead SuicASQ_Control SuicASQ_Specif SuicASQ_Repeat
SuicASQ_Jblame
  SuicOP_Personal SuicOP_Others HelpBehaveQ1 HelpBehaveQ2 HelpBehaveQ3
/TPATTERN NOSORT PERCENT=1.
```

*Analyze Patterns of Missing Values - same as two directly above but with no SBcontfreq due to admin error and amended max/min.

temporary.

select if JaneNSSIRead=1.

```
MULTIPLE IMPUTATION InfoPage Consent ProfBack Gender Age BES_Q1 BES_Q2 BES_Q3
BES_Q4 BES_Q5 BES_Q6 BES_Q7 BES_Q8 BES_Q9
  BES_Q10 BES_Q11 BES_Q12 BES_Q13 BES_Q14 BES_Q15 BES_Q16 BES_Q17 BES_Q18
BES_Q19 BES_Q20
  NSSIContFreq NSSIASQ_Control NSSIASQ_Specif NSSIASQ_Repeat NSSIASQ_Jblame
  NSSIOP_Personal NSSIOP_Others HelpBehaveQ1 HelpBehaveQ2 HelpBehaveQ3
/IMPUTE METHOD=NONE
/MISSINGSUMMARIES OVERALL VARIABLES (MAXVARS=50 MINPCTMISSING=0.1)
PATTERNS.
```

*basic frequencies.

TEMPORARY.

select if ProfBackGrouped=1.

frequencies PriCareRole, ProfTrainTime.

sort cases by CompletedSurvey.

split file by CompletedSurvey.

TEMPORARY.

select if any (ProfBackGrouped, 1, 2).

FREQUENCIES ProfTrainTime.

split file off.

CROSSTABS

/TABLES=ProfBackGrouped BY JaneNSSIRead

/FORMAT=AVALUE TABLES

/CELLS=COUNT Column

/COUNT ROUND CELL.

CROSSTABS

/TABLES=ProfBackGrouped BY JaneSuicRead

/FORMAT=AVALUE TABLES

/CELLS=COUNT column

/COUNT ROUND CELL.

subtitle exploring for differences in training status.

freq ProfBackGroupQual.

temporary.

select if SIBTypeGroup=1.

T-TEST GROUPS=ProfBackGroupQual(1 4)

/MISSING=ANALYSIS

/VARIABLES=HelpBehave_Sum SIBASQ_Sum SIBOP_Sum OverallBES_Sum

/CRITERIA=CI(.95).

split file off.

subtitle calculating cronbachs alphas of scales used.

RELIABILITY

/VARIABLES=SIBPersonalOP SIBOthersOP

/SCALE('optimism pessimism sclae') ALL

```
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL.
```

Figure 9.4: Checking assumptions of parametric tests

subtitle overall normal distributions.

```
EXAMINE VARIABLES=HelpBehave_Sum SIBASQ_Sum SIBOP_Sum OverallBES_Sum
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL.
```

subtitle normal distributions by group.

```
EXAMINE VARIABLES=HelpBehave_Sum SIBASQ_Sum SIBOP_Sum OverallBES_Sum BY
SIBtypeGroup ProfBackGroupQual
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL.
```

```
EXAMINE VARIABLES=HelpBehave_Sum SIBASQ_Sum SIBOP_Sum OverallBES_Sum BY
SIBtypeGroup ProfBackGrouped
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL.
```

Figure 9.5: F-family analyses (including bootstrapping)

subtitle Q1 Willingness to Help (without trainees separately).

```
UNIANOVA HelpBehave_Sum BY ProfBackGrouped SIBtypeGroup
/METHOD=SSTYPE(3)
/INTERCEPT=INCLUDE
/POSTHOC=ProfBackGrouped(SCHEFFE LSD BONFERRONI GABRIEL)
/PLOT=PROFILE(SIBtypeGroup*ProfBackGrouped)
/PRINT=ETASQ HOMOGENEITY DESCRIPTIVE
/EMMEANS=TABLES(OVERALL)
/EMMEANS=TABLES(ProfBackGrouped) COMPARE ADJ(BONFERRONI)
/EMMEANS=TABLES(SIBtypeGroup) COMPARE ADJ(BONFERRONI)
/EMMEANS=TABLES(ProfBackGrouped*SIBtypeGroup)
/PLOT=RESIDUALS
/CRITERIA=ALPHA(0.05)
/DESIGN=ProfBackGrouped SIBtypeGroup ProfBackGrouped*SIBtypeGroup.
```

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=HelpBehave_Sum INPUT=ProfBackGrouped SIBtypeGroup
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.
```

```
UNIANOVA HelpBehave_Sum BY ProfBackGrouped SIBtypeGroup
/METHOD=SSTYPE(3)
/INTERCEPT=INCLUDE
/POSTHOC=ProfBackGrouped(SCHEFFE LSD BONFERRONI GABRIEL)
/PLOT=PROFILE(SIBtypeGroup*ProfBackGrouped)
/EMMEANS=TABLES(OVERALL)
/EMMEANS=TABLES(ProfBackGrouped) COMPARE ADJ(BONFERRONI)
/EMMEANS=TABLES(SIBtypeGroup) COMPARE ADJ(BONFERRONI)
/EMMEANS=TABLES(ProfBackGrouped*SIBtypeGroup)
/PRINT=ETASQ HOMOGENEITY DESCRIPTIVE
/PLOT=RESIDUALS
/CRITERIA=ALPHA(0.05)
/DESIGN=ProfBackGrouped SIBtypeGroup ProfBackGrouped*SIBtypeGroup.
```

Figure 9.6: Regression analyses (including bootstrapping)

```
subtitle creating dummy variable for both categorical data.

RECODE ProfBackGrouped (1=1) (SYSMIS=SYSMIS) (ELSE=0) INTO PrimaryCareDV.
VARIABLE LABELS PrimaryCareDV 'Non Professional vs Primary Care'.
EXECUTE.

subtitle actual regression analysis (non bootstrapped).

REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT HelpBehave_Sum
/METHOD=ENTER NSSIDV
/METHOD=ENTER PrimaryCareDV MentalHealthDV
/METHOD=ENTER OverallIBES_Sum
/PARTIALPLOT ALL
/SCATTERPLOT=(*ZRESID ,*ZPRED) (*SRESID ,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2)
/SAVE PRED ZPRED MAHAL COOK LEVER ZRESID DRESID SDRESID SDBETA SDFIT
COVRATIO.

*summarising outliers to see if problems - based on selecting cases due to large dataset.

use all.
compute cook_problem=(COO_1>1).
Variable labels cook_problem 'Cooks distance greater than 1'.
Value labels cook_problem 0 'Not selected' 1 'Selected'.
Filter by cook_problem.
Execute.

SUMMARIZE
/TABLES=COO_1
```

```

/FORMAT=VALIDLIST CASENUM TOTAL
/TITLE='Case Summaries'
/MISSING=VARIABLE
/CELLS=COUNT.

*this is the bootstrapped regression analysis thus without all diagnostics.
subtitle bootstrapped regression analysis.

BOOTSTRAP
/SAMPLING METHOD=SIMPLE
/VARIABLES TARGET=HelpBehave_Sum INPUT= SIBtypeGroup ProfBackGrouped
OverallBES_Sum
/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000
/MISSING USERMISSING=EXCLUDE.

REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT HelpBehave_Sum
/METHOD=ENTER NSSIDV
/METHOD=ENTER PrimaryCareDV MentalHealthDV
/METHOD=ENTER OverallBES_Sum
/PARTIALPLOT ALL
/PARTIALPLOT ALL
/SCATTERPLOT=(*ZRESID ,*ZPRED) (*SRESID ,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
/CASEWISE PLOT(ZRESID) OUTLIERS(2).

```

Figure 9.7: Additional analyses of interesting patterns in the data

```

*extra analysis hot potato stuff.

COMPUTE OptimisimDifference= SIBOthersOP - SIBPersonalOP.
EXECUTE.

*by Professional Group.

```

sort cases by ProfBackGroupQual.

split file by ProfBackGroupQual.

DESCRIPTIVES VARIABLES=OptimismDifference

/STATISTICS=MEAN STDDEV MIN MAX KURTOSIS SKEWNESS.

split file off.

sort cases by ProfBackGroupQual.

split file by ProfBackGroupQual.

FREQUENCIES VARIABLES=OptimismDifference

/NTILES=4

/STATISTICS=STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN

MEDIAN MODE SKEWNESS SESKEW

KURTOSIS SEKURT

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

split file off.

sort cases by ProfBackGroupQual.

split file by ProfBackGroupQual.

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES INPUT=SIBPersonalOP SIBOthersOP

/CRITERIA CILEVEL=95 CITYPE=BCA NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

T-TEST PAIRS=SIBPersonalOP WITH SIBOthersOP (PAIRED)

/CRITERIA=CI(.9500)

/MISSING=ANALYSIS.

split file off.

Appendix P

The information used to assess the assumption of homogeneity of variance for each analysis

P.1 Differences in Gender Scores Analysis

Table 9.1: Levene's tests for equality of variance for the effect of gender analyses

| Type of Self-injurious Behaviour | Willingness to Help Score | Attributions for Behaviour Score | Optimism/Pessimism Score | Empathy Score |
|----------------------------------|---------------------------------|----------------------------------|--------------------------------|--------------------------------|
| NSSI | $F(1,211)=0.390$, $p=.533$ | $F(1,213)=1.181$, $p=.278$ | $F(1,209)=0.260$, $p=.610$ | $F(1,222)=3.600$, $p=.059$ |
| Suicidal Behaviour | $F(1,210)=29.955$, $p<.001$ | $F(1,213)=3.123$, $p=.079$ | $F(1,213)=3.495$, $p=.063$ | $F(1,212)=7.717$, $p=.006$ |

P.2 Differences in Training Status Analysis

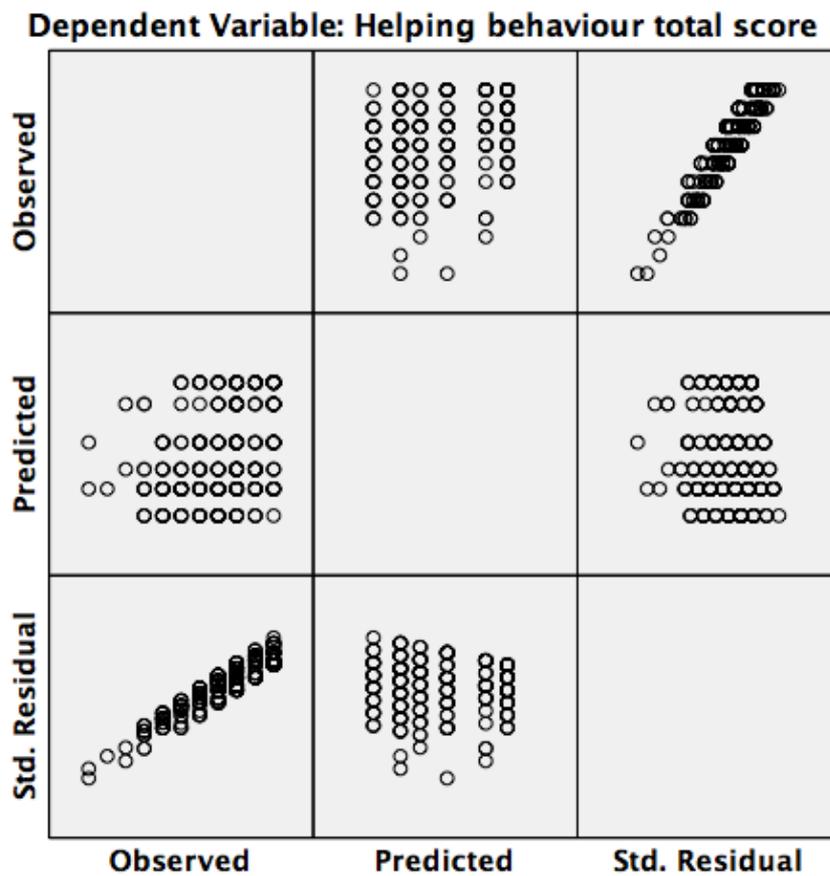
Table 9.2: Levene's tests for equality of variance for the implication of training status analyses

| Type of Self-injurious behaviour | Professional Group | Willingness to Help Score | Attributions for Others' Behaviour Score | Optimism/Pessimism Score | Empathy Score |
|----------------------------------|--------------------------------|--------------------------------|--|--------------------------------|--------------------------------|
| NSSI | Primary Care Professionals | $F(1,61)=0.394$, $p=.532$ | $F(1,61)=3.227$, $p=.077$ | $F(1,60)=2.126$, $p=.150$ | $F(1,62)=0.451$, $p=.505$ |
| Suicidal Behaviour | Primary Care Professionals | $F(1,49)=0.352$, $p=.556$ | $F(1,50)=0.006$, $p=.939$ | $F(1,50)=1.729$, $p=.195$ | $F(1,49)=0.250$, $p=.619$ |
| NSSI | Mental Health Professionals | $F(1,103)=0.997$, $p=.320$ | $F(1,105)=3.453$, $p=.066$ | $F(1,102)=0.592$, $p=.443$ | $F(1,110)=0.119$, $p=.731$ |
| Suicidal Behaviour | Mental Health Professionals | $F(1,91)=0.112$, $p=.738$ | $F(1,91)=0.001$, $p=.981$ | $F(1,91)=1.069$, $p=.304$ | $F(1,91)=1.170$, $p=.282$ |

P.3 The first research question: Comparing willingness to help within different professional groups and types of self-injury

The results of the Levene's test suggested unequal variances between groups ($F(5,410)=2.90, p=.014$). Figure 9.8 shows the plot of the standardised residuals against the predicted values of willingness to help by professional group and type of self-injury used for judging the homogeneity of variances between groups.

Figure 9.8: The plot of the standardised residuals against the predicted values of willingness to help by professional group and type of self-injury used for judging the homogeneity of variances between groups



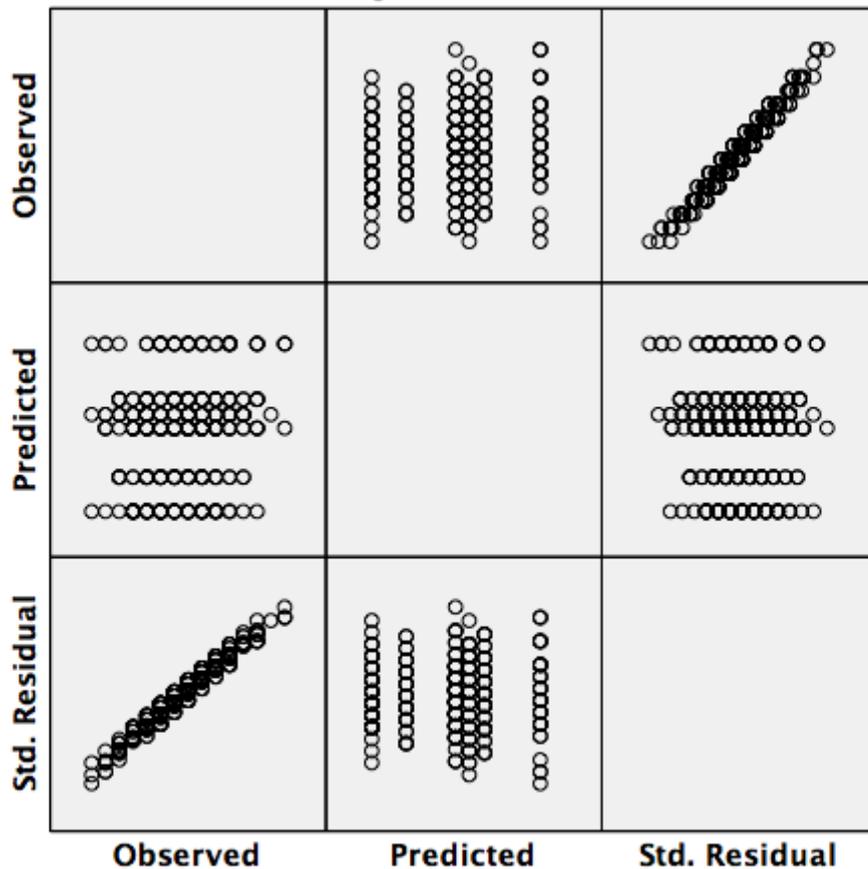
Model: Intercept + ProfBackGrouped + SIBtypeGroup + ProfBackGrouped * SIBtypeGroup

P.4 The second research question: Comparing perceived attributions for behaviours within different professional groups and types of self-injury

The Levene's test appeared to show variances between groups ($F(5,415)=2.84$, $p=.016$) and moreover, the plot of the standardised residuals against the predicted values for the attributions for behaviours by professional group and type of SIB (see Figure 9.9) also showed evidence of unequal variances.

Figure 9.9: The plot of the standardised residuals against the predicted values for the attributions for behaviours by professional group and type of self-injury used for judging the homogeneity of variances between groups

Dependent Variable: SelfInjurious Behaviour ASQ Total score



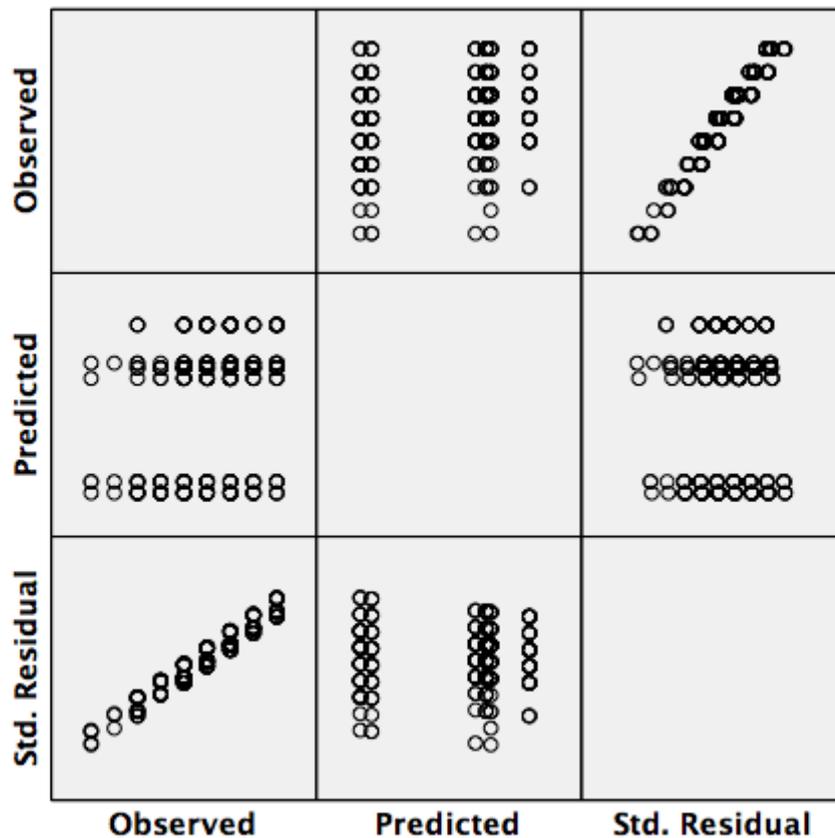
Model: Intercept + ProfBackGrouped + SIBtypeGroup + ProfBackGrouped * SIBtypeGroup

P.5 The third research question: Comparing optimism for prognosis within different professional groups and types of self-injury

The Levene's test appeared to show variances between groups ($F(5,411)=3.75$, $p=.002$). Visual assessment for homogeneity of variances was again conducted via a plot of the standardised residuals against predicted values (see Figure 9.10). This plot shows some possible evidence of unequal variances.

