The Relationships Between Non-Suicidal Self-Injury, Emotion Dysregulation, Self-Esteem, and Self-Compassion among Young Adults in Aotearoa New Zealand

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Abstract

Non-Suicidal Self-Injury (NSSI), also commonly referred to as self-harm, has been found to affect a substantial minority of young people around the world; with Aotearoa New Zealand appearing to have particularly high rates of this behaviour. It is associated with poor mental wellbeing, and of particular concern, future suicidality. The research literature to date has identified that emotion dysregulation is a correlate and possible cause of engaging in NSSI. However, it is unlikely that emotion dysregulation is the only potential cause of engaging in NSSI, and it does not explain why people engage in NSSI specifically rather than using other adaptive or maladaptive coping strategies. This research hypothesises that self-esteem and self-compassion may also play a role in why people harm their bodies to cope with distress.

A mixed-methods study was completed examining the relationships between emotion dysregulation, self-esteem, self-compassion, and NSSI. A survey of 239 young adults found that self-esteem was consistently negatively related to NSSI engagement, while emotion dysregulation and self-compassion were related to NSSI engagement depending on the analytic method and frequency measure of NSSI used. While providing some support for the hypotheses, the effect sizes were small and the results did not lend strong support to the suggestion that both self-esteem and self-compassion play a significant role in engagement in NSSI. In the qualitative phase, the same constructs of interest and their relationship to NSSI were discussed with nine interview participants. Five themes in total were generated from the qualitative analysis regarding emotion dysregulation, self-esteem, self-compassion, the availability of ways a person has to cope, and their use of their bodies to manage distress.

While this research is limited in its ability to make causal claims due to its cross-sectional design, the results collectively suggest that self-esteem is a stronger and more consistent predictor of NSSI than emotion dysregulation or self-compassion; that emotion

dysregulation and self-compassion may not be as predictive of engaging in NSSI as the literature to date would suggest when other psychological factors are controlled for; and that emotion dysregulation is not a sufficient explanation of NSSI.

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Table of Contents

Abstract **2**
Acknowledgements **4**
Table of Contents **6**
List of Tables **9**
List of Figures **10**
Chapter 1. Introduction and NSSI Background **11**
Defining Non-Suicidal Self-Injury **12**
Prevalence **15**
Demographic Characteristics **21**
NSSI and Suicide Risk **24**
Why Study NSSI **27**
Conclusion **28**
Chapter 2. Emotion Dysregulation and NSSI **29**
Defining Emotion Regulation **30**
Emotion Dysregulation as a Correlate of NSSI **32**
Emotion Dysregulation as a Mediator **34**
Emotion Dysregulation as a Potential Cause of NSSI **35**
Emotion Regulation Therapies and NSSI 36
Ecological Momentary Assessment Studies 39
Theoretical Framework **40**
Conclusion **43**
Chapter 3. Self-Esteem and Self-Compassion **44**
Self-Esteem **44**
Self-Esteem and NSSI 45
Self-Compassion **48**
Self-Esteem and Self-Compassion 49
Self-Compassion and NSSI 50
Conclusion **55**
Chapter 4. Research Rationale, Aims, and Hypotheses **56**
Rationale **56**
Original Contribution **58**
Research Aims, Hypotheses and Qualitative Research Question **59**
Chapter 5. Method **61**
Pre-registration **62**
Quantitative Phase **63**

Design 63
Participants 63
Measures 70
Data Analysis 80
Qualitative Stage 85
Design 85
Participants 86
Data Analysis 87
Ethical Considerations 96
Managing the Risk of Suicidality and of Causing Distress or Harm 97
Cultural Considerations 98
Chapter 6. Quantitative Results 102
Descriptive Statistics 102
Data Analyses 103
Welch's t-tests 103
Alternative Analysis Welch's t-tests 106
Logistic Regression Analysis 109
Logistic Regression Alternative Analysis 114
Ordinal Logistic Regression 117
Assumption Testing 118
Welch's t-test Assumptions 119
Logistic Regression Assumptions 119
Ordinal Regression Assumptions 122
Summary of Results 123
Chapter 7. Qualitative Results 124
Interview Participants 127
"Zero to 100" – How Emotion Dysregulation is Experienced and Contributes to NSSI 128
Being at "100" – Experiencing Intense Emotions 129
The "Zero" – Emotional Avoidance to Cope 133
Conclusion 136
Low Self-Esteem as a Precondition for NSSI 136
Developing Ambivalent Self-Kindness 143
The Past: Self-Judgment 145
The Present: Self-Kindness 147
The Body as a Coping Tool 152
Constrained Choices for Managing Distress 159
Social Limitations – Cultural and Structural 160
Family Constraints 162
Peer Limitations/Isolation 164
Practical Limitations 165
Summary 167
Chapter 8. Discussion 168

Introduction and Summary of Findings 168

Interpretation of Findings and Relationship to Prior Literature 169
Quantitative Results 169
Qualitative Results 178
Combining the Quantitative and Qualitative Results 186

Strengths and Limitations of the Research 188
Strengths 188
Limitations 191

Implications and Recommendations 201
Clinical Implications 201
Research Implications and Directions for Future Research 207

Conclusion 208

References 210

Appendices 267

Appendix A. Information Sheets 267

Appendix B. Full Version of Survey 273

Appendix C. Interview Schedule 279

Appendix D. Ethics Approval Letter 280

Appendix E. Link to Pre-Registration, Archived Data, and R Syntax 281

Appendix F. Research Case Study 282

List of Tables

Table 1. Gender of Participants……67

Table 2. Ethnicities of Participants……..…68

Table 3. Primary Roles of Participants……...….69

Table 4. Number of Participants who had Engaged in NSSI in the Previous Year……...…102

Table 5. The Means, Medians, and Ranges of the Independent Variables……102

Table 6. Correlation Matrix of the Three Independent Variables……..103

Table 7. Logistic Regression Analysis Results……..…111

Table 8. Logistic Regression Analysis Results with Mental Health Support Variable Added…….113

Table 9. Logistic Regression Model with Alternative Coding……...……115

Table 10. Logistic Regression Model with Alternative Coding and with Mental Health Support Variable Added…….……116

Table 11. Ordinal Logistic Regression Results……..118

Table 12. The Themes, Subthemes, and Codes of the Reflexive Thematic Analysis Results……125

List of Figures

Figure 1. Emotion Dysregulation (DERS) Scores by Dichotomised NSSI Groups……...…105

Figure 2. Self-Esteem (RSCQ) Scores by Dichotomised NSSI Groups……..……..……106

Figure 3. Self-Compassion (SCS) Scores by Dichotomised NSSI Groups……..…...…106

Figure 4. Emotion Dysregulation (DERS) Scores by NSSI Groups with Alternative Coding……...…….…108

Figure 5. Self-Esteem (RSCQ) Scores by NSSI Groups with Alternative Coding……...109

Figure 6. Self-Compassion (SCS) Scores by NSSI Groups with Alternative Coding……...109

Figure 7. The Sub-Themes and Codes within the Zero to 100 Theme……..129

Figure 8. The Codes within the Low Self-Esteem as a Precondition for NSSI Theme…….137

Figure 9. The Sub-Themes and Codes within the Developing Ambivalent Self-Kindness Theme…….……145

Figure 10. The Codes within the Body as a Coping Tool Theme……..153

Figure 11. The Sub-Themes and Codes within the Constrained Choices for Managing Distress Theme.……...…159

The Relationships between Non-Suicidal Self-Injury, Emotion Dysregulation, Self-Esteem, and Self-Compassion among Young Adults in Aotearoa New Zealand

Chapter 1. Introduction and NSSI Background

Non-Suicidal Self-Injury (NSSI), also frequently referred to as self-harm, is a concerningly prevalent behaviour among adolescents and young adults in Aotearoa New Zealand and around the world (Fitzgerald & Curtis, 2017; Garisch & Wilson, 2015; Lim et al., 2019). It has gained increasing attention in the research literature, and is currently being considered as a condition for further study and a potential clinical diagnosis in the Diagnostic and Statistical Manual (Fifth Edition, Text Revision; DSM-5-TR; American Psychiatric Association, 2022). A significant amount of the research literature has linked emotion (dys)regulation to NSSI, but it has not focused on why some people engage in NSSI specifically to manage negative emotions as opposed to other potential coping strategies.

This research hypothesised that self-esteem and self-compassion are two intrapersonal factors that may play a role in the individual's use of their own body to cope with distress, and should be considered along with emotion dysregulation in the aetiology of NSSI. It describes the mixed-methods research undertaken among young adults in Aotearoa New Zealand to explore the relationships between emotion dysregulation, self-esteem, self-compassion, and NSSI; and discusses the results found.

Chapters One to Four below describe the literature to date on the prevalence and demographic characteristics of NSSI; why it is worthy of further research; the relationship between emotion dysregulation and NSSI; the relationships between self-esteem and self-compassion and NSSI; the gaps in the literature to date; and the rationale, aims and hypotheses of this research. Chapter Five describes the quantitative and qualitative methods used to examine the relationships between NSSI, emotion dysregulation, self-esteem, and

self-compassion; and Chapters Six and Seven describe the quantitative and qualitative results found in this research. Lastly, Chapter Eight, the Discussion, explores the conclusions, implications, strengths, and limitations of this research; how it relates to previous research; and potential future research directions.

Defining Non-Suicidal Self-Injury

People have intentionally harmed their bodies while experiencing distress for centuries, if not millennia, with references found to it occurring among the ancient Spartans and in the Bible (Favazza, 1998). Scientific research on, and public awareness of, self-harming behaviour has dramatically increased in recent decades (Beettam, 2013). However, the research literature on this phenomenon has been negatively impacted by a lack of consensus on which behaviours, exactly, are being referred to, and what the commonly used term 'self-harm' actually means. It is therefore important to define the behaviours of interest in the current research, and the behaviours which are and are not included.

There is significant variability over time and geographic location of researchers in the terms used for this behaviour, and what is included in their definitions. Parasuicide, self-inflicted violence, auto-aggression, self-mutilation, and self-injurious behaviour have all been used (Cross, 1993; Favazza, 1998; Jacobson & Gould, 2007; Suyemoto, 1998). 'Deliberate Self-Harm' and 'Non-Suicidal Self-Injury' (NSSI) are the most commonly used terms in the research literature today. In contemporary research Deliberate Self-Harm is used largely by researchers in the United Kingdom, while NSSI is the term predominantly used by North American researchers (Nock, 2010; Skegg, 2005). A key issue with the term Deliberate Self-Harm is that its definition refers to self-injurious behaviour regardless of intent – that is, it can include behaviours done with suicidal intentions (Andover et al., 2012; Muehlenkamp, Claes, et al., 2012; Skegg, 2005). However, some researchers (including some based in North

America) use the same term but exclude suicidal behaviours in their description of the behaviour, adding further ambiguity (Andover et al., 2012; Chapman et al., 2006; Gratz, 2006a; Laye-Gindhu & Schonert-Reichl, 2005). In Aotearoa New Zealand, research has largely used the term NSSI, and treated this behaviour as separate to suicidal acts (Fitzgerald & Curtis, 2017; Fraser et al., 2018; K. Robinson et al., 2019). However, in New Zealand the same behaviour is also colloquially referred to as 'self-harm' (Duff, 2018; S. Harris, 2022; H. Martin, 2022; Mental Health Foundation, 2022; Spence, 2022; Venuto, 2022).

A further reason to define NSSI clearly has been sparked by the current Diagnostic and Statistical Manual, Fifth Edition, Text Revision (DSM-5-TR; American Psychological Association, 2022); which included Non-Suicidal Self-Injury Disorder in its chapter on proposed future diagnoses. This potential disorder has been suggested for inclusion in an effort to improve communication between health professionals and to prevent adolescents from being diagnosed with personality disorders, depression, or anxiety disorders when NSSI is the predominant issue (Zetterqvist et al., 2013). The proposed disorder has been contested, however, and there are concerns that this diagnostic category would increase stigma; may inaccurately dichotomise suicidal and non-suicidal behaviours; and potentially be unethical to use without being able to provide a reliable, evidence-based treatment for that diagnosis (Kapur et al., 2013; Zetterqvist et al., 2013). It should also be noted that NSSI can occur within numerous psychological diagnoses, or occur outside of a diagnosable mental health issue (Muehlenkamp & Tillotson, 2023; Wright et al., 2013). While the debate over the validity of the potential NSSI Disorder is beyond the scope of this research, the fact this diagnostic category is proposed suggests that further information is needed about this behaviour before its possible addition to the DSM.

This research will predominantly use the term Non-Suicidal Self-Injury (or NSSI), and utilises the definition of NSSI created by researcher Matthew Nock, who considered

NSSI to be "the direct and deliberate destruction of body tissue in the absence of any observable intent to die" (Nock, 2010, p. 342). Excluded in this definition is the self-harm done by individuals experiencing psychosis (such as amputation), as it is done with different intentions, is not repetitive, and inflicts severe injury; the repetitive actions of those with developmental disorders, such as head-banging; and tattoos and piercings, which are socially accepted and done for decorative purposes (Claes, Vandereycken, & Vertommen, 2005; Nock, 2010; Whitlock, 2010). Self-harming behaviours may also occur in non-Western cultures that do not fit within this (Western) definition of NSSI (Kingi, 2018). For example, kiri haehae, the cutting of skin as an expression of grief in traditional Māori communities, may involve similar behaviour to NSSI, but would not be seen as NSSI as it was considered culturally sanctioned (Kingi, 2018).

This research will also use the term self-harm as well as NSSI, due to this being the common name for it in Aotearoa New Zealand, and this will here refer to non-suicidal behaviours. The term Deliberate Self-Harm will be only used when referring to research using that terminology, and where it is clear that authors included or excluded suicidal behaviours, this will be stated.

The methods of NSSI vary, but some of the most common are cutting or scratching the skin, hitting oneself, or punching a physical object (Barrocas et al., 2012; Garisch & Wilson, 2015; Gillies et al., 2018; Nock, 2010; Sornberger et al., 2012; Whitlock et al., 2006). There is some evidence that young people themselves may have different perceptions of what behaviours constitute self-harm, however, and may view it differently from researchers and theorists. In particular, they may consider other self-destructive behaviours that do not primarily intend to directly damage body tissue, such as disordered eating and non-suicidal pill abuse, to be forms of self-harm (Laye-Gindhu & Schonert-Reichl, 2005). This emphasises the importance of including the views of the person engaging in self-

injurious behaviour in research, as well as clarifying exactly which behaviours, and any assumed intent behind them, are being referred to.

Prevalence

Significant research has attempted to establish the prevalence of NSSI and the demographic groups engaging in it. Establishing the international prevalence of self-injurious behaviours could enable identification of cultural patterns of risk and potential protective factors for NSSI (Muehlenkamp, Claes, et al., 2012). Two meta-analyses have both found a lifetime prevalence rate of 22% among adolescents around the world (Lim et al., 2019; Xiao et al., 2022). Another meta-analysis of the lifetime prevalence of NSSI among adolescents around the world has found a slightly lower rate of 17% (Gillies et al., 2018). Among those twelve and under, the limited research examining prevalence has found varied results, between 9% and 34% (DeVille et al., 2020; Eggermont et al., 2021; Geoffroy et al., 2022).

Prevalence does appear to vary by geographic region, with approximately a quarter of adolescents in Asia and a fifth of adolescents in North America and Europe reporting lifetime engagement in NSSI (Lim et al., 2019). A higher prevalence rate has been found among non-Western countries and low- and middle-income countries in some research, although Australia had the highest lifetime prevalence rate of the countries analysed at 30% (Lim et al., 2019). Some research has found higher rates of self-harm in indigenous communities (Dickson et al., 2019; Kinchin et al., 2020); and colonisation and both structural and social discrimination and racism can affect those engaging in NSSI and their ability to seek support (Batsleer et al., 2003; Chantler, 2003; Chew-Graham et al., 2002; Gooda & Dudgeon, 2014; Kingi, 2018; Landstedt & Gillander Gådin, 2011).

The prevalence of NSSI has also been examined among young adults, primarily with university student populations. It is less common among adults than adolescents in the

research to date, although estimates of the prevalence of self-injury in all age groups vary widely across studies. While the rate of NSSI among this population appears to be lower than in adolescents, it is by no means an uncommon behaviour. In the United States, 7% of university student participants were found to have engaged in NSSI in the past twelve months by both Whitlock, Eckenrode, and Silverman (2006) and Whitlock et al. (2011). In contrast, while not assessing a twelve-month prevalence rate and therefore making it difficult to determine whether the behaviour was ongoing, or reflecting self-harming during adolescence, Williams and Hasking (2010) and Hasking et al. (2008) both found that almost half of their samples of young Australian adults – mostly university students – had previously self-harmed. A study of university students in nine countries around the world found an overall lifetime prevalence of 17.7%, with 2.3% meeting the DSM-5-TR proposed NSSI Disorder diagnostic criteria (Kiekens et al., 2023). Lastly, a review of research on NSSI prevalence in non-Western cultures and populations found that lifetime rates of NSSI among university students ranged from 10% in Japan to 38% in Indonesia (Gholamrezaei et al., 2017). More research is needed, however, among young adults who are not studying at university to understand if NSSI is more or less prevalent among this population (Swannell et al., 2014).

NSSI is significantly less common in later adulthood, but it does occur in approximately 5% of community-based adults (Briere & Gil, 1998; Klonsky, 2011; Swannell et al., 2014). While it is not the population of interest in this research and therefore will not be discussed in detail, NSSI has been found to be much higher in clinical populations compared to community-based populations (whether adolescent or adult), as might be expected (Andover & Gibb, 2010; Briere & Gil, 1998; Kaess et al., 2013).

In Aotearoa New Zealand, prevalence rates, at least among adolescents, appear to be higher than in most countries. Almost half of high school students have reported self-harming at least once in their lifetimes (Garisch & Wilson, 2015), and among university students,

Fitzgerald and Curtis (2017) found a 12-month prevalence rate of 13% and a lifetime prevalence rate of 38% among university students.

Understanding NSSI in the context of Aotearoa New Zealand may be particularly helpful given that our prevalence rate appears to be consistently higher than other countries across different age groups based on the international literature (Fitzgerald & Curtis, 2017; Garisch & Wilson, 2015; Lim et al., 2019), similar to our high youth suicide rate compared to other countries in the OECD (Brazier, 2017; Illmer, 2017; Mental Health Foundation, n.d.; Ministry of Health, 2019). There may be cultural factors specific to New Zealand that play a role in the prevalence rates of both suicidal and non-suicidal harm, and these may be helpful in informing prevention and treatment efforts.

While there is little empirical research examining specifically why the rate of NSSI and youth suicide appears to be higher in New Zealand, some of the factors that have been speculated by professionals to play a role in the prevalence of these behaviours are the high rates of child poverty, unemployment, teenage pregnancies, bullying in schools, social inequality, family violence, child abuse, the impact of colonisation, and the lack of availability of mental health services (Brazier, 2017; Illmer, 2017; Mental Health Foundation, n.d.; Ministry of Health, 2019; UNICEF, n.d.). The stigma attached to depression and other mental health issues, and the expectation for men in New Zealand in particular to be stoic, ‘harden up’, manage difficulties independently, and engage in emotional suppression (or at least not emotional expression in front of others) have also been suggested as playing a role (Illmer, 2017).

This is echoed in qualitative research finding that teenagers and young adults often attribute the high youth suicide rate in New Zealand to a lack of conversation and discussion about suicide in society and among their friends and family, as well as bullying, social pressure, psychological distress, stigma around mental health issues, and the expectation to

approach difficulties with the attitude of ‘she’ll be right’ (Holman & Williams, 2019; Stubbing & Gibson, 2019). Difficulty accessing mental health services, and delays in treatment, were also described as one of the potential reasons for the high youth suicide rate (Holman & Williams, 2019). Due to these factors and those discussed above, as well as the comparatively higher prevalence rate of NSSI seen in New Zealand in the literature to date, it would be expected that a higher rate of NSSI would be seen in this participant sample compared to samples of young adults in other countries.

No research has specifically focused on any potential differences in prevalence in NSSI between ethnicities in Aotearoa New Zealand before, but the limited research that exists has not found consistent results. While not directly comparing Māori (indigenous New Zealanders) and Pākehā in her research, Kingi (2018) found a prevalence rate of 27% among Māori rangatahi (teenagers). Wilson (1999) found that Māori had a higher rate of hospitalisations for self-harm than Pākehā (New Zealanders of European descent), but Fitzgerald and Curtis (2017) identified no significant difference in the rates of self-harm between Māori and Pākehā in an online survey of university students. These varied results may be due to the differences in the way that self-harm was measured or assessed, the populations samples were drawn from, or that these studies were conducted almost two decades apart, however, and further research would be needed to understand any potential relationship between culture and ethnicity on the development, prevalence, and expression of NSSI in Aotearoa New Zealand.

It must be noted that understanding the true prevalence of NSSI has been hindered by the varied choices made by researchers in their research methods. Firstly, the same timeframes have not always been assessed – many have assessed lifetime prevalence, without including 12-month prevalence or shorter timeframes. This has made it particularly difficult to understand prevalence among university student and adult populations – it is unclear

whether those who report having engaged in NSSI are reporting current or recent behaviour, or behaviour occurring in their adolescence. Secondly, some of the international research on self-harming behaviour has assessed Deliberate Self-Harm rather than NSSI, therefore including behaviours with suicidal intent and making it difficult to understand the exact prevalence of this behaviour and compare this across countries (Muehlenkamp, Claes, et al., 2012; Whitlock, 2010). However, when research on the prevalence of self-harming behaviour around the world was reviewed, there were no statistically significant differences found in the prevalence rates of self-harming behaviour regardless of whether the term Deliberate Self-Harm or NSSI was used, suggesting that very similar phenomena is being assessed (Muehlenkamp, Claes, et al., 2012). This may, however, also be due to the relative rarity of suicide attempts compared to self-harm (Patton et al., 1997; Plener et al., 2009; K. Robinson et al., 2021; Siu, 2019) – adding this data into the self-harm statistics is unlikely to make a significant difference in the prevalence rates.

Thirdly, the different ways of assessing for NSSI are likely to have impacted the rates of NSSI found across studies and countries. Studies which use behavioural checklist items to ask about self-harm engagement have found much higher rates of NSSI than relative to those using single item questions (Swannell et al., 2014), suggesting that the understandings of the participants of the behaviour they are engaging in and the understandings of the terminology used by researchers may differ. Behavioural checklist measures may also find higher prevalence rates as they function as a memory prompt, rather than requiring the person to interpret and understand the definition of NSSI, and report whether or not they have experiences that fit that definition (Muehlenkamp, Claes, et al., 2012; K. Robinson & Wilson, 2020). However, Robinson and Wilson (2020) found that while their participants, who completed both behavioural checklist and single-item measures in varied order, were more likely to report self-harm using a behavioural checklist, memory prompting did not fully

explain the results. Male participants, those who had self-harmed historically, and those who had engaged in methods of self-harm other than cutting were all less likely to report self-harming on the single-item questions (K. Robinson & Wilson, 2020). These researchers suggest that these groups of participants may see themselves as dissimilar to the general perception of self-harmers, and may therefore be less likely to report self-harming even after completing a checklist on which methods of self-harm they have used (K. Robinson & Wilson, 2020).

One possible solution to the varying ways that self-injury is measured and the different prevalence rates this may lead to is to assess how prevalent *repetitive* acts of self-injury are, as opposed to the number of people with lifetime engagement in NSSI (Muehlenkamp, Claes, et al., 2012). That is, while lifetime engagement rates may be helpful to know, developing a better understanding of how many young people are regularly engaging in NSSI may be more informative. This would prevent individuals who may self-injure only once; or those who self-injure only very rarely, being classed within the 'self-injurers' category, which may lead to the potential overestimation of the number of young people who need support with this behaviour (Muehlenkamp, Claes, et al., 2012). Some self-injurers report engaging in NSSI to 'experiment' with a potential coping strategy, and not continuing to engage in it over time (Edmondson et al., 2016; Tatnell et al., 2014). Similarly, the proportion of those who have engaged in NSSI very rarely – potentially only once or twice across their lifetime – has been found to be almost half of the participant sample in one study (Gillies et al., 2018). The current research, therefore, will assess for NSSI engagement in a way that avoids placing those who have self-injured only once, or very occasionally, being placed in the same group of as those for whom self-injury is a more regularly-used coping strategy.

Demographic Characteristics

Research attempting to determine the age of onset of NSSI has found reasonably consistent results, despite the majority of the research being retrospective, which can decrease the chances of individuals being able to accurately recall the specific details of an event (Bradburn et al., 1987; Stone et al., 1999). The literature available suggests that most people who have engaged in NSSI report beginning to self-injure between the ages of 12 and 14 years old (Gillies et al., 2018; Jacobson & Gould, 2007; G. Kumar et al., 2004; Muehlenkamp & Gutierrez, 2007; Nock & Prinstein, 2004; Ross & Heath, 2002), although the age of onset for males is later than for females (Andover et al., 2010). An earlier age of onset is associated with greater severity of NSSI across the lifespan (Muehlenkamp, Xhunga, et al., 2019).

Engagement in NSSI appears to decline with age – few adults report self-harm (Briere & Gil, 1998; Klonsky, 2011) and research examining presentations to emergency care departments for self-harming has found decreasing presentations as age increased (Carr et al., 2016). However, more research is needed to understand the course and cessation of NSSI. While some research has examined which factors may predict the cessation or continuation of NSSI (Andrews et al., 2013; Garisch & Wilson, 2015; Halpin & Duffy, 2020; Hamza & Willoughby, 2014; Taliaferro & Muehlenkamp, 2015; Tatnell et al., 2014), few studies have examined, for example, how long people typically self-injure for or at what age they generally cease self-harming.

Young people who are part of the LGBTQ+ community are at higher risk of NSSI, particularly those who identify as bisexual (McCartney, 2016; Plöderl et al., 2013; Taliaferro & Muehlenkamp, 2017; Tan & Saw, 2022; Turner et al., 2022). The relationship between NSSI and gender is more complex; with the research literature finding that self-harm can manifest differently between genders and reporting mixed results regarding whether NSSI is

more prevalent in males or females. No significant difference in the prevalence of NSSI between genders across adolescent and young adult populations has been found in several studies (Briere & Gil, 1998; Garisch & Wilson, 2015; Geoffroy et al., 2022; Gratz, 2001; Gratz et al., 2002; Hawton et al., 2009; Heath et al., 2008; Hilt et al., 2008; Klonsky et al., 2003; Lim et al., 2019; Lundh et al., 2007; Shao et al., 2021). However, other research has found significantly higher rates of self-harm among girls and women, sometimes up to double that of boys and men (Cheung et al., 2013; Fitzgerald & Curtis, 2017; Hawton et al., 2002; Laye-Gindhu & Schonert-Reichl, 2005; Nixon et al., 2002; Sornberger et al., 2012; Whitlock et al., 2011; M. N. Williams et al., 2016). There is some evidence that NSSI is becoming more prevalent among boys and men over time, although this is based on rates of presentation at emergency departments and may reflect only those who are self-harming to a level requiring immediate medical attention (Carr et al., 2016). In Aotearoa New Zealand, little difference has been found between genders among adolescents (Garisch & Wilson, 2015), but a significant gender difference in NSSI engagement has been found among young adults – in Fitzgerald and Curtis' (2017) research, 22% of university students engaging in NSSI identified themselves as male, with the authors concluding that that NSSI is "primarily, but not exclusively, a behaviour of younger females" (Fitzgerald & Curtis, 2017, p. 161). Furthermore, in a study which assessed over 47,000 hospitalisations in Aotearoa New Zealand for self-harming behaviours (potentially including suicidal behaviours, however) over sixteen years, 64% of those hospitalisations were of women, almost double the rate of men (M. N. Williams et al., 2016).

Appearing to settle the debate over the prevalence of NSSI across genders, however, is the meta-analytic research of Bresin and Schoenleber (2015), who examined over a hundred studies and concluded that women are more likely to self-harm than men, with a small effect size. They did not find the participant sample age to have a significant impact on

the effect size, as had been suggested (Barrocas et al., 2012), although a larger gender difference was found in clinical samples than in community samples (Bresin & Schoenleber, 2015). Other meta-analyses of NSSI among community-based adolescent populations have echoed these results, finding slightly higher lifetime rates of NSSI among females (Gillies et al., 2018; Xiao et al., 2022).

The different findings of the prevalence of NSSI across genders may be due to the use of different measures across studies, which have assessed different methods of self-harm. The use of single-item assessment measures for NSSI rather than behavioural checklists means that the participant is subjectively interpreting and deciding what behaviours are considered NSSI, and therefore whether or not they are a person who self-harms. If some self-harming behaviours are not seen by the participant as NSSI, because they are not generally thought of as a method of self-harm or for any other reason, the participant engaging in it may be inaccurately excluded from the self-harming participant group when the results are analysed. This potential for error is highlighted in early research on self-harm, which generally discussed it as consisting of mainly cutting behaviours (Favazza & Conterio, 1989; Himber, 1994; Millard, 2013; Suyemoto & MacDonald, 1995). Contemporary research has now identified that this method of self-injury is one of many, and that cutting is more common among females, while boys and men are more likely to select more aggressive and overt forms of NSSI, such as burning or hitting objects or the self (Andover et al., 2010; Bresin & Schoenleber, 2015; Claes et al., 2007; Favazza & Conterio, 1989; Fitzgerald & Curtis, 2017; Lundh et al., 2007; Suyemoto & MacDonald, 1995). Biological differences between genders, as well as gender norms in the society the individual grows up in, may also affect the methods used; and masculine gender norms in particular (for example, risk-taking, limiting emotional expression, and physical resilience) may affect the experience of NSSI in men – for example, it may be a way to demonstrate their ability to manage pain (Andover et al.,

2010; Bresin & Schoenleber, 2015). Studies that used briefer measures of self-harm and did not assess a variety of self-harm methods may have therefore missed male participants engaging in other methods of self-harm and underestimated the prevalence of this behaviour among boys and men; leading to NSSI being seen as being a predominantly female phenomenon (Andover et al., 2010; Garisch & Wilson, 2015).

NSSI and Suicide Risk

NSSI engagement is positively correlated with other self-destructive behaviours, such as disordered eating, smoking, risk-taking, reckless behaviour, and substance use (Andover et al., 2012; de Silva, 2014; Gollust et al., 2008; Guertin et al., 2001; Hilt et al., 2008; Howe-Martin et al., 2012; Jacobson & Gould, 2007; Muehlenkamp, Peat, et al., 2012; Nock et al., 2006; T. Paul et al., 2002; Ross et al., 2009). Crucially, NSSI has also been found to be related to suicidality and suicidal behaviours. Suicidal ideation and suicide attempts are both more common among adolescents with a history of NSSI compared to those without (Laye-Gindhu & Schonert-Reichl, 2005; Muehlenkamp & Gutierrez, 2007; Nock et al., 2006; Shao et al., 2021), and one meta-analysis showed that both suicide ideation and attempts were higher among those who more frequently self-harmed (Gillies et al., 2018). NSSI has also been found to predict future suicide behaviour in longitudinal research, although the research has varied on whether it is lifetime engagement, frequency, or the number of methods of NSSI used that is predictive (Hamza & Willoughby, 2016; Horwitz et al., 2015; Muehlenkamp et al., 2022; Muehlenkamp & Brausch, 2019; Pérez et al., 2019; Scott et al., 2015; Whitlock, Muehlenkamp, et al., 2013; Willoughby et al., 2015).

Some have even suggested that that the ‘non-suicidal’ of non-suicidal self-injury may be inappropriate, arguing that individuals cannot always report clear reasons for their self-harming behaviour (Kapur et al., 2013). Some research has suggested that this may be the

case, with a quarter of participants in one study being unable to report a clear motive for their self-harm – although this research was with a clinical participant sample, and may not be applicable to community-based research (Andrewes et al., 2017).

One theory of suicide speaks to this relationship between self-harm and suicidality, viewing NSSI as a stepping stone and possible facilitating behaviour for later suicidal actions. Joiner's Interpersonal Theory of Suicide suggests that suicide occurs because people have both the desire to die and have acquired the capability to make the suicide attempt (Joiner et al., 2012; Van Orden et al., 2010). Two factors contribute to an individual wanting to attempt suicide – Thwarted Belongingness (loneliness and a lack of positive, reciprocal relationships) and Perceived Burdensomeness (the perception of being a burden on loved ones and a sense of self-hatred; Joiner et al., 2012; Van Orden et al., 2010). A greater risk of suicidality is indicated should these factors co-occur, especially when they become present for a prolonged period of time (Joiner et al., 2012; Van Orden et al., 2010). However, given that suicide requires suppressing ingrained survival instincts, the Interpersonal Theory of Suicide suggests that an individual with suicidal ideation must develop the Acquired Capability for Suicide – the ability to act against these survival instincts through exposure to pain – and that they do this by self-harming. They suggest that engaging in self-harm over time decreases fear of injury and death and increases pain tolerance through habituation, with this in turn increasing the potential for the person to harm themselves in more severe and lethal ways, facilitating later suicidal acts (Joiner et al., 2012; Van Orden et al., 2010). While NSSI is by definition done without suicidal intent, both non-suicidal and suicidal behaviours can function to relieve distress, and this theory suggests that continued engagement in NSSI over time may indicate a higher risk of suicide in the future (Andover et al., 2012; Joiner et al., 2012; Van Orden et al., 2010). Supporting this theory, self-harm behaviour has been found to be highly prevalent among those who have previously attempted suicide, with 89%

of students who had tried to take their own life in the past having also previously engaged in self-harm (Laye-Gindhu & Schonert-Reichl, 2005).