Figure 9.10: The plot of the standardised residuals against the predicted values for the optimism/pessimism scores by professional group and type of self-injury used for judging the homogeneity of variances between groups

Dependent Variable: SelfInjurious Behaviour Optimism Pessimism Total Score



Model: Intercept + ProfBackGrouped + SIBtypeGroup + ProfBackGrouped * SIBtypeGroup

P.6 The fourth research question: Considering the effect of empathy on willingness to help

Checking the all the assumptions required for conducting a regression analysis is undertaken in Appendix W.

P.7 Additional Analyses: Comparing optimism for own and others' input regarding self-injuring behaviours

Homogeneity of Variances of the data is not required as the data only involves one group of participants being compared to themselves; as such it is the *differences* between the two scores on the two variables, rather than the scores themselves, which need to meet the assumptions of parametric tests. Obviously, there is only one difference score which is being compared to the null hypothesis of zero difference, and as such the assumption of homogeneous variances can be assumed not to be violated (see Field, 2013).

Appendix Q

The information used to assess the normality of the data for each dependent variable for the overall sample

Table 9.3: The skewness and kurtosis test statistics for each independent variable for the overall sample

| Dependent Variable | Statistic Name | Statistic Value | Standard Error | Statistic Z-Score |
|------------------------------|-----------------------|------------------------|-----------------------|--------------------------|
| Willingness to Help Score | Skewness | -0.787 | 0.117 | -6.73 |
| | Kurtosis | 0.504 | 0.234 | 2.15 |
| AOBQ Score | Skewness | 0.120 | 0.117 | 1.03 |
| | Kurtosis | -0.248 | 0.233 | 1.06 |
| Optimism/ Pessimism Score | Skewness | -0.546 | 0.117 | -4.67 |
| | Kurtosis | 0.394 | 0.234 | 1.69 |
| Empathy Score | Skewness | -0.324 | 0.115 | -2.82 |
| | Kurtosis | 0.551 | 0.230 | 2.40 |

Figure 9.11: The histogram of willingness to help score used to assess the normality of the data for the overall sample

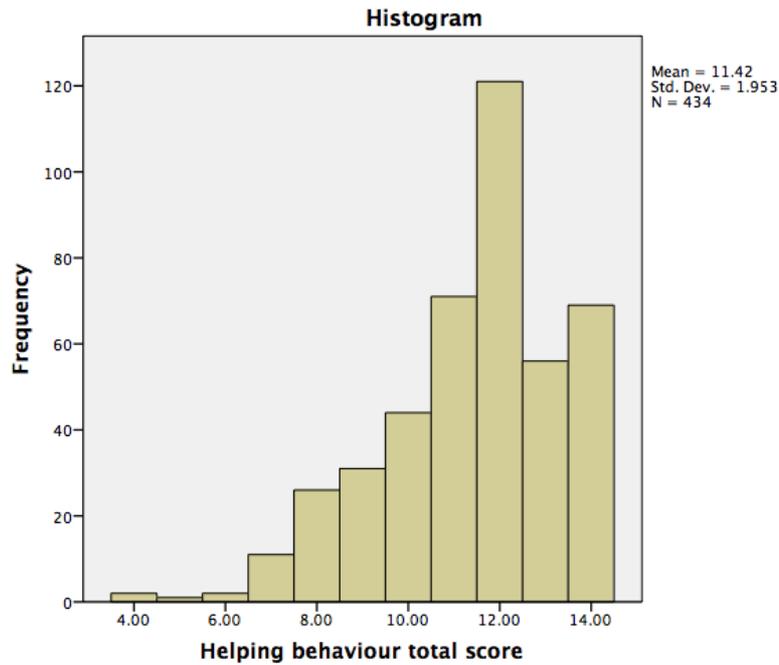


Figure 9.12: The histogram of Attributions for Others' Behaviour score used to assess the normality of the data for the overall sample

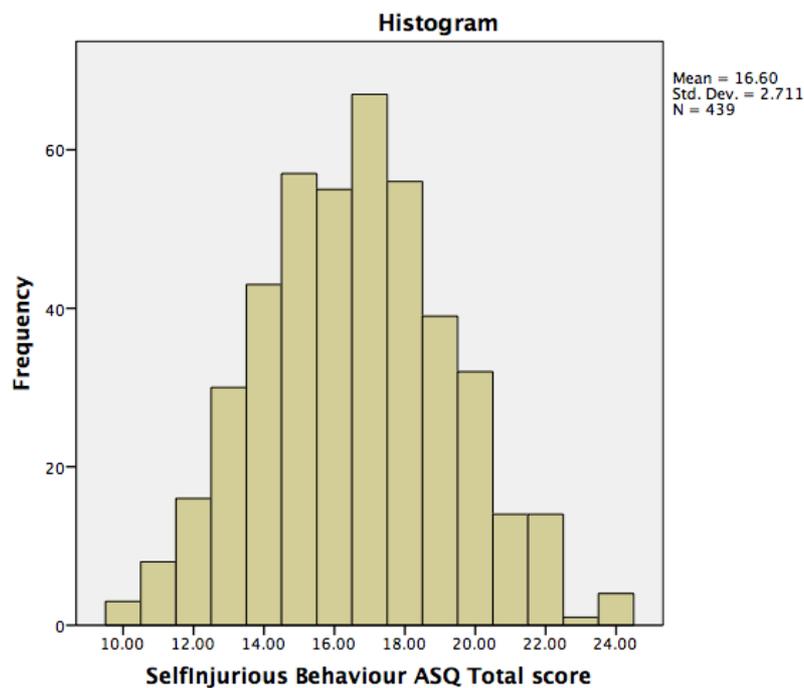


Figure 9.13: The histogram of Optimism/Pessimism score used to assess the normality of the data for the overall sample

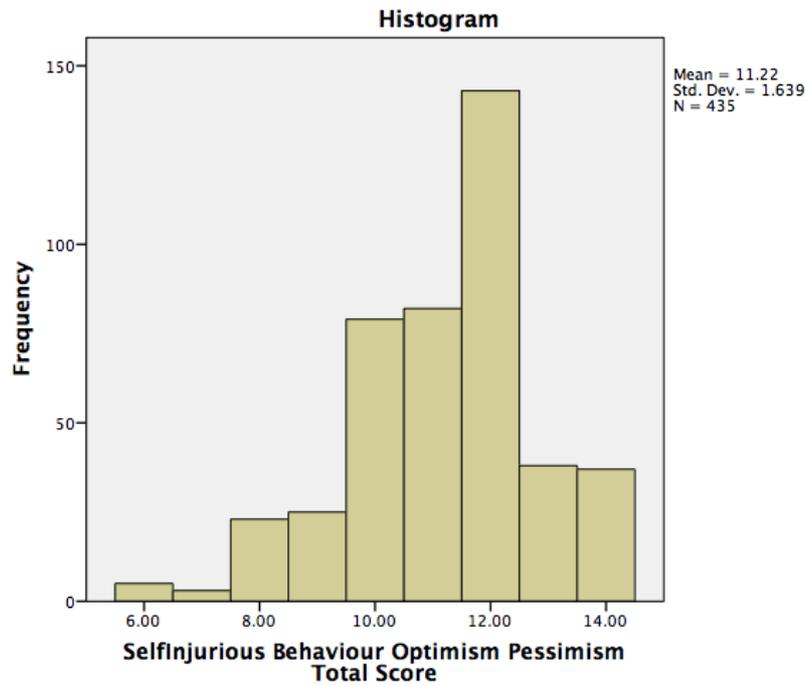
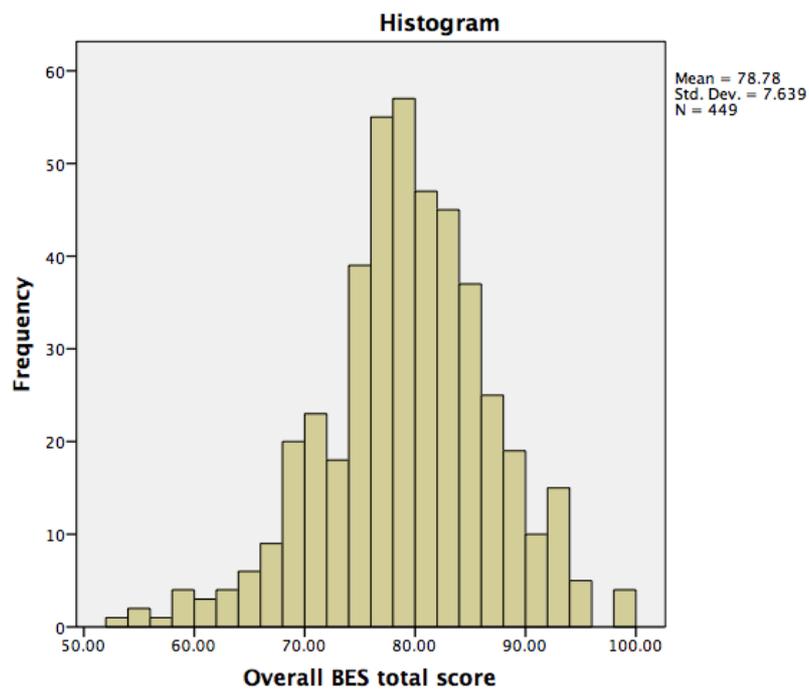


Figure 9.14: The histogram of Empathy score used to assess the normality of the data for the overall sample



Appendix R

The information used to assess the normality of the data for each of the dependent variables at different levels of the independent variables used in the main analysis

Table 9.4: The skewness and kurtosis test statistics for each dependent variable at each level of the independent variable type of self-injury

| Dependent Variable | Type of Self-injury | Statistic Name | Statistic Value | Standard Error | Statistic Z-Score |
|----------------------------------|---------------------|----------------|-----------------|----------------|-------------------|
| Willingness to Help Score | NSSI | Skewness | -0.555 | 0.165 | -3.364 |
| | | Kurtosis | -0.007 | 0.328 | -0.021 |
| | Suicidal Behaviour | Skewness | -1.200 | 0.166 | -7.229 |
| | | Kurtosis | 2.324 | 0.330 | 7.042 |
| Attributions for Behaviour Score | NSSI | Skewness | 0.120 | 0.164 | 0.732 |
| | | Kurtosis | -0.062 | 0.327 | -0.190 |
| | Suicidal Behaviour | Skewness | 0.061 | 0.164 | 0.372 |
| | | Kurtosis | -0.575 | 0.327 | -1.758 |
| Optimism/Pessimism Score | NSSI | Skewness | -0.556 | 0.166 | -3.349 |
| | | Kurtosis | 0.393 | 0.330 | 1.191 |
| | Suicidal Behaviour | Skewness | -0.536 | 0.164 | -3.268 |
| | | Kurtosis | 0.411 | 0.327 | 1.257 |
| Empathy Score | NSSI | Skewness | 0.033 | 0.162 | 0.204 |
| | | Kurtosis | -0.121 | 0.322 | -0.376 |
| | Suicidal Behaviour | Skewness | -0.542 | 0.164 | -3.305 |
| | | Kurtosis | 0.917 | 0.327 | 2.804 |

Figure 9.15: The histogram of willingness to help score used to assess the normality of the data for the NSSI type of self-injury group

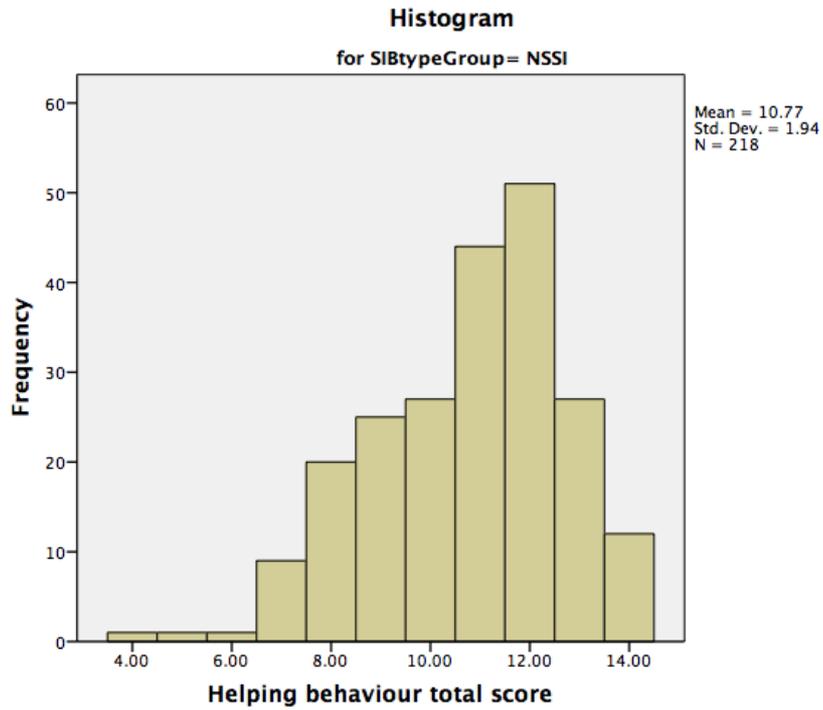


Figure 9.16: The histogram of willingness to help score used to assess the normality of the data for the suicidal behaviour type of self-injury group

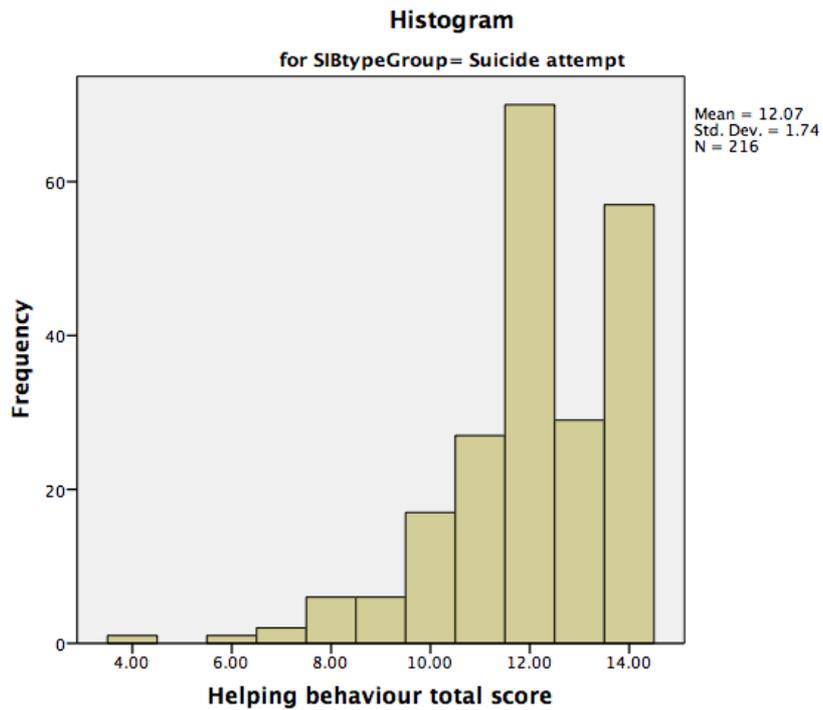


Figure 9.17: The histogram of attributions for behaviour score used to assess the normality of the data for the NSSI type of self-injury group

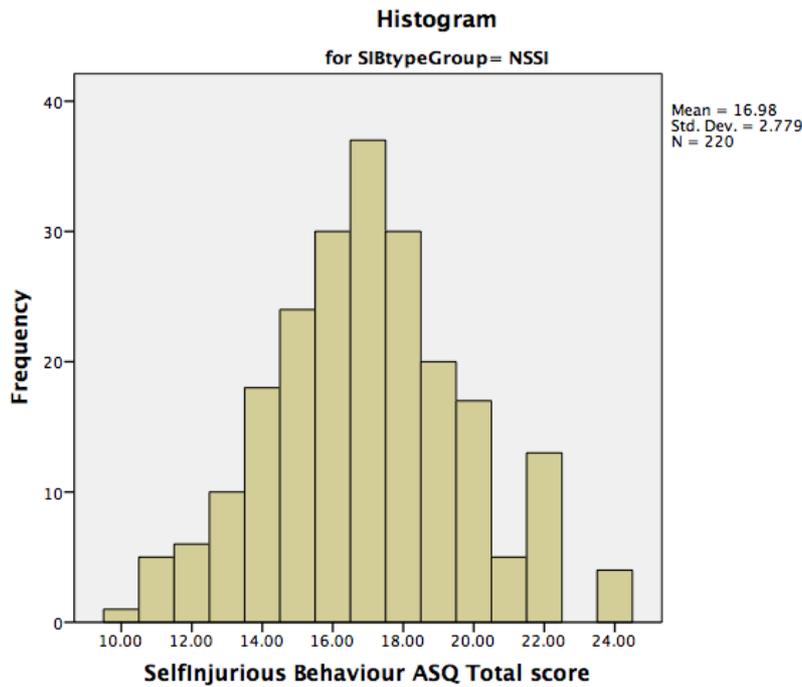


Figure 9.18: The histogram of attributions for behaviour score used to assess the normality of the data for the suicidal behaviour type of self-injury group