Despite the relationship found between self-harm and suicidality in the research to date, there is also evidence that these behaviours remain distinct phenomena and involve different lethality, frequency, and underlying intent (Curtis, 2016; Muehlenkamp, 2005). It is also possible that the correlation between these two forms of behaviour is due to a third factor, such as a psychiatric diagnosis (Hamza et al., 2012). While suicidal actions aim to end one's life, NSSI is used to alleviate negative affect and improve mood (Joiner et al., 2012; Muehlenkamp, 2005); and while suicidal behaviour results in death or injury requiring medical attention, NSSI only rarely results in physical harm to a level requiring medical intervention (Muehlenkamp, 2005). NSSI is also typically engaged in repetitively over time (Xiao et al., 2022), often using multiple methods, while suicide attempts are generally infrequent and will usually be limited to one particular method, which is often different to the NSSI method if a person is engaging in both behaviours (Muehlenkamp, 2005). These behaviours also have different consequences for the individual engaging in them – surviving a suicide attempt generally does not alleviate distress (Chapman & Dixon-Gordon, 2007), but does often lead to others providing care and support to the person; while NSSI provides relief from the distress, but can unfortunately also elicit fear, judgment, disgust, or stigma from others if discovered (Muehlenkamp, 2005; Simone & Hamza, 2020).

Furthermore, numerous studies have found that one of the reasons why individuals report to have engaged in NSSI is to *avoid* attempting suicide or harming themselves in a life-threatening way when highly distressed (Claes, Klonsky, et al., 2010; Edwards, 2019; Klonsky, 2007, 2009; Klonsky et al., 2015; Klonsky & Glenn, 2009; E. Paul et al., 2015). Lastly, Wichstrom (2009), conflicting with most of the research to date, found that engaging in NSSI did not significantly predict future suicide attempts, arguing that while these

behaviours may be correlated, they are "only partly overlapping phenomena, and not necessarily just representing different degrees of suicidality" (p.105).

Why Study NSSI

First and foremost, this behaviour is worthy of study as it indicates that the person engaging in it is experiencing distress, and to such an extent that the person feels the need to harm themselves physically to alleviate this distress. While this may seem obvious, it is noted explicitly here as much of the research literature focuses on the behaviour and not the psychological distress behind it. It is hoped that by further understanding this behaviour, young people will have greater resources and support available not just to stop self-harming, but to no longer feel the need to self-harm at all.

Secondly, while NSSI is predominantly viewed and researched as a mental health issue, the physical harm to the self as part of this behaviour also constitutes a risk to the person. The level of physical harm done varies significantly, and is difficult to assess fully given that individuals typically engage in this behaviour covertly and do not generally seek medical attention if it can be avoided (Gratz, 2006a; Owens et al., 2016). However, despite this, and the relative rarity of self-harm injuries requiring medical attention, emergency departments in hospitals regularly treat patients for self-harm, and can struggle to know how to respond appropriately (McCann et al., 2007).

It is also worth learning more about this behaviour due to both the short and long-term consequences of NSSI. There is significant stigma and misunderstanding attached to NSSI and those who engage in it, and this can come from a variety of sources, including medical professionals and teachers, as well as peers (Heath et al., 2011; Lloyd et al., 2018; McCann et al., 2007; Owens et al., 2016; Ramon, 1980; Storey et al., 2005; T. L. Taylor et al., 2009; Yip et al., 2002); and individuals can feel significant shame and guilt about this behaviour after

engaging in self-injury (Laye-Gindhu & Schonert-Reichl, 2005). The behaviour may also have long term consequences, with the scars of self-injury labelling the person as a current or former self-injurer and potentially being a source of embarrassment to the person – although some also report seeing their scars as a sign of their strength and survival (Lewis & Mehrabkhani, 2016).

Furthermore, understanding the risk factors for NSSI could inform treatment and prevention – for example, young people who are identified as being at risk of self-harming could be provided with interventions that proactively teach them coping strategies and emotion regulation skills (Gratz, 2006a). Lastly, as discussed above, NSSI has been linked to a later risk of suicidality. This is particularly important to consider in the Aotearoa New Zealand context, given our high rates of suicide among young people in particular (Brazier, 2017; Illmer, 2017; Mental Health Foundation, n.d.; Ministry of Health, 2019). Examining the factors linked to suicide, such as NSSI, may help to increase our understanding of suicide and hopefully prevent it in the future.

Conclusion

In summary, NSSI is a prevalent behaviour among adolescents and young adults across the globe, and it is related to a greater risk of psychological distress, mental health issues and suicidality. Developing an in-depth understanding of why some people engage in this behaviour is key to both treating and preventing it in the future. The below chapter will discuss in further detail the research literature examining why some people engage in self-harm, and the relationship between emotion dysregulation and NSSI in particular.

Chapter 2. Emotion Dysregulation and NSSI

Significant academic attention has been paid to the question of why people self-injure, as this would facilitate the most effective support for young people experiencing NSSI and emotional distress. Numerous reasons for engaging in NSSI have been proposed in the media, the academic literature, and among mental health professionals and the general public. Some early research and theory on the behaviour proposed that self-harm may result from internal conflicts over sexuality or sexual maturity, or to define identify and boundaries between self and others, as proposed by Kafka (1969) and Suyemoto (1998). Others, however, had similar perspectives to contemporary views of NSSI, arguing that this behaviour was best understood as a "morbid self-help effort" (Favazza, 1998, p. 259) to escape negative feelings, reduce emotional distress, punish oneself, or to communicate distress (Briere & Gil, 1998; Favazza & Conterio, 1988). A particularly stigmatising suggestion has been that people who self-harm are manipulative or 'attention seekers' (Gratz, 2006a), a belief that has been found to be concerningly prevalent among teachers and nurses supporting young people with NSSI behaviour (Sandy, 2013). Encouragingly, more recent research has suggested that the general public are now more likely to believe the motives for NSSI expressed by the person engaging in it, and no longer endorse the attention-seeking explanation of self-harm to the same extent (Nielsen & Townsend, 2018). While some people do engage in NSSI for interpersonal reasons, they are in the minority of those self-harming; and these reasons are more aligned with seeking support or communicating distress (Klonsky, 2011; Zetterqvist et al., 2013).

Numerous environmental and intrapersonal risk factors and correlates have been identified for NSSI, including experiencing childhood maltreatment or abuse, early attachment difficulties, a mental health diagnosis (although NSSI also regularly occurs outside of a mental health diagnosis), post-traumatic distress, disordered eating, interpersonal (family or peer) difficulties, hopelessness, alcohol and drug use, alexithymia, and, of interest

to this research, emotion dysregulation (Armiento et al., 2016; Briere & Gil, 1998; Fox et al., 2015; Garisch & Wilson, 2015; Hilt et al., 2008; Ilieff & Hamza, 2023; Jacobson & Gould, 2007; Kiekens et al., 2015; Liu et al., 2021; Muehlenkamp et al., 2010; Taliaferro et al., 2012; Tatnell, 2017; Tatnell et al., 2017, 2018; Wang et al., 2022; Zoroglu et al., 2003).

The theoretical and empirical literature on NSSI strongly suggest that emotion dysregulation is a psychological correlate, or risk factor, of engaging in NSSI (Andover & Morris, 2014). Emotion regulation-related functions are the most commonly reported functions of engaging in NSSI (Claes, Klonsky, et al., 2010; Edmondson et al., 2016; Gillies et al., 2018; Kingi, 2018; Klonsky, 2007; Power et al., 2013; P. J. Taylor et al., 2018; Wadman et al., 2017), and the emotion regulation function of NSSI is also associated with higher trait emotion dysregulation (Turner et al., 2012). Emotion dysregulation has also been found to be related to mental health difficulties that correlate with NSSI, such as anxiety, depression, disordered eating and substance use-related disorders (Aldao et al., 2016; Berking & Wupperman, 2012; Chartrand et al., 2015; Fliege et al., 2009; Fox et al., 2015; Garisch & Wilson, 2015; Nock et al., 2006).

The current research will therefore focus explicitly on emotion dysregulation as a key factor related to and potentially impacting engagement in NSSI. This chapter will review the empirical literature on the relationship between emotion dysegulation as a correlate and predisposing factor of NSSI.

Defining Emotion Regulation

It must be noted that emotion regulation is a term used far more often than it is defined in the literature, and there is debate about how it is best conceptualised and operationalised. Gratz (2007) suggests that emotion regulation is best seen as an “adaptive way of responding to one’s emotions, regardless of their intensity or reactivity” (p. 1093). It

can be used to describe controlling the *experience* of any emotion, or the controlling of *behaviour* while experiencing emotions (Berking & Wupperman, 2012; Chapman et al., 2006; Gratz, 2007). While the former is suggested by the term 'emotion regulation', it also implies that experiencing negative emotions is to be avoided – even though efforts to avoid negative emotions may not be particularly adaptive or effective (Chapman, Gratz, & Brown, 2006; Gratz, 2007). However, emotions can also be seen as functional, and emotion regulation ability can be seen instead as being able to continue behaving in an adaptive way even when distressed (Gratz, 2007; Gratz & Roemer, 2004). It must also be noted that emotion regulation is not the same as emotional intensity or reactivity, and that emotional intensity or reactivity alone may not be significantly related to engagement in NSSI (Gratz & Chapman, 2007). The term 'affect regulation' is also sometimes used, but has been defined very similarly to 'emotion regulation' (Claes, Klonsky, Muehlenkamp, Kuppens, & Vandereycken, 2010; Klonsky, 2007). The definition of emotion regulation to be used in this research will be that proposed by Gratz and Roemer (2004) when they developed their measure of emotion dysregulation, the Difficulties in Emotion Regulation Scale, as it speaks to these numerous conceptualisations of emotion regulation to date:

> Emotion regulation may be conceptualized as involving the (a) awareness and understanding of emotions, (b) acceptance of emotions, (c) ability to control impulsive behaviours and behave in accordance with desired goals when experiencing negative emotions, and (d) ability to use situationally appropriate emotion regulation strategies flexibly to modulate emotional responses as desired in order to meet individual goals and situational demands. The relative absence of any or all of these abilities would indicate the presence of difficulties in emotion regulation, or emotion dysregulation (Gratz & Roemer, 2004, pp. 42–43).

Emotion Dysregulation as a Correlate of NSSI

Notably, NSSI generally starts during adolescence, a stage of life when the young person learns to manage their emotions increasingly independently and without the support of a caregiver, while also increasingly having to manage new social challenges such as peer difficulties and romantic and sexual relationships (McLaughlin et al., 2011). This potentially leaves the young person vulnerable to experiencing both more challenging situations, and having less ability to regulate any distress that results from them.

The majority of the research finding a relationship between NSSI and emotion dysregulation has been cross-sectional and correlational, therefore limiting our ability to conclude that emotion dysregulation definitively *causes* the development of NSSI. However, the literature to date examining the correlation of emotion dysregulation and NSSI has consistently found a relationship between the two. Emotion dysregulation has been found to positively correlate with NSSI engagement and frequency (Gratz & Chapman, 2007; Gratz & Roemer, 2008; Gratz & Tull, 2010; Heath et al., 2008; Peh et al., 2017; J. Perez et al., 2012; S. Perez et al., 2020; Terzi et al., 2017) and to be able to better distinguish between women who had self-harmed frequently or who had never self-harmed than their experience of maltreatment; or their emotional inexpressivity, affect intensity, and affect reactivity (Gratz & Roemer, 2008). One group of researchers, noting the correlation between NSSI and emotion dysregulation even for those infrequently engaging in NSSI, has even argued that emotion dysregulation may be "central to the occurrence of this behaviour in all its forms" (Heath et al., 2008, p. 153).

Meta-analytic research has further confirmed that emotion dysregulation and NSSI are related. A meta-analysis of 48 studies found a significant positive correlation with a medium effect size; and higher emotion dysregulation was associated with an increased likelihood of engaging in NSSI regardless of participant age, gender, or clinical or

community setting (Wolff et al., 2019). This meta-analysis also found that those who had engaged in NSSI in the past twelve months were higher in emotion dysregulation than those who had a lifetime history of engaging in NSSI, but who had not self-harmed in the past year. These researchers note, however, that 'trait' emotion dysregulation and its relationship to NSSI is being examined in the research they analysed, not 'state' experiences of being emotionally dysregulated, which may have a more immediate impact on whether a person self-harms in a specific moment (Wolff et al., 2019). They also note that a key limitation of the majority of the literature to date on the relationship between emotion dysregulation and NSSI is the reliance on self-report measures of emotion dysregulation, with psychophysiological studies sometimes finding less of a relationship between emotion dysregulation and NSSI than self-report research (Wolff et al., 2019).

Another meta-analysis, while not aiming to examine emotion dysregulation and NSSI specifically, has also found a relationship between them. Fox et al. (2015) examined multiple longitudinal risk factors for NSSI across 20 studies, and found that emotion dysregulation was significantly associated with NSSI, with a small effect size. However, these authors did include emotional suppression, emotional reactivity, and negative affect in their definition of emotion dysregulation, unlike Wolff et al. (2019). They also noted that emotion dysregulation may not be a strong predictor of NSSI when measured one year apart, as many studies did, but rather may be more of a risk factor when shorter time intervals are examined, such as one month (Fox et al., 2015).

Lastly, a review of 42 studies examining the relationship between emotion dysregulation and NSSI has found that the different dimensions of emotion dysregulation may correlate more or less strongly with NSSI. Individuals with higher emotion dysregulation across any of the dimensions of emotion regulation dimensions were at higher risk of engaging in NSSI, but the emotional reactivity and limited access to effective

strategies dimensions were those mostly closely related to NSSI engagement (You et al., 2018). The effect sizes ranged from 0.324 for emotional reactivity to 0.078 for a lack of awareness of emotional responses, but unfortunately, this study did not give the effect size of emotion dysregulation's total impact on NSSI; and other than emotional reactivity, which had a medium effect size, the effect sizes of the dimensions were small (You et al., 2018).

Emotion Dysregulation as a Mediator

Aside from the above research demonstrating that emotion regulation is a correlate of NSSI, there is also research indicating that it can serve as a mediator of the impact of other risk factors on NSSI engagement. For example, in clinical and community populations respectively, both Adrian et al. (2011) and Yurkowski et al. (2015) found that emotion dysregulation mediated the negative effects of family and peer interpersonal difficulties on NSSI engagement. Emotion dysregulation also completely mediates between the impact of negative affect and body image on NSSI (Duggan et al., 2013) and between university students' stressful experiences and NSSI (Ewing et al., 2019). Lastly, emotion dysregulation was also found to not only mediate the relationship between childhood maltreatment (an environmental risk factor for NSSI) and self-harm frequency, but that the relationship between maltreatment and self-harm was not statistically significant after emotion dysregulation was added into the model (Peh et al., 2017). These researchers argued that self-harm can be seen as a maladaptive method of coping with the emotion dysregulation that developed due to experiences of maltreatment and abuse in childhood (Peh et al., 2017). However, the research reviewed here finding that emotion dysregulation mediates the relationship between other risk factors and NSSI is again all cross-sectional. Like the studies discussed in the section above, it can therefore suggest, but is unable to conclude, whether emotion dysregulation contributes to the development of NSSI (see Rohrer et al. (2022)).

Emotion Dysregulation as a Potential Cause of NSSI

A limited amount of research, however, has tried to determine whether the assumption that emotion dysregulation partially causes NSSI is correct. While it makes theoretical sense that emotion dysregulation would be present prior to engagement in NSSI, and contribute to its development, emotion dysregulation and NSSI may be correlated due to the effects of a third variable, or it may be that engaging in NSSI increases emotion dysregulation by facilitating emotional avoidance or by resulting in negative social consequences (Gratz & Chapman, 2007; Kingi, 2018; Nixon et al., 2002).

One longitudinal study has suggested that the relationship between emotion dysregulation and NSSI is bidirectional. Robinson et al. (2019) gathered information on NSSI and emotion dysregulation from New Zealand high school students at three time points, each a year apart. Using cross-lagged analyses, they found that not only did emotion regulation ability at the first assessment date negatively predict engagement in NSSI one year later (Time 2), but that NSSI engagement at Time 2 negatively predicted emotion regulation ability at Time 3. With engagement in NSSI appearing to negatively impact emotion regulation ability over time, the authors concluded that this reciprocal relationship "suggests that adolescents engage in NSSI as a result of poor emotion regulation and, critically, by doing so may further impair their ability to regulate their emotions" (K. Robinson et al., 2019, p. 328).

While focusing more on the role of emotion dysregulation in the Interpersonal Theory of Suicide than on NSSI specifically, Heffer and Willoughby (2018) again found evidence of emotion dysregulation contributing to the development of NSSI. Emotion dysregulation was associated with a higher frequency of NSSI and higher levels of suicidal desire over time in cross-lag path analyses among university students assessed annually for four years. This relationship was unidirectional, conflicting with the results of Robinson et al. (2019),

potentially suggesting that among a slightly older group of participants, NSSI may not worsen emotion dysregulation.

Lastly, Tatnell et al. (2014) found that emotional suppression was associated with the onset of NSSI when assessed one year later; and was higher among those who had already been self-harming at the first assessment date and continued to engage in NSSI twelve months later. While this research did not assess emotion dysregulation as a whole, emotional suppression may align with aspects of emotion dysregulation – for example, it may be similar to the non-acceptance of emotional responses or lack of emotional awareness dimensions of emotion dysregulation (Gratz & Roemer, 2004).

Emotion Regulation Therapies and NSSI

Further supporting the importance of considering emotion dysregulation in our understandings of NSSI are the findings that psychological therapy focused on increasing emotion regulation abilities has been effective at reducing NSSI engagement. Dialectical Behaviour Therapy (DBT), a therapy focused on improving emotion regulation abilities, is considered the gold standard treatment for Borderline Personality Disorder (BPD), which is characterised by emotion dysregulation and often involves NSSI (Choi-Kain et al., 2017; Miller, 2015; Panos et al., 2014). Other emotion regulation-focused interventions specifically for NSSI also appear to be effective. While the research showing this has had small samples, mostly with participants with BPD or subthreshold symptoms of it, and may have been influenced by an unknown mechanism other than emotion regulation, the results to date are promising.

For example, Gratz (2007) found that participants who had been randomly assigned to receive an Acceptance-Based Emotion Regulation Group Therapy as well as their treatment as usual (individual outpatient therapy) improved significantly more than the control group

(who had received only treatment as usual) on measures of emotion dysregulation, self-injury frequency and emotional avoidance, and achieved normal levels of functioning of emotion dysregulation and emotional avoidance (Gratz, 2007).

Gratz and Gunderson (2006) also examined the efficacy of a fourteen-week group treatment programme focused on teaching alternative emotion regulation strategies to twelve women with BPD who were engaging in self-harm. They found impressive results – statistically significant post-treatment decreases in emotion dysregulation, experiential avoidance, BPD-specific symptoms, stress, and anxiety and depression symptoms. Some of these differences were also clinically significant, with 83% of participants in the treatment group attaining a "normative level of functioning" for emotion dysregulation and experiential avoidance. The post-test differences between the treatment and control groups, while controlling for the pre-test scores, also provided support for the suggestion that emotion dysregulation may have a causal effect on NSSI engagement, suggesting that interventions focused on emotion regulation abilities could lower NSSI. However, while they had randomly assigned participants to the conditions, their sample was small and relatively homogenous (predominantly Caucasian, single, financially secure, and educated) and all post-treatment measures were self-report.

To remedy these limitations and replicate these results, Gratz and Tull (2011) examined the efficacy of an emotion regulation-focused group therapy among a slightly larger (n = 23) and more socioeconomically and ethnically diverse group of participants, who were randomly assigned to receive the emotion regulation group treatment or treatment as usual. The group therapy treatment had positive and statistically significant post-treatment effects on self-harming behaviours; depression, anxiety, stress, and BPD symptoms; emotion dysregulation; experiential avoidance; and social and vocational impairment; all of which were assessed using both interview and self-report measures. Furthermore, over half of

participants (55%) did not engage in NSSI in the final two months of the group therapy (Gratz & Tull, 2011).

As Gratz and Gunderson (2006) noted, however, they are assuming that the mechanisms of change resulting in these positive changes in NSSI engagement are improvements in emotion regulation and decreases in experiential avoidance, but this was not confirmed. Gratz, Bardeen, Levy, Dixon-Gordon, and Tull (2015) therefore examined this relationship in more detail by undertaking another study of an emotion regulation-focused group therapy intervention, with participants randomly assigned to conditions. Mediation analyses supported the importance of changes to emotion regulation abilities as a mechanism of change for this treatment, and improvements in emotion regulation were also found to predict fewer self-injurious behaviours at the nine-month follow up (Gratz et al., 2015).

Similar results found in research on other therapies have further supported the importance of emotion regulation in changes to NSSI engagement. Slee, Spinhoven, Garnefski, & Arensman (2008) administered a randomised controlled trial of a cognitive behavioural therapy focused specifically on reducing self-harming behaviours. They found that the impact of the therapy on Deliberate Self-Harm frequency was partially mediated by changes in emotion regulation ability, and not by the severity of suicidality and mental health symptoms (Slee et al., 2008). However, it should be noted that the indirect effect of the mediation could still come from other confounding variables, rather than the effect of emotion regulation ability changing.

Collectively, the results of the research examining how emotion regulation-focused interventions may have impacted NSSI engagement suggest that while there is not conclusive evidence that emotion dysregulation causes NSSI, the improvements in emotion regulation ability and the reduction in NSSI measured over the course of these longitudinal and randomised controlled trial studies, particularly when compared to control groups and while

controlling for other psychological factors, is supportive of the hypothesis that emotion dysregulation has a causal effect on NSSI.

Ecological Momentary Assessment Studies

Another common limitation of the research on emotion regulation and self-harm is that it usually involves asking the participant to describe aspects of their self-injury at some time after the event – from days to months and even years – which may have an impact on their ability to accurately remember and report relevant details (Bradburn et al., 1987; Stone et al., 1999). Noting this, some researchers have conducted studies using Ecological Momentary Assessment (EMA). EMA research has the advantage of measuring NSSI urges and behaviours in the moment, generally multiple times per day, improving the ecological validity of NSSI research that is lacking in most studies (Armey et al., 2015, 2015; Koenig et al., 2021). This facilitates the assessment of dynamic processes such as emotional states, limits potential memory errors, and provides further examination of possible risk (Armey, 2012; Armey et al., 2015; Kiekens et al., 2021). It may also benefit the participant, with the participants in one study reporting appreciation of the increased awareness brought to their thoughts and emotions (Gromatsky et al., 2022).

Nock et al. (2009) assessed the functions of self-harm among 30 adolescents and young adults using EMA. The participants completed questions on their feelings, thoughts and behaviours before, during, and after experiencing thoughts of self-harming. The results showed that reducing negative feelings (particularly anger, sadness, and anxiety) and aversive cognitive states (unwanted thoughts or memories) were the most commonly reported functions for acts of self-harm (Nock et al., 2009). The authors did not, however, examine how effective the self-harm was at reducing these negative emotions and cognitions. Despite

that, this research assessed NSSI behaviour in ‘real time’, adding important detail and replication to the self-report literature.

Other EMA literature to date has also shown that NSSI can be predicted by low distress tolerance (Ammerman, Olino, et al., 2017), interpersonal distress (Halverson et al., 2023), angry or hostile affect (Dillon et al., 2021, 2022; Kudinova et al., 2023), and affect lability (Santangelo et al., 2017; Vansteelandt et al., 2017). EMA research has identified that negative affect increases and positive affect decreases prior to NSSI; and that negative affect decreases and positive affect increases after an NSSI act (Andrewes et al., 2017; Briones-Buixassa et al., 2021; Hamza & Willoughby, 2015; Koenig et al., 2021; Muehlenkamp et al., 2009). However, this decrease in negative affect appears to be short-lived, suggesting that while NSSI reduces distress, it does not do so for long (Koenig et al., 2021).

Theoretical Framework

Building on the empirical literature available on the functions of NSSI and on previous theories of this behaviour, Chapman, Gratz and Brown (2006) proposed the Experiential Avoidance Model (EAM) to explain self-harm. This model suggests that self-harming behaviour is maintained because it enables the avoidance or reduction of negative or undesirable internal experiences. These internal experiences are believed to most often be negative emotions, but may also be negative cognitions, memories, and sensations (Chapman et al., 2006). In this model, self-injury is engaged in when an event or stimulus triggers aversive emotions which the individual wishes to escape from. If this individual has high emotion intensity, poor distress tolerance, and low emotion regulation ability, they are even more likely to engage in self-injury (Chapman et al., 2006). The physical pain of the self-harm is thought to provide temporary relief from the negative internal experience through the release of endogenous opioids or by providing a significant enough sensation to distract the

person from their distress. The suggestion that endogenous opioids play a role, however, remains to be conclusively shown (Brent, 2011; Chapman et al., 2006; Kirtley et al., 2016). The self-harm, as it reduces the negative internal experience, is maintained by negative reinforcement – the operant conditioning method whereby an action is more likely to occur in the future if it successfully removes an aversive stimulus – and self-harm becomes the automatic response for the individual to regulate their emotions (Chapman et al., 2006).

There is significant empirical evidence supporting this model of NSSI. Firstly, self-harm appears to be effective at helping those engaging in it to feel better, with Paul et al. (2002) finding that 70% of participants reported an improvement in their emotions immediately after self-harming. Hall (2013) also found support for the EAM among a community-based population, showing that experiential avoidance was correlated with NSSI frequency. Alexithymia and thought suppression – two forms of experiential avoidance – have also been found to be significantly higher among high school students who have engaged in NSSI (Howe-Martin et al., 2012). Again supporting the EAM, high school students reported that their negative emotions reduced after an episode of self-harm, while relief increased (Laye-Gindhu & Schonert-Reichl, 2005).

Anderson and Crowther (2012) found that university students with a lifetime history of NSSI reported fewer emotion regulation skills, higher levels of avoidance of thoughts and emotions, and greater difficulty identifying their emotions compared to those with no history of NSSI; with most of the effect sizes for these results being medium or large. Furthermore, those who had a history of NSSI but who had not self-harmed in the past year reported having significantly greater emotional acceptance compared to those who had self-injured in the past year, as well as better impulse control, although the effect sizes of these differences were smaller (Anderson & Crowther, 2012). This study was cross-sectional, and therefore has to limit any claims that these factors cause engagement in NSSI, or that the EAM is proven.

However, these results, particularly that those who had ceased self-harming had greater emotional acceptance, do provide support for the EAM model and suggest that emotional acceptance may be particularly helpful for those engaging in self-harm to develop.

Langlands (2012) also found evidence of the EAM in the New Zealand context. Interviews with 24 participants about their most recent episode of self-harm (all within the past 12 months) identified that these episodes mostly functioned as a way to avoid or limit negative emotions. Similar results were found in a quantitative survey – negative affect was reported to decrease after an NSSI episode, supporting the EAM's hypothesis that NSSI functions to avoid negative internal states. This research also found that generally avoidant coping style was able to predict how recently a person had engaged in NSSI; and that cognitive avoidance – avoiding negative or unwanted thoughts – and not just emotional avoidance, affected engagement in NSSI (Langlands, 2012).

There is some evidence against the EAM as well, however. While Langlands' (2012) results mostly supported the EAM, they also showed that positive affect increased after episodes of NSSI. Positive affect after self-injury has also been found to predict a greater number of lifetime NSSI episodes (Jenkins & Schmitz, 2012); and Ecological Momentary Assessment research among bulimia nervosa inpatients has found that positive affect increased after engaging in self-harm, while negative affect remained unchanged (Muehlenkamp et al., 2009). This conflicts with the EAM, which sees negative reinforcement – the reduction of negative internal states, not the increase in positive ones – as the main factor that maintains self-injury. Some research has also identified other, more arguably positive functions of self-harm other than emotion regulation, such as defining the self and developing identity (Breen et al., 2013; Edmondson et al., 2016). Collectively, this suggests that the EAM, while a helpful broad framework, may not fit for every individual's experience of NSSI – as is likely true for most psychological theories. Unfortunately, much of the

research supporting the EAM is relies on self-report data collected (presumably) much after engagement in NSSI, rather than using daily diaries or Ecological Momentary Assessment; however, this research and the EAM do speak to the participants' reasons for self-harming.

The EAM model of NSSI provides a functional perspective on NSSI; and suggests emotion dysregulation is one of the reasons people may begin engaging in NSSI. It also acknowledges the intrapersonal qualities of the person that may determine why one person self-injures when they are emotionally distressed while another may not, unlike the other key theories of NSSI, such as the Four Function Model (Bentley et al., 2014), which focuses more on how NSSI is reinforced, rather than why it starts; and the Interpersonal Theory of Suicide (Joiner et al., 2012; Van Orden et al., 2010), which focuses more on suicide than self-harm, and does not consider the possible predisposing traits of NSSI (and not those of suicide).

Conclusion

The research literature to date examining why people self-injure has consistently found that emotion dysregulation is a key factor to consider. This relationship has been seen in a variety of study designs, with emotion dysregulation being found to be a correlate and predictor of NSSI, a mechanism of change in treatment intervention research, and a mediator of the impact of other factors on NSSI. It is also the predominant function that participants report for their use of NSSI. While the relationship between NSSI and emotion dysregulation is evident in the literature, what remains to be identified is why some individuals use NSSI specifically to cope with distress, and what other psychological factors that together with emotion dysregulation may play a role in NSSI engagement. The chapter below will discuss two constructs that this research will propose to explain how NSSI becomes the coping strategy of choice – self-esteem and self-compassion.

Chapter 3. Self-Esteem and Self-Compassion

Emotion dysregulation, as discussed above, is a key factor in understanding self-injury, but is not a sufficient explanation of why individuals engage in NSSI. This research will argue that the individual's relationship with themselves – and in particular their perception and treatment of themselves – is important to consider, given that the self, or at least the body, are being used as tools to cope with internal distress when engaging in NSSI. It is proposed here that self-esteem and self-compassion are two factors related to the self that may impact why people self-injure when experiencing negative emotions, while others do not. Self-esteem and self-compassion have been found to correlate with, and potentially contribute to causing, engagement in NSSI, and this research is reviewed below.

Self-Esteem

Self-esteem is a commonly-used term both among psychological researchers and the general public. While understandings of this concept can vary, it can perhaps be most briefly described as a person's evaluation of their self-worth. Robson (1989) provided a succinct definition of self-esteem as "the sense of contentment and self-acceptance that results from a person's appraisal of his own worth, significance, attractiveness, competence, and ability to satisfy his aspirations" (Robson, 1989, p. 514). Low self-esteem has been linked to a wide variety of negative psychological traits and mental health issues among adolescents and adults, including depression, anxiety disorders, obsessive compulsive disorder, eating disorders, narcissism, and substance abuse (Åkerlind et al., 1988; Barry et al., 2015; Ehntholt et al., 1999; Gual et al., 2002; Orth et al., 2008; Orth & Robins, 2013; Silverstone, 1991).

Self-Esteem and NSSI

Self-esteem is also a concept commonly used to explain engagement in NSSI, in both colloquial and clinical settings (Nock, 2010), and it has also been shown to correlate to mental health issues and problematic behaviours that are also linked to NSSI, such as disordered eating and depression (Fox et al., 2015; Gual et al., 2002; Orth et al., 2008).

The empirical research available does also suggest that NSSI and self-esteem are directly related. Self-esteem has been found to be significantly lower among those who engage in NSSI in both adolescent and young adult populations (Cawood & Huprich, 2011; Claes, Houben, et al., 2010; Hawton et al., 2002; Laye-Gindhu & Schonert-Reichl, 2005, 2005; Lundh et al., 2007), with Claes et al. suggesting that "elevated levels of self-dislike of NSSI adolescents support the idea that NSSI may be a means to punish oneself and to turn self-hate onto one's own body" (2010, p. 777). Examining similar variables to that of the current research, Kim et al. (2022) examined the relationships between self-esteem, emotion regulation and NSSI among community-based adults. They found that emotion dysregulation was positively correlated with NSSI and negatively correlated with self-esteem, and that self-esteem moderated the impact of emotion dysregulation on NSSI. Interestingly, the impact of emotion dysregulation on NSSI was only found among participants with low self-esteem. However, this research had a relatively small sample of sixty participants (Kim et al., 2022). Furthermore, it must also be noted that a limitation of all of the above research is that it has been cross-sectional, and therefore cannot determine whether the low self-esteem preceded NSSI, if it was a potential consequence of engaging in NSSI, or whether NSSI and self-esteem are correlated due to a third variable.

One review and meta-analysis of seventeen studies has been done on the relationship between NSSI and self-esteem, however. It focused specifically on studies examining this relationship among adults in both community and clinical populations, and it suggested that

low self-esteem may lead to the development and maintenance of NSSI (Forrester et al., 2017). Self-esteem was found to be significantly and negatively correlated with NSSI, with this relationship remaining after controlling for gender, depressive symptoms, and personality disorder symptoms. Self-esteem was significantly lower among adults who had engaged in NSSI compared to those who had not, whether the participants were recruited from clinical, student, or general community populations, and lower self-esteem was associated with increased NSSI frequency and severity and a greater use of self-injury methods (Forrester et al., 2017). These authors also posit that experiencing low self-esteem for an extended period of time is likely to increase aversive emotions such as shame, and that NSSI may be a way for the individual to cope with these feelings; and hypothesise that the self-esteem and NSSI relationship may be bidirectional, with the stigma of NSSI eroding self-esteem over time (Forrester et al., 2017).

However, it must be noted that these results must be interpreted with a significant caveat in regard to the current research – while this study will look specifically at self-esteem, Forrester et al. (2017) defined self-esteem very broadly, arguing that self-esteem is multidimensional, and including in their review studies looking at concepts such as self-worth and self-criticism, which they argued all involve a judgment of the value of oneself and personal self-worth (Forrester et al., 2017). They also included body regard as an aspect of self-esteem. Body regard is a person's sense of connection with and valuing of their body, and it appears to protect against NSSI in the context of emotion reactivity, emotion dysregulation, and maladaptive coping strategies (Muehlenkamp et al., 2013; Myntti & Muehlenkamp, 2023). Forrester et al. (2017) also note that the studies analysed involved retrospective reporting of NSSI but current self-esteem ratings, and that participants' self-esteem ratings may not accurately reflect their self-esteem at the time in which they were engaging in NSSI. Furthermore, while numerous measures of NSSI were used, results were

generally reported via dichotomous categories – engagement or no engagement in NSSI (Forrester et al., 2017). The current research is aiming to avoid these limitations by looking specifically at self-esteem, by comparing self-esteem and the other independent variables to NSSI occurring only in the past year, and by using an NSSI measure that assesses frequency, rather than a dichotomous measure of lifetime engagement.

Supporting the importance of low self-esteem in the development of self-harm, there is some evidence from longitudinal studies that low self-esteem may predict engagement in NSSI over time. Garisch and Wilson (2015) assessed high school students twice, five months apart, and found that higher self-esteem at Time 1 predicted lower NSSI engagement at Time 2. However, they note that self-esteem may also decrease after NSSI engagement due to internalising the stigma surrounding self-harm, and that a reciprocal relationship cannot be ruled out (Garisch & Wilson, 2015). Other longitudinal research has also supported low self-esteem being predictive of NSSI. Hawton, Kingsbury, Steinhardt, James and Fagg (1999) found that among adolescents admitted to a hospital due to Deliberate Self-Harm, low self-esteem was related to the repetition of this behaviour within the following 12 months, although this difference was not statistically significant after controlling for depression scores. Lastly, self-esteem and self-efficacy were both found to be significant predictors of the onset of NSSI among Australian high school students assessed twice, one year apart (Tatnell et al., 2014). Those who began to self-injure between the two assessment points significantly decreased in self-esteem during that time, as did those who were self-harming at Time 1 and continued to self-harm at Time 2; while an increase in self-esteem predicted the cessation of NSSI between assessment points. These results collectively suggest that that low self-esteem may contribute to the development of NSSI, and that increasing self-esteem may support adolescents to stop self-harming. However, it should be noted that among those who had not engaged in NSSI at either assessment date, self-esteem also decreased over time –

potentially speaking to the challenges of adolescence – but self-efficacy significantly increased (Tatnell et al., 2014).

While the cross-sectional, meta-analytic, and longitudinal research discussed above does strongly suggest that self-esteem is negatively correlated with NSSI, and potentially contributes to causing engagement in NSSI, most of the literature to date has been predominantly with adolescent participants. The participants of this research will be only slightly older, university students rather than high school students, they will be largely past the transitional teenage years. While early adulthood also brings new challenges of greater independence, self-esteem may have improved, and it cannot be assumed that it is still related to engagement in NSSI in an older age group. While it makes conceptual sense that someone who views themselves negatively may feel less inhibited when it comes to hurting themselves to manage distress, more research is required.

Self-Compassion

Self-compassion has emerged relatively recently in the academic literature, largely due to the work of Kristen Neff. It has been defined as:

> Being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness. Self-compassion also involves offering non-judgmental understanding to one's pain, inadequacies and failures, so that one's experience is seen as part of the larger human experience (Neff, 2003a, p. 87).

Self-compassion has three dimensions – self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus over-identification (Neff, 2011). While only relatively recently – in the past two decades – defined in the empirical literature and

operationalised in the form of the Self-Compassion Scale, this concept has roots in Buddhism (Neff, 2003b) and there is a substantial and growing amount of research suggesting that self-compassion is a positive and adaptive trait to have. Self-compassion has been found to positively correlate to general mental wellbeing (Stephenson et al., 2018), psychological health among university students (Fong & Loi, 2016; Neely et al., 2009), and with self-esteem (Neff & Vonk, 2009). Supporting these results, meta-analytic research has found that self-compassion and psychological wellbeing were positively correlated (Zessin et al., 2015). It has even been found to be adaptive in the Covid-19 pandemic environment in recent years, with individuals higher in self-compassion appearing to have increased tolerance for uncertainty, less fear of Covid-19, and improved wellbeing (Deniz, 2021).

Notably, a lack of self-compassion has also been linked to psychological states and issues that are related to self-injury. For example, it is negatively correlated with depressive symptoms (Johnson & O'Brien, 2013); and people with depression have lower levels of self-compassion even when depressive symptoms are controlled for (Krieger et al., 2013). A longitudinal study has found similar results, with a lack of self-compassion predicting depressive symptoms and depressive episodes six and twelve months after the first assessment among a clinical outpatient population (Krieger et al., 2016).

Self-Esteem and Self-Compassion

While self-esteem and self-compassion are related concepts, they should not be confused. While self-esteem is a general regard and valuation of oneself, self-compassion is a "type of self-to-self relating" that comes to the fore when a person is suffering (Neff, 2011; Neff et al., 2017, p. 1; Neff & Vonk, 2009). While self-esteem involves judgment and comparison of oneself to others, self-compassion is not dependent on outcome or performance (Sutherland et al., 2014). Self-esteem may contribute to the development of self-

compassion, however – among adolescents assessed annually for four years, self-esteem predicted changes in self-compassion, but the reverse was not true, suggesting that self-esteem may be a precursor for the development of self-compassion (Donald et al., 2018).

Self-esteem and self-compassion appear to affect mental health and wellbeing differently as well. For example, self-compassion has been found to buffer the impact of stress on negative affect, while self-esteem did not (Krieger et al., 2015). Self-compassion may also moderate the impact of low self-esteem on a person's mental wellbeing. Among adolescents with high self-compassion, low self-esteem had a limited impact on their mental health over the course of a year, while for those low in self-compassion, low self-esteem predicted lower mental health after a year (Marshall et al., 2015).

Self-Compassion and NSSI

Despite self-compassion being a relatively new topic of interest in the research literature, there is now substantial evidence of a correlational relationship between NSSI and (low) self-compassion. A review by Cleare et al. (2019), for example, found that all of the eighteen studies reviewed found significant negative correlations between NSSI and self-compassion, and some studies found that self-compassion appeared to reduce the impact of negative events and trauma on self-harm. The literature base on the relationship between NSSI and self-compassion is reviewed briefly below.

Jiang et al. (2017) assessed over 600 Chinese high school students using the Self-Compassion Scale and examined how they rated on its six subscales (self-kindness/self-judgment, common humanity/isolation, and mindfulness/over-identification). They found that those who had engaged in or thought about engaging in NSSI reported greater self-judgment, isolation, and over-identification compared to those who had neither thought about nor engaged in NSSI. However, those who had thought about, but not engaged in, NSSI

behaviours reported more self-kindness and common humanity compared to those who had engaged in NSSI behaviours. In a separately published article with the same sample, self-compassion scores were also found to fully mediate the relationship between the quality of the adolescents' relationships with their mothers and peers on their engagement in NSSI, and partially mediate the impact of their relationships with their fathers on NSSI, suggesting that even when more environmental risk factors are also assessed, self-compassion may play an important protective role (Jiang, You, Zheng, et al., 2017).

This hypothesis of self-compassion being a protective factor against NSSI has also been suggested by Xavier et al. (2016), who found that self-compassion moderated the relationship between depressive symptoms and NSSI engagement among adolescents, with the self-kindness and mindfulness dimensions of self-compassion having the strongest effect. The same group of researchers found that a fear of self-compassion predicted NSSI among adolescents (Xavier et al., 2015; Xavier, Pinto Gouveia, et al., 2016), although for the latter study, this was an indirect effect through peer difficulties and depressive symptoms. Self-compassion has also been found to mediate the impact of childhood abuse on NSSI, potentially buffering the effects of early maltreatment on a young person's wellbeing (J. Wu et al., 2023).

There is even some evidence that self-compassion may support mental health by promoting emotion regulation abilities, another variable of interest in the current research. Emotion regulation was found to mediate the impact of self-compassion on mental health symptoms in both community and clinical samples, with the authors arguing that these results suggest that emotion regulation may be a mechanism of change between self-compassion and mental wellbeing (Inwood & Ferrari, 2018). Notably, Per et al. (2022) examined NSSI, emotion dysregulation and self-compassion, almost exactly the same variables as that of the current research. Among 343 young adult participants, the negative dimensions of self-

compassion (self-judgment, isolation, and over-identification) when combined were a significant predictor of NSSI, and emotion dysregulation mediated the relationship between these combined dimensions and NSSI group status – that is, having a lifetime history of NSSI or not (Per, Simundic, et al., 2022). Unlike the current research, however, they posited that emotion dysregulation would mediate the relationship between self-compassion and NSSI, rather than being independently predictive of NSSI itself. This study, along with the others reviewed above, has also used cross-sectional research designs, meaning that the ability to make causal inferences based on their results is limited – it cannot be assumed that the relationship between NSSI and self-compassion is not bidirectional, or that engaging in NSSI limits the development of self-compassion.

Meta-analytic research has also found a relationship between self-compassion and self-harm. A medium negative correlation was found between these variables in one meta-analysis, with this relationship being stronger in adolescent samples than in young adult or clinical samples, and with the results supporting a potential buffering effect of self-compassion on NSSI (Per, Schmelefske, et al., 2022). Suh and Jeong (2021) also found that NSSI and self-compassion were negatively correlated in their meta-analysis, although this relationship did have a small effect size (larger among clinical samples). These authors suggest that self-compassion may buffer the impact of negative events on a person and reduce their likelihood of engaging in NSSI, but do note that more longitudinal or intervention-focused research would be needed to identify if self-compassion has a clinically significant, as well as statistically significant, impact on NSSI (Suh & Jeong, 2021).

There is limited research on the relationship between NSSI and self-compassion that is longitudinal or experimental and that can therefore provide more insight into whether low self-compassion can be considered to partially cause engagement in NSSI. Two longitudinal studies, however, found that self-compassion may buffer the impact of interpersonal

difficulties on NSSI. The relationship between NSSI and peer acceptance among adolescents assessed twice, one year apart, was found to be fully mediated by self-compassion (N. Wu et al., 2019); and self-compassion has been found to moderate the impact of peer victimisation on NSSI among high school students when assessed one year later (Jiang et al., 2016).

One recent longitudinal study, however, has also focused on the direct relationship between NSSI and self-compassion (Yang et al., 2023). Over 1200 high school students were assessed three times at six-month intervals, and the results showed that self-compassion at Time 1 and Time 2 predicted lower NSSI frequency at Time 2 and Time 3 while controlling for NSSI at Time 1 and Time 2 respectively. Interestingly, there was some evidence that this relationship may be reciprocal – NSSI at Time 1 predicted low self-compassion at Time 2, although NSSI at Time 2 did not predict low self-compassion at Time 3 (Yang et al., 2023).

Other longitudinal research has found a relationship between self-compassion and phenomena related to NSSI, providing further support for the hypothesis that self-compassion may play a causative role in the development of NSSI. For example, self-compassion, along with family cohesion, negatively predicted the likelihood that an adolescent experiencing suicidal ideation will have made a suicide attempt within a twelve-month period (Sun et al., 2020). Furthermore, among a sample of adolescents assessed thirty days, three months, and six months after a traumatic event (a forest fire), self-compassion was found to have a protective effect on post-traumatic stress, suicidality, and depressive symptoms; and was more effective at this than mindfulness (Zeller et al., 2015).

Some experimental research has also examined the impact of self-compassion on a person's sensitivity to pain, suggesting that these results may generalise to understanding NSSI. Participants with a history of NSSI were found to have lower self-compassion than those who had not engaged in NSSI, and they appeared to be more willing to tolerate physical pain (Gregory et al., 2017). However, there was no statistically significant evidence that

experimental manipulation of self-compassion (completing a writing task designed to induce self-compassion) impacted pain intolerance, as the authors hypothesised. These results suggested that individuals with a history of self-harm have lower self-compassion and are more prepared to tolerate physical pain; but inducing self-compassion may not have an immediate impact on the person's willingness to experience pain (Gregory et al., 2017).

The relationship between NSSI and self-compassion has also been found in qualitative research. An analysis of the data of online focus groups and email interviews with young people aged 16 to 26 who had self-harmed identified that being validated and seen as being of worth were key concepts discussed, similar to self-esteem; while the themes of 'Accepted vs. Denied Self' and the 'Normal vs. Abnormal Self', echo the Self-Kindness vs. Self-Judgment and the Common Humanity vs. Isolation dimensions of self-compassion (Adams et al., 2005). Sutherland et al. (2014) examined if and how self-compassion was seen in the online posts of people engaging in NSSI on discussion forums. Each of the dimensions of self-compassion (self-kindness, mindfulness, and common humanity) were referenced, generally when discussing recovery from NSSI. The participants reported that self-kindness increased their tolerance of perceived errors and facilitated more acknowledgement of their progress, while mindfulness appeared to help the participants tolerate their distress in the moment and remember that these negative emotions were temporary. Lastly, the common humanity theme reflected the participants' development of better coping abilities and more self-compassion through their experiences of other people who were compassionate and empathetic, and their experiences of being compassionate towards others. This seemed to prompt the development of more compassion being directed towards the self, improved connection with others, and an acknowledgement of suffering and making mistakes as being part of being human. In summary, self-compassion supported these participants to move further towards ceasing NSSI by reducing their overall distress levels.

Conclusion

In summary, self-esteem, and self-compassion were chosen as the other variables of interest in this research on NSSI due to both the empirical and conceptual links of these phenomena to this behaviour. The above chapter describes the literature on self-esteem, self-compassion, and NSSI and the gaps within it, but more research is needed to understand how these factors may affect NSSI, particularly when emotion dysregulation is also assessed.

Chapter 4. Research Rationale, Aims, and Hypotheses

This chapter briefly summarises the rationale and aims this research, its contribution to the literature, its hypotheses, and the qualitative research question.

Rationale

Collectively, the results of the quantitative and qualitative studies discussed above strongly suggest that emotion dysregulation is positively correlated with NSSI. There is also some emerging evidence that emotion dysregulation may precede and contribute to the development of NSSI (Heffer & Willoughby, 2018; K. Robinson et al., 2019; Tatnell et al., 2014). Despite this, however, relatively little research has examined what other factors may lead to self-harm specifically, rather than other (adaptive or maladaptive) emotion regulation strategies, such as talking to a loved one, going for a run, using distress tolerance strategies, or binge drinking, all of which are likely to (at least in the short term) serve the same function of removing or reducing negative affect. Individuals with a history of NSSI have been shown to use maladaptive emotion regulation strategies even when they also use adaptive emotion regulation strategies (Labouliere, 2009), suggesting that emotion dysregulation may not provide a sufficient explanation for why people use NSSI to cope with strong emotions.

This gap in the research has been noted by Nock (2009, 2010) who highlighted the need for further studies to consider specific, rather than general, risk factors for NSSI. He argued that “one is left wondering why some people select NSSI rather than another pathological behaviour to regulate their affective and social experiences” (Nock, 2009, p. 80). It has also been suggested that more “systematic attention” (Gratz, 2006a, p. 194) should be to be paid to the individual risk factors for the development of self-harming behaviour, and for more complex models of self-harm to be developed and tested.

Noting this, and the Emotional Avoidance Model's suggestion that certain intrapersonal traits or qualities may increase the likelihood of a person engaging in NSSI (Chapman et al., 2006), this research seeks to identify other factors may impact or contribute to NSSI alongside emotion dysregulation. While there is moderately good evidence that emotion dysregulation is a cause of NSSI, it is unlikely – as may be the case for the causes of most human behaviours – that there is only one factor causing it.

While there may be many psychological traits that contribute to NSSI along with emotion dysregulation, it is argued here that self-esteem and self-compassion are particularly important to examine in further detail. Self-esteem and self-compassion are two plausible self-focused psychological factors that may also play a role in engagement in NSSI as they could theoretically redirect any distress felt (and any difficulties regulating it) back onto the physical self to cope. Self-esteem and self-compassion have been consistently found to negatively correlate with NSSI engagement, and may even contribute to its development, although more longitudinal and experimental research would be needed to confirm this.

Conceptually, engaging in NSSI would seem relatively 'logical' and ego-syntonic for a person with little self-esteem, as this low valuation of themselves is likely to extend to their physical bodies. This may increase the likelihood of self-harming – if a person does not value their body, they have less reason *not* to harm it if they are experiencing high levels of distress. There is some research supporting this – the extent to which a person valued their physical body has been found to moderate the relationship between emotion dysregulation and NSSI (Muehlenkamp et al., 2013); negative feelings about the self specifically have been found in one study to be among the main reasons participants reported engaging in self-harm (Laye-Gindhu & Schonert-Reichl, 2005); and NSSI may be perceived as a way to manage negative emotions related to having a poor view of oneself (Breen et al., 2013).

A similar process seems likely to occur for self-compassion and its impact on NSSI. Conceptually, it makes sense that a person who is highly judgmental towards themself, overidentifies with negative emotions, and views themself as isolated in their struggles will have less of a reason to *not* harm themselves when distressed. They are likely to be more inclined to blame themselves, less likely to be mindful of and accept their negative emotions, and more likely to express this psychological pain viscerally onto their physical body to manage their distress and take out these emotions on themselves (Jiang, You, Zheng, et al., 2017). The immediate relief or distraction provided by NSSI is also "is incompatible with a mindful stance of non-judgment, acceptance, and awareness of emotional experience" (Garisch & Wilson, 2015, pp. 8–9), a stance which aligns with being higher in self-compassion. Notably, self-punishment has been found to be the most commonly reported function of NSSI after emotion regulation (Edmondson et al., 2016; Klonsky, 2007), and those low in self-compassion struggle to forgive themselves for perceived transgressions. This would again suggest that NSSI would be an ego-syntonic way to manage distress. Furthermore, engaging in NSSI would seem particularly likely if a person experienced all three – high emotion dysregulation, low self-esteem, and low self-compassion – of these processes simultaneously.

Original Contribution

There has been little research analysing the impact of two or more of these factors together on NSSI, although some has emerged in the years between the initiation of this research and its completion. However, there has still been no reliable research involving all three correlates – emotion dysregulation, self-esteem, and self-compassion – and their impact on NSSI simultaneously. Examining all three correlates in the same piece of research would allow for a greater understanding of their relative impact on NSSI after controlling for the

other variables, which would add to our understanding of the relationship between them and NSSI, and hopefully, of why some people engage in NSSI to manage distress rather than using a different coping strategy. Therefore, while the literature to date has supported the hypotheses that self-esteem and self-compassion are both negatively correlated with NSSI engagement and that emotion dysregulation is positively correlated with NSSI, this research would contribute by considering all three of these factors together, while also controlling for plausible confounding variables.

Furthermore, of the research available already examining these factors and NSSI, none to my knowledge has used a mixed methods approach to compare and triangulate the quantitative and qualitative data. Research examining these factors has also been limited in New Zealand, particularly with young adults rather than adolescents, and this research would provide increased knowledge of NSSI in the specific context of Aotearoa New Zealand. In summary, it is hoped that this research adds a valuable and original contribution to the literature on NSSI and its risk factors.

Research Aims, Hypotheses and Qualitative Research Question

This research aims to understand further and in greater detail the relationships between emotion dysregulation, self-esteem, self-compassion, and NSSI; and why some individuals come to use NSSI specifically when experiencing distress. It proposes that self-esteem and self-compassion are two factors that relate to the use of NSSI to cope with distress rather than other – adaptive or maladaptive – coping strategies.

Based on these aims and the empirical evidence discussed in the chapters above, the following hypotheses are made for the quantitative phase of this research.

1. Emotion dysregulation will be higher among those with self-injury, and will positively predict engagement in NSSI.

2. Self-esteem scores will be lower among those with self-injury, and will negatively predict engagement in NSSI.

3. Self-compassion scores will be lower among those with self-injury, and will negatively predict engagement in NSSI.

For the qualitative phase of this research, meanwhile, the research question was:

How do participants view the relationships, if any, between emotion dysregulation, self-esteem, self-compassion, and NSSI?

Chapter 5. Method

This research is a cross-sectional study, of mixed methods design, involving both quantitative and qualitative research. The quantitative research took the form of an online survey, while the qualitative phase involved interviews with nine participants, and followed the analysis framework of Reflexive Thematic Analysis.

A mixed methods design was chosen as a way to gather and triangulate data to allow both for the testing of specific hypotheses regarding the effects (or lack thereof) of emotion dysregulation, self-esteem and self-compassion on NSSI engagement; as well as an in-depth understanding of the participants' experiences and perceptions of the constructs of interest. Mixed methods research uses these different approaches and methodologies with equal emphasis and usually simultaneously to triangulate information, explore whether the data collected at each phase aligns with the data of the other phase, and to support the robustness of the conclusions made at each stage (Harding, 2013; Rohleder & Lyons, 2014). Both aspects of the research provide advantages – while quantitative research is used to explain and potentially prove a hypothesis, qualitative research is used to describe and understand phenomena (Finlay, 2011), allowing for a wider range of questions to be asked than if only one type of research was used (Harding, 2013). This was considered an advantage in this research, as it aimed to assess the accuracy of hypotheses made based on the literature to date, to explore in depth how the emotion dysregulation and self-related phenomena of interest were experienced by participants, and to create a nuanced understanding of how they viewed these as related (or not) to NSSI. That is, mixed methods research allows for both breadth (at the quantitative stage) and depth (at the qualitative stage), and with this research hoping to develop both a deep and broad understanding of these constructs and their relationship to NSSI, a mixed methods design was therefore considered best. In the current study, the quantitative data was collected and examined slightly before the qualitative data,

although the qualitative data was transcribed and initial general themes noted prior to the quantitative data being analysed.

This research uses a primarily confirmatory approach to examine the relationships between emotion dysregulation, self-esteem, self-compassion, and NSSI; with the quantitative phase testing the above hypotheses and the qualitative phase using a predominantly deductive approach to theme development. However, exploratory approaches were also used at both research phases, with some post-hoc analyses of the survey data taking place, and two of the qualitative themes being developed inductively.

Pre-registration

This research was pre-registered with the Open Science Framework (OSF) Registries. Pre-registration of this study was done as an effort to conduct research in line with the open science standards that have emerged in recent years as part of the replication crisis within psychology (Committee on Reproducibility and Replicability in Science et al., 2019; Munafò et al., 2017; Open Science Collaboration, 2015; Woodell, 2020). Pre-registration involves planning and reporting in advance the hypotheses, methods, and analyses of a (usually quantitative) study in advance of data collection and analysis (Committee on Reproducibility and Replicability in Science et al., 2019). Pre-registration is done to increase the transparency and credibility in research, encourage ethical and rigorous scientific practices, and to ensure that researchers who wish to replicate the results in the future are able to do so precisely (Committee on Reproducibility and Replicability in Science et al., 2019; Lakens, 2019; Munafò et al., 2017; Nosek et al., 2018; van ’t Veer & Giner-Sorolla, 2016). It also has the advantage of requiring researchers to think through each step of conducting the research (Lakens, 2019), particularly when there is a checklist or template to complete, as the Open Science Framework provides. Lastly, it also means that any variation from the pre-registered

plan is described and explained, and any post-hoc or exploratory analyses are clearly stated as such (Committee on Reproducibility and Replicability in Science et al., 2019). While it has not yet been adopted as the norm for psychological research on a widespread scale, it is an effective tool to manage and reduce the replicability crisis and improve research practices going forward (Committee on Reproducibility and Replicability in Science et al., 2019; Nosek et al., 2018).

The full pre-registration can be accessed at https://osf.io/7wtm5 or via Appendix E. Some variations from the pre-registration occurred in the completion of this research; these variations are noted and described.

Quantitative Phase

Design

The quantitative phase involved the creation and dissemination of a self-report survey consisting of four psychometric measures, which was advertised through the recruitment methods detailed below, and completed by the participants online at a time and place of their choosing.

Participants

Participants for this research were young adults aged between 18 and 25 years old, who had studied for at least one year at a New Zealand secondary school. This set of inclusion criteria were decided on for several reasons.

As discussed in Chapter One, the research available suggests that self-injury is most common in secondary school-aged individuals (Jacobson & Gould, 2007). However, NSSI still occurs relatively frequently among young adults and university students. In Aotearoa New Zealand, research has found a 12-month prevalence rate of 13% in university students

(Fitzgerald & Curtis, 2017), but most research on NSSI in this country has largely focused on adolescents (Fraser et al., 2018; Garisch & Wilson, 2015; Kingi, 2018; Lucassen et al., 2011; K. Robinson et al., 2019), with research involving young adults in the community being comparatively less common in the field. The age criteria of 18-25 years old was therefore chosen to reflect the significant number of young people self-injuring in early adulthood. Recruiting from this age-group provided the opportunity to extend our knowledge of NSSI in Aotearoa New Zealand into a slightly older population than has previously been focused on, despite still occurring in a significant proportion of this age-group.

Recruiting participants from an early adult population compared to adolescents still in school and/or under the age of 18 is also of practical advantage. The 18-25 age-group has only recently left high school, when NSSI is most prevalent, therefore minimising any potential recall bias (errors in memory due to a large amount of time between the event being remembered and the reporting of it) for self-injury occurring in high school (Coughlin, 1990; Drews & Greeland, 1990). This was particularly important for the interview phase, when NSSI behaviours would be explored in greater detail.

The requirement that participants have studied for at least one year at a New Zealand secondary school was put in place to balance being inclusive of young adults living but not born in Aotearoa New Zealand, while also ensuring the research was applicable to the New Zealand culture and context. Aotearoa New Zealand is a multicultural country (Statistics New Zealand, 2019; 2020), and prior to the arrival of Covid-19, when this research's data was collected, international students made up a significant proportion of the university student population both at Massey University and at other universities around the country (Blommerde, 2020; Hope, 2021). Given the variety of cultural perspectives and experiences that may be involved, it was important to consider how the participation of individuals who were not born or fully raised and educated in New Zealand may affect the results, particularly

if claims were being made about the New Zealand context, culture, or population based on the results of this research. Numerous dividing lines were considered when balancing both the desire for being inclusive and gaining a suitable number of participants, with being confident the results would apply to the New Zealand context; including residency status, citizenship, domestic/international student status, and number of years lived in Aotearoa New Zealand. The decision was made to include any participant who had attended a New Zealand secondary school for a minimum of one year, in order to gain the participation of anyone who has experienced at least part of their adolescence in a New Zealand 'context'.

For ethical reasons, it was also important to consider ways to prevent and reduce any risk of harm to the participants. As it would be difficult to identify survey participants who might be harmed by participating in advance, it was decided that the criteria for participation was that the participant did not believe they would be distressed by participating. Included at the start of the survey was a statement, reviewed by Massey University's Human Ethics Committee, that this survey would include questions inquiring about personal experiences of self-injury and mental health and requesting that the individual not participate if they believe they may experience distress as a result of reporting these experiences.

The G*Power software (Faul, Erdfelder, Buchner, & Lang, 2013) was used to identify the required number of participants for the quantitative stage of the research (a screenshot of this analysis is accessible via Appendix E). The analysis used for the G*Power calculation was binary logistic regression, with the independent variable being emotion regulation and the dependent variable being NSSI engagement, based on Hypothesis 1. Power was set at 0.80 and the alpha was set at 0.05. The conditional probability of self-injury for a participant with an emotion regulation score of one standard deviation or more under the null hypothesis was set at 0.13 based on Fitzgerald and Curtis' (2017) results, which found that the 12-month prevalence of NSSI was 13% among university students in Aotearoa New Zealand, a similar

population to that of this research. The guidelines established by the G*Power manual (Faul, Erdfelder, Buchner, & Lang, 2013) and by Lipsey (1990) were used to use the suggested odds ratio of 1.72 for one standard deviation increase in emotion regulation, to obtain a medium effect size. This calculation suggested a sample size of 238 participants.

Based on this number, a stopping rule was specified in the pre-registration – the quantitative data collection would be paused and the survey taken offline when data from 300 participants (just over 125% of the required 238 participants) was collected, provided that enough of these participants had provided sufficient data to not meet the exclusion criteria, or after three months of quantitative data collection (providing that the required number of data participants was met), whichever came first. The survey was briefly paused when it appeared that a sufficient sample size had been collected, however, it was readvertised after this initial sample was examined and was found to not meet the required number of participants (238) once data exclusions were completed. The study remained open with minimal advertising until the final date of the data collection period.

A total of 371 participants completed some aspect of the survey. While this was in excess of the participants required to pause the study in the pre-registration's termination rule, the speed of participants completing the survey when it was opened and advertised was much faster than expected and resulted in more participant data than expected. After the planned data exclusions (described below) were completed, however, data from a total of 239 participants remained, which met the estimated number for adequate power in the statistical analysis. The descriptive statistics below and any further discussion of the results refer only to these 239 participants and not to those who did not meet the data inclusion criteria.

As shown in Table 1, 199 (83.26%) of participants were female, 37 (15.48%) were male, two (0.84%) were nonbinary/genderqueer, and one person (0.42%) preferred not to say. The age range for participation was 18-25, and the age range of participants was the same,

with the average age of participants being 21 years old. Participants also identified their ethnicities prior to completing the survey, and the results are shown in Table 2. Participants came from a range of ethnicities but were predominantly of Pākehā/New Zealand European and Asian backgrounds. The primary roles of participants are shown in Table 3. The majority of participants (168, or 70.29%) identified their primary role as being a student, but a significant proportion (54, or 22.59%) were also involved in full time work. Most of the sample (165, or 69%) had sought professional mental health support in the past.

Table 1

Gender of Participants

Gender	Number	%
Female	199	83.26
Male	37	15.48
Nonbinary/Genderqueer	2	0.84
Prefer not to say	1	0.42

Table 2

Ethnicities of Participants

Ethnicity	Number	%
Pākehā/NZ European	146	61.09
Pākehā and Other	5	2.09
Māori	2	0.84
Māori and Pākehā	16	6.69
Māori and Pasifika	1	0.42
Pasifika	6	2.51
Pasifika and Pākehā	2	0.84
Asian	35	14.64
Asian and Pākehā	4	1.67
Asian and Other	1	0.42
Middle Eastern	0	0
North American	3	1.26
Latin American	0	0
Latin American and Pākehā	2	0.84
African	1	0.42
African and Pākehā	2	0.84
Other	13	5.44

Table 3

Primary Roles of Participants

Primary Roles	Number	%
Student	168	70.29
Full time work	54	22.59
Part time work	14	0.06
Full time parent/caregiver	3	0.01

Recruitment. Participants were recruited via digital advertisements inviting them to volunteer to take part in a survey. These advertisements gave details of the research and the intended participants, and the link to the Qualtrics survey. Individuals self-selected to participate in the research, and self-identified if they fit the criteria for participation. The first page of the Qualtrics survey was the Information Sheet (see Appendix A) for this phase of the research, and participants consented to participate via a question at the end of the first page. As there were concerns that individuals with no personal experience of self-injury may assume that their participation was not welcome, it was emphasised in both the advertising and the Information Sheet that the personal experience of NSSI was not a requirement of participation.

The study was primarily advertised through Facebook and Stream, Massey University's communication portal for class resources and messages. While there were other methods of recruitment planned in the pre-registration (printed advertisements around the university campus) this did not occur as the survey response through the Facebook and Stream advertisements was sufficient.

Facebook advertisements. The research advertisement was shared on the researcher's personal Facebook page and the Facebook pages of any individual who wished to share the

post. The researcher also shared the advertisement on university social and study-related pages, such as the Massey University Psychology Students group, and the Overheard at the University of Auckland page; and on one local neighbourhood's community page. The Massey Albany Students' Association page also consented to post the research advertisement on their Facebook page.

Stream advertisements. The course co-ordinators of several psychology and other social science courses were emailed by the researcher to ask if they would consider posting the survey advertisement on their course's Stream site. Three course co-ordinators confirmed that they had advertised the research on the courses they were involved in (four courses in total). The researcher also offered to speak at lectures to describe the study, request participation in person, and answer any questions. This offer was accepted by one lecturer and occurred for one third-year undergraduate psychology course.

Compensation. As a thank you for the participants' efforts, and an incentive to participate, a prize draw was set up for 50 $40 GiftPay (a digital gift card service linked to multiple popular retailers) vouchers to be won at random by survey participants.

Measures

The survey began with the initial screening criteria (confirming that they were between 18 and 25, had attended a New Zealand secondary school for at least a year, and did not anticipate experiencing distress at reporting experiences of NSSI and mental health issues). Those who did not meet these criteria were thanked for their interest and informed that they were not part of the target population for this research. There were then demographic questions gathering information on the participants' exact age (18-25), gender (male, female, nonbinary/genderqueer, or 'I prefer not to answer'), primary role or activity

(student, part-time or full-time work, or caregiver), ethnicity, and asking whether they had ever previously accessed professional support for a mental health issue.