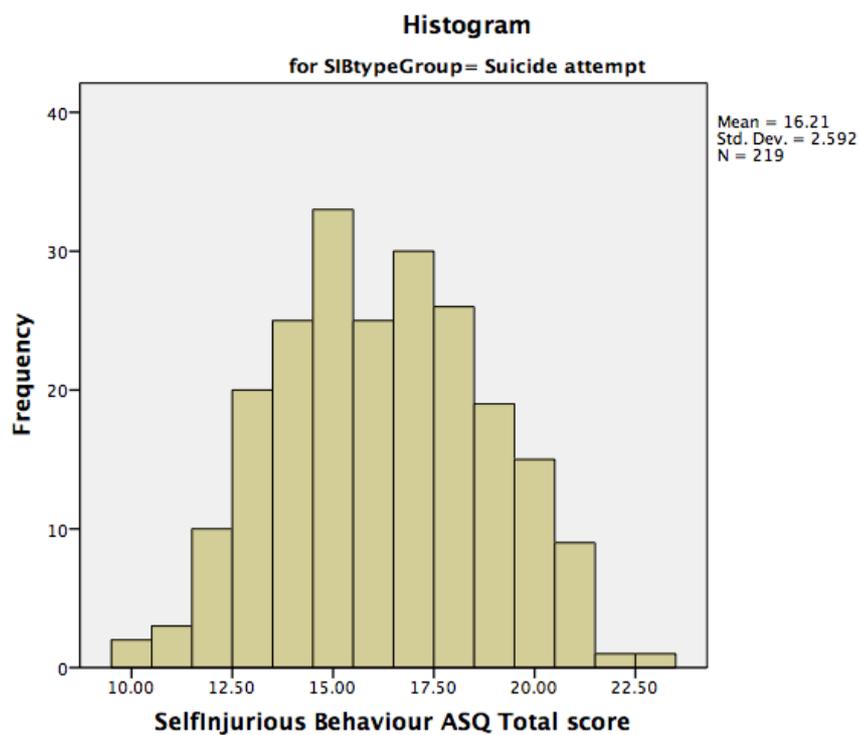


Figure 9.19: The histogram of Optimism/Pessimism score used to assess the normality of the data for the NSSI type of self-injury group

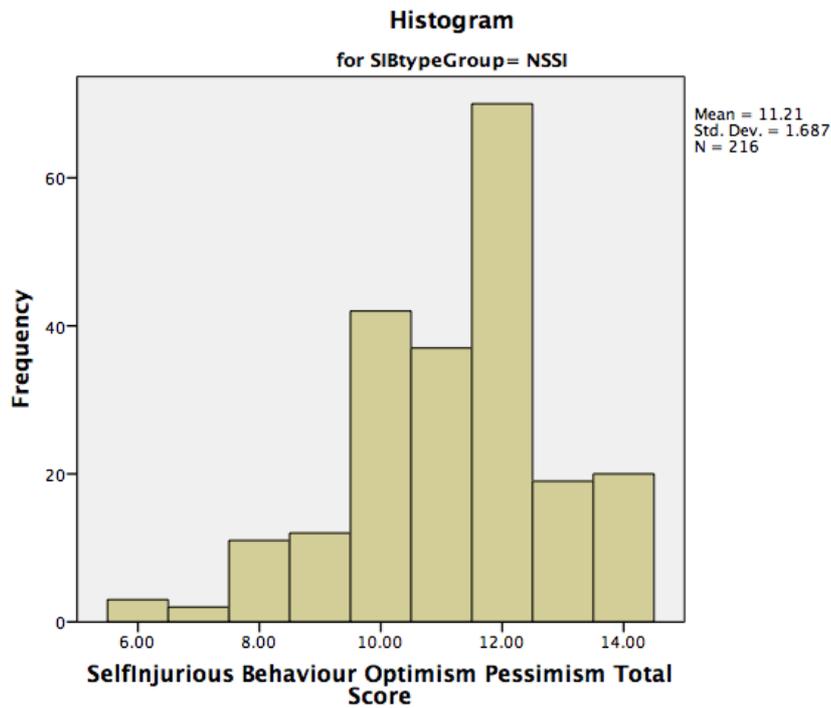


Figure 9.20: The histogram of Optimism/Pessimism score used to assess the normality of the data for the suicidal behaviour type of self-injury group

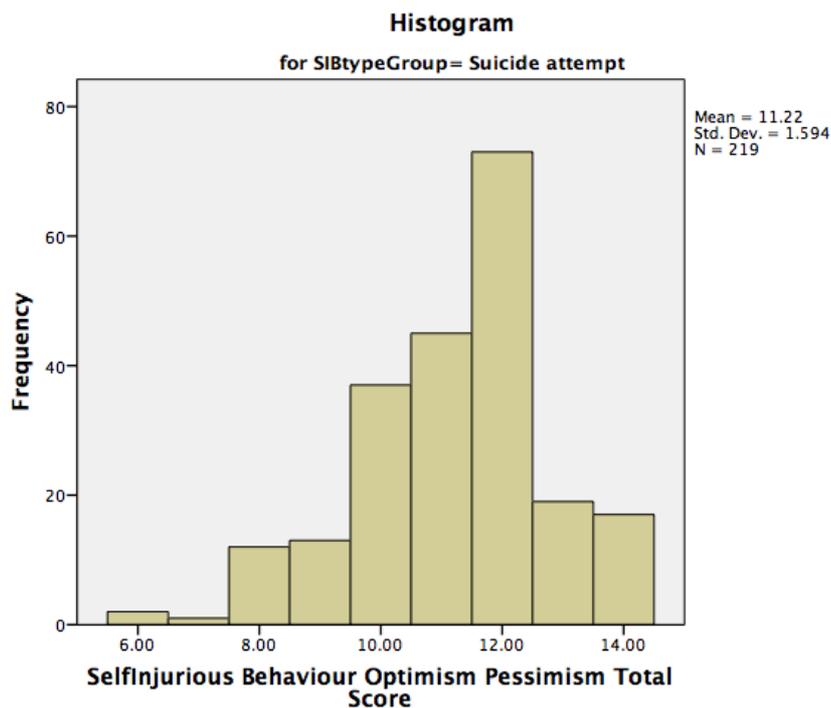


Figure 9.21: The histogram of empathy score used to assess the normality of the data for the NSSI type of self-injury group

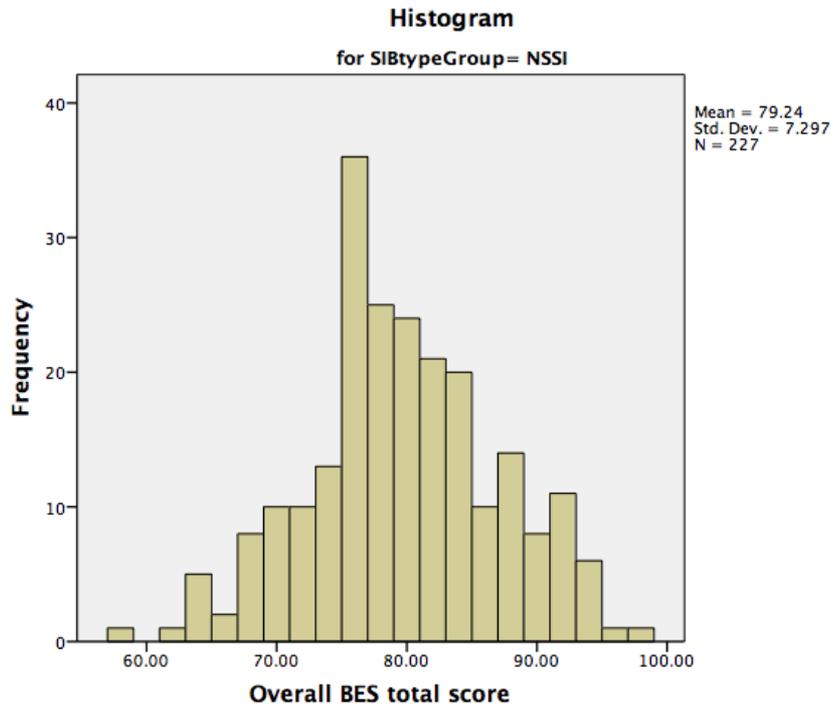


Figure 9.22: The histogram of empathy score used to assess the normality of the data for the suicidal behaviour type of self-injury group

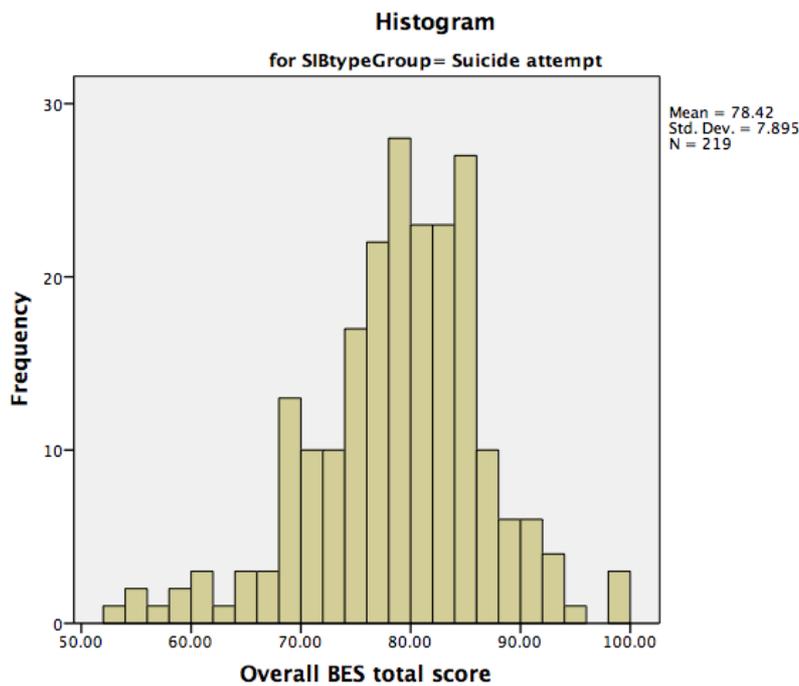


Table 9.5: The skewness and kurtosis test statistics for each dependent variable at each level of the independent variable professional group

| Dependent Variable | Professional Group | Statistic Name | Statistic Value | Standard Error | Statistic Z-score |
|----------------------------------|----------------------------|-----------------------|------------------------|-----------------------|--------------------------|
| Willingness to Help Score | Primary Care | Skewness | -0.855 | 0.225 | -3.800 |
| | Professional | Kurtosis | 0.341 | 0.446 | 0.765 |
| | | Skewness | -0.928 | 0.172 | -5.395 |
| | Mental Health Professional | Kurtosis | 0.937 | 0.343 | 2.732 |
| | | Non Professional | Skewness | -0.540 | 0.223 |
| | Kurtosis | | 0.396 | 0.442 | 0.896 |
| Attributions for Behaviour Score | Primary Care | Skewness | 0.026 | 0.224 | 0.116 |
| | Professional | Kurtosis | -0.616 | 0.444 | -1.387 |
| | | Skewness | 0.216 | 0.172 | 1.256 |
| | Mental Health Professional | Kurtosis | 0.039 | 0.341 | 0.114 |
| | | Non Professional | Skewness | -0.100 | 0.221 |
| | Kurtosis | | -0.425 | 0.438 | -0.970 |
| Optimism/Pessimism Score | Primary Care | Skewness | -0.859 | 0.225 | -3.818 |
| | Professional | Kurtosis | 1.422 | 0.446 | 3.188 |
| | | Skewness | -0.241 | 0.173 | -1.393 |
| | Mental Health Professional | Kurtosis | 0.071 | 0.344 | 0.206 |
| | | Non Professional | Skewness | -0.194 | 0.221 |
| | Kurtosis | | -0.393 | 0.438 | -0.897 |
| Empathy Score | Primary Care | Skewness | -0.394 | 0.223 | -1.767 |
| | Professional | Kurtosis | 1.314 | 0.442 | 2.973 |
| | | Skewness | -0.241 | 0.169 | -1.426 |
| | Mental Health Professional | Kurtosis | 0.584 | 0.337 | 1.733 |
| | | Non Professional | Skewness | -0.195 | 0.217 |
| | Kurtosis | | 0.058 | 0.431 | 0.135 |

Figure 9.23: The histogram of willingness to help score used to assess the normality of the data for Primary Care Professionals

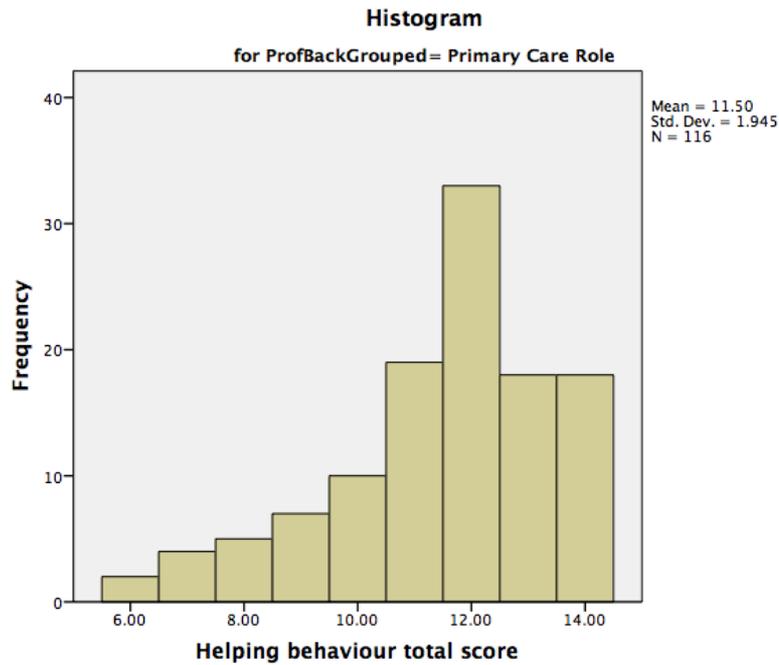


Figure 9.24: The histogram of willingness to help score used to assess the normality of the data for Mental Health Professionals

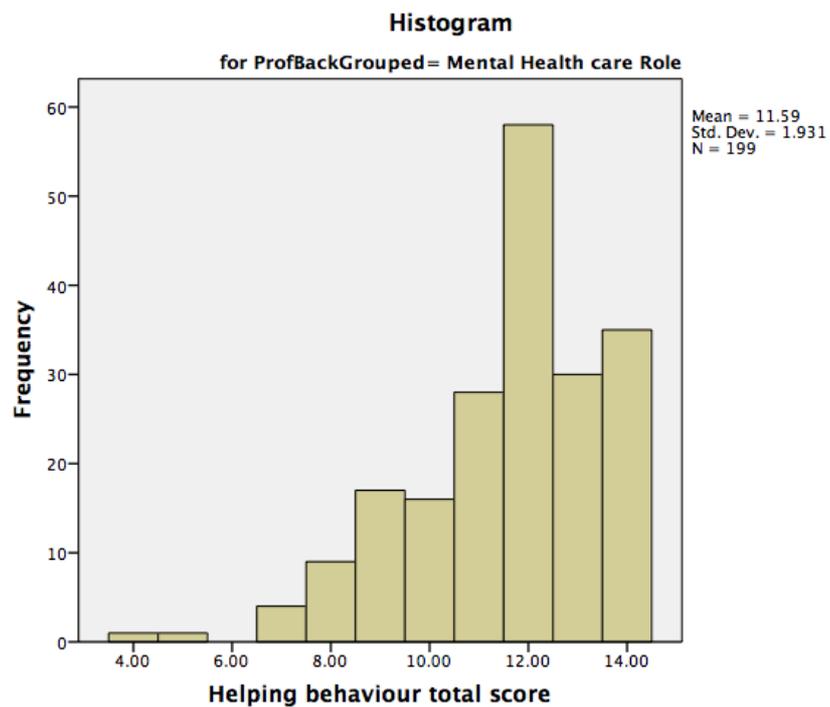


Figure 9.25: The histogram of willingness to help score used to assess the normality of the data for Non-Professionals

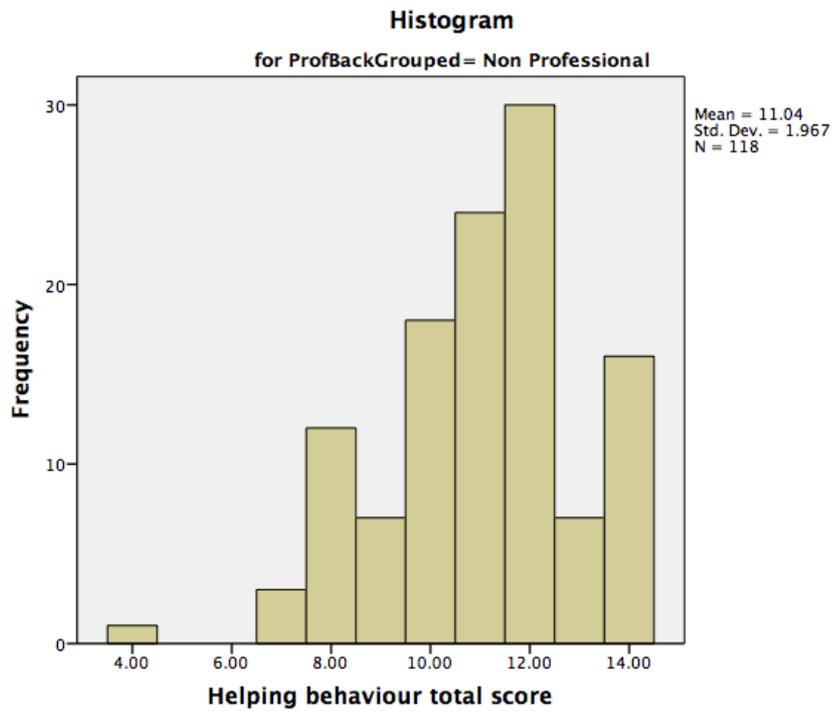


Figure 9.26: The histogram of attributions for behaviour score used to assess the normality of the data for Primary Care Professionals

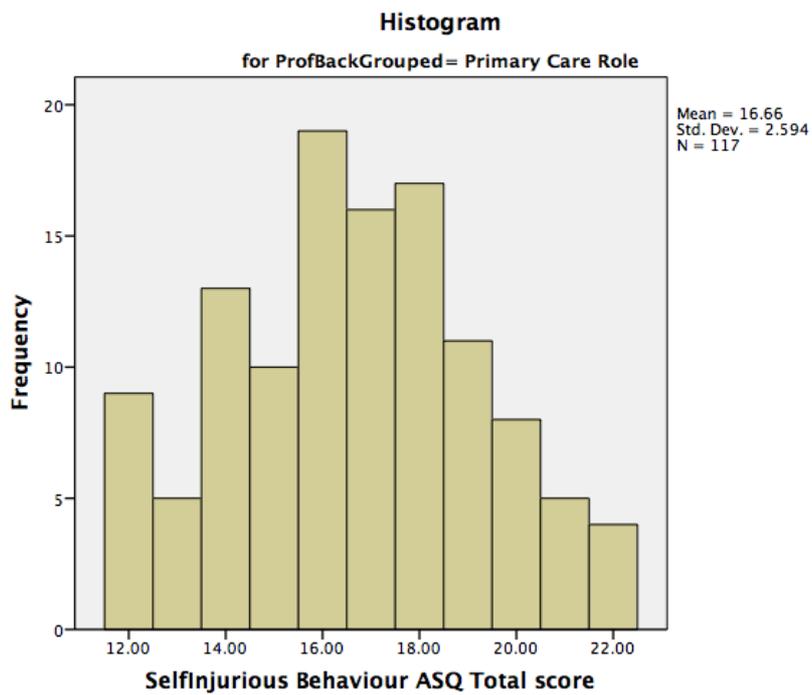


Figure 9.27: The histogram of attributions for behaviour score used to assess the normality of the data for Mental Health Professionals

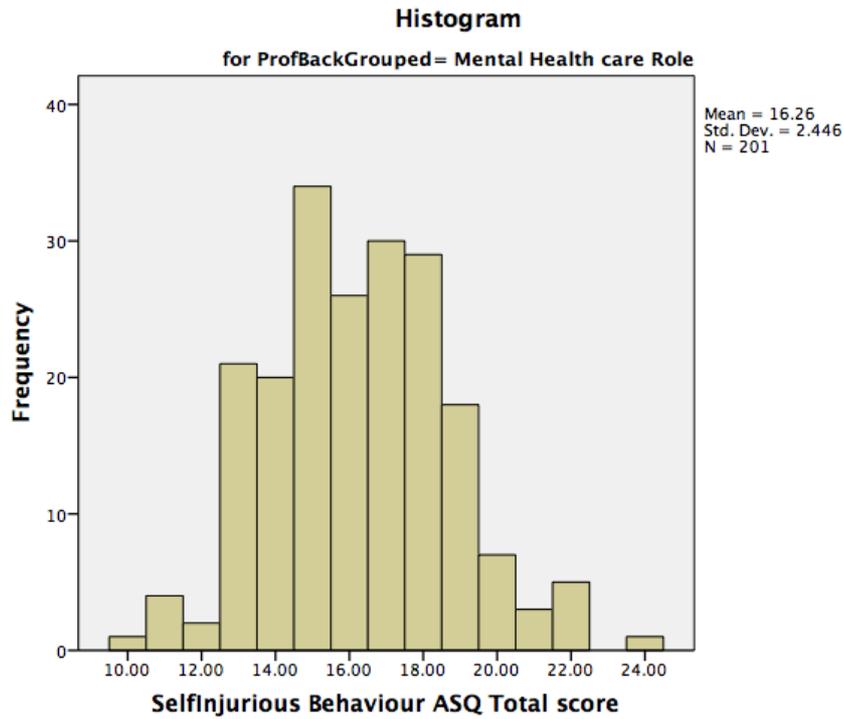


Figure 9.28: The histogram of attributions for behaviour score used to assess the normality of the data for Non-Professionals

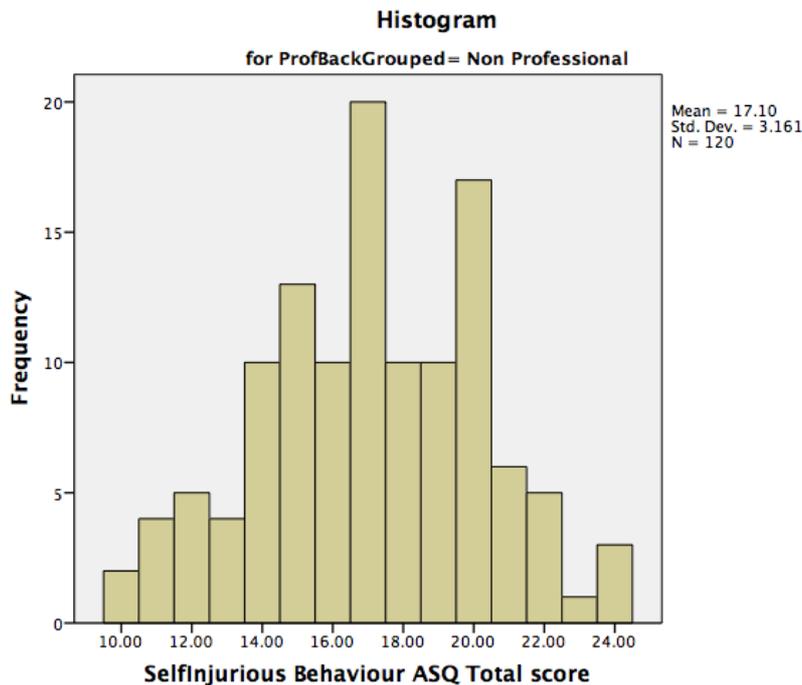


Figure 9.29: The histogram of Optimism/Pessimism score used to assess the normality of the data for Primary Care Professionals

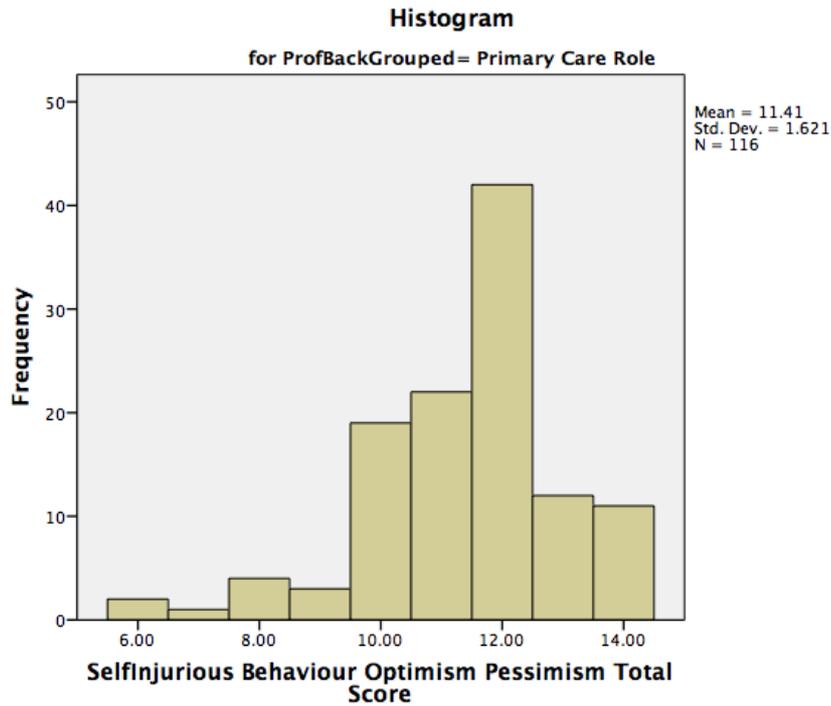


Figure 9.30: The histogram of Optimism/Pessimism score used to assess the normality of the data for Mental Health Professionals

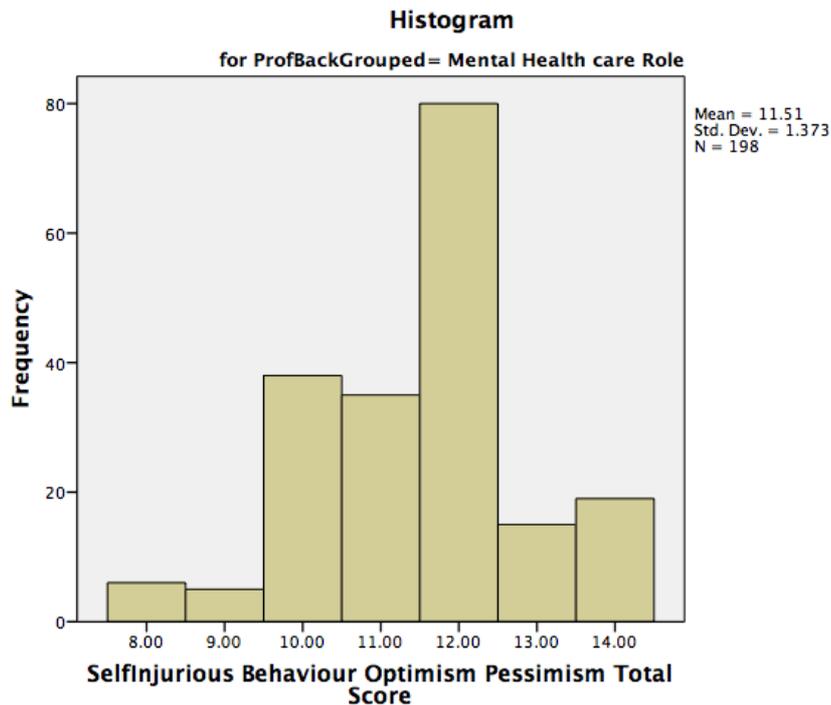


Figure 9.31: The histogram of Optimism/Pessimism score used to assess the normality of the data for Non-Professionals

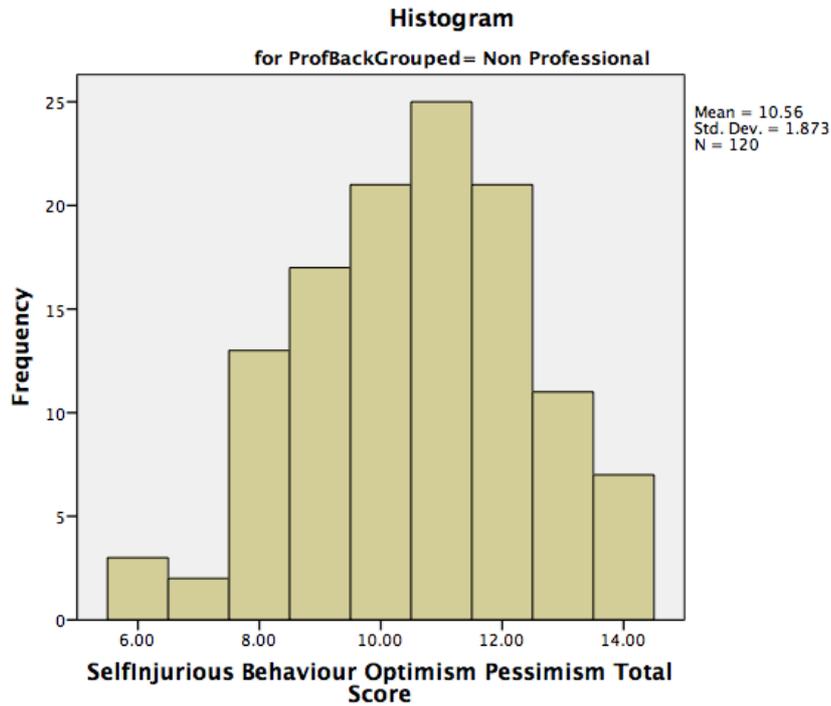


Figure 9.32: The histogram of empathy score used to assess the normality of data for Primary Care Professionals

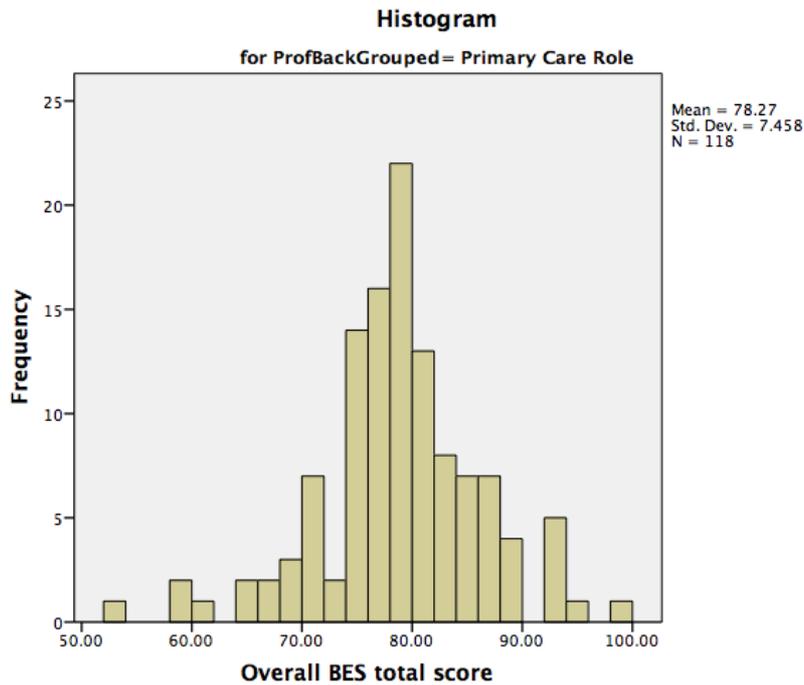


Figure 9.33: The histogram of empathy score used to assess the normality of data for Mental Health Professionals

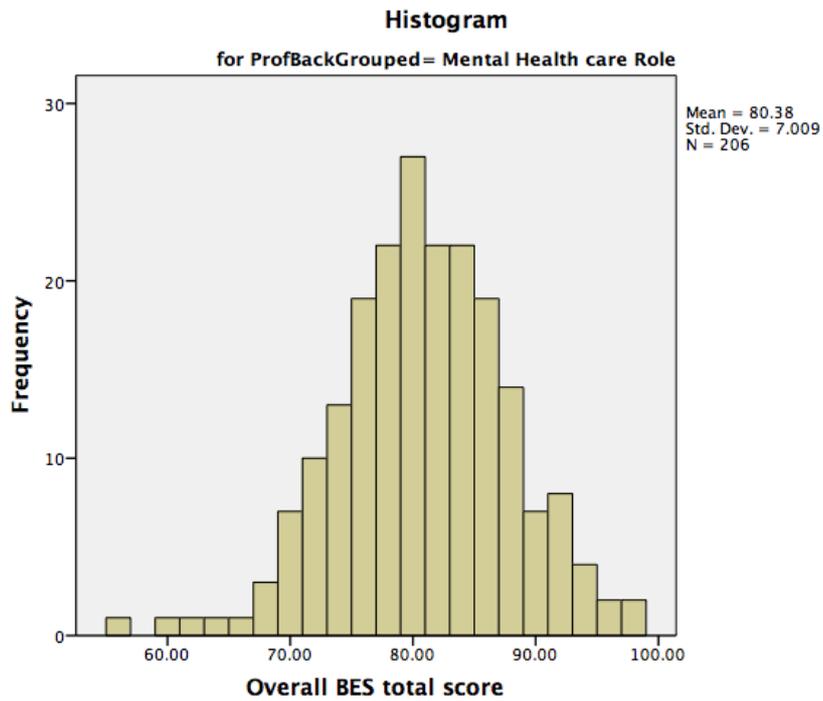
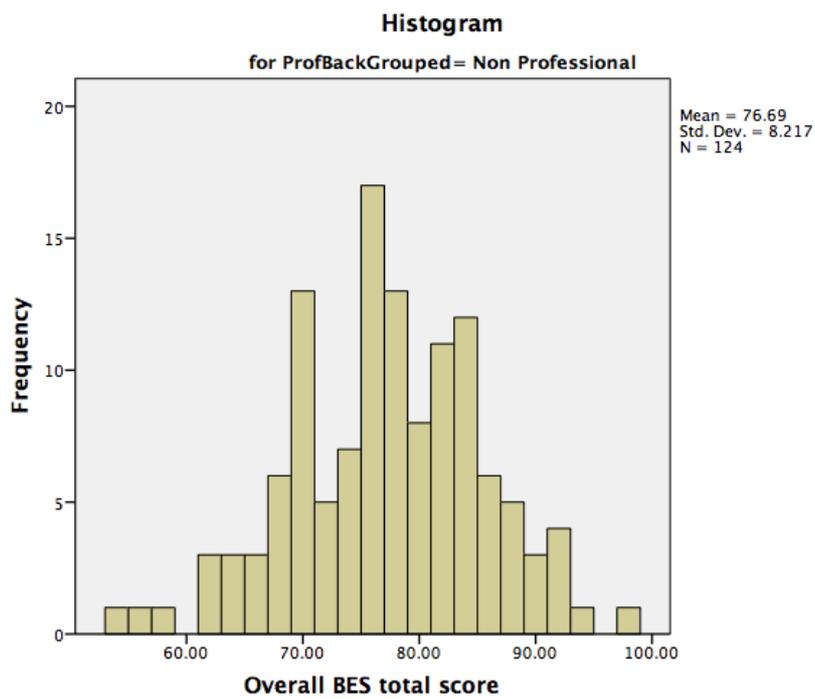


Figure 9.34: The histogram of empathy score used to assess the normality of data for Non-Professionals



Appendix S

The information used to assess the normality of the data for each level of the independent variables used in the additional analysis of optimism for personal and others' input

Table 9.6: The skewness and kurtosis test statistics for the difference between personal and others' optimism by professional group

| Professional Group by Qualification Status | Statistic Name | Statistic Value | Standard Error | Statistic Z-score |
|--|----------------|-----------------|----------------|-------------------|
| Primary Care Professional - Qualified | Skewness | 1.607 | 0.241 | 6.668 |
| | Kurtosis | 4.485 | 0.478 | 9.383 |
| Mental Health Professional - Qualified | Skewness | 0.749 | 0.378 | 1.981 |
| | Kurtosis | 1.649 | 0.741 | 2.225 |
| Non-Professionals | Skewness | 0.979 | 0.221 | 4.430 |
| | Kurtosis | 0.593 | 0.438 | 1.354 |
| Primary Care Professional – Unqualified | Skewness | 1.050 | 0.597 | 1.759 |
| | Kurtosis | -0.695 | 1.154 | -0.602 |
| Mental Health Professional – Unqualified | Skewness | 1.306 | 0.193 | 6.767 |
| | Kurtosis | 1.885 | 0.384 | 4.909 |
| All Professional Groups | Skewness | 1.487 | 0.177 | 8.401 |
| | Kurtosis | 2.865 | 0.234 | 12.244 |

Figure 9.35: The histogram of the difference in optimism scores for personal and others' input used to assess the normality of the data across all professional groups

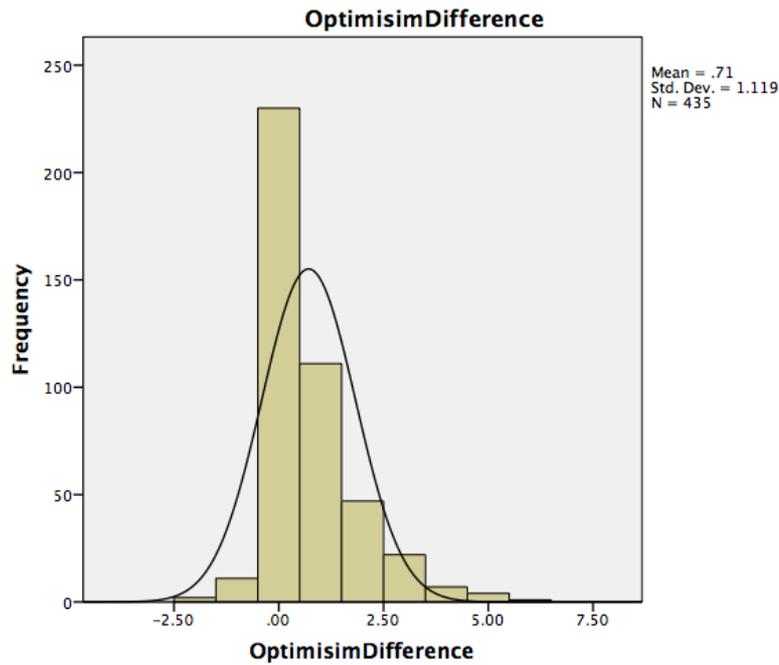


Figure 9.36: The histogram of the difference in optimism scores for personal and others' input used to assess the normality of the for qualified Primary Care Professionals