The four key measures of the survey followed these screening and demographic questions. The three independent variables of emotion dysregulation, self-esteem, and self-compassion were all continuous measures. The dependent variable, NSSI engagement in the past 12 months, was assessed via a categorical measure created specifically for this research.

The survey can be seen in full in Appendix B.

Emotion Dysregulation. Emotion dysregulation was measured using the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). The DERS measures emotion dysregulation in individuals across six subscales (Lack of Emotional Awareness, Non-Acceptance of Emotional Responses, Difficulty Engaging in Goal-Directed Behaviour, Impulse Control Difficulties, Limited Access to Emotion Regulation Strategies, and Lack of Emotional Clarity). It consists of 36 five-point rating scale items which ask the participant to identify whether they feel as the item statement indicates 'almost never (0-10%)', 'sometimes (11-35%)', 'about half the time (36-65%)', 'most of the time (66-90%)', or 'almost always (91-100%)', with items coded from 1-5 in the same order.

This research used the total scale score as the independent variable, which was calculated by summing the item scores after reverse-scoring the relevant items (items 1, 2, 6, 7, 8, 10, 17, 20, 22, 24, and 34). The total score was used instead of totalling the mean of the subscale scores (as originally suggested by the developers) for ease of scoring, as the general emotion regulation ability of participants was of interest here, and as the particular dimensions of emotion dysregulation were beyond the scope of this research. While this not how the developers of the scale originally intended for scoring to occur, the total scale score has been used frequently in research, including in subsequent studies by the original developers (Gratz & Roemer, 2004; Lee et al., 2016).

The DERS is a popular and freely available measure of emotion dysregulation that has been well established in previous research. Both the total scale score and each subscale have been shown to have strong internal consistency, with Cronbach's alphas between 0.80 and 0.89 for the subscales and 0.93 for the total scale (Gratz & Roemer, 2004). Test-retest reliability has also been shown to be high, at 0.88 after time periods ranging from four to eight weeks (Gratz & Roemer, 2004). The six-factor structure of this scale has also been confirmed (J. Perez et al., 2012). In the current research, the Cronbach's alpha for the DERS was 0.95, indicating that the scale was internally consistent, and supporting its reliability.

Self-Esteem. The Robson Self-Concept Questionnaire (RSCQ; Robson, 1989) was used to measure self-esteem. Permission for use of the RSCQ was given via by the developer of the scale, Dr. Philip Robson (personal communication, 12th March 2019). The RSCQ consists of 30 eight-point Likert scale items (with the scale titles indicating 'completely disagree', 'disagree', 'agree', and 'completely agree', not completely aligning with the number of response options. Participants are asked to state the degree to which they agree or disagree with the item statement, from 'completely disagree' (0) to 'completely agree' (7).

However, due to an error during setting up the online survey, the RSCQ in this research was actually a seven-point measure measured from 1 to 7 rather than from 0 to 7. While not affecting the results of this research itself, this error should be noted when generalising this research to other studies using the RSCQ and particularly when comparing the self-esteem scores of this participant population to any others. The range, means, and medians will sit slightly higher than those that could be expected for another similar participant population due to the coding accidentally beginning at 1 rather than zero.

The total scale score for the RSCQ was used as the second independent variable of this research and was calculated by summing the item scores of the measure, after reverse scoring the relevant items (items 2, 5, 6, 7, 11, 13, 14, 17, 19, 20, 21, 22, 23, 25, 27, and 28).

These reverse item numbers differ slightly from those listed in the pre-registration. This was due to writing the pre-registration based on the original published version of the RSCQ, but the publicly accessible version of the questionnaire was used to write the Qualtrics survey. The items to be reverse-scored are identical in their phrasing, but appear in a slightly different order to the original version (Robson, 1989).

The RSCQ is an established measure, with good test-retest reliability and internal consistency, as well as convergent and discriminant validity, and it has been used in various countries and cultures, including New Zealand, Sweden, and India (Addeo et al., 1994; Ghaderi, 2005; S. Kumar, 2016; Mullen et al., 1993; Robson, 1989; Romans et al., 1996). The total scale score was used as the second independent variable. The RSCQ has subscales based on seven theorised areas of self-esteem (subjective sense of significance, worthiness, appearance and social acceptability, competence, resilience and determination, control over personal destiny, and the value of existence), suggesting that it is a global measure of the different dimensions of self-esteem. While this research was interested in examining self-esteem as a whole, with the subscales of self-esteem being beyond the scope of this research, the breadth of this scale was considered an advantage of the RSCQ.

In this research, the Cronbach's alpha of the RSCQ was .91, indicating that the RSCQ had a sufficient level of internal consistency and supporting its reliability in this research. However, the analysis did identify that Item 22 ("There's a lot of truth in the saying "What will be, will be"") was negatively correlated with the rest of the scale (r = -.05). After scoring errors were ruled out as a possible cause, the item was retained. Removing it would have had a minimal impact on the alpha, increasing it to .92, and would have meant deviating from the pre-registration. While beyond the scope of this research to examine further, it is may be that this item is negatively correlated with the rest of the scale because it possibly reflects self-efficacy as opposed to self-esteem.

Self-Compassion. Self-compassion was measured using the Self-Compassion Scale (SCS; Neff, 2003b). The SCS is a popular and freely available measure of self-compassion, consisting of 26 five-point rating scale questions ranging from 'almost never' to 'almost always' (with items coded from 1 – 'almost never' to 5 'almost always') across six subscales – Self-Kindness, Self- Judgment, Common Humanity, Isolation, Mindfulness, and Over-Identification. The total scale score was used as the third independent variable for this research, and was calculated by summing the item scores after reverse-scoring the required items (items 1, 2, 4, 6, 8, 11, 13, 16, 18, 20, 21, 24, and 25; from the Over-Identification, Isolation, and Self-Judgment subscales). The SCS total score can also be calculated by summing the means of the individual subscales. However, as the subscale scores were not a focus of this research due to global self-compassion being of interest here, the total scale score was calculated by summing the scores of the individual items without calculating the subscale means.

Psychometric research supports the reliability and validity of the SCS. Neff (2003b) found high test-retest reliability of .93 for the total scale, and good convergent and construct validity; while other research has shown good internal consistency, with a Cronbach's alpha of .88 (Cunha et al., 2016) and high test-retest reliability of .93 (Neff, 2003b). In the current research, the Cronbach's alpha for the SCS was .92, supporting its reliability in this research.

Non-Suicidal Self-Injury Engagement Measure. The measure assessing non-suicidal self-injury engagement was created specifically for this research. There were three main issues considered in the process of deciding not to use previously developed measures of NSSI, and in the development of this measure.

Firstly, there are various ways to operationalise 'severity' of NSSI, with no measure capable of providing a conclusive 'score', unlike the other psychometric measures used in this research. There are two commonly-used measures of NSSI – the Deliberate Self-Harm

Inventory (DSHI; Gratz, 2001), and the Inventory of Statements About Self-Injury (ISAS; Klonsky & Glenn, 2009). Both measures aim to provide a thorough understanding of the characteristics of NSSI in an individual, and as such, are relatively long. The DSHI consists of a behaviour checklist of the methods individuals have used to self-harm, and further questions on the frequency, duration, and severity of the physical harm done (Gratz, 2001). The ISAS measures the age of onset, experience of pain, whether the self-harming was done alone or with others, the usual time between the urge to self-harm and the act itself, whether the person wants to stop self-harming, the behaviours they have engaged in to self-harm, approximately how many times they have done each behaviour, and which of thirteen potential functions they have engaged in NSSI for (Klonsky & Glenn, 2009). These measures, while thorough, were considered too long for the purposes of this research, which sought to find a way to measure empirically the extent to which NSSI was a feature of the participants' usual coping strategies. There is no measure which yet facilitates this, although Gratz (2001) notes that this should be developed for future research. The length of time a person self-injures, the number of methods they use, and the number of times medical attention has been required may all be ways to operationalise severity. Frequency of self-injury, however, provides an estimate of how regularly an individual uses NSSI to manage their emotions, and the extent to which it is their usual way of coping with distress.

Secondly, while the independent variable measures assessed *current* emotion dysregulation, self-esteem, and self-compassion, NSSI measures generally assess lifetime engagement in the behaviour. Participants who had self-injured several years ago may have significantly improved their emotion regulation abilities, self-esteem, and self-compassion; and it may be inaccurate to match their current emotion regulation abilities, self-esteem, and self-compassion to their past behaviour; as they may be closer in these traits to people who have never self-injured than those who currently are self-injuring.

Lastly, most self-injury research compares people who have never engaged in NSSI with those who have, but there may be individuals that self-injure only once to experiment with a different coping strategy or do so only rarely during times of stress (Edmondson et al., 2016; Gillies et al., 2018). It may therefore be inaccurate to consider someone who self-injures only once, or infrequently, part of the 'self-injuring population' and to include their data among those of people using NSSI regularly to cope when analysing the quantitative results. It is possible that the high rates of NSSI found in some adolescent populations is because of the use of measures which dichotomise people into either 'self-harmers' or 'not self-harmers' rather than considering who is frequently and continuously managing distress using NSSI, a potentially more clinically useful dividing line.

It was therefore decided that a measure of NSSI would be developed specifically for this research, rather than trying to find an established measure that reflected these concerns. This measure would operationalise NSSI severity as the frequency of NSSI over the past 12 months and would be able to capture those who have self-injured only once, or who do so infrequently, along with those who regularly engage in NSSI. This measure would be categorical rather than using raw numbers of self-reported NSSI frequency. This is because raw frequencies can be strongly influenced by a small number of participants who report very high frequency of self-harm (for example, one or two people in a participant sample who self-harm daily), and because the participant may struggle to accurately recall the number of times they have self-harmed in a particular time period, especially if they self-injure frequently, introducing measurement error. A categorical measure, in contrast, makes it much more likely that the participant will be able to remember if they have self-harmed below or above certain thresholds.

A categorical measure was therefore created with three response options of NSSI frequency – zero times, one to three times, and more than three times over the past 12

months. The three response categories were collapsed into two in the analyses, creating a dichotomous measure. NSSI was treated as a dichotomous variable as the purpose of the measure was to distinguish people who rely on NSSI as a coping strategy and use it relatively regularly from those who do not – that is, to provide a dichotomous classification of the participants. Three options were given because while the 'one to three times' group was not of particular interest here, providing three options to participants allowed for a later alternative analysis, where the 'one to three times' group was combined with the 'more than three times' group and the analyses repeated, therefore testing of the robustness of the results with a different rule for separating those who were considered 'self-harmers' and 'non-self-harmers'.

In the primary analyses, the 'one to three times' responses were combined with the 'zero times' responses and compared with the 'more than three times' responses. That is, those who had self-injured more than three times in the previous year were compared with those who had self-injured infrequently or never. The 'zero times' and 'one to three times' responses were combined, and the measure dichotomised, as it was hypothesised that those who had engaged infrequently in NSSI may be either experimenting with NSSI as a coping strategy, or only self-harming in relatively extreme circumstances or when distress was unusually high. That is, it may not be part of their usual repertoire of coping strategies, and it may be inappropriate to consider them part of the self-harming population when analysing the relationships between the independent variables and NSSI. In summary, capturing those that those engaged in NSSI infrequently – one to three times per year – was considered important, and it was posited that they were more likely to be like the 'no self-injury' group on their emotion dysregulation, self-esteem, and self-compassion scores.

The entire NSSI measure is stated below:

Non-suicidal self-injury (NSSI), often called self-harm in New Zealand, is behaviour where a person damages their body on purpose without intending to end their life (i.e., it is not a suicide attempt). This behaviour can include, *but is not limited to,* cutting, burning, or severely scratching the skin, punching parts of the body, or overdosing on a substance on purpose. Socially accepted behaviours, such as piercings or tattoos, are not considered non-suicidal self-injury.

In the past 12 months, how many times have you harmed your body in a way similar to this description of non-suicidal self-injury?

0 times

1-3 times

More than 3 times.

Control Variables. Age, gender, and previous use of mental health services were the chosen control variables in this research. As discussed in the literature review, NSSI varies in prevalence across age and gender; and age and gender correlate with both NSSI and the independent variables, while not being affected by these variables. These demographic factors would therefore need to be controlled for in the analysis. As for the previous use of mental health services, it was unclear in which direction this variable may influence the results – it may indicate greater severity of mental distress; or potentially have a protective effect by having resulted in more emotion regulation ability or coping strategies, or by having prompted the development of greater self-esteem or self-compassion. As it was not clear whether prior contact with mental health services would be a confounding variable or not, the logistic regression analyses were first run without the mental health services control variable, and then were run again with this variable added. While the participants' ethnicity and primary roles were also collected at the start of the survey, these were not included as control

variables as there is little literature support to suggest that they would impact the results in any particular direction.

These control variables were necessary to include as while cross-sectional research cannot make definitive claims about the independent variables causing NSSI, this study does have an interest in understanding which factors may cause self-harm, and testing possible hypotheses regarding which psychological traits may be risk factors for NSSI engagement. For both ethical and logistical reasons it would be difficult or impossible to experimentally measure the effect of these variables on NSSI, or to measure these variables and their effect on NSSI in a longitudinal research design; so a cross-sectional design was used, making any causal inferences from these results tentative. However, given that the literature to date has shown that NSSI can vary depending on the demographic groups of the participants, it was considered helpful to control for and rule out the possible effect of these alternative factors on NSSI. Based on the literature on the prevalence of NSSI across different demographic groups (Andover et al., 2010; Barrocas et al., 2012; Bresin & Schoenleber, 2015; Carr et al., 2016; Fitzgerald & Curtis, 2017; Garisch & Wilson, 2015; Gillies et al., 2018; Laye-Gindhu & Schonert-Reichl, 2005; M. N. Williams et al., 2016; Xiao et al., 2022), age and gender were considered to be likely confounding variables, as they correlate with and possibly affect both NSSI and the independent variables (and are not affected by the independent variables themselves), while having sought professional mental health support may also correlate with NSSI. Controlling for these variables would therefore be useful to maintain internal validity as much as possible.

Age was treated as a continuous predictor, with participants indicating their age from a range of options, between 18 and 25, with their age coded from 1 (18) to 8 (25) and this number being used in the analysis. Gender and mental health services use were categorical measures, with participants indicating the gender they identify as from response categories of

male, female, nonbinary/genderqueer and 'I prefer not to answer'; and indicating via a dichotomous yes/no question if they had previously accessed professional support for their mental health.

Data Analysis

The quantitative data of this research was analysed using Welch's *t*-tests and logistic regression analyses in RStudio. These analyses were used to determine the extent to which the independent variables – emotion dysregulation (as measured by scores of the DERS), self-esteem (as measured by scores on the RSCQ) and self-compassion (as measured by scores on the SCS) – predicted engagement in the dependent variable, NSSI, as measured by the dichotomous 12-month frequency-based measure.

Three separate but identical statistical analyses were conducted, with the main predictor variable changing depending on the hypothesis being tested. For each of the hypotheses, a Welch's *t*-test was run to confirm whether the total scale score of the independent variable of interest (emotion dysregulation, self-esteem, or self-compassion) was significantly different between the self-injury and no/low self-injury groups. A binary logistic regression analysis was then conducted to measure the predictive effects of emotion dysregulation, self-esteem, and self-compassion on self-injury engagement, while controlling for the other two independent variables and the control variables, all of which were entered into the model as covariates using forced entry. This analysis method was chosen as a way to examine the individual impact of each of the variables on the likelihood someone would engage in self-harm as a coping strategy, while being able to also understand the impact of the other independent variables and the control variables.

However, to check the assumption, discussed above in the description of the NSSI measure, that those who self-injured infrequently may be 'experimenters' or only self-

injuring in extreme circumstances, and may therefore be more like those who did not self-injure in the past twelve months in emotion dysregulation, self-esteem, and self-compassion than those who self-injured more than three times, an alternative analysis was also done. That is, to examine the 'low self-injury' group in further detail, and explore the robustness of the results, the same analyses were then repeated with the 'one to three times' group instead combined with the 'more than three times' group and compared to the 'zero times' responses. In other words, the data was dichotomised to compare those who had self-injured at least once in the past year with those who had not.

Hypotheses. The hypotheses listed in Chapter Four above are expanded here to include how they were operationalised, analysed and considered supported by the statistical analyses as planned and specified in the 'Confirmatory Analyses' section of the preregistration. It was required that the Welch's *t*-tests results were statistically significant (*p* less than .05) and the logistic regression coefficients were statistically significant (alpha of .05, two-tailed) for the hypotheses to be considered supported.

1. Emotion dysregulation scores, as measured on the Difficulties in Emotion Regulation Scale, will be higher among those with self-injury, and will positively predict engagement in NSSI in a dichotomous logistic regression analysis.

    1A. Emotion dysregulation will predict engagement in NSSI after controlling for the other predictor and control variables – self-esteem, self-compassion, age, and gender.

2. Self-esteem scores, as measured with the Robson Self-Concept Questionnaire, will be lower among those with self-injury and will negatively predict engagement in NSSI in a dichotomous logistic regression analysis.

2A. Self-esteem will predict engagement in NSSI after controlling for the other predictor and control variables – emotion dysregulation, self-compassion, age, and gender.

3. Self-compassion scores, as measured with the Self-Compassion Scale, will be lower among those with self-injury, and will negatively predict engagement in NSSI in a dichotomous logistic regression analysis.

3A. Self-compassion will predict engagement in NSSI after controlling for the other predictor and control variables – emotion dysregulation, self-esteem, age and gender.

Assumption Testing. The statistical analyses used in this study all make a number of assumptions about the data being analysed, and so analyses were run to assess the extent to which the data of this research met these assumptions. However, this research followed one of the strategies suggested by Williams and Albers (2019) when pre-registering research plans, which is to analyse the data as planned in the Confirmatory Analyses section of the pre-registration, and have assumption checks and analyses be treated as 'exploratory' in the pre-registration. While the analysis would be run as planned regardless of the assumption testing results due to the study being pre-registered, the data not meeting the assumptions of the tests would impact the reliability of the results of the study and would require further examination of the data. The results of the assumption testing analyses can be found in the Assumption Testing section of the Quantitative Results chapter.

Exclusion Criteria. Some participants' data was removed from the dataset before analysis in accordance with the pre-registration. Participants who did not indicate on the first page of the survey that they consented to participate in the study were removed from the dataset (and regardless would not have been able to answer further questions in the survey

due to being also redirected away from the survey to a page thanking them for their interest). No participants were removed from the dataset in this exclusion.

Before beginning the survey, participants responded to screening questions asking them to confirm that they were between the ages of 18 to 25 and had completed at least a year of secondary school in Aotearoa New Zealand. Responding in the negative to these questions redirected the individual to page thanking them for their interest and informing them that they were not the intended demographic of the research. Three participants were removed for participating in the survey as they were outside of the age range of the target population of the research, and 7 were removed as they had not completed a year or more of high school in New Zealand.

Participants were also asked to confirm that they believed they would not be distressed by reporting personal experiences of NSSI and mental distress. Those who responded to this screening question indicating that that was a possibility were also redirected to a page thanking them for their interest and providing them with options for mental health support. 25 participants were removed at this stage.

Other exclusion criteria were also applied after the data was collected and before the analyses were begun. Any responses to the survey that were coded in Qualtrics as 1 (a preview response), 2 (a dummy test response), or 8, 9, or 12 (possible spam or duplicate responses) were removed first. Three survey responses were removed in this exclusion. Participants who did not complete at least 75% of the total number of items (that is, they had not answered at least 69 out of 92 total questions) across the independent variables' measures (the DERS, RSCQ, and SCS) were also identified and excluded from the dataset. One participant was removed with this exclusion criteria. When there was missing data that did not meet the 75% threshold, single (expectation-maximisation) imputation was used to complete the participant's dataset (Schlomer et al., 2010). This 75% rule was set because the

imputation method used, expectation maximisation, has slightly weaker assumptions than listwise deletion, the other imputation option. It involves imputing missing values based on the data available for each participant, and the more data that each participant is missing, the more uncertainty is involved in the dataset, making the results of any analyses less reliable.

The data was also examined for any participants who gave the same response for every item of any one of the independent variables measures (the DERS, RSCQ, and SCS) by examining the standard deviations of the participants' responses for each of the independent variables. Any participants who had within-scale standard deviations of zero, indicating that they had responded identically to every item of a given measure, would have been removed, however no participants met this criterion. This exception rule was set as it would suggest that the participant's data was subject to acquiescent response bias (Ray, 1983) – the tendency for people to agree to an item on a scale whether or not they actually agree with the item statement, due to either indifference or a desire to be helpful.

Participants who did not answer the NSSI question were also removed from the dataset, as their responses to the DERS, RSCQ, and SCS could not be used to accurately predict the dependent variable of NSSI engagement. 93 participants were removed from the dataset as they did not answer the NSSI question. This large number of excluded participants may have been due to the NSSI question being the final question of the survey and participants losing interest in completing the survey before this point.

The above data exclusions removed a total of 132 responses from the original dataset of 371 responses, leaving 239 participant responses for analysis, just over the minimum number that the power analysis suggested was necessary.

Qualitative Stage

Design

The qualitative phase of the research took the form of individual semi-structured interviews with nine participants, and the data produced was analysed using Reflexive Thematic Analysis (Braun & Clarke, 2006). This number of participants is considered to be an acceptable number of participants for a Reflexive Thematic Analysis study conducted for a Masters or Professional Doctorate qualification (Terry et al., 2017), particularly given that this research is mixed methods, and not only based on the qualitative phase of the research, and given that Reflexive Thematic Analysis does not rely on a required number of participants, or for the data to reach saturation (Braun & Clarke, 2013, 2021c).

The interviews were estimated to take approximately one hour. The interviews varied significantly in length, with the shortest being 44 minutes and the longest being 2 hours and 43 minutes. Printed Information Sheets (see Appendix A) and a list of support services were given to the participants at the time of the interview, and written informed consent was given. Confidentiality and its limits in this context were explained to each participant – that is, they were informed that their data would be published under a pseudonym; and if risk to self or others was disclosed confidentiality would be broken to ensure the safety of the participant or anyone else at risk.

Interviews were conducted in a consulting room at the Centre for Psychology in the Massey Auckland Campus. This venue was selected as it provided access to professional advice and support if the participant disclosed that they were at risk of harm to themselves, to others, or from others; and as it was a private and neutral meeting place for the researcher and participants. The interviews were audio-recorded, transcribed, and, if the participant wished to, checked by the interviewee. The transcripts were considered released to the researcher either when the participant had returned the signed transcript release form, or after seven days

if there was no contact from the participant, at which point the audio recordings were also erased. The transcript documents were password-protected.

Participants

Interviews took place with a total of nine participants, eight female and one male. They were predominantly Pākehā, with two participants also having Asian heritage. All the participants were raised in Aotearoa New Zealand and were either current students or in the first year out of their undergraduate degree. The inclusion criteria was the same for that of the survey phase – they must be between the ages of 18 and 25 and have studied for at least one year at a New Zealand secondary school.

The interview schedule can be seen in Appendix C. Through these questions I aimed to develop a more in-depth understanding of what the participants see as differentiating those who self-injure from those who do not when emotionally distressed (whether they engaged in NSSI themselves or not), what other emotion regulation strategies they may use, how the participants understood their emotion regulation abilities and any experiences of NSSI that they had, and how they thought self-esteem and self-compassion may relate to NSSI.

Recruitment. Interview participants were recruited via one of the final questions on the survey:

> Are you interested in participating in the interview stage of this research? This will involve discussing self-injury and other mental health-related factors. The meeting would be held in the Albany Village campus (so you must be located in Auckland) and would take approximately one hour. You would be thanked for your participation with a $30 petrol or supermarket voucher. If you are interested in participating, please enter your email below. This will be connected to your survey responses and will be used to contact you to organise the interview.

Those who were interested in participating in the interview stage were informed that their email address would be linked to their survey responses. While this meant that their responses were not entirely anonymous, this was done so the researcher could preferentially interview individuals with personal experience of NSSI. Interview invitations were first made towards those who indicated high levels of NSSI engagement in the past year, high levels of emotion dysregulation, or both; after briefly examining the NSSI and DERS scores of those who volunteered for the interview phase of the research. This would, of course, have resulted in a higher prevalence of participants with NSSI engagement in the interview sample, but was done intentionally to ensure that at least some of the participants interviewed could speak from personal experience with NSSI and provide first-hand information of how their emotion dysregulation, self-esteem, and self-compassion levels impacted their engagement in NSSI. While participants who had indicated they had engaged in NSSI in the past twelve months or who had particularly high emotion dysregulation scores were approached first, by the end of the interview phase all participants who had volunteered for the interviews had been sent interview invitations, and all of those who had responded to the invitation to interview and were available to meet on the Massey University Auckland campus were interviewed, a total of nine participants. As the participants had already indicated via the survey that they met the inclusion criteria, this was not assessed formally at the interview phase. Interview participants were all thanked with $30 vouchers. Participants were able to withdraw consent for up to seven days after the interview transcript had been sent to them; no participants requested to do this.

Data Analysis

The qualitative phase of this research involved interviews with the participants and analysis of the transcripts of these interviews using thematic analysis, specifically, Reflexive

Thematic Analysis. Thematic analysis is a general approach, or "foundational method" (Braun & Clarke, 2006, p. 78) to qualitative research, and it involves identifying, describing, and interpreting patterns of meaning, or themes, in a set of data (Alhojailan, 2012; Braun & Clarke, 2006, 2012; Kiger & Varpio, 2020). The analytic process generally involves reading and coding texts of some form, identifying themes and subthemes across them, and developing an understanding and analysis of their meaning and implications (Braun & Clarke, 2006). As a general method of qualitative analysis, thematic analysis has existed for decades, but it is not a 'branded' method like Interpretive Phenomenological Analysis (IPA) or grounded theory, although it does have some similarities with those methods, such as their focus on identifying themes across a dataset (Braun & Clarke, 2006). Originally, this research planned to use IPA to analyse the qualitative data. However, the data analysis method was changed to Reflexive Thematic Analysis as it provides increased theoretical flexibility, is more readily applied to realist approaches to research (aligning with the quantitative phase of this mixed methods research) and as the focus of the qualitative phase shifted to themes across the dataset, while IPA (although it also discusses themes) pays greater attention to the individual participants' data (Braun & Clarke, 2021a).

There are numerous forms of thematic analysis, which vary in their specific method and epistemological approaches. While some approach the data from a realist or positivist approach, usually coding the data deductively (for example, using a codebook), others use a constructionist approach and code inductively (Braun & Clarke, 2006; Clarke & Braun, 2018; Kiger & Varpio, 2020). Noting that thematic analysis was broad and poorly defined, Braun and Clarke (2006) developed and codified a specific form of thematic analysis, Reflexive Thematic Analysis. Reflexive Thematic Analysis is a flexible method which allows for a number of theoretical and epistemological approaches to the data, and for the data to be coded inductively or deductively (Alhojailan, 2012; Braun et al., 2022; Braun & Clarke,

2006, 2019; Clarke & Braun, 2018; Maguire & Delahunt, 2017). They consider it a specific form of thematic analysis which "centres researcher reflexivity" (Braun et al., 2022, p. 429) and views researcher subjectivity as an aid rather than a source of error, where data is generated as a result of the interaction between the researcher and the participant, rather than simply 'emerging' (Braun & Clarke, 2019; Clarke & Braun, 2018). However, the developers of this method emphasise that due to this flexibility, the researcher must decide on their own theoretical and epistemological approaches and make these explicit – it is not an atheoretical method, but a theoretically flexible one (Braun & Clarke, 2019; Clarke & Braun, 2018).

The advantages of Reflexive Thematic Analysis are that it is a relatively straight-forward and accessible method (Braun et al., 2014; Braun & Clarke, 2006), and is considered a sound form of analysis to begin with for those new to qualitative research, like myself (Terry et al., 2017). It is "an appropriate and powerful method to use when seeking to understand a set of experiences, thoughts, or behaviours across a data set" (Kiger & Varpio, 2020, p. 847); and is therefore suitable for this research, which seeks to understand how participants have experienced NSSI and how they understand its relationship to emotion dysregulation, self-esteem, and self-compassion. There are also excellent guidelines available on the steps involved in analysing data using this method, and how best to undertake the analysis with methodological rigor. Reflexive Thematic Analysis is useful for providing an in-depth but broad analysis of the key features of the dataset and can identify both similarities and contradictions across the dataset. Unlike IPA, it does not provide a case-by-case analysis of each participant's data and their uniqueness. This was not a specific aim of the research, so was not considered problematic, but should be noted regardless. The main decisions that must be made prior to analysing data using Reflexive Thematic Analysis are described below, with a description of choices made for this research and why.

Theoretical and Epistemological Approach. Research using realist and positivist approaches generally assume that there is a "unidirectional relationship" (Braun & Clarke, 2006, p. 85) between meaning and language, with language generally directly reflecting experience and thoughts. These approaches align well with quantitative approaches to research; while research using constructionist approaches assumes that experience and meaning is socially created, including during the research interview itself, and focuses on the participants' social and structural contexts (Braun & Clarke, 2006). The current research applied a critical realist approach, which assumes that there is an external reality, but that it is not directly accessible, with social and cultural meanings influencing our view of it (Terry et al., 2017). Critical realism's strength is that it facilitates understanding these social and cultural meanings about a particular topic or phenomenon, and the power dynamics influencing the underlying reality of the participants living in these contexts (Kiger & Varpio, 2020). Within research, a critical realist approach sees participants as sharing their experiences and view of reality with the researcher (Kiger & Varpio, 2020; Terry et al., 2017), and it aligns more closely to quantitative research than constructionist approaches, suiting this mixed methods study (Terry et al., 2017).

Inductive vs. Deductive Theme Identification. An inductive 'bottom up' approach involves identifying themes that are strongly based on the data, with as little influence as possible from the researcher's own interests, hypotheses, or pre-conceptions – that is, it is data-driven (Braun & Clarke, 2006; Terry et al., 2017). In contrast, deductive 'top down' Reflexive Thematic Analysis involves analysing the data based on pre-determined interests or theories, or to answer a specific research question (Braun & Clarke, 2006; Terry et al., 2017). This research uses a primarily deductive approach to Reflexive Thematic Analysis, as it sought to answer the relatively specific research question of how participants understand the relationships between emotion dysregulation, self-esteem, self-compassion, and NSSI; to

understand the independent variables of the quantitative phase of the research in further detail; and because existing research and theory played a role in the collection and interpretation of the data (Braun & Clarke, 2006, 2021b).

Semantic vs. Latent Theme Analysis. The identification of themes can be either at the semantic, or surface, level of analysis; or at the latent, or underlying, level of analysis (Braun & Clarke, 2006; Maguire & Delahunt, 2017). The semantic approach examines what the participant has said, without trying to identify meanings or assumptions beyond this, as a latent approach does (Braun & Clarke, 2006; Maguire & Delahunt, 2017; Terry et al., 2017). While most analyses will be primarily at one level, this is not essential, and some elements of the other level of coding and analysis can be involved (Braun & Clarke, 2006). This research will use a primarily semantic approach to the analysis. This was chosen as it aligns with the theoretical approach of critical realism and the use of deductive theme identification used in this research, and as the research seeks to understand specific phenomena and answer a relatively specific research question.

The Reflexive Thematic Analysis Process. While there is significant flexibility in the theoretical and epistemological frameworks used when undertaking Reflexive Thematic Analysis, the data analysis process itself has been somewhat prescribed by Braun and Clarke. They have developed six steps to analysing a text using Reflexive Thematic Analysis, although they also note that these steps are not completely linear and that analysis "involves a constant moving back and forward between the entire data set, the coded extracts of the data that you are analysing, and the analysis of the data that you are producing" (Braun & Clarke, 2006, p. 86). This six-step approach is considered the main way of engaging in Reflexive Thematic Analysis (Kiger & Varpio, 2020; Maguire & Delahunt, 2017), and as such was used for the current research as well.

These analytic steps and my own process of engaging with them are described below. While Braun and Clarke's (2006) article was the main resource used to undertake this, other articles on thematic analysis were also used as a guideline and to improve my own understanding in the process of engaging in this type of analysis for the first time.

Step One: Data Familiarisation. This stage involves repeated reading of the data until the researcher is familiar with the dataset and what is within it, and taking notes on any ideas that come from this (Braun & Clarke, 2006; Kiger & Varpio, 2020). I familiarised myself with the data by transcribing the data myself and reading through the transcripts twice before I began coding (once when I had finished transcribing, and again when I was ready to begin coding), and taking notes of the general content of each interview; all of which is recommended by Braun and Clarke (2006, 2012, 2021b). I also took notes of my perceptions of the interviews, my own reactions to the content, as well as the thoughts, concepts, or theme ideas that occurred to me during and immediately after the interviews themselves, and during the transcribing process. I transcribed the interviews verbatim, with every effort made to provide an accurate account of what the participants had said, as well as any key nonverbal communication, such as sighs or pauses. Slight editing was done to improve readability, largely in the interviewer's speech (for example, removing 'um'). On the rare occasion that something was inaudible or unintelligible, usually due to background noise, this was noted in the transcript. The only data removed was identifying or highly specific information relating to the participant or people that they were referring to (for example, the name of their school). I also removed one paragraph of data that contained very specific and personal information related to a friend of a participant that was at risk and where I was asking questions regarding their safety rather than regarding the research topics. One participant requested that I pause the recording so she could tell me a piece of contextual information privately, and this break in the recording was indicated in the transcript.