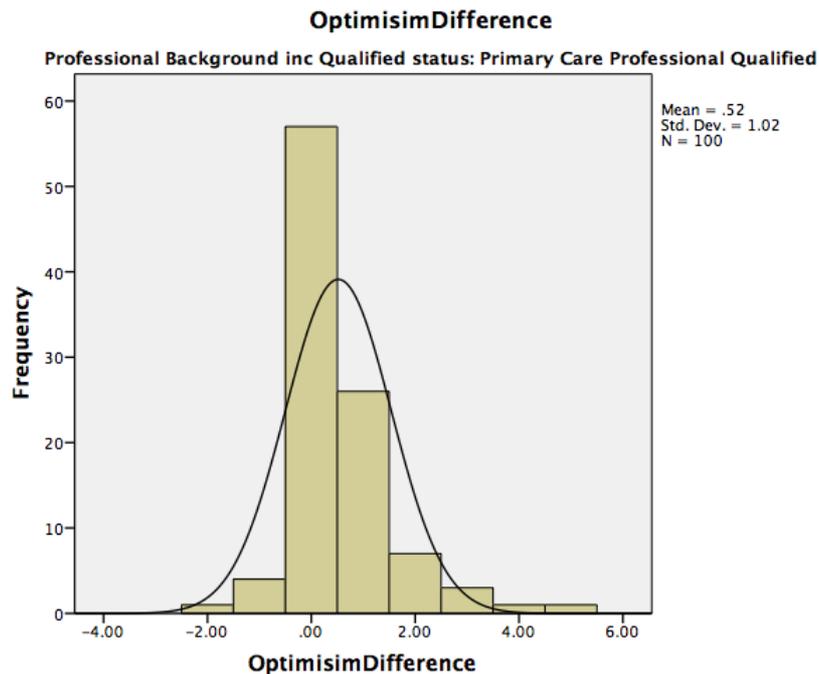


Figure 9.37: The histogram of the difference in optimism scores for personal and others' input used to assess the normality of the for qualified Mental Health Professionals

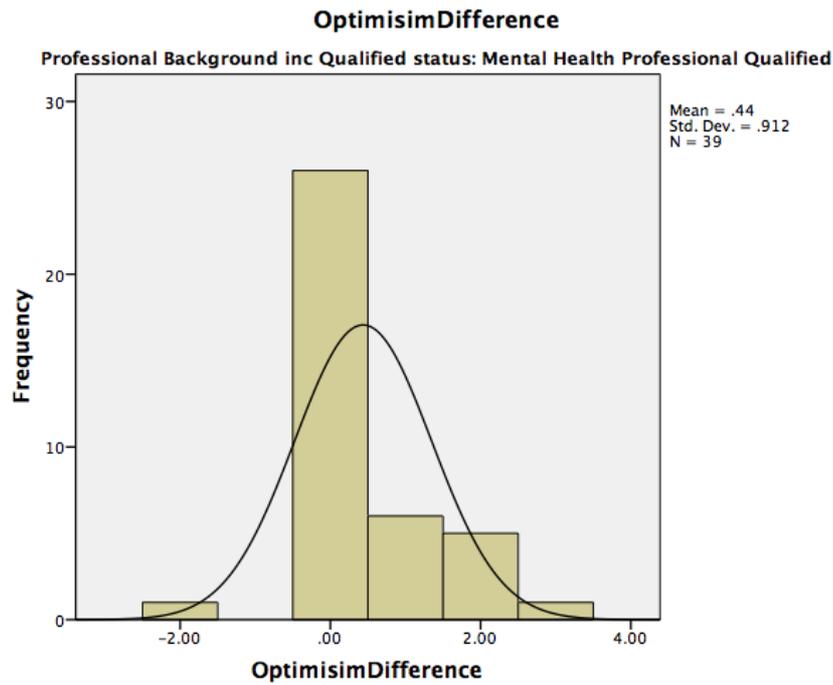


Figure 9.38: The histogram of the difference in optimism scores for personal and others' input used to assess the normality of the for Non-Professionals

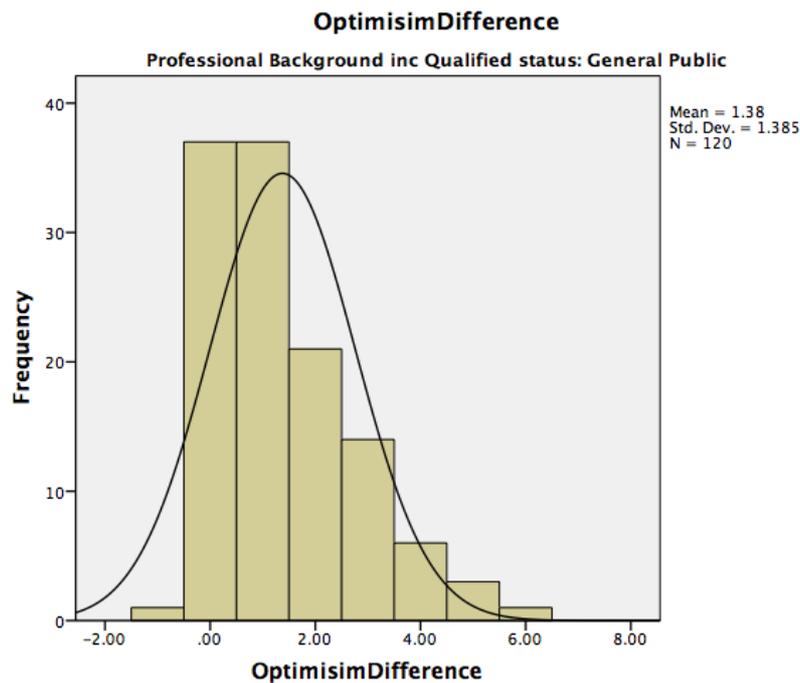


Figure 9.39: The histogram of the difference in optimism scores for personal and others' input used to assess the normality of the for unqualified Primary Care Professionals

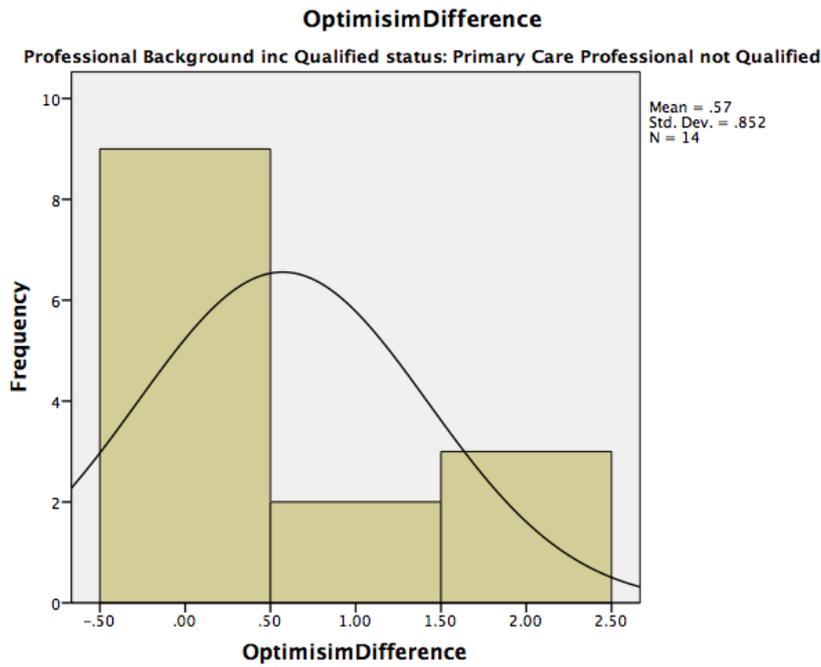
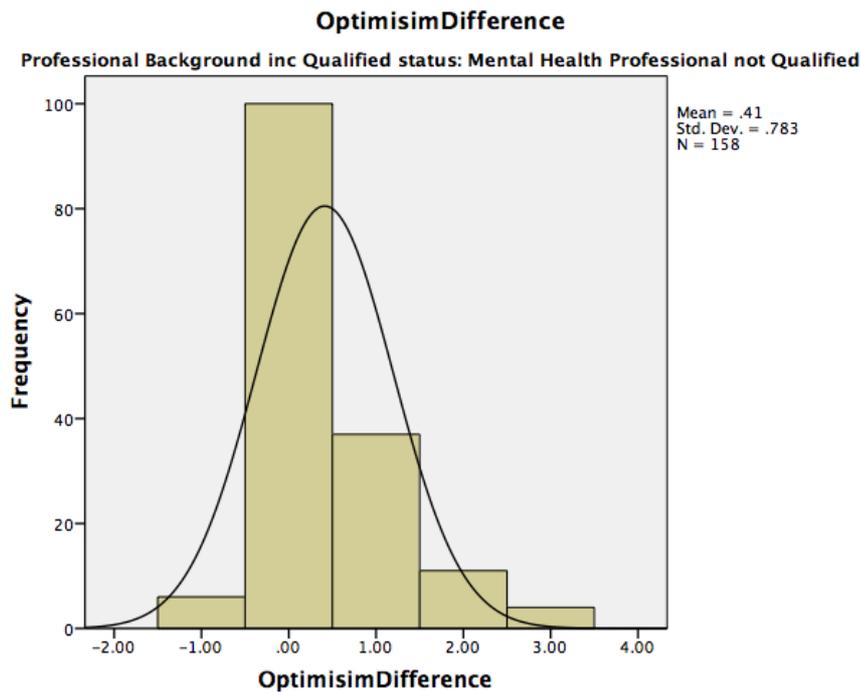


Figure 9.40: The histogram of the difference in optimism scores for personal and others' input used to assess the normality of the for unqualified Mental Health Professionals



The graphical figures (see Figure 9.35 to Figure 9.40) in this appendix show largely normal distributions in all cases apart from the overall difference in optimism scores for unqualified Primary Care Professionals and a potential non-normal distribution in the qualified Mental Health Professionals group (although the low sample size is noted). However, some of the Z-scores for skewness and kurtosis far exceed the recommended value of 1.96 (Field, 2005, 2013).

Appendix T

The information used to assess the normality of the data for males and females for each of the dependent variables

Table 9.7: The skewness and kurtosis test statistics for each gender by each dependent variable

| Dependent Variable | Gender | Statistic Name | Statistic Value | Standard Error | Statistic Z-Score |
|--|--------|----------------|-----------------|----------------|-------------------|
| Willingness to Help Score | Male | Skewness | -0.533 | 0.226 | 2.358 |
| | | Kurtosis | -0.294 | 0.449 | -0.654 |
| | Female | Skewness | -0.848 | 0.138 | -6.145 |
| | | Kurtosis | 0.874 | 0.276 | 3.167 |
| Attributions for Others' Behaviour Score | Male | Skewness | 0.054 | 0.226 | 0.239 |
| | | Kurtosis | -0.392 | 0.447 | -0.877 |
| | Female | Skewness | 0.143 | 0.137 | 1.044 |
| | | Kurtosis | -0.222 | 0.274 | -0.810 |
| Optimism/Pessimism Score | Male | Skewness | -0.623 | 0.227 | -2.744 |
| | | Kurtosis | 0.426 | 0.451 | 0.945 |
| | Female | Skewness | -0.553 | 0.138 | -4.007 |
| | | Kurtosis | 0.502 | 0.275 | 1.825 |
| Empathy Score | Male | Skewness | -0.153 | 0.225 | -0.680 |
| | | Kurtosis | -0.053 | 0.446 | -0.119 |
| | Female | Skewness | -0.032 | 0.136 | -0.235 |
| | | Kurtosis | 0.376 | 0.271 | 1.387 |

Figure 9.41: The histogram of the willingness to help scores used to assess normality for males

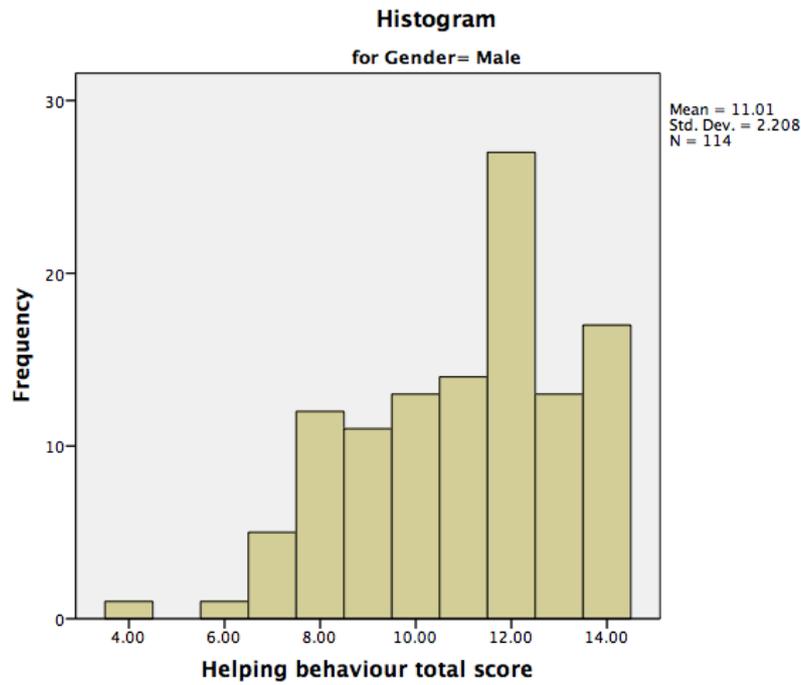


Figure 9.42: The histogram of the willingness to help scores used to assess normality for females

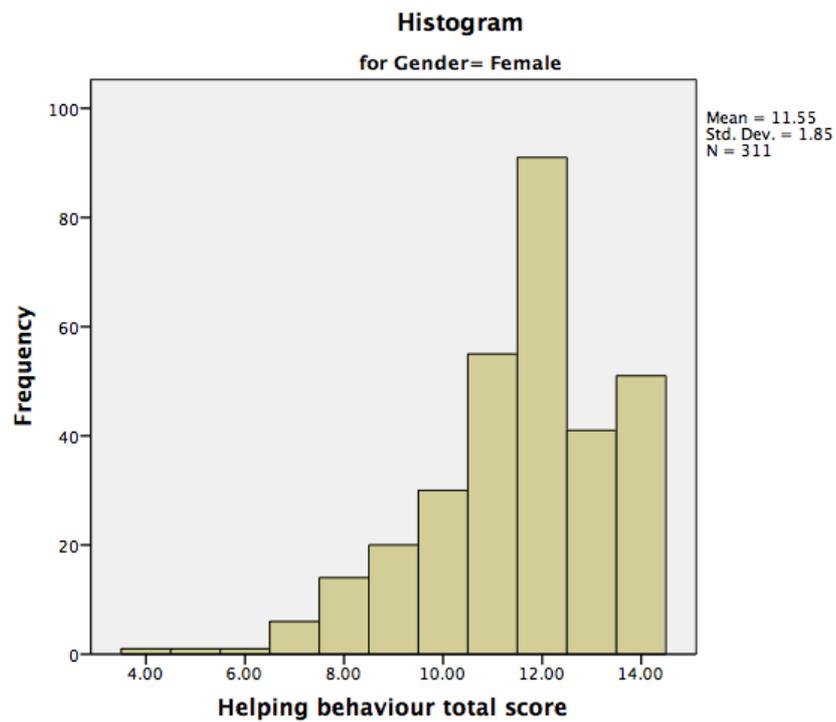


Figure 9.43: The histogram of the attributions for behaviour scores used to assess normality for males

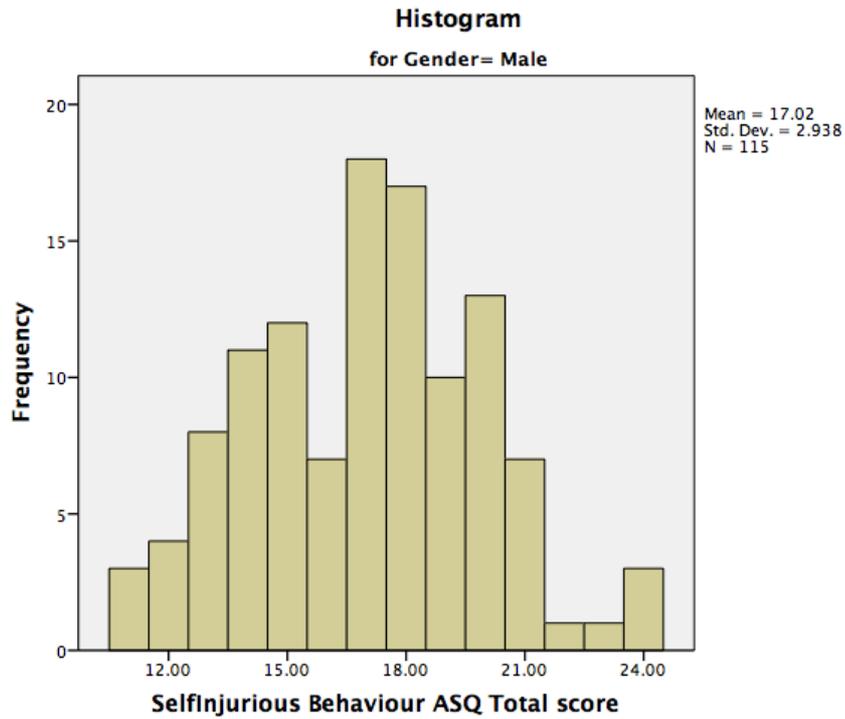


Figure 9.44: The histogram of the attributions for behaviour scores used to assess normality for females

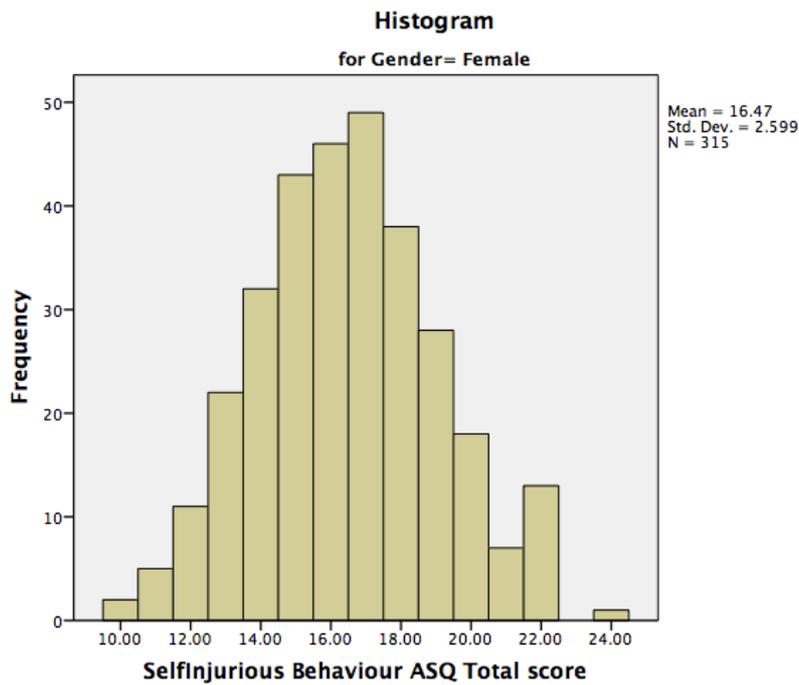


Figure 9.45: The histogram of the Optimism/Pessimism scores used to assess normality for males

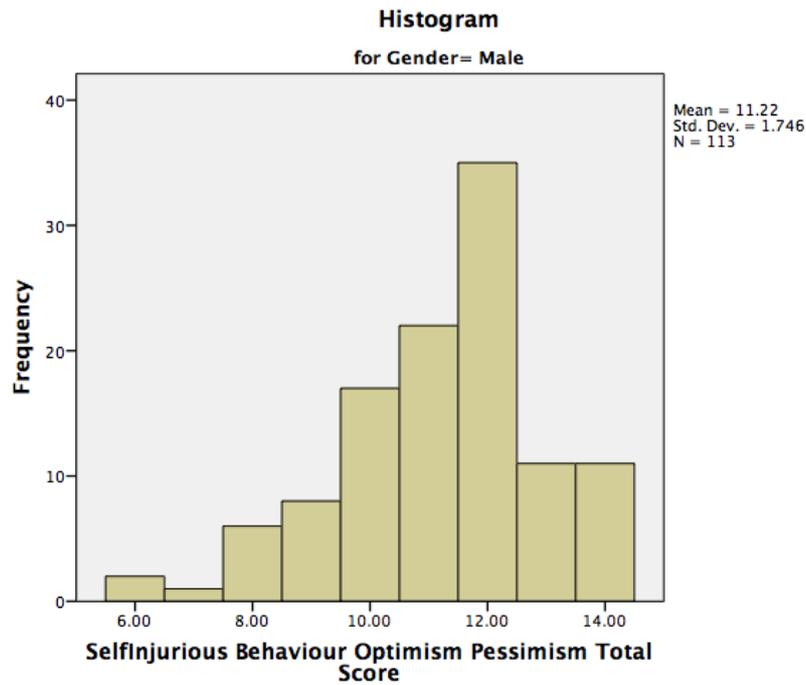


Figure 9.46: The histogram of the Optimism/Pessimism scores used to assess normality for females

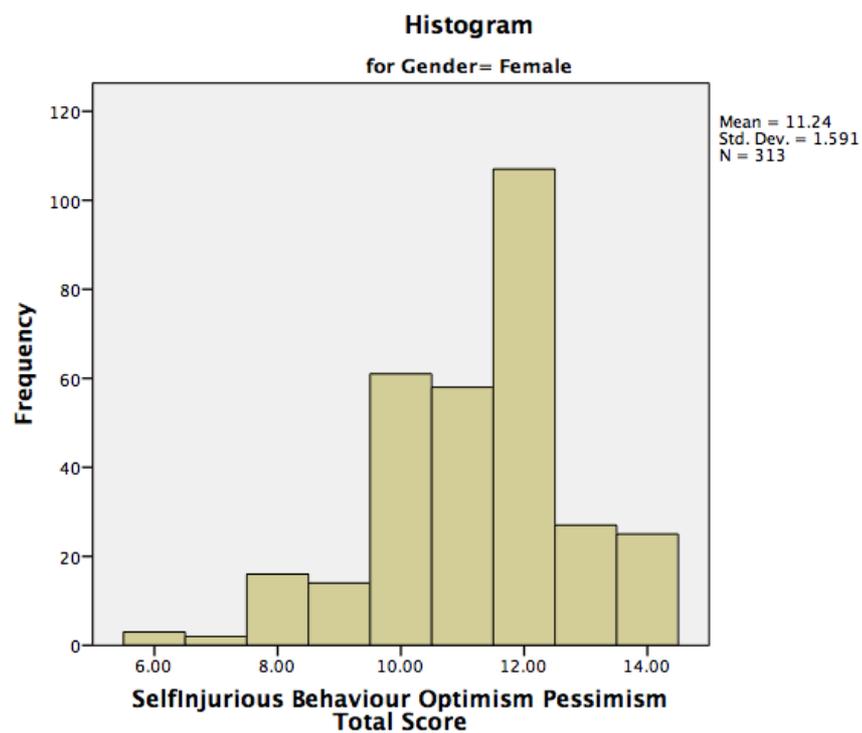


Figure 9.47: The histogram of empathy scores used to assess normality for males

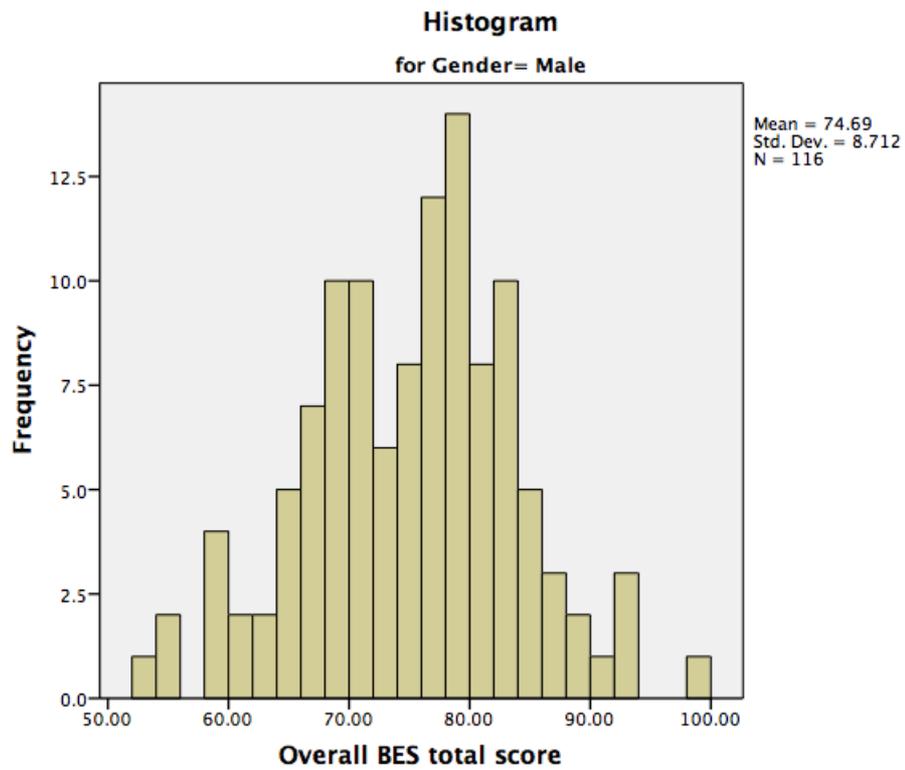
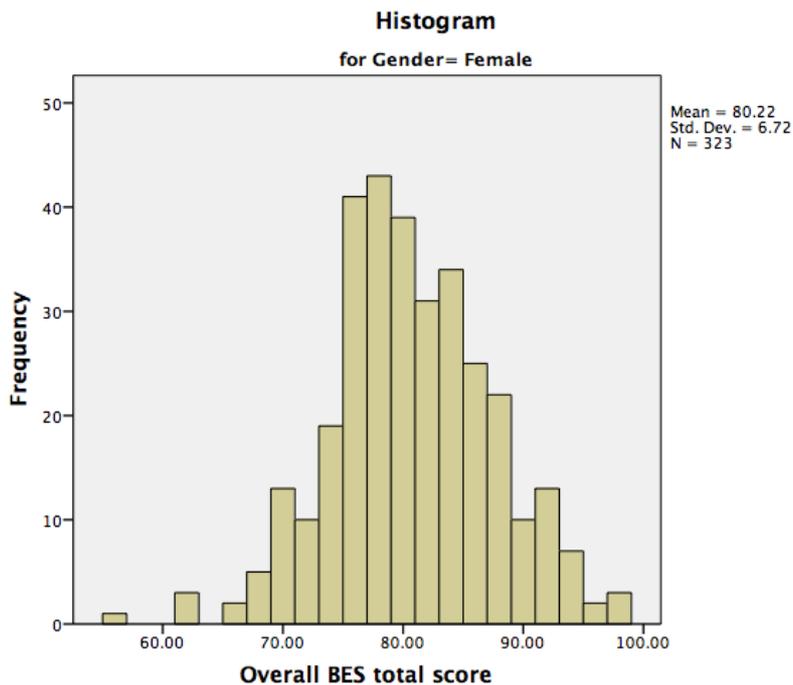


Figure 9.48: The histogram of the empathy scores used to assess normality for females



Appendix U

The information used to assess the normality of the data for qualified and unqualified healthcare professionals for each of the dependent variables

Table 9.8: The skewness and kurtosis test statistics for each of qualified and unqualified Mental Health Professionals by each dependent variable

| Dependent Variable | Professional Group by Qualification Status | Statistic Name | Statistic Value | Standard Error | Statistic Z-score |
|--|--|----------------|-----------------|----------------|-------------------|
| Willingness to Help Score | Qualified Mental Health Professionals | Skewness | -1.416 | 0.374 | -3.786 |
| | | Kurtosis | 3.186 | 0.733 | 4.347 |
| | Unqualified Mental Health Professionals | Skewness | -0.779 | 0.193 | 4.036 |
| | | Kurtosis | 0.256 | 0.384 | 0.667 |
| Attributions for Others' Behaviour Score | Qualified Mental Health Professionals | Skewness | 0.678 | 0.374 | 1.813 |
| | | Kurtosis | 0.393 | 0.733 | 0.536 |
| | Unqualified Mental Health Professionals | Skewness | 0.172 | 0.192 | 0.896 |
| | | Kurtosis | -0.069 | 0.381 | -0.181 |
| Optimism/Pessimism Score | Qualified Mental Health Professionals | Skewness | -0.523 | 0.378 | -1.384 |
| | | Kurtosis | 0.075 | 0.741 | 0.101 |
| | Unqualified Mental Health Professionals | Skewness | -0.153 | 0.193 | -0.793 |
| | | Kurtosis | 0.028 | 0.384 | 0.073 |
| Empathy Score | Qualified Mental Health Professionals | Skewness | -0.811 | 0.365 | -2.222 |
| | | Kurtosis | 1.288 | 0.717 | 1.796 |
| | Unqualified Mental Health Professionals | Skewness | -0.021 | 0.190 | 0.111 |
| | | Kurtosis | 0.216 | 0.378 | 0.571 |

Figure 9.49: The histogram of the willingness to help scores used to assess normality for qualified Mental Health Professionals

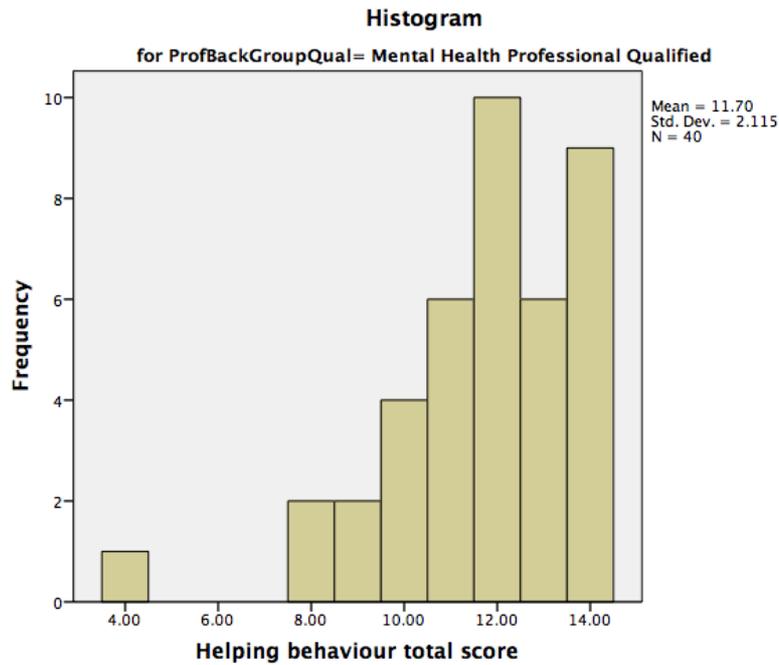


Figure 9.50: The histogram of the willingness to help scores used to assess normality for unqualified Mental Health Professionals

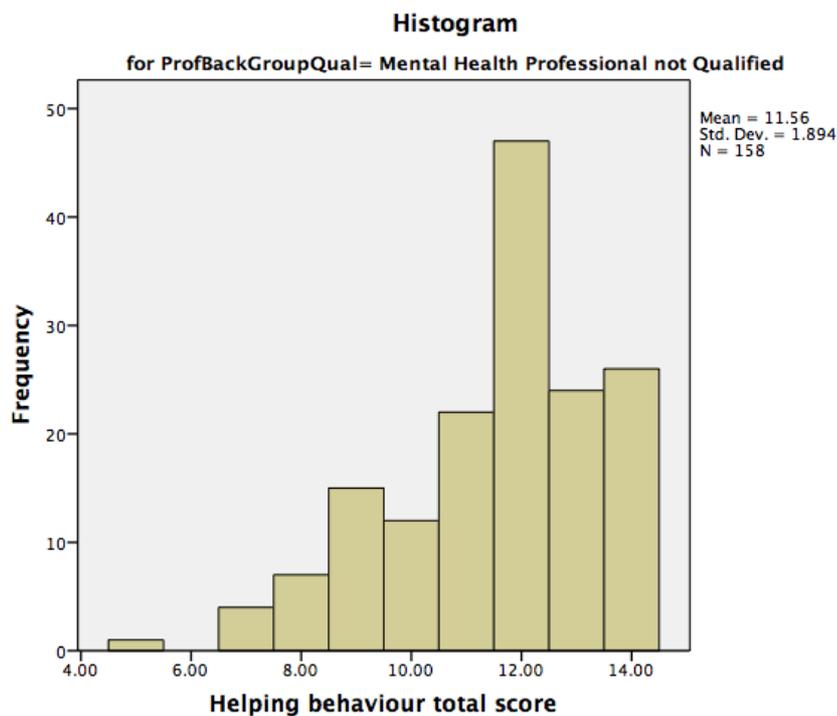


Figure 9.51: The histogram of the attributions for behaviour scores used to assess normality for qualified Mental Health Professionals

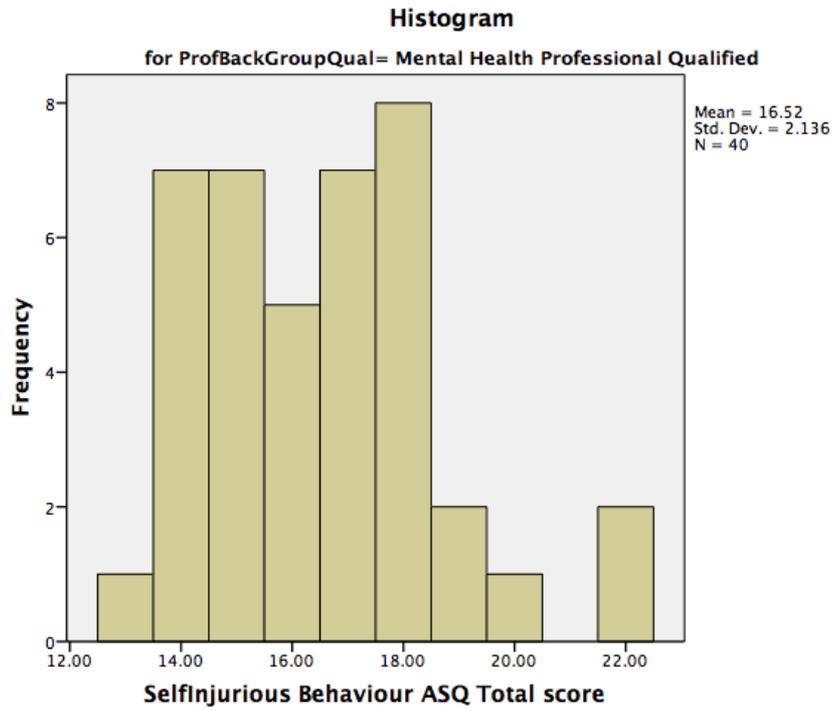


Figure 9.52: The histogram of the attributions for behaviour scores used to assess normality for unqualified Mental Health Professionals

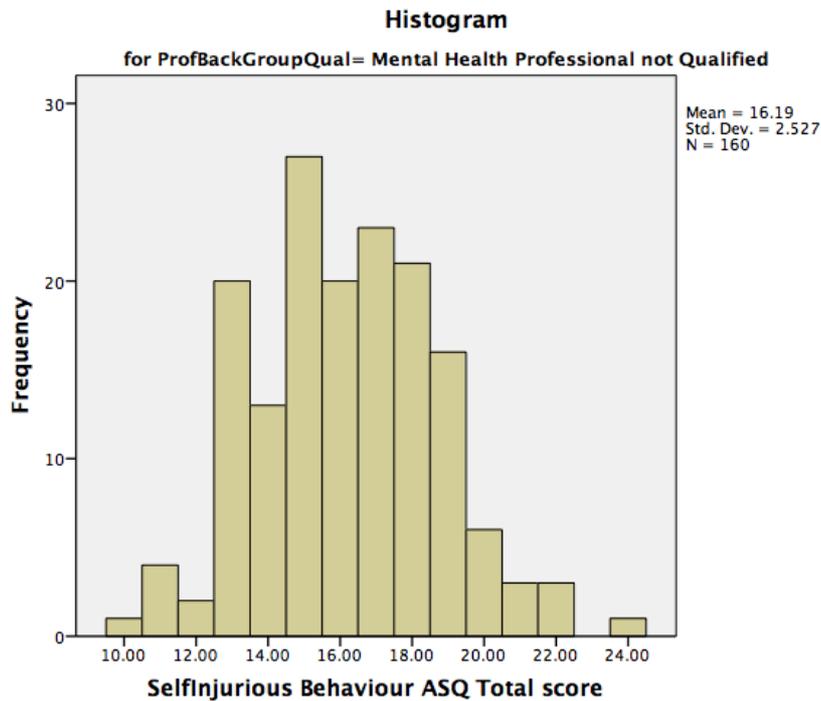


Figure 9.53: The histogram of the Optimism/Pessimism scores used to assess normality for qualified Mental Health Professionals