Step Two: Generating Initial Codes. This phase involves reading through the dataset again and identifying and producing initial labels, or codes, for sections of the data (Braun & Clarke, 2006; Kiger & Varpio, 2020; Terry et al., 2017). I identified codes that summarised and organised features of the data, whether these were related to the variables of interest and the research question or not. In that sense, while coding was predominantly deductive, there was some inductive identification of codes and themes unrelated to the research question. Open coding was used, with no pre-set codes or codebooks used, with codes instead named and developed as coding continued (Maguire & Delahunt, 2017), and all of the data was coded, rather than only that related to the research question. There was a significant amount of double coding, where the same line or piece of text had multiple codes attached to it, particularly for data that referred to participants relationship with and view of themselves. Each interview was fully coded before beginning the next interview, as is recommended (Terry et al., 2017). 251 initial codes were generated before being refined; with codes that had very similar meanings (for example, "being kind to self" and "self-kindness") being merged or removed; while codes that were too broad were split into more specific codes. NVivo software was used for the coding process.

Step Three: Searching for Themes. Identifying the themes of the dataset involves first reading through, organising, and grouping the codes into potential themes (Braun & Clarke, 2006; Kiger & Varpio, 2020). I did this by first organising the codes into very broad topics in NVivo. These were 'Emotion Dysregulation', 'The Self', 'NSSI', 'Progress', and 'Social'. I then began to draft thematic maps of the relationships between the codes and my initial theme ideas, before then reading through the data attached to these codes to refine these further. At times data was recoded or moved to a more appropriate theme or subtheme. As the research question was relatively specific, this process did require focusing on the ways the independent variables of emotion dysregulation, self-esteem, and self-compassion relate

to NSSI, and I tailored my theme generation broadly around these variables. Some themes were generated from the data almost immediately and seemed to 'pop out' (such as the 'Constrained Choices for Managing Distress' theme) while others, such as the 'Self-Esteem as a Precondition' required more careful and repeated reading of the data.

Step Four: Reviewing Themes. This theme involves reading through the data associated with the initial themes and revising them (Braun & Clarke, 2006; Kiger & Varpio, 2020). At this stage I was re-reading the data and focusing on ensuring my themes reflected a pattern of shared meaning (Braun & Clarke, 2006; Clarke & Braun, 2018) in the dataset, and not just domain summaries – a summary of everything that was said about one topic. I then developed a visual map of each theme with the subthemes and the codes associated with them. At times I felt conflicted about including or not including themes and subthemes in the data that were interesting but unrelated to the research question. However, two of the themes generated more inductively ('Constrained Choices for Managing Distress' and 'the Body as a Coping Tool') were considered to still be broadly related to the research question, and as such after consultation with my supervisors these were retained and analysed further. The theme and subtheme ideas that had occurred to me during the transcription phase were also revisited here, and while most of these did not make it into the next stage due to not relating sufficiently to the research question, two did – 'Constrained Choices for Managing Distress' and 'the Body as a Coping Tool'.

Step Five: Defining and Naming Themes. This step involves further analysis of the data within each theme, a refining of the themes and sub-themes identified, and beginning to name and formally write up the analysis of each theme (Braun & Clarke, 2006; Kiger & Varpio, 2020). At this stage of the analysis, I was drafting my report, and refining and adjusting mostly at the subtheme level, organising the order of the themes and subthemes, consulting with my supervisors about the themes and whether they seemed meaningful, and

attempting to ensure that the narrative of each theme was coherent. One method I used to do this was to imagine all of my participants in a room together and briefly describing each theme to them, and considering whether most, if not all of them, would relate to the theme in some way. The writing process was also helpful at clarifying my own thoughts around the themes and identified what worked well in my head but not on paper.

Step Six: Producing the Report. This step involves completing the analysis and its write-up (Braun & Clarke, 2006; Kiger & Varpio, 2020). At this point in the process I wrote up each theme one by one; consulted with my supervisors and incorporated feedback from them; and reduced the number of data extracts that I had used to demonstrate each of my discussion points. Feedback from my supervisors was particularly helpful with the emotion dysregulation, self-compassion and 'the Body as a Coping Tool' themes, and I returned to steps four and five to refine and redevelop these themes. The emotion dysregulation and self-compassion themes were originally too close to being domain summaries rather than coherent themes, which is not recommended in Reflexive Thematic Analysis (Braun & Clarke, 2021b); and the 'Body as a Coping Tool' theme was separated out from being a subtheme of the self-esteem theme to being a theme of its own.

Reflexivity. As suggested by the name, Reflexive Thematic Analysis acknowledges the researcher's subjectivity and positioning, and involves this in the analysis. As such, I kept notes on my own thoughts and responses to the subject matter during the design of this research, after each interview, and during the analysis of the transcripts.

To situate myself within the analysis, I am in my early thirties (but was in my late twenties at the time of the interviews) and am Pākehā, of Dutch, Spanish, and English descent. I was born and raised in Auckland before moving away in my early twenties. I have worked in a variety of jobs, but predominantly with children and youth, such as being a language teacher in a high school and volunteering for Youthline, a phone counselling

service. I returned to New Zealand to undertake the clinical training programme, which also involved placements working with teenagers and young adults.

In terms of my own positioning as a researcher studying NSSI, it is important to acknowledge that I have no lived experience of self-harming, or, for that matter, experiencing any frequent difficulties in terms of emotion dysregulation. However, it has been something that a number of my loved ones have engaged in, along with other forms of self-destructive behaviour, and at times I have been a support person to them regarding this.

While I do not have the understanding of self-harm that a person who has lived experience would, I can relate to the participants and the topics of this research in regard to the view of the self – I have been high in perfectionism and self-criticism throughout most of my life, and while this has sometimes facilitated achievement in academics and sports, it has also been a hindrance. Attending a self-compassion training for therapists in my first year of clinical psychology training sparked an interest in this psychological trait, prompted a focus on this variable in the current research, and was personally enlightening. I am grateful to have stumbled into learning about and developing more self-compassion as a result of undertaking this training and research, as I found it incredibly helpful during the postgraduate study journey.

Ethical Considerations

This research was reviewed and granted ethical approval by the Massey University Human Ethics Committee (NOR 18/59) in December 2018 (see Appendix D). Given the sensitive topic of this research, there were numerous ethical considerations to take into account.

Managing the Risk of Suicidality and of Causing Distress or Harm

NSSI is associated with psychological distress, and it is considered a risk factor for future suicidality (Jacobson & Gould, 2007), as discussed in Chapter 1. Therefore, the safety and wellbeing of participants needed to be taken into consideration. Firstly, the potential negative iatrogenic effects of answering questions about self-harm and mental health needed to be considered. While this is a concern for researchers, the research available on the impact of participants of completing research has found that participants are generally not negatively impacted by answering questions about sensitive topics, including suicidal ideation and NSSI (de Beurs et al., 2016; Deeley & Love, 2010; Gibson et al., 2014; Gould et al., 2005; K. M. Harris & Goh, 2017; Hasking et al., 2015; Mathias et al., 2012; Muehlenkamp et al., 2015; J. Robinson et al., 2011), and may even report positive effects such as increased self-reflection (Whitlock, Pietrusza, et al., 2013). At the quantitative stage, due to the anonymity of participants, the researchers also had limited ability to evaluate, monitor, and minimise the risk and the level of distress of a participant. Furthermore, even if it had been possible to identify or contact certain participants, the survey functioned as an assessment of past NSSI behaviour rather than assessing the risk of future self-harm; and in my role as a researcher here rather than a clinician it would have been inappropriate to try to assess this or to provide psychological support to the participants.

Nevertheless, to be cautious and mitigate the risk of harm as much as possible, a screening question was included asking participants to not complete the survey if they believed it would cause them distress. Participants who answered ‘yes’ to the question “do you believe that reporting self-injury experiences may cause you any distress?” were screened out of participating in the study, thanked for their interest, and directed to a page of psychological support services that they were encouraged to contact. The data analysis showed that 25 participants were prevented from participating in the study due to this

criterion. Participants who answered ‘no’ were able to continue to the survey. Both the information sheet at the start of the survey, prior to the screening questions, and the exit page of the survey provided a list of potential support services. A link to a downloadable version of this list was included so that participants could have it accessible while completing the survey and afterwards, rather than just at the start and end of the survey.

In the qualitative phase of the study, the researcher had a greater ability to evaluate and mitigate the risk and distress levels of the participant, and a risk management plan was created as part of the ethics approval process. This involved conducting a risk assessment if the participant indicated any suicidality or severe mood difficulties. If the risk assessment suggested that the participant was at low risk, they would be encouraged to seek support from trusted others, their doctor, or from the support services listed in the Information Sheet. However, if the risk assessment indicated that the participant was at medium to high risk, the interview would be stopped. The researcher would consult with a qualified clinical psychologist (who would be available at the interview times) and any necessary steps would be taken to support the participant to access psychological support and ensure their safety.

Cultural Considerations

A cultural consultation process also occurred with two Māori psychology lecturers at Massey (one of whom, Dr. Pikihuia Pomare, later became a co-supervisor of this research after the resignation of the original qualitative supervisor) to ensure that the research was ethical from a bicultural perspective, and that it was culturally sensitive, appropriate and respectful, and in alignment with the Treaty of Waitangi.

Te Ara Tika Guidelines. The research was also aligned with the Te Ara Tika principles and guidelines (Hudson et al., 2010) developed by the Health Research Council for research that may involve or be relevant to Māori. These principles are detailed below.

Whakapapa. The whakapapa guideline refers to understanding the purpose of the research; acknowledging the whakapapa (genealogy) of the participants; the development of relationships between the participants and researchers; the use of practices that keep the information and knowledge that they have shared safe, protected, and confidential; and undertaking consultation. This involved providing participants with clear information regarding the aims of the research, any potential risks, how their data will be used and for what purpose, and discussing how results will be reported. This value was also considered in this research by the development of clear information and consent forms, considering how the data of this research would be shared while maintaining confidentiality, showing transparency by pre-registering the research design, engaging in cultural consultation, and discussing the research with the Human Ethics Committee of Massey University.

Tika. The tika principle refers to the project proceeding correctly and appropriately. This was enacted by the use of thorough research proposal, pre-registration, ethics application, Confirmation, and cultural consultation processes. These processes provided invaluable feedback and refinement of the research design and improved the project substantially. This value also relates to the collection of ethnicity data and what it may be used for – which in this research, was to understand who the participants completing the surveys were, rather than to compare cultural and ethnic groups within Aotearoa New Zealand. This value also enquires around the involvement of Māori in the research as participants or part of the research team. The demographics of the participant sample are discussed in the Quantitative Results chapter below. However, the co-supervisor of this research, Dr. Pikihuia Pomare, is tangata whenua and provided feedback on the design of the research at the cultural consultation process before later joining the research team. Therefore, while she was not involved in the data collection process for both research phases, Dr. Pomare did impact the research design in the initial stage.

Manaakitanga. This principle refers to maintaining respect and dignity, treating participants with care, and being culturally sensitive and responsive. This value also speaks to the need for confidentiality in research of a sensitive nature. In terms of this research, this involved thinking through how the data of the study could be shared after the study was complete to improve transparency of the research process while also maintaining the privacy of the participants; and how this could be done in a culturally appropriate way and with respect to the participants and the knowledge they shared that is represented in the data. Participants at the quantitative stage who did not volunteer for the interview phase of the research were completely anonymous throughout the study, and the email addresses of those who wanted to enter the prize draw or receive a summary of the results were collected separately from the survey and so could not be linked to their survey responses. They were also informed that their data would be anonymised and shared in a data repository. Those who volunteered for the interview phase did have their survey responses linked to their email address, however, for the purposes of selecting interview participants who had personal experience of NSSI. After the interviews, the transcribed data was shared with the participants if they indicated that they would want to receive that, the opportunity to remove sections of the data was offered, and the interview participants were informed that their name and identifying details would be changed in the thesis and any subsequent publications.

Mana. Mana refers to awareness of who controls or has authority over the project, and how equity is maintained. This also refers to the mana of participants and their rights to participate, withdraw, and be fully informed of any risk to them in participating; as well as to the results of the research upholding mana for individuals and groups. Participants in this research were informed of the potential risk of completing surveys on sensitive topics, and provided with the contact details of support services; and consideration was given to how the results of the research could potentially harm particular groups. In the interview stage,

participants were thanked with vouchers as koha (a gift, contribution), and both written and oral consent processes were used, with the information and consent forms also emailed to the participants prior to the interview date for them to review and consider.

Chapter 6. Quantitative Results

Descriptive Statistics

The descriptive statistics for the dependent variable, NSSI engagement, are displayed in Table 4. A total of 158 participants had not self-injured in the previous year, while 46 had self-injured one to three times, and 35 had self-injured more than three times. The descriptive statistics (means, medians, and ranges) for the independent variables of emotion regulation, self-esteem, and self-compassion, are shown in Table 5. Results that were expressed in scientific notation in the R output are expressed in decimal form except for when scientific notation would improve readability.

Table 4

Number of Participants who had Engaged in NSSI in the Previous Year

NSSI Frequency in Previous Year	Number	%
Zero times	158	66%
One to three times	46	19%
More than three times	35	15%

Table 5

The Means, Medians, Standard Deviations, and Ranges of the Independent Variables

Variable	Range	Possible Range	Mean	Median	SD
Emotion Dysregulation (DERS)	44 - 166	36 - 180	97.55	97.00	25.23
Self-Esteem (RSCQ)	53 - 192	30 - 210	128.91	127.00	26.43
Self-Compassion (SCS)	33 - 121	26 - 130	69.89	68.00	17.75

A correlation analysis was also run to examine the extent to which the independent variables correlated with each other, and the results are shown in Table 6. Emotion dysregulation and self-esteem, as measured by the DERS and RSCQ, were highly negatively correlated (r = -0.78), while emotion regulation and self-compassion (measured by the SCS) were similarly highly negatively correlated (r = -0.72). The RSCQ and SCS were highly positively correlated with each other (r = 0.74).

Table 6

Correlation Matrix of the Three Independent Variables

Variable	DERS	RSCQ	SCS
Emotion Dysregulation (DERS)	1.00	-0.78	-0.72
Self-Esteem (RSCQ)	-0.78	1.00	0.74
Self-Compassion (SCS)	-0.72	0.74	1.00

Data Analyses

To examine the effect of the independent variables (emotion dysregulation, self-esteem, and self-compassion) on the dependent variable, NSSI engagement, Welch's *t*-tests and binary logistic regression analyses were completed. The quantitative data collected in the survey phase of the study was statistically analysed using RStudio, an integrated development environment for R coding (v4.2.3; R Core Team, 2023).

Welch's t-*tests*

Welch's *t*-tests were run to examine how emotion dysregulation, self-esteem, and self-compassion differed across NSSI engagement, and whether these differences were significant. Welch's *t*-tests were used for this analysis instead of Student *t*-tests (or other *t*-

tests) as they are more reliable when the assumption of equal variance is not met, as is often the case in psychological research (Delacre et al., 2017); as they provide improved control of Type I error rates compared to the Student's *t*-test when the assumption of homogeneity of variance is not met; and are still robust and provide similar results compared to the Student's t-test when these assumptions are met (Delacre et al., 2017).

The three NSSI groups 'zero times', 'one to three times', and 'more than three times' (of engagement in NSSI in the past twelve months) were first dichotomised into two groups – the 'zero times' and 'one to three times' groups were combined and coded as 0, while the 'three or more times' group was coded as 1. As discussed in more detail in the description of the NSSI measure in the 'Measures' subsection of the Method (Chapter 5), this was done as this research sought to compare those for whom self-injury is a regular part of their coping repertoire compared to those for whom it is not, and to not to examine only whether they had any experience of NSSI in the past twelve months or not.

Hypothesis 1. Hypothesis 1 posits that emotion dysregulation will be higher in those who engage in NSSI and will positively predict engagement in NSSI. The Welch's *t*-test for this hypothesis found that participants who had engaged in NSSI more than three times in the previous year displayed higher scores on the DERS (M = 116.94, SD = 20.84) than those who had engaged in NSSI three or fewer times (M = 94.22, SD = 24.44). This difference was significant, $t(51.47) = -5.80$, $p < 0.001$, with a large effect size, as indicated by a Cohen's d effect size of -0.95. These results support Hypothesis 1.

Hypothesis 2. Hypothesis 2 suggests that self-esteem is lower among those who have engaged in NSSI more than three times in the past year. Participants who had self-harmed more than three times had lower self-esteem on the RSCQ (M = 106.43, SD = 17.37) than those who had self-harmed three or fewer times (M = 132.77, SD = 25.82). This difference

was again significant ($t(63.14) = 7.64$, $p < 0.001$) and showed a large effect size ($d = 1.06$). These *t*-test results support Hypothesis 2.

Hypothesis 3. Hypothesis 3, similarly to Hypothesis 2, suggests that self-compassion would be lower for those who have self-harmed more than three times in the past year. The third Welch's *t*-test found that participants who had more than three instances of self-harm in the past twelve months had lower self-compassion on the SCS ($M = 55.17$, $SD = 11.73$) than those who had self-harmed three or fewer times ($M = 72.42$, $SD = 17.39$). This difference was significant ($t(62.99) = 7.41$, $p < 0.001$), and yielded a large effect size ($d = 1.03$). These results support Hypothesis 3.

The distribution of DERS, RSCQ, and SCS scores across the dichotomised NSSI categories can be shown in Figures 1, 2, and 3. The boxplots below show the median scores (the midlines), the first and third quartiles (the higher and lower lines of each 'box'), and the narrow vertical lines above and below the boxes indicate the range of the lowest and highest scores. Outliers are indicated by the dots below the narrow lines.

Figure 1

Emotion Dysregulation (DERS) Scores by Dichotomised NSSI Groups

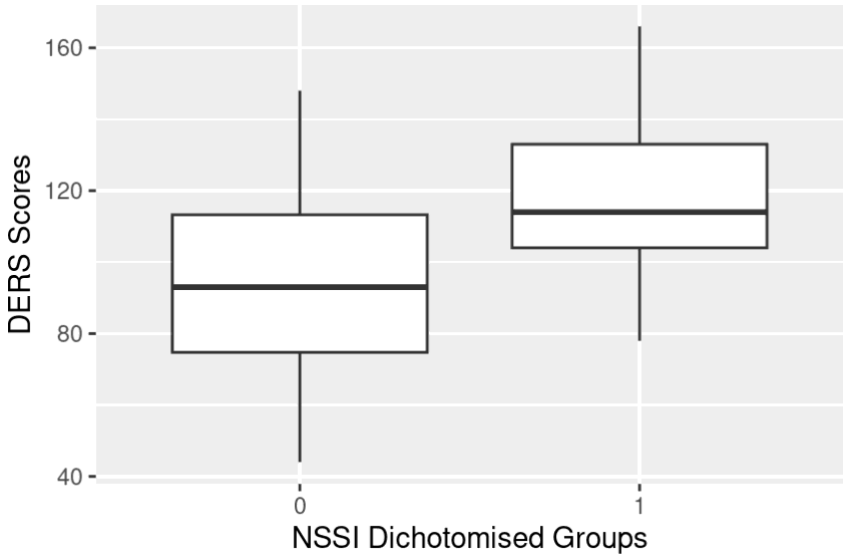


Figure 2

Self-Esteem (RSCQ) Scores by Dichotomised NSSI Groups

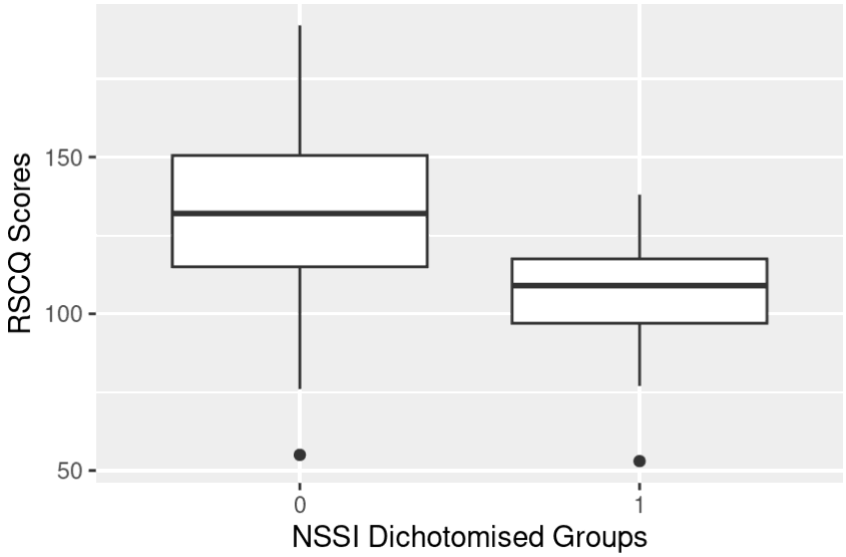
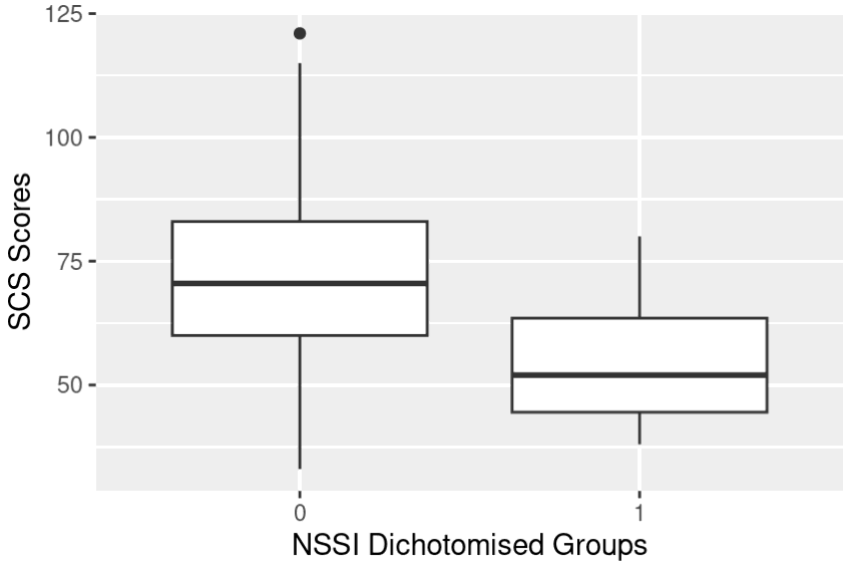


Figure 3

Self-Compassion (SCS) Scores by Dichotomised NSSI Groups



Alternative Analysis Welch's t*-tests*

The coding of the NSSI groups was then changed to instead compare those who had not self-injured at all in the previous year to those who had. As described above, this was to

examine how the results may differ comparing those with no self-injury in the previous year to those who had self-injured at least once. It is unclear to what extent it would be appropriate to consider those who may self-injure once or twice when very distressed or when 'experimenting' with coping strategies or because of peer influence to be 'self-harmers' (Gillies et al., 2018), which is how other studies have previously categorised participants (Garisch & Wilson, 2015). That is, one instance of self-harming behaviour would class them as a self-harmer, even if this is not necessarily a regularly-used emotion regulation strategy and does not reflect their general behaviour or usual ways of coping. This rationale shaped the dichotomising of the dependent variable in the planned and pre-registered analyses; however, a post-hoc analysis (ordinal logistic regression) was also done to examine the 'one to three times' group further.

The 'zero times' group remained coded as 0 while the 'one to three times' and 'three or more times' group were combined and coded as 1. The Welch's *t*-tests were repeated to examine how the new NSSI groupings differed in emotion dysregulation, self-esteem, and self-compassion.

Emotion Dysregulation. Participants who had not self-injured in the previous year were lower on emotion dysregulation (M = 88.37, SD = 22.42) than those who had harmed themselves at least once (M = 115.47, SD = 20.37). This difference was significant ($t(175.65) = -9.40$, $p < 0.001$), and represented a large effect size ($d = -1.25$).

Self-Esteem. Participants who had not engaged in NSSI at all scored higher on self-esteem (M = 138.23, SD = 24.46) compared to the participants in the combined 'one to three times' and 'three or more times' group (M = 110.73, SD = 19.95). This was a significant difference ($t(192.56) = 9.32$, $p < 0.001$) with a large effect size ($d = 1.19$).

Self-Compassion. In the same vein, participants with no engagement in NSSI in the previous twelve months were higher in self-compassion (M = 75.26, SD = 17.28) compared

to those who had engaged in self-injury at least once (M = 59.42, SD = 13.53). This difference was significant (t(198.88) = 7.78, $p < 0.001$), and had a large effect size (d = 0.98).

The analyses with the alternative coding did not form part of the criteria for testing the hypotheses of the study in the preregistration. However, the Welch's t-tests with the updated coding supported the hypotheses – participants who had engaged in NSSI at least once in the past year were higher in emotion dysregulation, and lower in self-esteem and self-compassion, than those who had not engaged in NSSI at all in the previous year.

The distribution of DERS, RSCQ, and SCS scores across the NSSI categories with alternative coding can be seen in Figures 4, 5, and 6. The boxplots below show the median scores (the midlines), the first and third quartiles (the higher and lower lines of each 'box'), and the narrow vertical lines above and below the boxes indicate the range of the lowest and highest scores. Outliers are indicated by the dots above the narrow lines.

Figure 4

Emotion Dysregulation (DERS) Scores by NSSI Groups with Alternative Coding

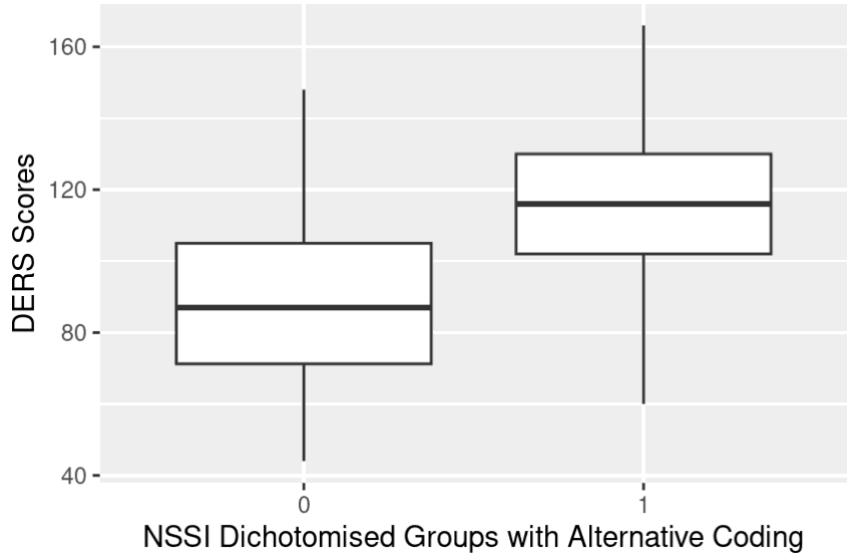


Figure 5

Self-Esteem (RSCQ) Scores by NSSI Groups with Alternative Coding

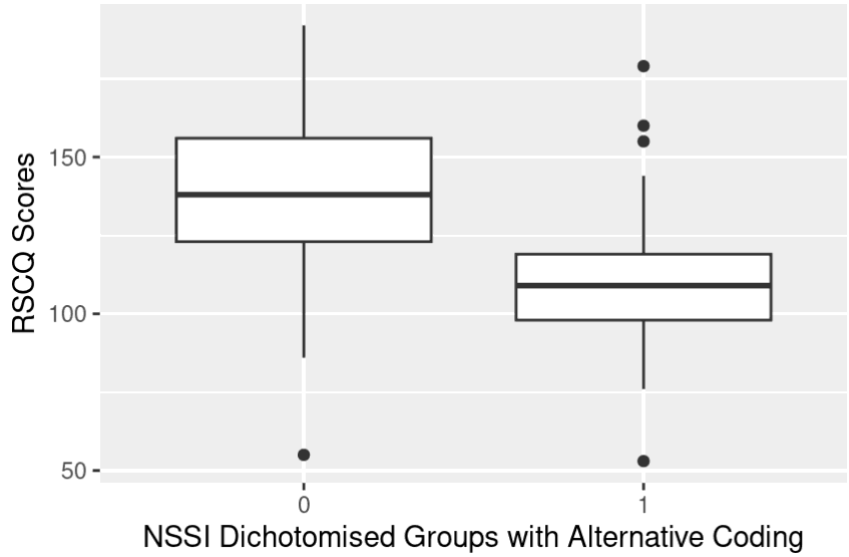
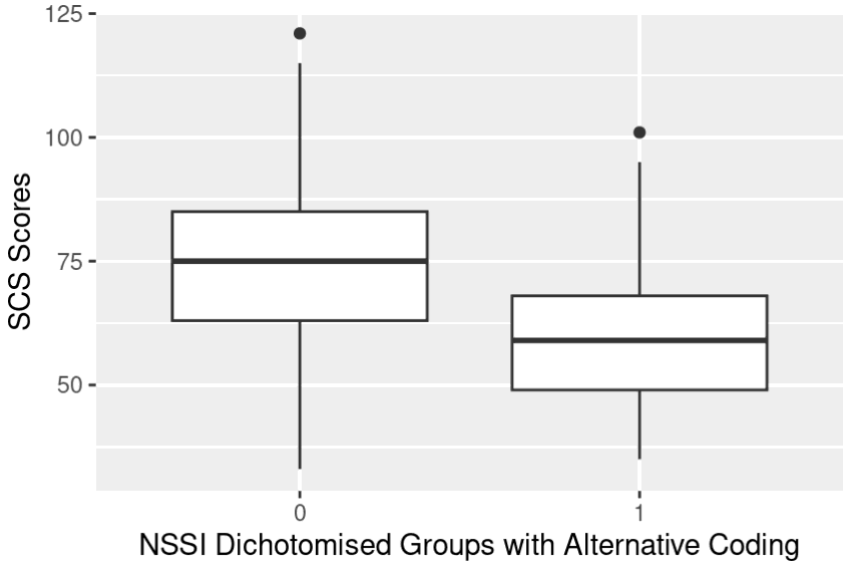


Figure 6

Self-Compassion (SCS) Scores by NSSI Groups with Alternative Coding



Logistic Regression Analysis

Binary logistic regression analyses were performed to examine the relationships between the independent variables of emotion regulation, self-esteem, and self-compassion

scores, and the dependent variable, NSSI frequency in the previous year, while controlling for the possible confounding demographic variables (age and gender of participants). As with the Welch's *t*-tests, the NSSI 'zero times' and 'one to three times' groups were first combined and coded as 0, while the 'three or more times' group was coded as 1. It was hypothesised that emotion dysregulation scores would positively predict the likelihood of being in the 'three or more times' group, while self-esteem and self-compassion scores would negatively predict the likelihood of being in the 'three or more times' group.

The independent variables of DERS, RSCQ, and SCS scores were entered into a logistic regression model, along with the control variables of age and gender. As it was unclear whether previous contact with mental health services would be a confounding variable or not for this population, the analyses were run first without this variable included, and then again with it included in the models as a control variable.

All independent variables were entered in the model using forced entry. This involves entering the variables into the model simultaneously, with no specific order, unlike other methods of entry, such as stepwise. This is considered beneficial as stepwise and other techniques are influenced by random variation in the data to a greater extent; are more likely to result in biased parameter estimates due to the use of *p* values for the coefficients to determine which of the predictors are included; and may be subject to experimenter bias in the order of entering the variables (Field et al., 2012; Whittingham et al., 2006).

Model 1. The results of the logistic regression analysis examining the independent variables and the control variables (age and gender), are shown in Table 7. This analysis found that emotion dysregulation, as measured by the DERS scores, was a negative and non-significant predictor of the likelihood of being in the NSSI 'three or more times' group (unstandardised beta B = -0.01, $p = 0.744$). Self-esteem (B = -0.04, $p = 0.011$) and self-compassion (B = -0.05, $p = 0.009$) were both significant negative predictors. Age was also a

significant negative predictor (B = -0.21, $p = 0.025$), and all levels of the gender predictor were nonsignificant, with no evidence of gender having an effect on the results.

The odds ratios of the logistic regression suggest that for every one unit increase in self-esteem and self-compassion, as measured by the RSCQ and SCS, the log odds of being in the NSSI 'three or more times' compared to the NSSI 'zero to three times' combined group decrease by 4% and 5% respectively (when controlling for the remaining predictor variables). Similarly, every one-unit increase in age (that is, being a year older) decreases the likelihood of being in the 'three or more times' group by a factor of 0.81, or by 19%.

Table 7

Logistic Regression Analysis Results

Variable	Coefficient/ Unstandardised Beta (B)	SE	Odds Ratio	Confidence Interval for Odds Ratio		*p*
				2.5 %	97.5 %	
Intercept	7.11	3.36	1220.08	1.97	1,124,993	0.035
Emotion Dysregulation (DERS)	-0.01	0.01	1.00	0.97	1.02	0.744
Self-Esteem (RSCQ)	-0.04	0.01	0.96	0.94	0.99	0.011
Self-Compassion (SCS)	-0.05	0.02	0.95	0.91	0.99	0.009
Age	-0.21	0.09	0.81	0.67	0.97	0.025
Males	0.03	0.65	1.03	0.25	3.44	0.965
Genderqueer/ Nonbinary	-13.82	1489.56	<0.01	NA	1.226162 e+95	0.993
Gender – Prefer not to say	-17.01	2399.54	<0.01	NA	7.123358 e+204	0.994

Note. The small number of participants in Gender 3 and 4 (genderqueer/nonbinary and "prefer not to say") – a total of 3 participants – means that the results of the analysis for these groups cannot be reliably interpreted.

Model 1B – With Prior Contact with Mental Health Support Variable Added.

When the logistic regression analysis was run again, this time with the Mental Health Support variable added, there was little change in the predictors' values, shown in Table 8. The DERS remained a nonsignificant negative predictor (B = -0.01, p = 0.650), while the RSCQ (B = -0.04, p = 0.009) and the SCS (B = -0.05, p = 0.017) remained significant negative predictors. Age (B = -0.22, p = 0.018) was also a significant negative predictor, while Gender was not a significant predictor at any level (B = -0.04, p = 0.953; B = -13.34, p = 0.993; B = -17.14, p = 0.994; for males, Genderqueer/Nonbinary, and 'Prefer not to say' respectively). The Mental Health Support variable itself was a positive and non-significant predictor of the likelihood of being in the NSSI 'three or more times' group (B = 0.70, p = 0.214).

The odds ratios of the logistic regression analysis with the mental health support variable added were close to identical for the independent and control variables. It appears that the addition of the mental health support variable did not particularly impact the model or the estimated effects of the independent variables.

Table 8

Logistic Regression Analysis Results with Mental Health Support Variable Added

Variable	Coefficient/ Unstandardised Beta (B)	SE	Odds Ratios	Confidence Interval for Odds Ratio		*p*
				2.5 %	97.5 %	
Intercept	6.13	3.53	460.59	0.49	5.422760 e+05	0.082
Emotion Dysregulation (DERS)	-0.01	0.01	0.99	0.96	1.02	0.650
Self-Esteem (RSCQ)	-0.04	0.01	0.96	0.94	0.99	0.009
Self-Compassion (SCS)	-0.05	0.02	0.95	0.92	0.99	0.017
Age	-0.22	0.10	0.80	0.66	0.96	0.018
Males	-0.04	0.65	0.96	0.24	3.24	0.953
Genderqueer/ Nonbinary	-13.34	1555.00	< 0.00	NA	4.152029 e+99	0.993
Gender – Prefer not to say	-17.14	2400.00	< 0.00	NA	6.108726 e+204	0.994
MH Support	0.70	0.56	2.02	0.71	6.73	0.214

Note. The small number of participants in Gender 3 and 4 (genderqueer/nonbinary and "prefer not to say" respectively) – a total of 3 participants – means that the results of this analysis for these groups cannot be reliably interpreted.

Logistic Regression Alternative Analysis

The logistic regression coding for the NSSI categories was then changed before running the logistic regression analyses again. The NSSI group 'one to three times' was grouped with the 'three or more times' group, and coded as 1, while the NSSI 'zero times' group were coded as 0. People who had not self-injured at all in the past year were therefore being compared with people who had self-injured at least once in the previous year. As mentioned above, this was to examine whether the results would differ when the groups compared were those who had self-injured at least once in the previous year with those who had not self-injured at all.

Model 2. As shown in Table 9, when the logistic regression analysis was run with the alternative NSSI coding, emotion dysregulation became a significant positive predictor (B = 0.03, $p = 0.012$), as hypothesised. Self-esteem remained a significant negative predictor (B = -0.03, $p = 0.009$), while self-compassion became a nonsignificant negative predictor (B = -0.02, $p = 0.262$). Age and being male, genderqueer or nonbinary, or preferring not to answer the gender demographic question, were all nonsignificant predictors.

Model 2B – with Prior Contact with Mental Health Services Variable. When the Mental Health Support variable was added into the model and the logistic regression analysis was run again, there was little difference to emotion dysregulation's (B = 0.03, $p < 0.013$) and self-esteem's (B = -0.03, $p = 0.008$) coefficient or significance; as shown in Table 10. Self-compassion (B = -0.01, $p = 0.373$) was again a nonsignificant negative predictor. Gender, age, and having previously sought mental health support were also all nonsignificant predictors, and the odds ratios of the logistic regression analysis with the alternative NSSI coding and the mental health variable added showed very similar results to the model without the mental health variable added.

Table 9

Logistic Regression Model with Alternative Coding

Variable	Coefficient/ Unstandardised Beta (B)	SE	Odds Ratios	Confidence Interval for Odds Ratio		*p*
				2.5 %	97.5 %	
Intercept	1.22	2.46	3.40	0.03	449.55	0.619
Emotion Dysregulation (DERS)	0.03	0.01	1.03	1.01	1.05	0.012
Self-Esteem (RSCQ)	-0.03	0.01	0.97	0.95	0.99	0.009
Self-Compassion (SCS)	-0.02	0.02	0.98	0.95	1.01	0.262
Age	-0.04	0.07	0.96	0.83	1.12	0.614
Males	0.31	0.48	1.36	0.52	3.47	0.525
Genderqueer/ Nonbinary	18.24	1460.31	83,735,600	<0.00	NA	0.990
Gender – Prefer not to say	14.90	2399.54	2,954,740	<0.00	NA	0.995

Note. The small number of participants in Gender 3 and 4 (genderqueer/nonbinary and "prefer not to say") – a total of 3 participants – means that the results of this analysis for these groups cannot be reliably interpreted.

Table 10

Logistic Regression Model with Alternative Coding and with Mental Health Support Variable Added

Variable	Coefficient/ Unstandardised Beta (B)	SE	Odds Ratios	Confidence Interval for Odds Ratio		*p*
				2.5 %	97.5 %	
Intercept	0.30	2.60	1.35	<0.01	226.37	0.908
Emotion Dysregulation (DERS)	0.03	0.01	1.03	1.01	1.05	0.013
Self-Esteem (RSCQ)	-0.03	0.01	0.97	0.95	0.99	0.008
Self-Compassion (SCS)	-0.01	0.02	0.99	0.96	1.02	0.373
Age	-0.05	0.07	0.95	0.82	1.11	0.542
Males	0.27	0.48	1.31	0.50	3.35	0.579
Genderqueer/ Nonbinary	17.18	922.94	28,937,430	<0.00	NA	0.985
Gender – Prefer not to say	13.77	1455.40	959,867.4	<0.00	NA	0.992
MH Support	0.48	0.39	1.62	0.75	3.57	0.224

Note. The small number of participants in Gender 3 and 4 (gender queer/nonbinary and "prefer not to say") – a total of 3 participants – means that the results of this analysis for these groups cannot be reliably interpreted.

Ordinal Logistic Regression

An ordinal regression was also completed to examine the results without the dichotomising of the NSSI groups, to explore what impact this may have on the results. This analysis option was discovered later in the research design process, and so was not included in the original pre-registration. However, it is considered a viable analysis to examine the data in a similar way, but without the need to dichotomise the dependent variable. As discussed above, the groups were also dichotomised originally to explore how those who had self-injured only rarely in the past twelve months were similar or different on emotion dysregulation, self-esteem, and self-compassion scores to those who had not self-injured at all, or those who had self-injured more than three times.

The ordinal regression results, shown in Table 11, found that only self-esteem had a significant impact on the likelihood of engaging more frequently in NSSI (B = -0.03) when controlling for other variables, as shown by the upper and lower limits of the 95% confidence interval for the odds ratio both being less than 1, while the confidence intervals of the other variables all ranged from negative to positive. These results are consistent with those of the above logistic regression analyses, which found that while emotion dysregulation and self-compassion were both nonsignificant and significant predictors, depending on the coding of the NSSI variable, self-esteem remained a significant predictor in every analysis. Its odds ratio is also similar to the above analyses, showing that a one-unit increase in self-esteem decreases the likelihood of engaging in NSSI, or increasing the frequency of NSSI, by 2% (when holding the other predictors constant). As the Mental Health Support variable had had a minimal effect on the results in previous analyses, this variable was included in the ordinal regression results and not reported separately as in the previous logistic regression analyses.

Table 11

Ordinal Logistic Regression Results.

Variable	Coefficients	SE	Odds Ratios	Confidence Interval for Odds Ratios		*t*
				2.5%	97.5%	
Emotion Dysregulation (DERS)	0.02	0.01	1.02	1.00	1.04	1.89
Self-Esteem (RSCQ)	-0.03	0.01	0.97	0.95	0.99	-2.86
Self-Compassion (SCS)	-0.02	0.01	0.98	0.95	1.01	-1.55
Age	-0.12	0.07	0.89	0.77	1.02	-1.72
Males	0.27	0.46	1.31	0.52	3.20	0.59
Genderqueer/ Nonbinary	2.33	1.23	10.23	0.84	129.25	1.89
Gender – Prefer not to say	-1.18	1.56	0.31	0.01	9.37	-0.76
MH Support	0.60	0.37	1.82	0.89	3.85	1.61

Note. The small number of participants in Gender 3 and 4 (genderqueer/nonbinary and "prefer not to say" respectively) – a total of 3 participants – means that the results of this analysis for these groups cannot be reliably interpreted.

Assumption Testing

As discussed in the Method chapter, each of the statistical tests used makes assumptions of the data it is analysing. These assumptions and the tests run to examine the extent to which the data met these assumptions are described below.

Welch's t-test Assumptions

Welch's *t*-tests make two assumptions about the data being analysed. Firstly, independence of errors is assumed – that is, the data is from two independent groups, not from the same group measured repeatedly. While there is no statistical test to confirm this in this context, the study design involved comparing different groups of people measured at the same time point, and so there is no reason to believe that this assumption was breached. Secondly, normality of scores within groups is assumed – that is, the scores of the groups being compared are on a normal distribution. To assess the extent to which the data met this assumption, skewness and kurtosis analyses were run. These statistics showed relatively normally distributed data. There was some mild skewness and kurtosis for the independent variables, but the data was relatively symmetrical and neither platykurtic nor mesokurtic, and the Welch's t-test is robust to moderate departures from normality in the data (Delacre et al., 2017).

In contrast to Student's *t*-tests, Welch's *t*-test does not assume equal variances across groups. This is an advantage as the assumption of equal variances is less likely to hold in psychological research based on human participants, where there are a large number of possible variables (Delacre et al., 2017). Welch's *t*-test also controls Type 1 error rates more than other *t*-tests when this assumption is not met (Delacre et al., 2017).

Logistic Regression Assumptions

Logistic regression also makes assumptions of the data being fit to the model (Field, 2017). Exploratory analyses were conducted, where possible, to examine whether the data met the following assumptions.

Logistic regression assumes that there is no perfect multicollinearity – that is, the independent variables are not measuring the same construct and cannot completely predict

another independent variable. The variance inflation factor (VIF) was calculated to examine this. The pre-registration stated that this would be done in SPSS, however, R was used. A VIF of 10 or over, while not indicating perfect multicollinearity, does suggest that the predictors are too highly correlated and that this may be a limitation of the results (Field et al., 2012). The VIF results of the logistic regression models, including the ordinal logistic regression models, were all under 10, with the highest VIF result being 2.33 for the DERS in the original logistic regression model with the mental health variable added. The assumption of no perfect multicollinearity is therefore not considered violated. However, it is worth noting that multicollinearity, even when it is not 'perfect', can affect the results by reducing the power of the analysis, and the VIF can be useful at identifying that this may be the case. While the strong correlations between the independent variables in this research suggest that multicollinearity may be high enough to be an issue in these analyses, the VIFs were relatively low, suggesting that multicollinearity is not a significant problem for this data.

Logistic regression also assumes that a linear relationship exists between the independent variables and the log odds, or logit, of the outcome – in this research, being in the 'more than three times' NSSI group. This was assessed by creating a statistical term for the interaction of each predictor variable and its logarithm. Any of these terms being statistically significant ($p < 0.05$) would mean that the assumption was violated, and this would be a limitation of the results (Field et al., 2012; Stoltzfus, 2011). None of these statistical terms were statistically significant, with *p* values between 0.222 (for the interaction of the self-esteem measure with its logarithm in the logistic regression model with alternative coding and the Mental Health Support variable added) and 0.998 (for the interaction of the emotion dysregulation measure with its logarithm in the logistic regression model with alternative coding without the Mental Health Support variable) across all of the predictors in

all of the logistic regression models. This indicates that there was no evidence to reject the linearity assumption.

Logistic regression also makes the assumption that there is independence of errors. Dependence would occur when the same people are being tested at different time points (Stoltzfus, 2011). This assumption cannot be statistically tested in this context, but the design of the research involves assessment at one time point, with no repeated measures (between samples), and suspected duplicate responses were removed in the data exclusion process (see section 'Data Exclusions' in Chapter 5, the Method).

Lastly, the logistic regression analyses also assume that there is no measurement error in either the independent or dependent variables. While there is no way to categorically confirm this, the fact that the Cronbach's alphas of the independent variables were high, but less than 1.00 suggest that there is a small amount of measurement error present. This is likely to add some uncertainty surrounding the estimated effects.

While not an assumption of logistic regression, the presence of influential outliers or values can affect the results and indicate potential issues in the data or measurement error. Outliers were assessed for by calculating the Cook's distance values, with values over 1 considered influential and possibly problematic. The pre-registration stated that should significant outliers be present, these would be examined individually and retained provided they did not appear to be mistakes in data entry or due to the participant responding in ways that meet the exclusion criteria (for example, giving the same response to all items of a scale), and the analysis would be run with and without any influential values to examine their impact on the results. However, there were no Cook's distance values over 1 in any of the logistic regression analyses, indicating that there were no particularly influential outliers.

As stated in the Method, the data not meeting the assumptions of the analyses would not impact the statistical tests done, due to the study being pre-registered, but the data not

meeting the assumptions of the tests could impact the reliability of the results of the study. For the logistic regression analyses, however, there was no evidence that these assumptions were violated or that this has impacted the reliability of the results beyond a normal level of uncertainty.

Ordinal Regression Assumptions

The assumptions of ordinal logistic regression were also analysed to examine to what extent the data may have violated these assumptions. The proportional odds ordinal regression model makes similar assumptions to logistic regression, as discussed above (*MASS Package - RDocumentation*, n.d.; Ripley et al., 2023; Venables & Ripley, 2002).

Ordinal logistic regression assumes that the dependent variable is measured at an ordinal level. This is true for the NSSI variable, which measured NSSI frequency at three levels (zero times, one to three times, and more than three times). This assumption is therefore considered met.

This analysis also assumes that there is no perfect multi-collinearity between the independent variables. As discussed in the logistic regression assumptions, this can be assessed using the VIF statistic. In the ordinal logistic regression model, none of the variables had a VIF of higher than 10, with the highest being the emotion dysregulation measure at 2.025, indicating that this assumption is met.

This analysis also makes the assumption that a continuous latent variable with a logistic distribution is underlying the dependent variable, and the dependent variable in the analysis is a ‘coarsened’ version of the dependent variable’s (in this case, NSSI frequency) actual occurrence. This assumption is not directly testable in an analysis.

Lastly, the ordinal logistic regression analysis assumes proportional odds – that is, each independent variable has an identical effect at each level of the dependent variable. This

assumption was not tested, but the open data for this research will be available should interested readers wish to assess this assumption.

Summary of Results

Hypothesis 1 suggests that emotion dysregulation would be higher among those who engage in NSSI, and that emotion dysregulation scores on the DERS would negatively and significantly predict the likelihood of engaging in NSSI. The results of the Welch's *t*-test support Hypothesis 1, but the initial logistic regression results with the original coding do not – emotion dysregulation was not a significant predictor in this model – meaning that Hypothesis 1 was not fully supported. This changes, however, when the alternative coding is used – emotion dysregulation becomes a significant predictor.

Hypothesis 2 posits that self-esteem would be lower among those who self-injure and would negatively and significantly predict the likelihood of engaging in NSSI. The results of the Welch's *t*-test and the logistic regression analyses, with both the original and alternative coding, supported this hypothesis.

Hypothesis 3 suggests that self-compassion would be lower among those who engage in NSSI, and that self-compassion would negatively and significantly predict the likelihood of engaging in NSSI. The results of the Welch's *t*-test supported this hypothesis, as did the logistic regression results. The logistic regression with alternative coding, however, did not find self-compassion to be a significant predictor of engaging in NSSI.

Chapter 7. Qualitative Results

To answer the qualitative research question – how participants describe and understand the relationships of emotion dysregulation, self-esteem, and self-compassion to NSSI – a Reflexive Thematic Analysis was completed on the transcripts of interviews with nine participants. This was done predominantly deductively, looking for themes that aligned with each of the independent variables being examined, although some themes were generated inductively. Five themes in total were generated. Three – Zero to 100, Self-Esteem as a Precondition for NSSI, and Ambivalent Self-Kindness – were developed deductively and reflected the constructs of interest (emotion dysregulation, self-esteem, and self-compassion) and how they were related to NSSI. Two themes were generated inductively (the Body as a Coping Tool and Constrained Choices for Managing Distress) based on the data and its prominence in the interviews, and reflected the use of the body to cope with emotional distress and having limited options in potential coping strategies. Each of these themes will be examined in turn and are summarised in Table 12 below.

Table 12

The Themes, Subthemes, and Codes of the Reflexive Thematic Analysis Results

Theme	Subtheme	Codes
"Zero to 100" – How Emotion Dysregulation is Experienced and Contributes to NSSI	Being at 100 – Experiencing Intense Emotions	Being in the backseat Emotion taking over Emotion dysregulation Emotion dysregulation and NSSI Overwhelm Busy mind Extremes Matching coping strategies to situation Metaphors Emotional awareness
	The "Zero" – Emotional Avoidance to Cope	Metaphors Function – Avoiding emotion Avoidance – General Substance Use Muting/blocking emotion Emotional denial Emotional avoidance or escape Suppressing Unhealthy hierarchy of coping strategies Emotion dysregulation and NSSI
Low Self-Esteem as a Precondition	[no specific subthemes]	Self-esteem Self-worth NSSI and self-esteem Sense of self Not good enough View of self – Positive View of self – Negative Self-talk Self-love Disconnection from self Something wrong with me Deservingness Deserving self-harm Language about self Self-hatred Belief – Disliked by others Insecurity

Developing Ambivalent Self-Kindness	The Past: Self-Judgment	Self-judgment Perfectionism Ambivalence Self-criticism Negative self-talk Self-hatred Something wrong with me
	The Present: Self-Kindness	Self-compassion Self-kindness Self-acceptance Self-respect Self-care Self-care – Practical Self-love Ambivalence Self-discipline Self-forgiving
The Body as a Coping Tool	[no specific subthemes]	Unhealthy hierarchy of coping strategies Body moderation Body confidence Disconnection from self Physical pain Not caring about body Self and emotion dysregulation link Eating issues Scars Self-esteem Physical self Appearance Emotion to physical Emotional release Metaphor
Constrained Choices for Managing Distress	Social Limitations – Cultural and Structural	Western view of emotions Non-Western view of emotions Emotional expression Emotions to physical Abuse/trauma Repression – LGBT+
	Family Constraints	Care for others Internalising Messages about emotions Can’t express emotions at home Hiding distress Isolation from peers Lack of autonomy No alcohol or drug use possible

	Peer Limitations/Isolation	Not being able to talk to people Not having people to talk to Friend can't/won't support Isolation from peers Poor professional support
	Practical Limitations	Time In public Age/development Availability of other tools

Interview Participants

Nine participants were interviewed in total for this research. Information on their recruitment can be found in Chapter 5, the Method, but the participants are introduced here to provide contextualisation of the data that they created. They are described minimally to maintain their confidentiality as much as possible. All of the participants were in their early twenties other than Isabella, who was 19 years old.

Anna is a student, preparing to apply for post-graduate study. She was born in Asia, but was raised in New Zealand. She self-injured as a teenager, and continued to do so occasionally in the present. Belinda had just finished her undergraduate degree, and was in the process of deciding her next career steps. She is of Pākehā descent and she had never self-harmed before. Chris, the only male participant, was in his final year of study and was also in the process of identifying what he wanted to do next. He is Pākehā, and is a member of the LGBTQ+ community. He had self-harmed frequently as a teenager, but had reduced this to only very rarely at the time of the interview. Danielle was also finishing her undergraduate studies, and was of Pākehā and Asian descent, raised in New Zealand. She had self-harmed regularly as a teenager, but had ceased engaging in NSSI completely, apart from once in the past year. Ella is Pākehā and from a different part of New Zealand, and was studying and working in Auckland. She had self-harmed frequently as a teenager, but had reduced this at the time of the interview to being only every few months or less. Felicity is Pākehā, and had

also moved to Auckland to study after finishing high school. She had self-injured once as a teenager, and not since then. Grace was enjoying returning to study after taking a semester off. She is Pākehā, and had self-harmed from an early age, although only rarely in the past year. Hannah is Pākehā and was in her final year of study. She had self-harmed since her teenage years, although at the time of the interview this had reduced significantly. Isabella was studying part-time while also training for her sport. She is Pākehā and had moved to Auckland for her training. She had engaged in NSSI regularly in the past, usually in a specific context, but had reduced this at the time of the interview.

"Zero to 100" – How Emotion Dysregulation is Experienced and Contributes to NSSI

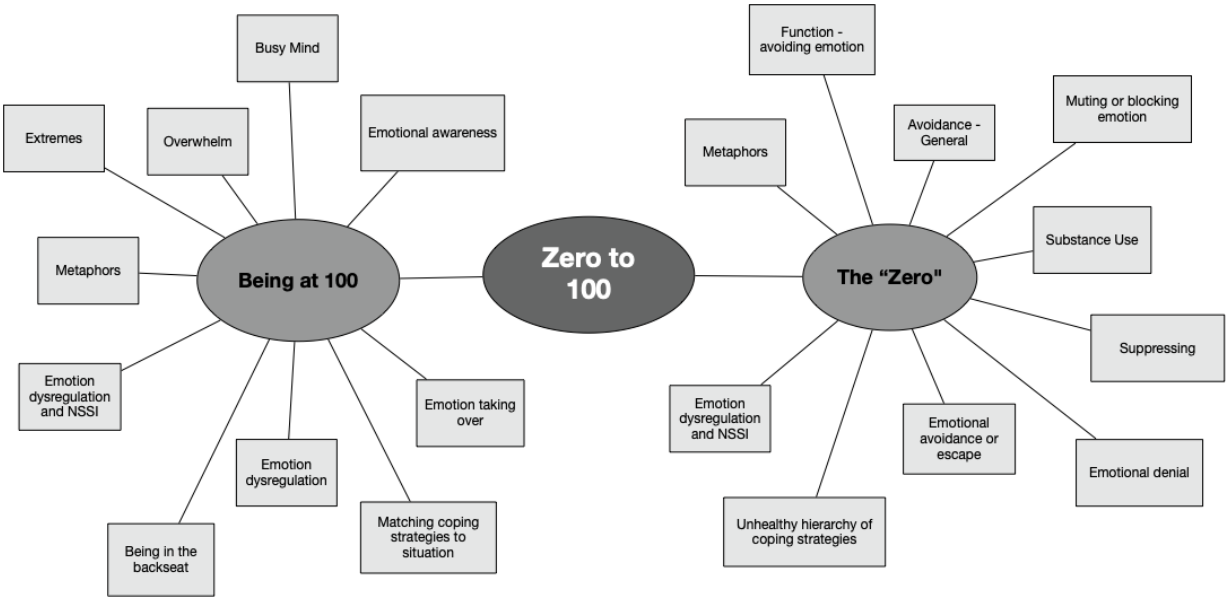
Numerous participants identified extremes of emotion as being something that they experienced, and the phrase "zero to 100" specifically was used by multiple participants to describe their perception of the experience. The theme generated based on this data therefore speaks to the polarisation of the participants' experiences of emotions and emotion dysregulation – from intense emotions to the numbing and avoiding of emotions.

> When I did it [self-harm], it was, I was going through a period where I'd fluctuate between days of utter boredom, I couldn't, I couldn't feel excited by anything whatsoever, and it would fluctuate between that and intense, intense bouts of emotions. – Chris
>
> Well usually, I, I'm very, like zero or 100, or like black or white, like there's just very little like, it's just, [gestures two extremes] that's it. So if I, like, feel, if I freak out, I'm like, I like, freak out, I'm like 'oh my god, my life sucks' you know? It's just instantly super negative. – Belinda

The participants of this research described their emotional experience and how it related to their past or present engagement in NSSI in vivid and often metaphorical terms. The way that emotions were experienced was described by many participants as being fundamentally different for those who self-harm compared to those who do not, and they described NSSI as being particularly effective for them to manage intense distress – the moments of being at "a hundred" – and quickly and effectively facilitating an emotional release or emotional avoidance, or "zero". These descriptions by the participants of their emotion extremes and dysregulation provided insight into how this was experienced by them and was helpful to me as a clinician as well as a researcher to 'put myself in their shoes'. The theme with its subthemes and codes is summarised in Figure 7 below.

Figure 7

The Sub-Themes and Codes within the Zero to 100 Theme.



Being at "100" – Experiencing Intense Emotions

The participants described experiencing intense negative emotions and a sense of losing control over their emotions at the times in their lives when they were self-harming, and

feeling as though their emotions could temporarily completely overwhelm them. They frequently described this emotional experience in metaphors. Chris described himself as "being in the backseat" of a car with the emotion driving when he was distressed, and like he was "weathering the storm", while Isabella reported that "it just felt like drowning". Others described their emotional experiences as being all-consuming when they were distressed, with a sense of the participants' 'self' being taken over by strong emotions that were somewhat separate to them.

> When I used self-harm, it [the stress] would just absolutely take over every single thing that I would do, it would take over my, it would be in every waking moment, sometimes I'd have nightmares about it, and it's like you literally cannot escape from it. – Grace
>
> Because to me, feeling bad is linked with so many different emotions that it it's overwhelming. I don't feel things just a little bit. – Ella

In this way, Ella appeared to experience both intense negative emotion when distressed, but also several at once, giving a sense of chaos when she was upset and likely hindering her ability to manage them.

Many participants also discussed how this loss of control of their emotions had previously negatively affected their behaviour. Felicity admitted once driving recklessly when distressed, and both Chris and Hannah both described previously reacting in ways that were unhelpful for their peer and romantic relationships, saying things to others during times of distress that they later regretted.

> I would just get really upset… and then when I would think about it like a week later I'd be like 'wow, why was I even mad about that' it wasn't even a big deal…It was like a lot of… that, letting my emotions get the better of me. – Hannah

This difficulty managing their behaviour when distressed that some participants reported relates well to the dimension of impulse control difficulties of emotion dysregulation, showing how their struggle to manage their emotions impacted others as well as themselves at this point in their lives. It therefore seemed to me like their difficulties in emotion regulation appeared to have impacted their relationships with others, which in turn increased their negative emotions; and which may then create a vicious cycle in which NSSI became a more favoured option of participants to cope while their social supports and relationships were negatively impacted.

These emotional extremes were also identified as being a driving factor for engaging in NSSI specifically. Danielle reported that the intensity of the negative emotion was the main reason why she had engaged in NSSI recently after several years of abstinence; while for Felicity, it had been key to engaging in NSSI the singular time that she had.

> I was just in hysterics, like I'd never, I hadn't been like that in a really really long time. – Danielle
>
> I can't, you know, at the time you're in so much shock you can't think of anything else logical to do… I was like in an emotional state where I was like distraught, I was just sobbing and shaking and shit… you can't really go find someone to help when you can barely speak…. – Felicity

The tendency to get overwhelmed by their emotions, whether this was the intensity of them or their inability to step back from them when necessary, was suggested by some participants as even being the main differentiator between those who self-harm and those who do not, with NSSI being used to cope because it was one of few sufficiently effective strategies – and possibly the only one available – to alleviate the distress or manage its intensity.

> I feel like to physically harm yourself, you're feeling, I guess, in my perspective, you just feel like, so emotionally numb, you're just so overwhelmed, and everything sucks that much… I think it's like depth of emotion, some people obviously biologically aren't wired to think that way, in terms of coping with something, they would never reach that point. – Danielle

The participants also described being so distressed that they would have had difficulty using coping strategies that would have required cognitive resources and executive functioning. When there is difficulty engaging cognitively due to a high level of distress, NSSI may have been a particularly likely coping strategy due to not requiring cognitive resources (like, for example, problem solving or challenging negative thoughts), or as a last resort for the person.

> Because I was feeling so intensely, I couldn't focus on one thing, so because I couldn't focus on one thing, I ended up wanting to self-harm. – Ella
>
> I was aware that it wasn't that really a healthy coping mechanism, so I didn't really do it unless I was feeling like, you know, just completely like the world is ending, kind of, you know. – Hannah

Self-harming may have therefore been particularly effective at managing this emotional overwhelm by connecting them back to their physical selves, even if this was through the distraction of pain:

> I think part of it is you're focusing on something else, which is pain, I guess... it kind of like takes your mind away from the thing that you're thinking about... when you self-harm it's like a moment of like, relief, or something like that. – Hannah

Having used NSSI to alleviate or cope with distress was therefore aligned with having a different experience of emotions and distress than those who use other coping strategies. However, this may also reflect this participant sample – of these participants, only three had relatively frequently used self-harm to manage in the past, while most of the other participants had used it relatively irregularly when extremely distressed (and two had self-harmed either never or only once). While some people who self-harm may use it to manage in extreme situations and distress when they cannot use other coping strategies, others appear to use it with more regularity any time they are feeling sufficiently upset or distressed.

The "Zero" – Emotional Avoidance to Cope

This concept of "zero to 100", or emotional extremes, was also shown when the participants described the other, "zero", end of this spectrum, and having suppressed, numbed, or avoided their emotions to the point of not experiencing them consciously, or as Isabella put it, going into "robot mode". Participants reported wanting to reduce or escape from negative emotions, and this appeared in the participants' general approach to emotions in the past and why they would engage in NSSI, as well as how they managed in the present.

> So, I just shut things off, I wouldn't say it's super healthy, but it's efficient… It's kind of like, if you think about sealing doors, in like quarantine things, the ones, you know the ones in like movies that like [makes closing sound]. It's like those in my brain… I don't necessarily 'lock' them, or replace them, I just kind of put them aside, because I don't want to deal with them. – Ella

Participants described the emotional avoidance in different ways, sometimes reporting that they would 'mute' or 'block' the emotion, sometimes describing it as more of denial of emotions, or a suppressing action. However, participants tended to use terms suggesting that

they were consciously and actively trying to avoid or compartmentalise the emotions, rather than being unaware of them, or completely emotionally numb.

> I just didn't confront it, if you know what I mean, I was just feeling it, but I wasn't acknowledging it, I wasn't going to do anything about it, I'd just shove it under the rug sort of thing. – Danielle
>
> I think often I have like, pushed it down over the past few years, and then like, I don't know if this makes sense, but kind of like a bottle, and it just kind of goes up and then one day it comes out. – Isabella

With each description of this avoidance, there was a sense of pressure, like the presence of the emotions was still felt in the background and carried with them, with the constant threat of them emerging, even if they were successfully avoiding actually experiencing the emotions in that moment.

Self-harming was seen as effective at suppressing these emotions and controlling them in the moment. This would therefore negatively reinforce the behaviour and make it more likely the person would self-harm again in the future, as well as preventing them from learning how to manage their emotions in the longer-term.

> That [NSSI] would help me get back, and rein everything, push everything back in and like, pull it all back. Which is weird, I guess, like instead of… I guess it's kind of ironic, it's kind of like stitching everything back up, pushing it down and keeping it in. – Isabella
>
> It just feels like, when you feel like you have no other way to control the situation it's like 'oh now I've like adequately contained this'. I don't know, it's really hard to explain. But yeah, I definitely would feel like a lot calmer, afterwards. – Hannah

Emotional avoidance and numbing were also evident in the accounts of participants' other coping strategies. For example, substance use was mentioned in the majority of the interviews. While some participants reported more of a social drinking style, alcohol and drugs were most often described as a way to cope with, manage, and avoid negative emotional states.

> Oh my goodness, I had a big problem with alcohol, actually. So, I didn't want to feel my emotions, I just wanted to completely let go. – Grace
>
> I was like 'I need to get fucked [up], I need to drink until I can't feel anything'. – Danielle

However, while alcohol and drugs were seen as a way to reduce emotions, NSSI was described as more effective at suppressing, reducing, or removing the emotions altogether, with Ella reporting that it had the added advantage of doing this for a longer period of time than substances. While the availability of each coping strategy was key to why people engaged in one or the other to avoid emotions, as described in the theme 'Constrained Choices for Managing Distress', the effectiveness of NSSI was also noted as a reason to engage in it in particular.

> I did the binge drinking thing as well, for a while, but it wasn't, it never got rid of anything, it just made it go away, but then it came back, when you were sober. For me, self-harming got rid of it. – Ella
>
> Afterwards it was more relief, it was almost an emptiness, because it just stopped everything. – Chris

Despite these attempts to avoid them, however, these avoided negative emotions would require effort to suppress out of consciousness, or they made their presence known

through unhelpful coping mechanisms. For some participants, this was worthwhile to get them through the situations they were in at the time, but it was also noted that the participants also described increasing their tolerance of negative emotions and their ability to sit with them as an important aspect of their mental health improvement.

Conclusion

In summary, the theme of "Zero to 100" shows how participants described their experiences of emotions as generally being intense, sometimes leading to them feeling or acting out of control; and how the participants sought to avoid these emotions. NSSI was described as a particularly effective and fast way to alleviate or avoid these emotions, particularly in moments of high distress, when other coping strategies may have been challenging to engage in.