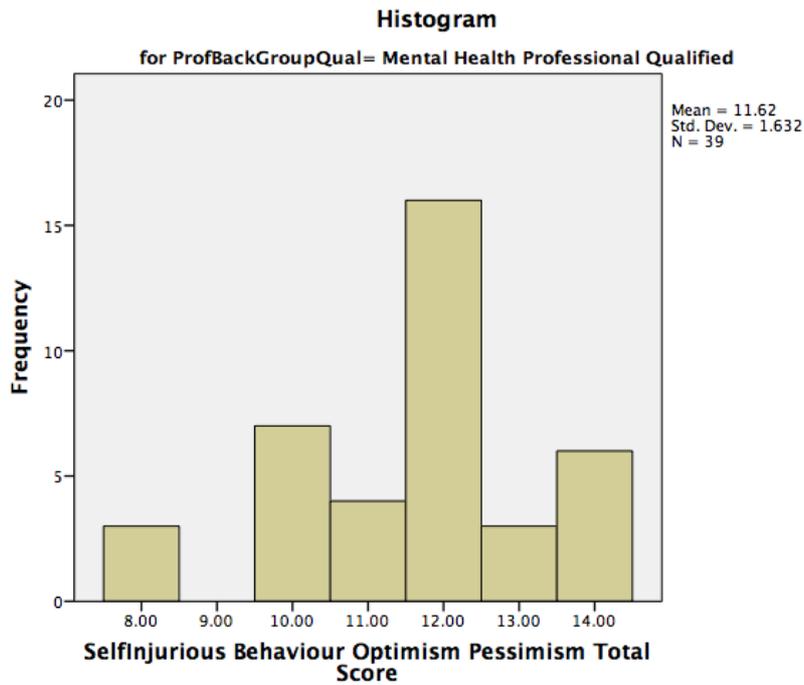


Figure 9.54: The histogram of the Optimism/Pessimism scores used to assess normality for qualified Mental Health Professionals

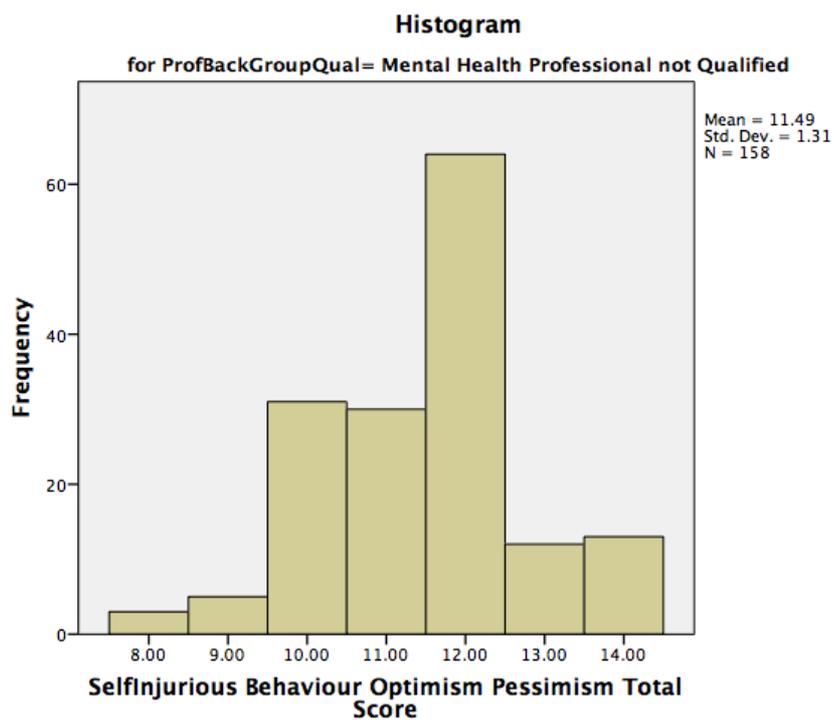


Figure 9.55: The histogram of the empathy scores used to assess normality for qualified Mental Health Professionals

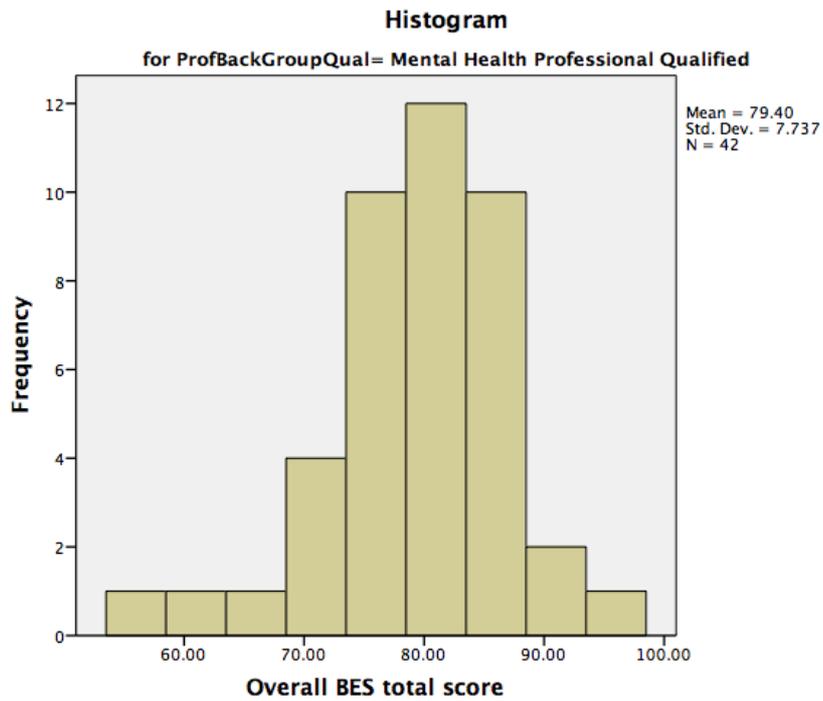


Figure 9.56: The histogram of the empathy scores used to assess normality for unqualified Mental Health Professionals

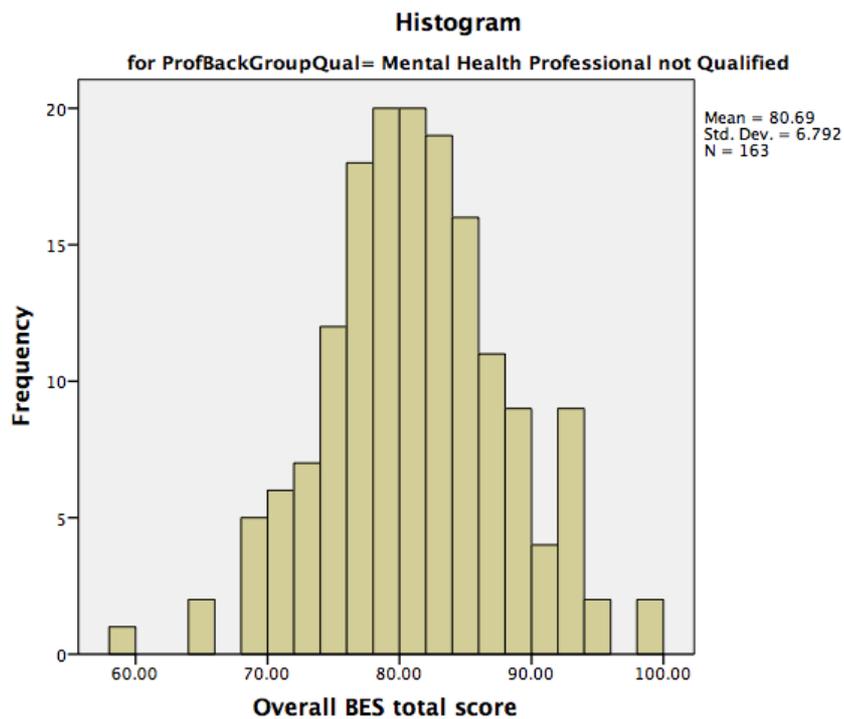


Table 9.9: The skewness and kurtosis test statistics for each of qualified and unqualified Primary Care Professionals by each dependent variable

| Dependent Variable | Professional Group by Qualification Status | Statistic Name | Statistic Value | Standard Error | Statistic Z-Score |
|--|---|-----------------------|------------------------|-----------------------|--------------------------|
| Willingness to Help Score | Qualified Primary Care Professionals | Skewness | -0.943 | 0.374 | -2.521 |
| | | Kurtosis | 0.426 | 0.733 | 0.581 |
| | Unqualified Primary Care Professionals | Skewness | -0.284 | 0.193 | -1.472 |
| | | Kurtosis | -0.265 | 0.384 | -0.690 |
| Attributions for Others' Behaviour Score | Qualified Primary Care Professionals | Skewness | 0.111 | 0.374 | 0.297 |
| | | Kurtosis | -0.689 | 0.733 | 0.940 |
| | Unqualified Primary Care Professionals | Skewness | -0.550 | 0.192 | -2.865 |
| | | Kurtosis | 0.824 | 0.381 | 2.163 |
| Optimism/Pessimism Score | Qualified Primary Care Professionals | Skewness | -0.947 | 0.378 | 2.505 |
| | | Kurtosis | 1.699 | 0.741 | 2.293 |
| | Unqualified Primary Care Professionals | Skewness | -0.462 | 0.193 | -2.394 |
| | | Kurtosis | -0.110 | 0.384 | -0.286 |
| Empathy Score | Qualified Primary Care Professionals | Skewness | -0.247 | 0.365 | 0.677 |
| | | Kurtosis | 1.483 | 0.717 | 2.068 |
| | Unqualified Primary Care Professionals | Skewness | -0.598 | 0.190 | -3.147 |
| | | Kurtosis | 0.051 | 0.378 | 0.135 |

Figure 9.57: The histogram of the willingness to help scores used to assess normality for qualified Primary Care Professionals

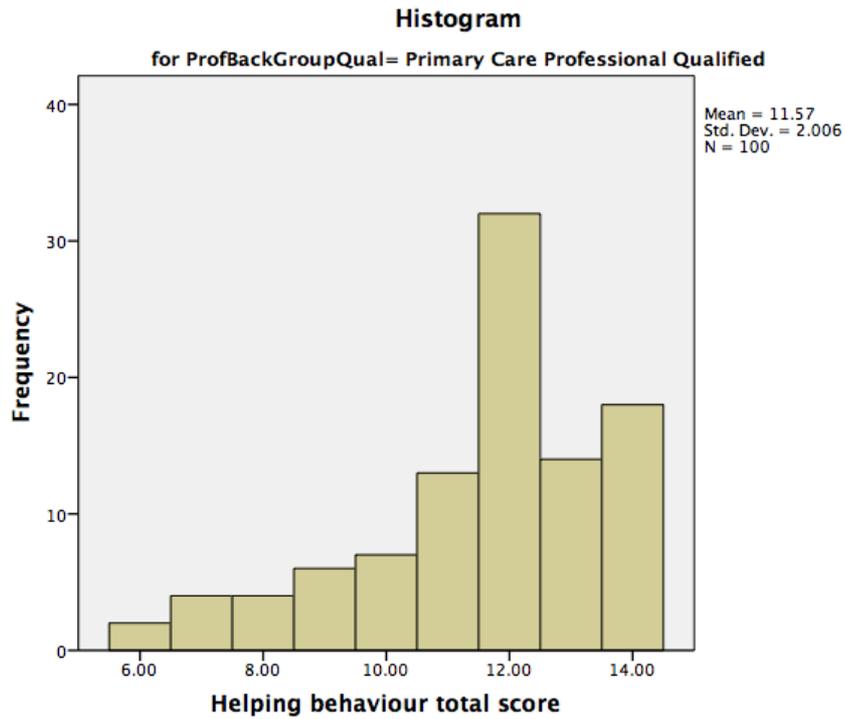


Figure 9.58: The histogram of the willingness to help scores used to assess normality for unqualified Primary Care Professionals

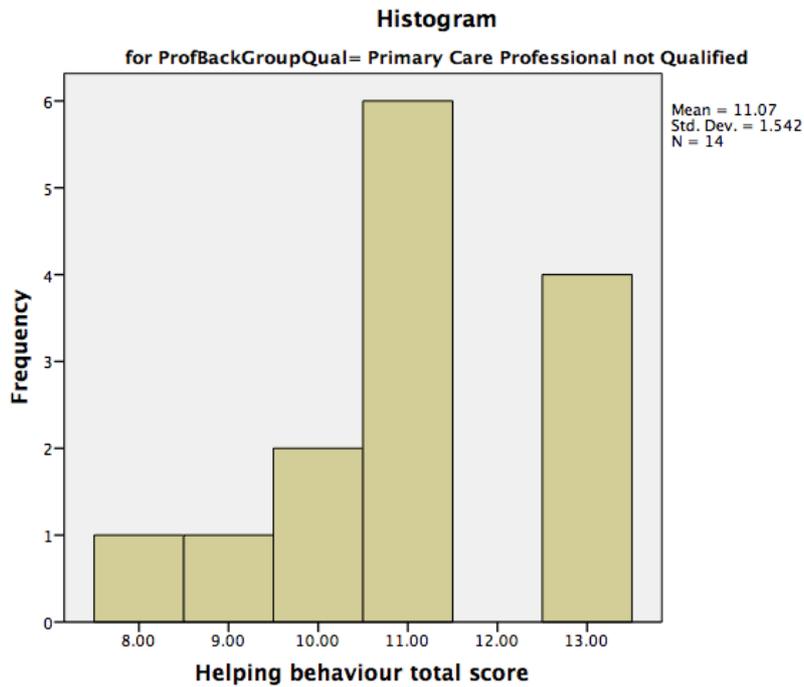


Figure 9.59: The histogram of the attributions for behaviour scores used to assess normality for qualified Primary Care Professionals

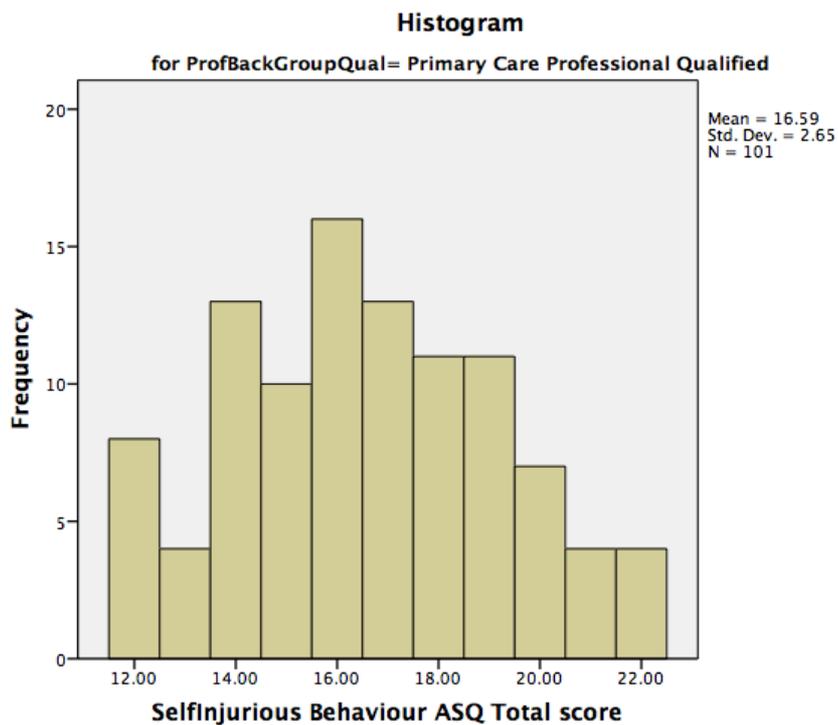


Figure 9.60: The histogram of the attributions for behaviour scores used to assess normality for unqualified Primary Care Professionals

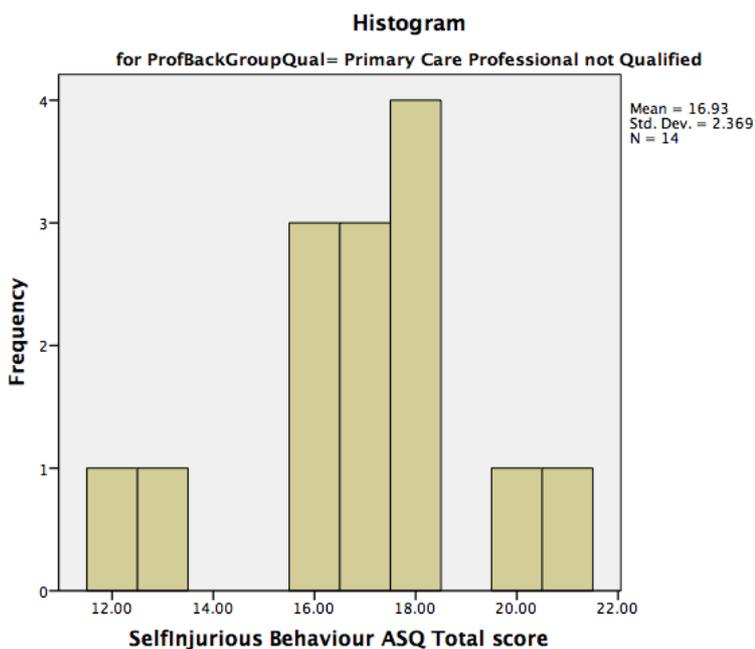


Figure 9.61: The histogram of the Optimism/Pessimism scores used to assess normality for qualified Primary Care Professionals

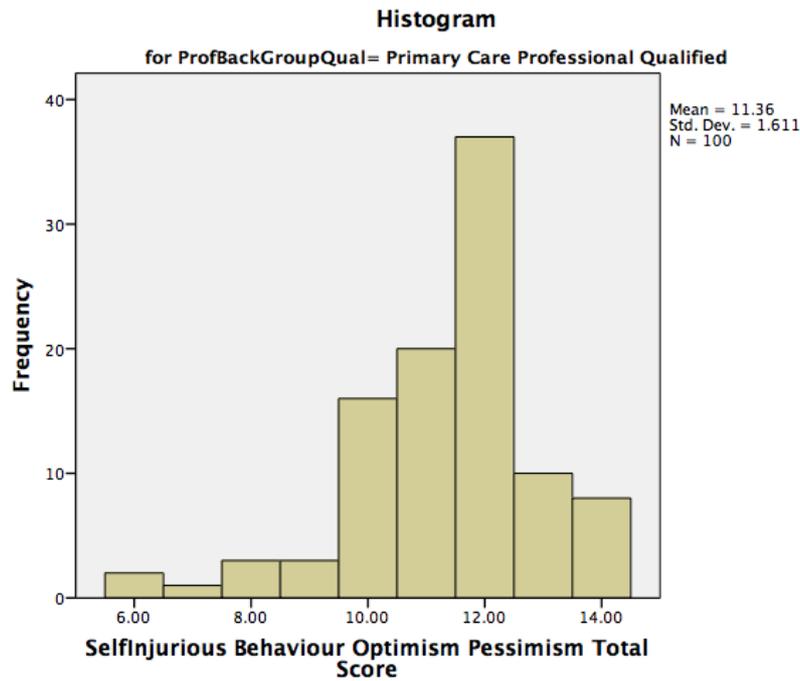


Figure 9.62: The histogram of the Optimism/Pessimism scores used to assess normality for unqualified Primary Care Professionals