Low Self-Esteem as a Precondition for NSSI

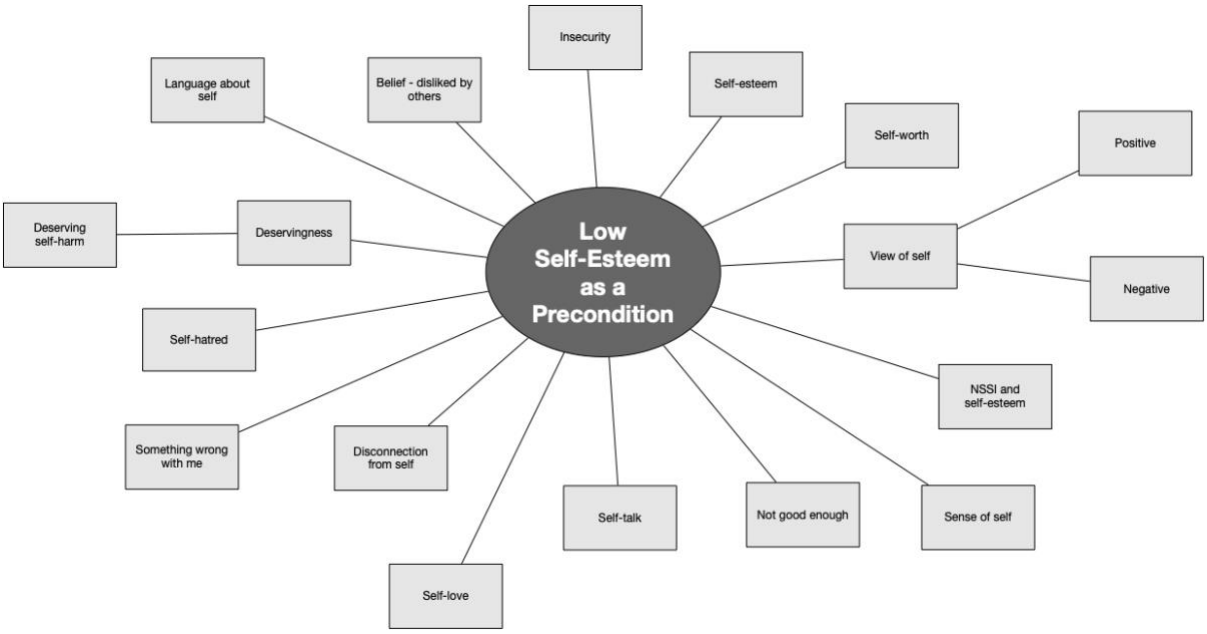
Self-esteem, as one of the variables of interest in this research, was discussed in each interview and participants were asked to describe if they thought it related to NSSI, and how they imagined it did if so. There were more varied views on this than I expected, and I wonder if this is partly due to my age difference with the participants. I was slightly older than them and while at high school there seemed to me to be a growing awareness around both NSSI and low self-esteem as a psychological trait impacting youth. The participants, in contrast, being approximately five years younger, may not have grown up with the same level of discussion around self-esteem in particular.

The participants had a variety of views on how self-esteem related to engagement in NSSI, and the extent to which this was. While all participants agreed that self-esteem and NSSI were related, they differed in the way they described this relationship, and the strength

of the relationship. While some, like Hannah, believed it played a "massive role" in engaging in NSSI, others, like Ella, felt that the relationship was more indirect. However, a theme of low self-esteem as a precondition of NSSI, was generated from the data, capturing the majority of the participants' views that low self-esteem was related to and in the background of, but not directly causing, NSSI. This was somewhat unexpected to discover as the researcher – previously, I had imagined low self-esteem and low self-compassion as perhaps being the final component that may make someone more likely to use NSSI to cope rather than an alternative strategy, or as being 'the straw that breaks the camel's back' when numerous risk factors for self-harm are involved. However, it was mostly discussed by participants as being in the background of NSSI, and as a contributing factor or 'setting' for the use of NSSI to cope, but not the reason the person engaged in an episode of NSSI. The theme is summarised in Figure 8.

Figure 8

The Codes within the Low Self-Esteem as a Precondition for NSSI Theme.



Hannah in particular viewed self-esteem as an important part of the 'equation' of NSSI occurring:

> Personally, I can't imagine someone self-harming and feeling bad about stuff, if they weren't, if they didn't have really low self-esteem. Like I can't imagine self-harming and not, and there not being an element of self-hatred to it. – Hannah

Interestingly, she also described low self-esteem as being slightly different than having a generally poor perception of oneself when she was relating it to self-harming – "it's a specific type of feeling bad with yourself... just really feeling like your own worst enemy" – suggesting that low self-esteem may be experienced in a heightened or somehow more intense way among those who self-harm than for those who do not. Her insight into this was also reflected when she reported that she would not necessarily self-harm in the presence of all forms of distress – for example, if someone she knew passed away – implying that there is an element of the 'self' in some way playing a role in the use of NSSI rather than another coping strategy, and that high distress was not always a sufficient 'reason' on its own for a person to engage in NSSI.

Participants often mentioned or alluded to their self-esteem using the term self-worth, or by referring to not feeling good enough. This sense of not being good enough was a pervasive belief about themselves they appeared to have across the different areas of their lives, but was also described as being linked specifically to their NSSI. Their NSSI may therefore reflect an alignment between the person's view of themselves and their behaviour; and may act to reduce any potential cognitive dissonance created by strongly disliking oneself and yet not being able to avoid oneself. Danielle described engaging in a number of self-destructive coping strategies (such as using substances and disordered eating) due to this negative view of herself:

> Because whenever I was doing anything to hurt myself, whether it was deliberate or not, I just didn't, I was like filling a void, because I hated myself just so much, just all this resentment for life, I wasn't good enough. – Danielle

The participants sometimes related engaging in NSSI to feeling like they deserved the physical harm that they were doing to themselves, whether this was for punishment for a specific act or perceived failing, or for a general sense of being a bad person. This belief about themselves – that they deserved the self-harm – links the participants' highly negative beliefs about themselves to the behaviour of NSSI and suggests a more cognitive process than an emotional or practical one. That is, they are not just experiencing a negative emotion and reaching for the most available or effective way to cope with it, but using a coping strategy that is aligned with their views and beliefs about themselves.

> I just felt a lot of like, 'not deserving' like, just not deserving to be alive, or just being like a really, just like a really shitty quality person. – Hannah
>
> It's like, instead of taking your emotions out on like, another person, or something, it's like you want to take them out on yourself, I suppose. – Hannah

Hannah reported having these thoughts and beliefs during her teenage years; and focused on this belief that she was not good enough or had "messed up" as a key aspect of her mental health at this point in time – with the implication being that self-punishment was needed, possibly in the form of self-harm. Her belief that she was not good enough appeared most strongly in her relationships with her parents and boyfriends as well as her engagement in NSSI and her development of anorexia nervosa at an early age, with no clear reason or precipitant for this belief discussed in the interview.

> [Self-harming] is always to do with like feeling like I'd done something wrong. Or feeling like, I was just, baaaad. You know, like just like a bad person. Not necessarily like morally bad, but just like, just a low-quality kind of person… I would just feel like 'oh my God, it's all my fault' or you know, 'I'm not good enough' and then, yeah, I guess like, self-harm and stuff would come from that, yeah. – Hannah
>
> And I feel like the self-harm kind of made it feel like, um, I don't know, like at least I'm acknowledging that I don't deserve this, or deserve to be… I don't know, alive, or deserve to have the life that I have, or something like that. I don't know if that makes sense, but yeah. – Hannah

The self-harming therefore appeared to have been an ego-syntonic action that served two purposes, both helping Hannah to manage the distress she felt, while also acknowledging and representing on her body her internal view of herself.

Of course, the factors and variables that lead people to NSSI or any other behaviour are not the same for everyone, and a minority of the interview participants in this research disagreed with low self-esteem being a key factor in the initiation and development of NSSI, although they differed in how they understood any relationship between NSSI and low self-esteem. For Chris and Grace, having low self-esteem functioned more to remove a possible barrier to self-harm rather than directly contributing to it. This may also reflect a level of disconnection or detachment from their bodies, as well as aligning with their negative view of themselves.

> It would never be the reason [I self-harmed], but I guess it's more, I suppose if your self-esteem is so low you don't really care what happens to yourself, and so there's, there's no reason to hold back maybe, I guess. – Chris

> But I just like didn't care, because I was like 'this is just, like I deserve that, why does it matter'. – Grace

Ella disagreed with low self-esteem playing a significant role in her own experience of NSSI, and described it as only being related to her self-harming in an indirect way. She reported having low self-esteem at the time that she was self-harming frequently, and that negative thoughts about herself would sometimes trigger negative emotions that she would then self-harm to manage. However, she denied that low self-esteem was played a role in her initial engagement in NSSI, reporting that this relationship only formed once she was already using NSSI to manage the high level of distress she was experiencing.

> Some days, obviously if I was feeling really bad about myself, I would jump to thinking about self-harm, but it wasn't what started it, if that makes sense. – Ella

However, even when participants did not view low self-esteem as a particularly strong trigger for engaging in NSSI, they did note a reciprocal, spiralling effect between low self-esteem and self-harming. Self-harming would further lower their self-esteem, both in terms of the marks that NSSI would leave, and in the belief that they should have been able to find an alternative way to cope. In this way, low self-esteem and NSSI appeared to form a vicious cycle, with NSSI helping participants to cope with the negative emotions experienced in their daily lives, as well as coping with the sense of shame that resulted from engaging in NSSI due to the marks it left and the potential for these to be seen, or feeling like they should have been able to cope in a different way. While beyond the scope of this analysis, this also links to the addictive nature of NSSI noted in previous research, and by most of the participants in this study.

> You feel negative from your insecurities, you feel negative about the situation, then you feel negative after self-harming, and then it just creates a loop, and you feel negative, and you feel shit about yourself, so, it makes you feel more shit inside, and then you're just going to do it again, and it just creates a loop. – Felicity
>
> My self-harming, I wouldn't say destroyed, but like, greatly reduced my self-esteem… there was so much shame. – Ella
>
> I suppose I had other self-loathing, but that [self-harm] was adding on top of it. Fresh reminder. – Chris

To conclude, the participants were not unanimous in viewing low self-esteem as a key part of why they had personally engaged in self-harm to cope. Most, but not all, viewed it as the general intrapersonal 'context' needed for self-harm to occur, but a minority of participants envisioned it as playing a small role in the development of NSSI, or potentially being lowered *after* engagement in NSSI. It may also be that for some people, self-punishment is a more salient reason to self-harm than alleviating distress, with NSSI becoming an ego-syntonic coping strategy for distress; while emotion regulation is a secondary motivation or not relevant at all. While most (quantitative) research to date has identified emotion dysregulation as the main reason for engaging in NSSI, qualitative studies such as this can also highlight the need for other pathways to self-harming behaviours to be understood as well. Positively, the participants generally reported increased self-esteem in the present. While their improved, or at least more neutral, view of themselves was not the only factor that helped them stop self-harming, it had nevertheless contributed. As Grace succinctly put it, "the more I love myself the less I want to do it".

Developing Ambivalent Self-Kindness

In contrast to the self-esteem theme, which participants tended to relate more to, have stronger views about, and discuss in more depth, self-compassion was not apparent to the same extent 'on the page' in the interview data. This may be because at the time of the interviews self-compassion was still emerging as a psychological concept in the media, general society, and in the academic literature. It has gained much recognition since then, particularly in the context of the Covid-19 pandemic and lockdowns (Chen, 2022; Chio et al., 2021; Deniz, 2021; *Great Minds*, 2023; *Sleep Key to Productivity and Positive Emotions*, 2023; Howell, 2021; Nguyen & Le, 2021; Ruiz-Fernández et al., 2021; Suckling, 2023; Umbrella Wellbeing, 2021).

Self-compassion was generally discussed later in the interviews and in response to questions – as it was asked about in each interview if it had not come up naturally beforehand – rather than near the start and without direct enquiry. Given that the qualitative research phase question directly asked about this concept, however, the decision was made to still analyse the data that was there. While the theme below is as accurate as possible to the data and the meanings made by the participants during the interviews, it is more directly and deductively generated than the other themes.

Due to the interviews occurring before the term self-compassion became more widely known, I discussed this concept with participants in plain language, often referring to it as being kind to themselves. While this was done to ensure that participants were not having to navigate psychological terms that they may not have been familiar with or related to, this phrasing may have inadvertently impacted the data by focusing the participants on the 'self-judgment/self-kindness' dimension of self-compassion, over the 'isolation/common humanity' and 'over-identification/mindfulness' dimensions (Neff, 2003a, 2003b). This may also reflect my own subjectivity towards this dimension of self-compassion. While references

to the other self-compassion dimensions were also seen in the data, they were not discussed extensively enough for a theme or subtheme to be developed.

The participants generally described being low in self-compassion and high in self-judgment at the time of their self-harming, and often reported still feeling that they were not particularly kind to themselves, although this had generally improved. Improving self-compassion was described more as an aspect to the participants' recovery from self-harm than their original engagement in it. In other words, low self-compassion was not seen by the participants as a key reason that they had initially engaged in NSSI, but reducing their self-judgment and increasing their self-kindness had over time contributed to their improved mental wellbeing in the present. It is also possible that the participants had developed greater insight since this period into their mental health and wellbeing and could now reflect on their past selves and the progress they have made. It should also be noted that the participants also referred to traits similar to (low) self-compassion, but used different terms; for example, self-criticism, which is very similar to self-judgment. This may suggest that the terminology I used did not fully match the participants' own language for their experiences.

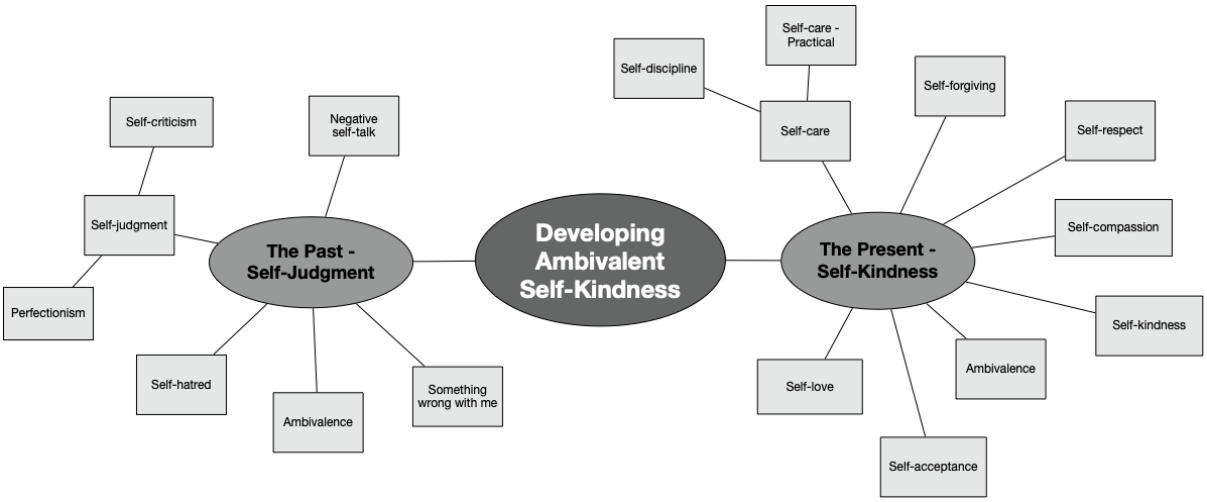
The theme generated was named 'Developing Ambivalent Self-Kindness' and focused on the development of self-compassion and self-kindness over time, and how participants continued to battle self-criticism and self-judgment at times. The participants generally reported that their self-kindness and self-compassion had increased since the period in which they were self-injuring but described their current self-compassion in somewhat ambivalent terms – being compassionate to themselves only in some specific areas of life, or having made progress but referring to still needing to work on being kind to themselves. Nevertheless, self-compassion was described as a positive, protective psychological trait to have, and was often enacted by the participants engaging in deliberate, effortful actions to maintain their wellbeing. The below theme describes the participants' journey along the self-

judgment to self-kindness dimensions of self-compassion, and how it has impacted their engagement in NSSI and current mental wellbeing.

The codes and sub-themes that were identified in this theme are shown in Figure 9.

Figure 9

The Sub-Themes and Codes within the Developing Ambivalent Self-Kindness Theme.



The Past: Self-Judgment

Almost all of the participants referenced being hard on themselves – often extremely so – at the time that they were self-injuring. This aligns with the 'self-judgment' aspect of (low) self-compassion. This self-judgment and self-critique were likely affected by, and in turn reinforced, the low self-esteem that was also prevalent among the participants at the same time; although self-compassion was described by one participant, Grace, as more protective and about self-reassurance and "looking inwards" compared to self-esteem.

The participants described being hard on themselves both generally and in specific areas of life. For some, this intense judgment and critique of themselves occurred particularly regarding school and feeling the need to achieve high grades, and was linked to wanting to differentiate themselves and build their own identity in some way.

> Thinking things like ‘my grades are the only things that go for me’ so like there’s nothing else to me, so if I don’t do well, then who am I, I’m nothing, I’m no one. – Grace.
>
> In general, I just wasn’t nice to myself. Like I was really really hard on myself, especially at school. – Ella

For Chris and Felicity, however, this self-criticism was more focused on their relationships with others and their social skills, and they blamed themselves for difficulties in peer relationships, only later realising that many of the times that they had blamed themselves were actually instances of mistreatment from others.

> I’d always be replaying what I could have done better, or ‘if only I did this’ or… yeah the idea that mistakes can happen or things can just go wrong just wasn’t a concept that entered my head, there was always a reason, there was always something I could have done. – Chris

For all of these participants, however, their focus on what they were self-critical about aligns with what is particularly key for young people at this transitional developmental stage – relying more on peer relationships, defining an independent identity, and setting themselves up for future careers through achievement at school.

The participants also directly linked their self-criticism and self-judgment directly to NSSI, with Belinda noting that NSSI is by definition “not very compassionate to yourself”. The participants sometimes even equated their internal self-judgment and external self-harm as being two manifestations of the same thing. For example, Isabella referred to her own negative self-talk as the “mental version of hurting yourself” and described it as being even worse for her than physical self-injury.

> Putting yourself down all the time I guess, and speaking to yourself, like you would never to speak to someone else… that makes me feel worse than punching myself, or what I would imagine other things would make me feel, like that would be easier, easier to cope with than making yourself feel worse mentally. – Isabella

This description of physical self-harm being more manageable than the self-critique and self-judgment may therefore contribute to understanding why NSSI was seen as so effective – by engaging in physical self-punishment, the mental self-judgment is acknowledged and appears to be somewhat appeased.

For some participants, this self-criticism and self-judgment were compounded by high standards and perfectionism. Grace, for example, described experiencing significant stress trying to be perfect from a young age, believing that imperfection meant "I'm a failure, I'm worthless, I'm never going anywhere". She linked this to her self-harm both in childhood and as a teenager, reporting that she would engage in NSSI to punish herself for not achieving perfect results in an activity. Perfectionism could here be understood as a specific and intense form of self-judgment, and as antithetical to the self-kindness aspect of self-compassion.

> It's kind of like the same with my cutting [as a teenager], how I had to do well enough and if I didn't then I would cut. With that one, so I would have been like, I don't know, eight? Maybe, maybe younger. And if I played a note wrong, I would slam the piano lid onto my fingers, be like 'you're wrong'. – Grace

The Present: Self-Kindness

The participants generally reported having a more compassionate view of themselves now and being kinder to themselves in general. They also had, for the most part, ceased to self-harm. While this was not part of the inclusion criteria for the interview stage, this may

have been due to them entering the transitional period of early adulthood, developing a greater sense of identity and achievement outside of the family and high school environments, seeking professional mental health support, or some other factor. Notably, however, most of the participants did not consider themselves to be fully self-compassionate, or kind to themselves at all times. This subtheme describes their ambivalence and ongoing progression to being kinder to themselves.

Participants reported reducing, or resisting, their self-judgment as part of becoming kinder to themselves, almost as if it was the first step to move to the other side of the self-judgment to self-kindness dimension. While they may have had low self-esteem as well, as discussed in the theme above, self-judgment reflects an active self-critique. They described a divide between the self-criticism that they might engage in first, almost instinctively; and a calmer and more logical perspective on themselves. This felt to me almost like a 'head versus heart' battle. For example, when Belinda was asked if she thought she was kind to herself, she answered:

> Yes and no… I mean no, because you know, of when I'm like 'ah, I suck, and I can't make anything of myself, I don't know what I'm doing, and I'm an idiot', and all this crap, but then there's the other side, where underneath that, I like, know who I am, and I eat well, and I exercise, and like, yeah, it's very… Like everything is just… [gestures to two extremes]. – Belinda

Developing a stronger sense of identity and wellbeing was also part of this. For Felicity, there was a sense of accepting and embracing herself and her abilities and rejecting self-criticism and social comparison in favour of enjoying the life and relationships she had.

> So, I've been a lot more accepting of who I am, what I look [like], I've accepted some things I can't [change], and you know, I've just got to live with it, and um… kind to

> myself… yeah? Nothing wrong with loving yourself a little bit! Like I've learnt to love myself, I've learnt to live with what I've got… and just be myself, you know. – Felicity

Multiple participants described being ambivalent in some way when discussing self-compassion and self-kindness. I noticed that the participants reported being kinder to themselves now and knowing that this was a good thing for their mental wellbeing, but also knowing that they were still not completely kind to themselves. Hannah, for example, reported being kinder to herself now, but not dramatically so ("a bit better… I wouldn't say 100%"), indicating that while she had made changes, she had not become wholly self-compassionate or kind to herself. Grace echoed the same sentiment when she described attempting to improve her self-talk:

> No, love yourself more! Stop being mean about yourself! But then like two minutes later you're like 'trash' [laughs]. – Grace

Notably, the participants described having reduced their self-judgment overall, but with it still being present in particular areas of their lives, often with little change over time, but with more containment.

> I'd still have high standards for myself, for like academics and sport, but yeah, maybe not with just general walking around… – Isabella
>
> It's [self-criticism] kind of gotten better in other aspects. Like I'm still really self-critical and harsh when it comes to uni. – Ella

For Grace, this self-judgment was directly linked to her self-harming. She described having low self-compassion and high self-judgment as almost like a specific trigger for when she would engage in NSSI. This was the case even when she had made progress at being

more kind to herself in general, but her increase in self-compassion over time did act to reduce her likelihood of self-harming.

> I could have been very kind to myself over that period, but then I would have had a time where I wasn't so kind, and that was when I self-harmed. But then I went back to being kind to myself. But then with that as well, I also question whether there's an underlying thing, which isn't so kind, as well. – Grace

The participants often described expressing or acting on their self-compassion and self-kindness by engaging in what I would consider very 'practical' forms of self-care. Usually, this looked like engaging in the basics of life, like maintaining good nutrition, exercise habits, and rest, as well as structuring their lives in alignment with their goals. Importantly, this also involved actively aiming to not self-criticise in response to resting when they needed to. Participants therefore engaged in both the action (rest, developing structure, and similar), and in conscious resistance of the self-judgment that resulted from this action. They described this like having a foot in both camps – like their natural state was of self-criticism and they were trying to not engage in this. For example, Anna described resting because she knew she needed to, not because she wanted to, and now being able to not feel guilty about it.

> I don't feel so guilty if I spend the whole day in bed. Whereas other times I'd force myself to get up, like, go out and do things and I'd be exhausted. Whereas now I can accept, like, I need a day in bed to recuperate. – Anna
>
> I think, yeah, giving myself structure, and sort of learning how to be sort of, self-disciplined, but in like a healthy way, so not being like, harsh on myself for not doing anything, but sort of like acknowledging that I have done something, even if it's just

> getting out of bed and having breakfast, that I should take that as a win, and be proud of myself for it, rather than focusing on the things I haven't done. – Danielle
>
> Like to me that's being kind to myself, by not having the stress of working and studying that day… I guess [it's] different perceptions of being kind to oneself. – Ella

Notably, most of the participants described their acts of self-kindness in, again, ambivalent terms. There were little references to activities involving pleasure, indulgence, or even enjoyment, and the participants appeared to be more focused on improving their functioning or general wellbeing rather than happily engaging in the activity or rest period because they simply wanted to. However, this may speak to the participants understanding of the term 'self-kindness' and not necessarily whether they do or do not engage in more indulgent forms of self-care. While their acts of self-kindness are important for their mental and physical health and relate closely to what could be considered the 'life maintenance' of adulthood, it is possible that their self-judgment prevents them for engaging in an activity (or rest) just because they want to. Given that some of these participants also discussed having a very busy workload and schedule, and that most of them are students with (presumably) limited finances, it may also be that they do not have time or resources to engage in self-care unless it at least partially serves a practical purpose.

The participants described self-compassion as a positive aspect for their current mental wellbeing. Grace, for example, related particularly strongly to the concepts of self-compassion and self-love, and described self-compassion as "allowing yourself to make mistakes, allowing yourself to be sad, and feel anxious, rather than trying to bottle everything up and pretend it's not there". For her, self-compassion acted like a buffer for life's knocks:

> It's almost like having a little bubble around me… It's, it's like blows aren't as hard… I guess the only analogy I can think of right now would be riding a motorbike,

> one person has a helmet, one person doesn't, you both go through the same crash, but one person comes out… walks, after that.

Grace also described self-compassion as specifically supporting her if she was to self-harm again now, and reported that she would take good care of the physical injury itself as a way of symbolically also caring for herself by caring for her body.

> If I did [self-harm] now, I know that I would have done all that I possibly could have done before I got to that point. So, I'd be quite compassionate with myself, still sad but compassionate. – Grace

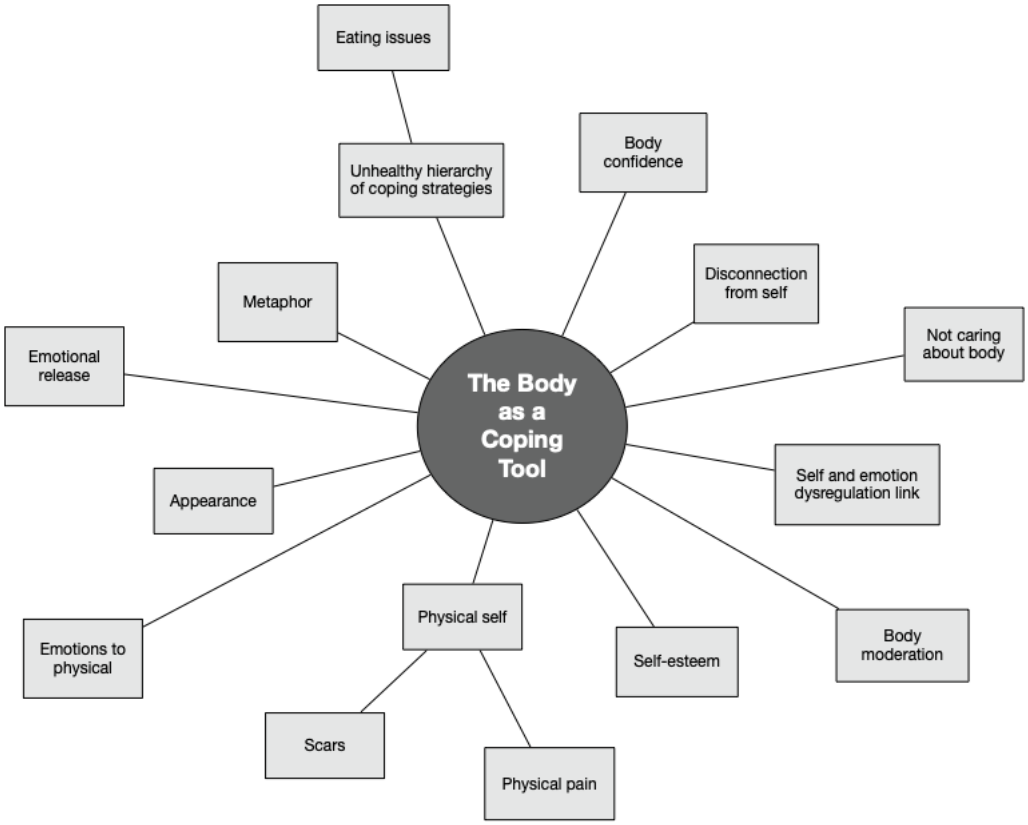
In summary, participants reported being high in self-judgment when they were self-harming and having become kinder to themselves over time. This, and their practical acts of self-care, were related to having improved mental wellbeing in the present, although whether this had preceded or followed their improved mental health and reduced self-harm, or whether it emerged from being in a better emotional state, was not explored.

The Body as a Coping Tool

Two themes were generated inductively in this research, in response to the directions and topics that had been discussed in the interviews that did not fit into the three themes above. The first of these themes, the Body as a Coping Tool, related to the participants' relationship to themselves and their coping strategies, similarly to the emotion dysregulation and self-esteem themes, but was specific to their relationship with their physical bodies and their use of them to cope with strong emotions. This theme with its subthemes and codes is summarised in Figure 10.

Figure 10

The Codes within the Body as a Coping Tool Theme.



Participants frequently talked about how their bodies affected their sense of self, and often discussed what seemed to me to be a general disposition to using their bodies as a tool to cope with or release strong emotions. This was mostly referred to in negative or less adaptive ways, like NSSI and disordered eating, but was sometimes positive, such as using exercise to boost mood. At times, the same behaviour was being referred to (going to the gym, focusing on eating healthy foods) but was being engaged in with different intentions and in a more moderated way now compared to in the past – for example, exercising to become stronger, but no longer spending hours in the gym to reduce body size.

> So, there's been times when I'm like 'argh, I feel lame' and then I'll go on a run and be like 'nahhhh, everything's fine.' Or I'll be angry and get it out and then feel better. – Belinda

Several participants also alluded to this idea of the body as a coping tool when describing physical pain as also being easier to manage than emotional pain and engaging in NSSI as the pain of self-harming would replace or distract from the emotional pain. This may also relate to the participants' developmental age at the point they were self-harming – managing the intense emotions that can occur during puberty and the teenage years would be new to them, while physical pain was likely more familiar.

> Um, I guess it's just like, physical pain is easier than mental, because you can pinpoint it, you know why it's happening, where it's happening, and what you can do to stop it. – Isabella

The participants' perceptions of their bodies also appeared to facilitate their self-harm as by feeling negatively about their bodies, they seemed to have less desire to look after, or care for their bodies, therefore removing a barrier to self-harm that may have otherwise been there.

> You don't care about what happens to your body or what happens to you then hurting yourself is… it's not a barrier. – Chris
>
> But it's like they don't care because they don't really, you don't really value yourself, and you're like, 'I don't care if I mess up my body' or something like that, because… yeah, I'm… yeah. It's like yeah, you just don't value yourself enough to really care that you're messing up your body. – Hannah

Anna and Ella both implied that while they knew that NSSI might be a less desirable way to cope, their bodies were their own to use to cope with if they wished, and they described it almost as if they were taking ownership and control over their own bodies. They

argued that it was not the worst coping strategy they could have chosen, resisting the social stigma attached to NSSI and the pressure from others to cope in a certain way.

> Like to me, I don't see why it's a problem, if I want… if I'm not hurting anyone else, it's not permanent, I don't see why I shouldn't. It's only because other people have told me 'no, it's bad'. And I… this is a problem, but I don't know what I can do about it. – Anna
>
> Yeah, you know, that's not going to work, it doesn't, they tried that, and I was like 'I'll do what I want'. Exactly, yeah. It's my body, but like, you know. – Ella

Previous research (Laye-Gindhu & Schonert-Reichl, 2005; Muehlenkamp, Peat, et al., 2012; Ross et al., 2009) has noted a relationship between disordered eating and engaging in NSSI, and so I was not surprised that participants reported eating too much or too little as another way that they would attempt to control their emotions. However, I did not expect so many of them to report this – only two did not, with the majority of the participants describing long histories of disordered eating, often to a significant, likely diagnosable level. The participants drew a number of parallels between the disordered eating behaviours and NSSI behaviours and described them as having a similar root, and some participants asked if I considered less acute self-destructive behaviours such as disordered eating to also be self-harm.

> It was like, not feeling good enough for food, or like, not eating as a punishment or something like that. So I guess in that way, self-harm was kind of similar, because it's like, 'I don't deserve this life, I need to like, doing something about it' or like, punish myself, yeah. – Hannah
>
> I guess, it [disordered eating] came from the same place, just a different way to deal with it… I guess they did different things, but also the same. Yeah, like the [under]

> eating would be… I would feel a lot of emotion, and then the hurting myself would be to stop feeling the emotion. So almost a stop and a start. – Isabella

Other participants described both disordered eating and NSSI as being about managing their emotions, but with disordered eating having less of an acute effect. This may reflect some variation in the participants in terms of what was most important to them at that specific point in their lives (managing their body shape, or managing their emotions); some differences in how much each of the strategies had the same effect for them; or how effective each of the strategies was for the person. While for some people these behaviours may have overlapped or had similar effects, they cannot be assumed to be two manifestations of the same underlying emotion or psychological trait.

> And I think it [restricting] let me let out my emotions more because they were already on the surface and I was very moody all the time, but, like it let me focus on emotions, almost… it was sort of one emotion at a time, so it almost, was a little bit of clarity, a little bit of clarity, in like a weird way I guess. – Isabella

Disordered eating and NSSI also differed in their consequences. Disordered eating was seen as having the double benefits of achieving a desired body shape as well as controlling negative emotions and was also easier to hide or explain away to others. In comparison, NSSI marks and scars were seen as a source of shame or discomfort when seen by others, both at the time the participants were self-harming, and now.