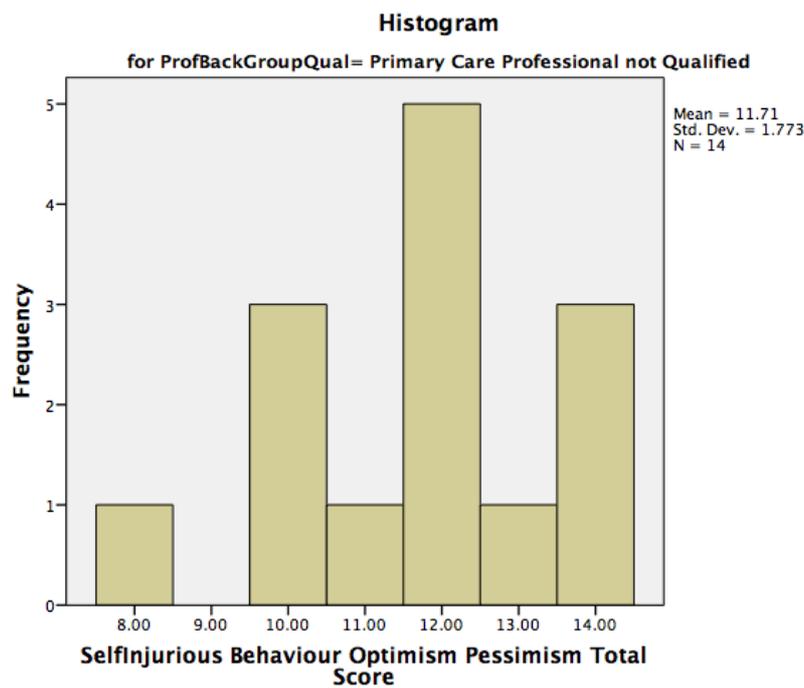


Figure 9.63: The histogram of the empathy scores used to assess normality for qualified Primary Care Professionals

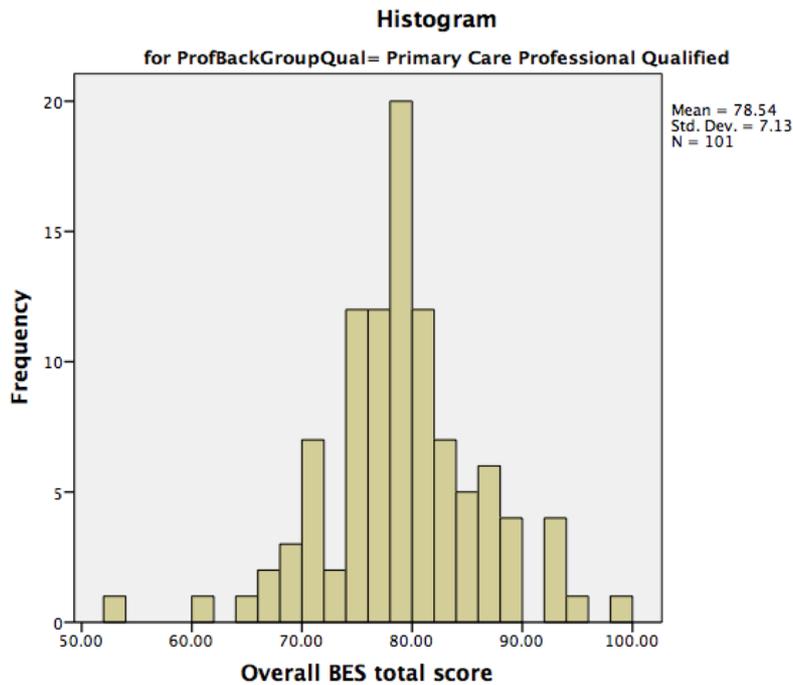
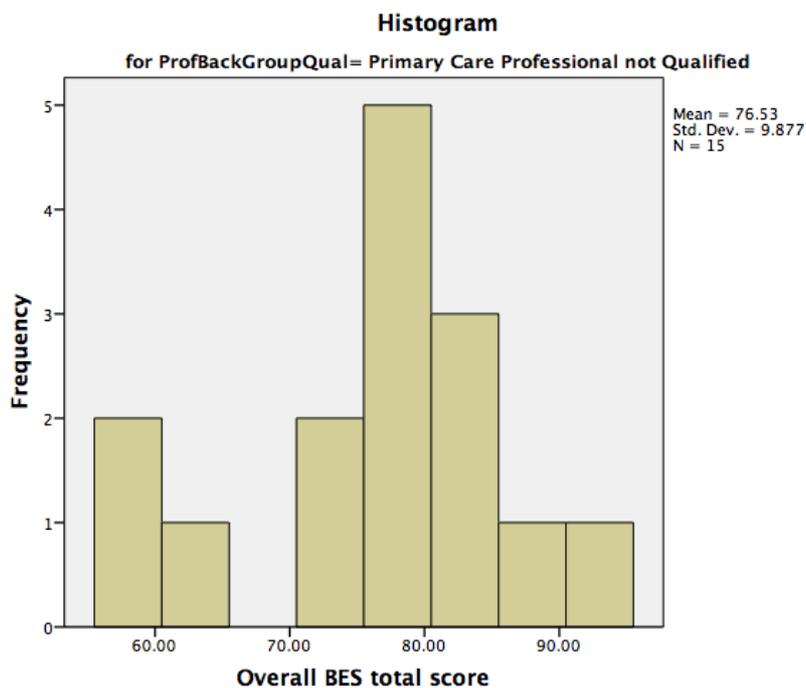


Figure 9.64: The histogram of the empathy scores used to assess normality for unqualified Primary Care Professionals



Appendix V

The results of the independent t-test analysis of the differences in qualified status within professional groups where equal variances are not assumed

| Type of Self-injurious behaviour | Professional Group | Willingness to Help | Attributions for Behaviour | Optimism/Pessimism | Empathy |
|----------------------------------|--------------------|---------------------|----------------------------|--------------------|-------------------|
| NSSI | Primary Care | $t(9.70)=0.507,$ | $t(13.47)=-1.47,$ | $t(8.19)=-0.261,$ | $t(8.31)=.436,$ |
| | Professionals | $p=.624$ | $p=.166$ | $p=.800$ | $p=.674$ |
| Suicidal Behaviour | Primary Care | $t(8.80)=1.135,$ | $t(6.26)=.602,$ | $t(8.58)=-1.148,$ | $t(5.78)=-.947,$ |
| | Professionals | $p=.286$ | $p=.569$ | $p=.282$ | $p=.964$ |
| NSSI | Mental Health | $t(26.32)=.390,$ | $t(41.97)=.482,$ | $t(25.57)=-.079,$ | $t(34.69)=-.721,$ |
| | Professionals | $p=.700$ | $p=.633$ | $p=.938$ | $p=.476$ |
| Suicidal Behaviour | Mental Health | $t(30.33)=.082,$ | $t(27.11)=.748,$ | $t(23.80)=-.714,$ | $t(23.67)=-.668,$ |
| | Professionals | $p=.935$ | $p=.461$ | $p=.482$ | $p=.510$ |

Appendix W

The information used to assess the suitability of the data for a regression analysis

W.1 Outliers and bias

In order to check for biases the standardised residuals were examined for the possibility of outliers substantially affecting the regression model. Based on Classical Test Theory (see Franzen, 2011), we would expect 95% of cases to have standardised residuals not exceeding ± 2 , and as such in this sample of 430 we would expect about 22 cases to fall outside these limits. A total of 18 cases did so. Further, we would expect 99% of cases, or four cases in the current sample, to fall within ± 2.5 standardised residuals; in this sample we have nine cases that are outside these limits. It is noted however that of these nine, 4 are very close to 2.5 and given the lower than expected number of cases with ± 2 standardised residuals this is not felt to represent a problem; our sample therefore conforms to a fairly accurate model. The Cook's distances were examined and no values were seen to be greater than 1. This suggests no outliers have an undue influence on the model (Field, 2013). As such while the following diagnostic statistics will be considered because no outlier has an undue influence on the model no outliers will be deleted (Steven, 2002, in Field, 2013).

W.2 Diagnostic statistics

The average leverage was calculated to be 0.01. Using Stevens (2002, in Field, 2013), the value of three times this (i.e. 0.03) was used as the cut-off to signal concern. One data point was seen to exceed this value (case number 263, centred leverage value = 0.035) however as the Cook's Distance for this case is below 1, and due to the relatively large sample and relatively small number of outliers in regards to leverage this data point will not be deleted. Using the guidance of Barnett and Lewis (1978), data points with a Mahalanobis distance greater than 25 were deemed to be of concern, however no data points exceeded this value. The standardised DFBeta assess the influence on the regression parameters of each predictor variable; DFBeta was considered for each of the predictor variables, with distances over ± 1 considered

problematic. No data points had values exceeding +/-1 for any of the predictor variables. Based on Belsey, Kuh and Welsch (1980, in Field, 2013) calculations, covariance ratios outside the range 0.97 to 1.03 (to 2 d.p.) should cause concern. A total of six values fell above this range and twelve fell below this range, however the majority were only slightly outside this range. As none of these data points were seen in the Cook's distances to have an undue influence on the regression model they will not be excluded.

W.3 Statistical assumptions of regression models

The assumptions on which the regression model is based need to be considered, including the assumptions of parametric tests discussed in the main results section and some considerations unique to regression analyses. In terms of the assumption of multicollinearity, as Table 9.10 shows, Pearson Correlations conducted as part of the regression analysis showed no two variables correlated substantially with one another ($r > .9$) this suggests there is no multicollinearity in the data. In viewing the tolerance and Variance Inflation Factor (VIF) collinearity statistics for the data it can be seen that no values of the tolerance statistic is below 0.1 (Menard, 1995, in Field, 2013) and no VIF statistic is substantially greater than 1 (Bowerman & O'Connell, 1990, in Field, 2013), further suggesting no problems with multicollinearity (see Table 9.11). Finally, inspecting the Eigenvalues show similar variance proportions between the two dummy variables of the professional groups only, as would be expected from this similar factor. Table 9.12 shows the Eigenvalue and associated variances.

Table 9.10: Pearson Correlations and their related significance values conducted as part of the regression analysis

| | | Correlations | | | | |
|------------------------|--------------------------------------|-------------------------------------|----------------------------------|--|---|----------------------------|
| | | Helping behaviour total score | NSSI vs Suicidal behaviour | Non Professional vs Primary Care | Non Professional vs Mental Health | Overall BES total score |
| Pearson Correlation | Helping behaviour total score | 1.000 | -.334 | .021 | .085 | .202 |
| | NSSI vs Suicidal behaviour | -.334 | 1.000 | .058 | .057 | .068 |
| | Non Professional vs Primary Care | .021 | .058 | 1.000 | -.555 | -.035 |
| | Non Professional vs Mental Health | .085 | .057 | -.555 | 1.000 | .194 |
| | Overall BES total score | .202 | .068 | -.035 | .194 | 1.000 |
| Sig. (1- tailed) | Helping behaviour total score | . | .000 | .336 | .040 | .000 |
| | NSSI vs Suicidal behaviour | .000 | . | .116 | .120 | .079 |
| | Non Professional vs Primary Care | .336 | .116 | . | .000 | .231 |
| | Non Professional vs Mental Health | .040 | .120 | .000 | . | .000 |
| | Overall BES total score | .000 | .079 | .231 | .000 | . |

Table 9.11: The collinearity statistics for the regression analysis

| Model | | Collinearity Statistics | |
|-------|-----------------------------------|-------------------------|-------|
| | | Tolerance | VIF |
| 1 | (Constant) | | |
| | NSSI vs Suicidal behaviour | 1.000 | 1.000 |
| 2 | (Constant) | | |
| | NSSI vs Suicidal behaviour | .985 | 1.015 |
| | Non Professional vs Primary Care | .684 | 1.462 |
| 3 | (Constant) | | |
| | NSSI vs Suicidal behaviour | .983 | 1.017 |
| | Non Professional vs Primary Care | .679 | 1.472 |
| | Non Professional vs Mental Health | .656 | 1.525 |
| | Overall BES total score | .953 | 1.050 |

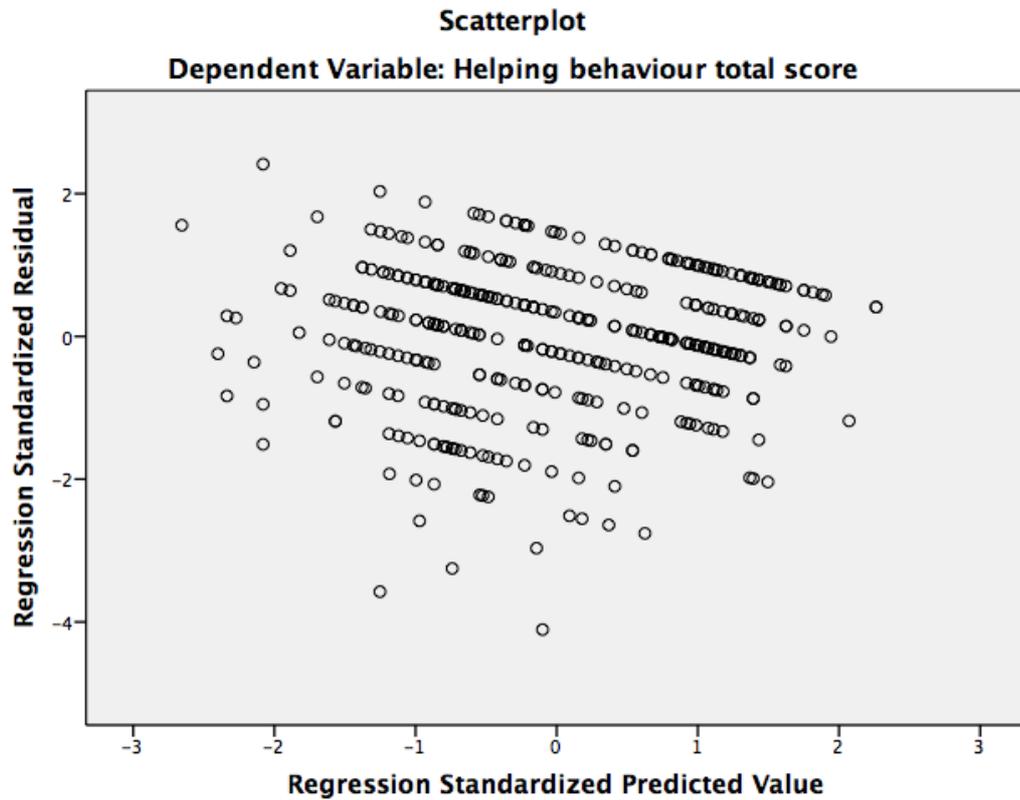
The Durbin-Watson statistic for this data is 2.071, which is close to the desired value of 2 and certainly does not exceed the conservative cut-offs of 1 and 3 (Field, 2013) and as such suggests that our assumption of independent errors has been met.

Table 9.12: The Eigenvalues and associated variances for the regression analysis

| Model | Dimension | Eigenvalue | Variance Proportions | | | | |
|-------|-----------|------------|----------------------|----------------------------|----------------------------------|-----------------------------------|-------------------------|
| | | | Constant | NSSI vs Suicidal behaviour | Non Professional vs Primary Care | Non Professional vs Mental Health | Overall BES total score |
| 1 | 1 | 1.710 | .14 | .14 | | | |
| | 2 | .290 | .86 | .86 | | | |
| 2 | 1 | 2.478 | .03 | .06 | .03 | .03 | |
| | 2 | 1.000 | .00 | .00 | .32 | .14 | |
| | 3 | .380 | .05 | .88 | .13 | .14 | |
| | 4 | .142 | .92 | .06 | .53 | .69 | |
| 3 | 1 | 3.401 | .00 | .03 | .01 | .02 | .00 |
| | 2 | 1.000 | .00 | .00 | .32 | .13 | .00 |
| | 3 | .405 | .00 | .96 | .05 | .05 | .00 |
| | 4 | .189 | .01 | .01 | .62 | .78 | .01 |
| | 5 | .005 | .99 | .00 | .00 | .02 | .99 |

The assumptions of heteroscedasticity and non-linearity are checked using a plot of standardised residuals against predicted values (see Figure 9.65). Although using categorical variables, which do make the data slightly harder to assess visually, the graphs appear to show no signs of heteroscedasticity and non-linearity.

Figure 9.65: The standardized residuals of willingness to help total score



A histogram of the dependent variable (see Figure 9.66) shows it to be largely normally distributed, although with the possibility of a slightly negative skew. The P-P plot of the regression standardised residual (see Figure 9.67) however shows further evidence of a non-normal distribution, which could be a cause of concern.

Figure 9.66: The histogram of the willingness to help total score

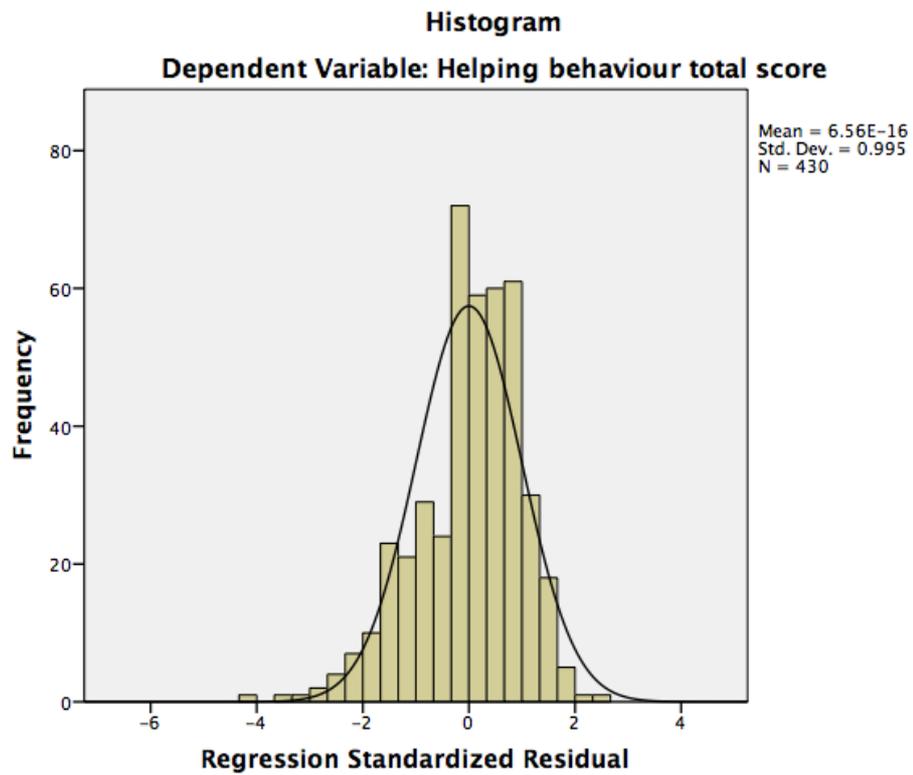


Figure 9.67: The P-P Plot of the willingness to help total score