> You can say you're not hungry and that sort of stuff, it's not frowned upon as much, and like, no one wants to say, 'eating disorder'… they'd be like 'oh she has to eat healthy [for training] so that's why she's not eating this food'. It's sort of like a safety blanket. – Isabella

> I really didn't want other people to see [the self-harm marks], you know, like I would really try and hide it, like even to this day, I still, you know, wear board shorts when I go swimming, because I don't want other people to see the scars or whatever, I just don't want to acknowledge them. – Hannah

Therefore, while both behaviours involve using the body as a coping tool, and are generally hidden from others, it is notable that NSSI has far less socially approved of consequences and goes 'against the grain' much more than restriction-based disordered eating, which – at least at the subclinical level – has become somewhat normalised among women in Western societies. It is also usually engaged in with the aim of creating a body that conforms to social norms and ideals, whereas NSSI's more visceral harm goes against the ideals of physical appearance. In this way, girls and women who engage in both behaviours simultaneously step away and towards social norms.

Positively, the participants also described generally having reduced their disordered eating behaviours in the present, echoing their reduction in NSSI. While for some it was still a struggle, they described using food and exercise as a way to nourish and care for their bodies, with the same behaviours now being engaged in for self-care and health purposes.

Participants also described using their body as a coping tool in their use of NSSI in particular. While the emotional impacts of (restrictive) disordered eating are minimal in the short term and build over time, the direct and intentional harm of NSSI was described as providing the desired immediate effect of releasing the negative emotion out of their bodies, echoing the emotion dysregulation 'Zero to 100' theme.

> It's like, you feel stressed, and you want to scream into a pillow, or something, and you feel that like release, I suppose it's kind of the same with self-harm, it's like it's

> something that's kind of, drastic, and you feel like you have to do something. – Hannah

Ella vividly described how it felt for her to have released these emotions through NSSI:

> Kind of, it's like empty, I guess. Which is not a good emotion or state descriptor, but it's like, there is nothing there. So, like, if you imagine… like a person lying on the floor, they're inflatable, so they've had their air valve opened, and they just become flat, like deflated, that kind of describes the feeling, I guess… Yeah, all gone. – Ella

Some participants also described this release as functioning by transforming the emotional pain into physical pain, almost visibly leaving their bodies.

> [Self-harm] made the emotions go away. And they actually went away, they didn't just… like I said before they went out with the blood. – Ella
>
> I just turned it inward. Yeah, it's kind of like turning the internal thoughts into an external action. – Chris

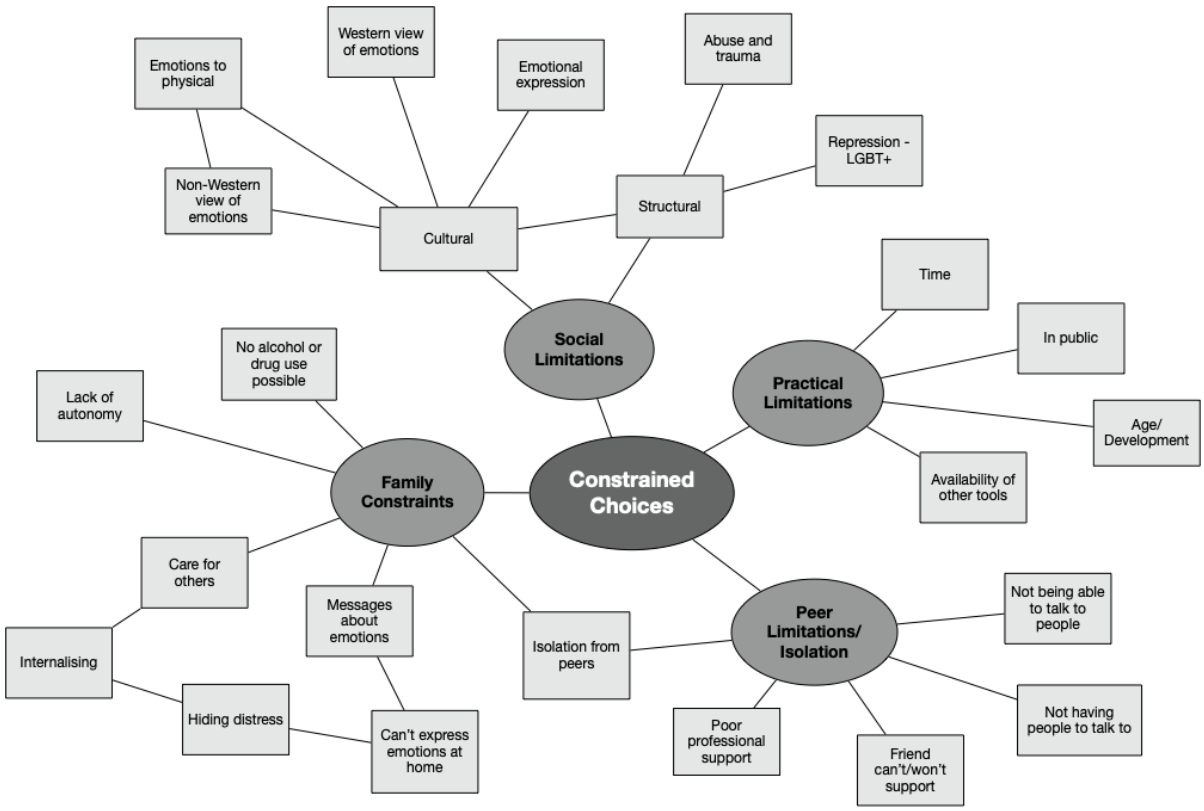
In conclusion, the participants were close to unanimous in their use of their bodies as a coping tool, whether this took the form of NSSI, disordered eating, over-exercising, or other methods. This use of the body to cope with negative emotions relates to the themes of Constrained Choices for Managing Distress and Low Self-Esteem as a Precondition for NSSI – while young people have less access than adults to some coping strategies (such as alcohol), the body is constantly present, and when self-esteem is low, the body may be an easy target to take negative emotions out on oneself. Positively, it appears that participants appeared to have a more accepting or appreciative relationship to their bodies in the present.

Constrained Choices for Managing Distress

The second inductively generated theme that was found in all of the participants' transcripts was having limited, or constrained, choices in how they were able to cope with and manage their emotions, and how this impacted their engagement in NSSI. This was generally discussed as a reason they engaged in NSSI in particular, although at times they also discussed how limited choices may make someone choose to cope with their emotions by using other maladaptive coping mechanisms (such as consuming alcohol or drugs; or engaging in disordered eating behaviours). This theme is summarised with its subthemes and codes in Figure 11.

Figure 11

The Sub-Themes and Codes within the Constrained Choices for Managing Distress Theme.



The theme was best described by Chris, when discussing why a person may engage in NSSI rather than cope with their emotions in a different way:

> If you take enough options away from someone, eventually that'll be the one at the top, so. – Chris

The participants described their choices of coping, or their general behaviour, being constrained in a number of different ways, and ranged from discussing the broad limitations on their lives as a whole at the point that they were self-harming, to more specific circumstances had made self-harming a more probable coping strategy than any other – adaptive or otherwise.

While broader social influences and limitations were generally described by participants as affecting whether they engaged in adaptive or maladaptive coping strategies when distressed, more practical and pragmatic limitations such as the unavailability of other coping strategies, like drugs and alcohol, were usually mentioned as a reason for engaging in NSSI in particular. These different constraints are discussed below, from the broad to the specific.

Social Limitations – Cultural and Structural

Socio-cultural perceptions of emotions and mental health played a role in the emotion regulation strategies available to participants, particularly in how they were able – or unable – to express their emotions. Notably, different cultures were being referred to, but with similar perspectives apparent in the (un)acceptability of emotional expression. Anna described how her family's cultural influences shaped how she was not able to express her emotions easily to others in her family when describing her use of NSSI to cope:

> I think this is from the Asian culture, we're not very good at dealing with emotional things, because we don't really do that, we don't talk about it, we don't talk about it, but I'm a lot better at dealing with physical pain. So, I think for me I would turn it into physical. And then that's something I could cope with. – Anna

In this way, she described how experiencing pain in her physical body facilitated the expression and management of emotional pain.

This idea of not being able to express negative emotions visibly or towards others was also reflected in Grace's comments on how the responses of her teacher and peers to a school classmate with "anger issues" affected her view of what were acceptable and unacceptable ways to express emotion.

> It set up the 'other' and 'us'. So, I was okay, I was healthy, I was happy, because that's the other, that is what 'bad' looks like, and I am not that, and I refused to be that. So, I was always like 'I am fine, because I'm not that'. – Grace

These participants' early experiences of how emotional expression was perceived by others around them reflect both Western and Asian culture's discomfort and stigma around expressions of strong emotion and mental health experiences, and what are socially appropriate responses to distress and negative emotion. Because these participants could not express their emotions directly, it appears that they regulated it instead, with NSSI being one of the ways to do this, particularly when few alternative coping strategies were available.

Grace also discussed how the impact of social inequities and disadvantages and the constraints they involve could potentially lead to higher levels of distress, and to self-harm and other difficulties. She argued that this may be why people are not be able to cope in more adaptive ways – they quite literally have more constrained choices than those who experience fewer social inequities. She raised that the point that much of the current popular rhetoric

around self-care and self-help, while positive, did not work for everyone, and did not solve the root of the distress or problem for people who had limited options and significant socio-economic disadvantage, and for whom navigating their life and mental health would take up significant time and energy.

> I've seen self-help books, they're like 'try deep breathing, do yoga'. Yoga isn't going to help if you're going to go home and get the living daylights beaten out of you… And it's like, that kind of thing, it doesn't, it's very surface level, but often these people who kind of go down into that spiral have so many things going on that it just doesn't work. And if it doesn't work, why would you do it? – Grace

This reflects the importance of clinicians and researchers also focusing on addressing the wider social issues that can create and worsen mental health issues, rather than only on the individual and their coping abilities. While this is likely to be harder and more complicated, it would also result in preventing harm to begin with, rather than reactively trying to help people cope and heal.

Family Constraints

The constraints placed on the participants by family members and familial structures was also mentioned as an influence on how they coped when distressed. These constraints were generally related to not having much independence or autonomy growing up, and the inability to spend time outside the house or with friends. Anna discussed having strict parents that limited time with her friends and outside the home:

> I just never, I was never really happy, and I think, I went to therapy and it does, it stems a lot from my family… I was only allowed to go out with my friends once

> every two weeks, and even then it was only, like, between certain hours, and like, it just, made me feel very… isolated, feel very different. – Anna

This was also related to cultural norms, with Anna's family being of Asian descent, and with Anna describing a sense of being different from her peers and having to balance two sets of cultural norms – those of her parents and her peers.

Hannah, who had a Pākehā background, also described feeling trapped at home with her parents, and having little autonomy. However, while Anna had described her experience of this as being due to having strict parents, Hannah attributed this to being a teenager and the reality of living at home with your parents at this developmental stage.

> When you're younger it's like you're trapped in your house with your parents, you can't exactly like make a decision to like, you can't even really go out for a run, you know. Like I don't know, you know, your parents would be like 'what's going on' you know. – Hannah

Chris also described having strict parents who limited his time outside of the house, and he considered his parents' strictness during his teenage years as one reason that he used NSSI in particular to cope. He reported that the increased independence and autonomy he gained when he left high school was a "huge factor" behind him no longer self-harming. He described alcohol and substances as a "non-option" due to his parents' rules and felt that bringing any attention to himself when distressed or behaving in a way that did not meet his parents' expectations would make things worse.

> I suppose there's people who break plates, or smash things, or they'll run out and scream into the ocean or something, but I couldn't do anything, I couldn't really do

> anything involving breaking anything, or making any loud noise… I didn't really have many options there. – Chris

Chris' sense of having felt like he had very few options available to him to cope with strong emotions was apparent, and it seems as though with having limited outlets available to him, these emotions would have built up quickly until they resulted in self-harm to manage the significant emotional distress. However, it also appeared that Chris had also placed constraints on himself on how he would cope with emotion, due to his care for his family and a desire to not hurt other people, and he described this as making engaging in NSSI in particular even more likely.

> To me there was probably only self-harm and suicide, and you couldn't, everything else was off-limits, you couldn't take it out on another person, that's an awful thing to do, but I couldn't kill myself because how could I do that to the people that I love, so it's like, it's really the only thing I had, I guess. – Chris

Peer Limitations/Isolation

Isolation and not having any close supports to talk to was mentioned by almost every participant when describing reasons that they had self-harmed, or possible reasons people may self-harm in general. Without social support available, the participants reported having fewer possible ways to manage and process strong emotion.

> I found I felt very alone, when I committed self-injury, it was, I suppose it's like you don't have anywhere else to go, you don't have any, you don't have people to talk to, or you feel like people are either too awkward, or they feel, they're just not interested enough for you to confide in them, properly. – Chris

Interestingly, the two participants who had engaged in self-harm the least reported social support and being able to talk to someone when they were upset to be a significant aspect of their coping abilities. Felicity, for example, had only self-harmed once in her life, and partly attributed this to the fact that the person she would usually confide in when she was upset had been the person who had upset her in that situation, leading to her losing her usual way to cope with strong emotion and her ability to express her emotions as she usually would.

> But yeah, that was one time when I just really lost my shit and I couldn't confide in him because he was the problem, and it was really frustrating. – Felicity.

Anna, meanwhile, had attempted to talk to a school counsellor about her self-harming, but after her counsellor breached confidentiality and told others about Anna's self-harm, Anna experienced significant stigma from others, and understandably avoided seeking further support again from professionals for several years.

> I remember this clearly, [a school staff member] said to me 'there is something wrong with your head, which is why you're doing this'. – Anna

Practical Limitations

The majority of participants described practical limitations on them as part of the reason why they engaged in NSSI, as opposed to alternative coping strategies, particularly less adaptive ones. These practical limitations generally focused on the accessibility, or inaccessibility, of alternative ways to reduce or avoid the negative emotions they were experiencing, and the efficacy and speed of NSSI at removing the negative emotion, especially with the coping 'tool' – the body – being always available.

> I think for a lot of people it wouldn't be the first thing they'd turn to if they had other ways, they'd do other things. Not necessarily better ways, not necessarily healthy ways, there could be people, they might do exercise to unhealthy degrees, but if they can't do that for some reason then they might turn to self-harm; people who'd binge-eat but if there's no food to do that then they'd end up turning to something else. - Chris

This inaccessibility of alternative coping strategies, particularly less adaptive coping strategies like alcohol and drugs, often intersected with the participants' age and developmental level and the lack of autonomy they had as a result, increasing their likelihood of engaging in NSSI in particular. Again, NSSI was aligned with substance use in particular as a way to effectively reduce and avoid negative emotions, but unlike substance use, it was available to them at all times.

> As a teenager you don't really have a lot of options, like you can't really go to the bar or anything like that, and you can't really get drugs or anything like that. That's probably the only, that's almost like the most accessible way to do that, yeah. Especially when you're really young, and you don't, you know, I don't know, it just seems like the only thing you can think of. – Hannah

While most participants described engaging in NSSI in private, one participant, an athlete, found that it was when she was in public at competitions that she needed to be able to cope most, and this shaped the way she would self-harm. As she was visible to others, unable to easily leave the situation and spend time alone, she would surreptitiously pinch herself hard as her method of self-harm, as a body-based strategy to bring her back into the moment and suppress her emotions. She found this effective at quickly helping her to focus and

prepare to compete without drawing attention to herself, having to leave the situation, or needing the support of another person.

> If I felt like I was going to, like the bottle was going to overflow in public, which, big no-no I guess… yeah that was an easier way to bring myself back into the present. Well, not the best way but yeah… Just like a way to put you back into the spot. Like if I was in public or something, that would help me get back. – Isabella

Summary

It was a privilege to hear the stories and first-hand knowledge of these participants and to understand in greater depth how they understood emotion dysregulation, self-esteem, and self-compassion and their relationship to NSSI. The themes described above, generated both deductively and inductively, shed some light and further detail on how these factors relate specifically to engagement in NSSI and on how the use of this coping strategy develops over time.

Chapter 8. Discussion

Introduction and Summary of Findings

This research project focused on the gap in the current research literature examining why some people may use NSSI to cope with strong negative emotions, while others do not. While previous research has found an association between emotion dysregulation and NSSI, and has identified that it may be one of the causes of NSSI, it is likely that the development of NSSI is produced by multiple factors. In this research, self-esteem and self-compassion were both considered plausible factors to consider in why people may choose to harm their bodies as a way to manage their emotions, alongside emotion dysregulation. This research therefore contributes to the literature by assessing and analysing all three of these variables simultaneously, as well as by controlling for other possible confounding variables such as age, gender, and previous use of mental health services.

To examine this, a mixed methods study was undertaken to examine how emotion dysregulation, self-esteem, and self-compassion were associated with NSSI among young adults, and how young adults viewed these concepts and their relationship to NSSI. It was hypothesised that emotion dysregulation would be higher among people who had engaged in NSSI more frequently in the past twelve months and would positively predict the likelihood of engaging in NSSI more frequently, while self-esteem and self-compassion would both be lower among those with more frequent NSSI in the past year and would negatively predict the likelihood of engaging in NSSI frequently. At the qualitative stage, the research question guiding the interviews with participants was ‘how do participants view the relationships, if any, between emotion dysregulation, self-esteem, self-compassion and NSSI?’. This phase did not involve specific hypotheses but sought instead to obtain a more detailed and rich understanding of the participants’ perspectives on how emotion dysregulation, self-esteem, and self-compassion were related to engagement in NSSI. The data collected at both the

quantitative and qualitative phases partially supported the original hypotheses, and the qualitative data provided more nuanced information about the participants' views of the relationships between NSSI, emotion dysregulation, self-esteem, and self-compassion.

Collectively, the data does support the original argument of this research that the current emotion dysregulation explanation of NSSI in the literature is not sufficient, and that further examination of other specific risk factors is required in order to understand why some people engage in NSSI when distressed, and why some do not. However, the hypotheses were only partially supported, with emotion dysregulation and self-compassion only being significant predictors of NSSI engagement depending on the coding method used in the analyses, unlike self-esteem, which was a consistent negative predictor throughout. The qualitative analysis, while identifying themes that aligned with the research question and the phenomena of interest, also identified themes that fell outside of the original research question. Nonetheless, these results contribute to understanding in greater depth and detail why some people harm themselves physically when distressed.

Interpretation of Findings and Relationship to Prior Literature

This section will examine the results of this research in further detail and explore what these findings may mean.

Quantitative Results

At the quantitative phase, some of the analyses supported the hypotheses of this research, while some did not. The Welch's *t*-tests (with both the original and alternative coding) showed that those who had engaged more frequently in NSSI in the previous 12 months were significantly higher in emotion dysregulation and significantly lower in self-

esteem and self-compassion compared to those who had engaged less frequently. The Welch's *t*-test analyses therefore consistently supported the three hypotheses.

The logistic regression analyses were not as consistent, however. Emotion dysregulation was a nonsignificant negative predictor of engaging in NSSI more than three times in the previous year, while self-esteem and self-compassion were significant negative predictors. These results supported Hypotheses Two and Three, but not Hypothesis One. When the alternative coding was used, however, these results changed. Emotion dysregulation was a significant positive predictor of engaging in NSSI at least once (compared to no NSSI at all) in the past year, while self-compassion was a nonsignificant negative predictor; and self-esteem remained a significant negative predictor. In essence, the significance of emotion dysregulation and self-compassion as predictors depended on the coding and analytic method used. As the hypotheses were tied to the original coding of the data, this means that Hypothesis One was not considered fully supported – while the *t*-test analyses support it, the logistic regression analyses do not. Hypotheses Two and Three, however, were fully supported across both the *t*-test and logistic regression analyses.

These results indicate that emotion dysregulation may not be as strongly related to NSSI as the literature to date has suggested, at least when self-focused psychological factors are also being assessed, and that self-esteem and self-compassion play a role in a person's pathway to using NSSI. Self-esteem in particular appears to play a consistent role, remaining significant across the analyses, unlike emotion dysregulation and self-compassion. However, given that the impact of self-esteem and self-compassion was relatively small, and that emotion dysregulation and self-compassion's results were inconsistent across the coding methods, other variables that impact NSSI engagement remain to be researched further. Each of these findings are discussed in detail below.

Emotion Dysregulation and NSSI. This research found that, in the original analysis at least, emotion dysregulation was not only not a significant predictor of NSSI engagement, but it was not even approaching significance, and was negative (albeit minimally at -0.01), when a positive relationship had been predicted. This unexpected result goes against both the hypotheses of this research and the research literature to date. It does, however, somewhat align with the original argument of this research, that emotion dysregulation is an insufficient explanation for the aetiology of NSSI.

However, the Welch's *t*-tests showed that emotion dysregulation was significantly higher among those who had engaged in NSSI more than three times, and emotion dysregulation was a significant positive predictor when the alternative coding method was used (that is, when those who had self-harmed at least once in the past twelve months were combined with those who has not self-harmed at all). Indeed, it seems to have alternated with self-compassion in the logistic regression analyses – in the original analysis, self-compassion is a significant predictor and emotion dysregulation is not, while in the alternative analysis, self-compassion becomes nonsignificant and emotion dysregulation is significant. It may be that these two concepts are aligned or possibly overlapping in what they are measuring, suggesting that some multicollinearity is impacting the results – and indeed, the correlation analyses of the independent variables indicated that emotion dysregulation and self-compassion were correlated at -0.72. This correlation may be due to similar psychological constructs being assessed in the measures of both variables. For example, the absence of mindfulness or awareness of emotions may be being measured in the Lack of Emotional Awareness subscale of the Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004), and the Over-Identification subscale of the Self-Compassion Scale (Neff, 2003b).

This multicollinearity is likely to have added sampling error and uncertainty around the estimates in the logistic regression analyses, potentially increasing the risk of Type II

errors being made (believing there to not be a relationship between the variables, when there actually is). It may have also reduced the apparent effect of emotion dysregulation on the results. It may be that one of these variables mediates the effect of the other on NSSI – for example, emotion dysregulation may affect self-compassion, which then affects NSSI – and this may lead to less accurate and more biased estimates of the causal effects. That is, self-compassion might be reducing the effect of emotion dysregulation on NSSI (or vice versa) in the model, because part of the effect of emotion dysregulation on NSSI may be occurring via self-compassion.

The logistic regression result finding that emotion dysregulation was not a significant positive predictor of the likelihood of engaging in NSSI (although it was significantly higher among those who had engaged in NSSI) goes against the research literature. As discussed in Chapter 2, emotion dysregulation has consistently been found to be both correlated with and a risk factor for engagement in NSSI (Heffer & Willoughby, 2018; K. Robinson et al., 2019; Wolff et al., 2019; You et al., 2018), and is suggested in the Experiential Avoidance Model of NSSI to be one of the factors that makes NSSI more likely (Chapman et al., 2006).

This result and its variation from the literature may be due to a number of factors. Firstly, it should always be considered that these results may be due to a sampling or Type II error. However, it may also be an artefact of the study's design and the decisions made regarding recruitment. Recruiting young adults as participants may have meant that their emotion regulation skills had improved as they transitioned into adulthood, even for those who were still engaging in NSSI – as their ability to cope with strong emotion improved, they may have self-injured less frequently. This may have therefore meant that participants captured in this result were those who had self-harmed regularly in their teenage years, but reduced this over time to only self-injuring occasionally when experiencing significant distress. Those who have self-harmed in the past twelve months may therefore be closer in

their emotion regulation abilities to their peers who had never self-harmed. This may mean that even after controlling for the other variables, particularly age, the difference in emotion dysregulation between those who had self-harmed and those who had not in the past year was not different enough to be statistically significant in the logistic regression analysis.

This relates to previous research on the prevalence of NSSI across different demographics, finding that the twelve-month prevalence of NSSI is lower among young adults compared to adolescents (Fitzgerald & Curtis, 2017; Kiekens et al., 2023; Lim et al., 2019; Whitlock et al., 2006, 2011), and that engagement in self-harm appears to decline with time (Carr et al., 2016). Due to the design of the NSSI measure, it was not possible to examine this in further detail. Measuring frequency differently – whether by giving higher possible numbers for episodes of self-harm, using a continuous measure, or also assessing lifetime frequency of NSSI – could have allowed for further analyses and examination of the relationship between NSSI and emotion dysregulation in this population.

It may also be that the idea that those who had self-injured three times or less in the past year would be more like those who had self-injured zero times in their emotion dysregulation, self-esteem, and self-compassion scores compared to those who had self-injured more than three times was, frankly, incorrect. As can be seen in the logistic regression analyses with the alternative coding of the dependent variable, emotion dysregulation was a significant predictor of any engagement in self-harm over the previous year, suggesting that this may be a key differentiator of those who self-harm – however frequently – and those who do not. This relates to the results of Heath et al. (2008), who found that emotion dysregulation predicted NSSI even when it occurred infrequently, and Wolff et al. (2019), who identified that emotion dysregulation was higher among those who had a history of self-harm even if they had not self-injured for a year or more.

It is also possible that emotion dysregulation plays a key role in the initiation of the NSSI behaviour, but not necessarily its maintenance as the person ages, resulting in a weakened relationship between these factors in the 18-25 age group assessed here. While Robinson et al. (2019) found that emotion dysregulation and NSSI appear to have a reciprocal effect on one another – with engagement in NSSI predicting increased emotion dysregulation over time – this research was with adolescents, and it is possible that this reciprocal relationship may fade over time as they enter adulthood and develop further emotion regulation and coping skills. NSSI may therefore be a familiar coping strategy for periods of high distress or when other coping strategies are not available for young adults with a past history of NSSI who had generally found other ways to cope and had improved their emotion regulation abilities, resulting in the 'one to three times' participant group who reported having only infrequently engaged in NSSI in the past year.

Lastly, this finding may also suggest that the relationship between emotion dysregulation and NSSI found in the literature to date is not as strong as the wealth of studies on it implies, particularly when other self-focused variables are controlled for. Williams and Hasking (2010) did, however, also find a nonsignificant relationship between NSSI and emotion dysregulation (F. Williams & Hasking, 2010). While completed in a similar population to that of this research – young adults (in this case Australian), this study assessed emotion dysregulation slightly differently – assessing cognitive reappraisal and expressive suppression as the two dimensions that together formed emotion (dys)regulation – and also assessed coping styles. They found that neither form of emotion regulation ability was predictive of engagement in NSSI, but that these were highly correlated with coping styles, and that emotion-focused coping was predictive of NSSI (F. Williams & Hasking, 2010). This suggests that the relationship between emotion dysregulation in their study may have been hidden or mediated by the emotion-focused coping style also measured; and that

including an assessment of coping strategies and styles in future research could provide helpful differentiation.

Self-Esteem and NSSI. The results of this research found that not only was self-esteem significantly lower among those who self-injured (with any frequency) in the Welch's *t*-test analyses, but that it was also, unlike emotion dysregulation and self-compassion, a consistently significant negative predictor of engaging in NSSI across all of the logistic regression analyses. This finding suggests that the relationship between self-esteem and NSSI is stronger than that of both emotion dysregulation and self-compassion with NSSI, and that NSSI may in fact be more impacted by a person's view of themselves than by their emotion regulation ability – although given the cross-sectional nature of this research, drawing causal inferences such as this can only be tentative. The stronger relationship between self-esteem and NSSI compared to emotion dysregulation and NSSI is surprising, considering the focus on emotion dysregulation in the research and theory on NSSI compared to self-esteem, which has not received the same level of attention.

This finding provides further support to prior literature on the relationship between NSSI and self-esteem, however, with previous studies finding that low self-esteem is correlated with engagement in NSSI, and may a risk factor for the development of it (that is, it not only co-occurs, but also temporally precedes engagement in NSSI); suggesting, although not proving, a causal relationship (Claes, Houben, et al., 2010; Forrester et al., 2017; Garisch & Wilson, 2015; Hawton et al., 1999; Lundh et al., 2007; Tatnell et al., 2014). The strength of the relationship between self-esteem and NSSI over and above that of self-compassion in this research also relates to the research of Donald et al. (2018), who found that self-esteem preceded the development of self-compassion, and suggested that self-esteem be brought "back into the spotlight" in future research on youth mental health (Donald et al., 2018, p. 9). The findings of this research are therefore aligned with the research literature on

self-esteem and NSSI to date; but with the added advantage of being able to take this one step further by examining self-esteem's ability to predict engagement in NSSI while controlling for self-compassion, another 'self'-related factor, and emotion dysregulation.

Although the cross-sectional, correlational design of this research means that conclusive causal inferences cannot be made, these results tentatively support the suggestion that a person's low valuation of themselves may play a role in shaping whether they engage specifically in NSSI when distressed. More research would be needed to find confirm this, ideally with longitudinal design, and examining emotional dysregulation and NSSI with self-esteem as a moderator or mediator. However, it makes some conceptual sense that self-esteem has a stronger impact on NSSI than emotion dysregulation. Emotion dysregulation alone implies that a person will struggle to manage negative emotions, but not that they will necessarily use NSSI or any other maladaptive coping strategies to reduce their distress. For example, there is nothing necessarily precluding them from instead using exercise or connecting with loved ones to alleviate their emotions instead. When low self-esteem is present, however, this negative evaluation of the self may make it more likely that a person will, for example, not feel worthy of support from others and lack the confidence to seek it. NSSI may therefore be a coping strategy that is aligned with the way that they feel about themselves.

Self-Compassion and NSSI. This research found that those with lower levels of self-compassion were more likely to have engaged in NSSI more than three times in the previous year. However, in the alternative analyses, this relationship became statistically insignificant. This may be due to the multicollinearity with emotion dysregulation, as discussed above, with self-compassion and emotion dysregulation possibly having a partially mediating effect on each other's respective associations with NSSI. While self-esteem appears to have had a strong enough effect to have predicted NSSI even with the other independent variables

included in the model, only one of self-compassion and emotion dysregulation was significant in each of the models.

The results of the logistic regression analyses therefore varied substantially depending on the NSSI frequency threshold used to divide those who were being considered 'self-harmers' in this research. These results may be an artefact of the study design, but may also speak to previous research on NSSI suggesting that there may be different typologies, or 'latent classes' of people engaging in NSSI, who may differ from each other in their demographic characteristics, methods of self-harming, level of psychological difficulties, and level of potential risk of harm to oneself (Guérin-Marion et al., 2021; Hamza & Willoughby, 2013; Klonsky & Olino, 2008; Sack et al., 2022; Shahwan et al., 2020; Whitlock et al., 2008).

Collectively, the results of this and prior research finding no relationship between emotion dysregulation and NSSI when an emotion-focused coping style was also included in the regression model (F. Williams & Hasking, 2010), may suggest that emotion dysregulation is predictive of frequent NSSI, while self-compassion is more predictive of infrequent NSSI. However, as those who infrequently engaged in NSSI in this research were either combined with those who had never self-harmed, or who had more frequently self-harmed in the analyses, the results of this research cannot directly demonstrate this, and can only suggest this when viewed together with the findings of other research. However, this suggestion makes some conceptual sense – negative emotions in general are regularly experienced, but events that specifically trigger self-judgment and negative emotions about the self are likely to occur less frequently for the majority of people. Those who engage in NSSI to reduce negative emotions brought on by self-critique and self-blame may therefore already be experiencing a lower frequency of possible triggers, while those who struggle to manage negative emotions regardless of what prompted them are likely to experience triggers for self-harm much more frequently.

The results of these analyses – particularly those of the *t*-tests and the logistic regression with the original coding – do, however, support the literature to date identifying a negative relationship between NSSI and self-compassion, with low self-compassion being both a correlate of and risk factor for NSSI (Cleare et al., 2019; Yang et al., 2023). More research remains to be done, however, particularly on the dimensions of self-compassion that relate most strongly to NSSI engagement; and further longitudinal, meta-analytic, and experimental research would be helpful to establish the relationship between these factors and the extent to which they may cause NSSI more definitively.

Qualitative Results

At the qualitative stage, the research question guiding the interviews with participants was 'how do participants view the relationships, if any, between emotion dysregulation, self-esteem, self-compassion, and NSSI?'. Using Reflexive Thematic Analysis, three themes were generated deductively and related specifically to the variables of interest in the research question – emotion dysregulation, self-esteem, and self-compassion – while two others were generated inductively, and were related to the use of the body to cope, and to engagement in NSSI due to having limited other ways to manage emotions. This mix of theme development methods was done in an effort to balance understanding the specific variables of interest and their relevance (or not) to participants, as well as to be open to unexpected themes in the research that could improve our understanding of why certain individuals engage in NSSI over other coping strategies. Each of these themes and their implications are discussed below.

'Zero to 100' – Emotion Dysregulation. This theme reflected participants' experiences of the intense highs and numbed lows of their negative emotions; how they regulated their emotions (or not); what this was like for them; and how they believed this had been related to their use of NSSI to cope. Self-harm was seen as a way to both cope with and

bring an end to being at a high level of distress, and as a way to facilitate emotional avoidance. This theme may have also reflected my own prior knowledge of the literature and assumptions of the topic prior to undertaking the analysis, which is not considered to be especially problematic in deductively-coded thematic analyses, but should be noted nonetheless.

This theme echoed past literature finding that NSSI and emotion dysregulation are related (Heffer & Willoughby, 2018; K. Robinson et al., 2019; Wolff et al., 2019; You et al., 2018) and the wealth of literature finding that the emotion regulation function of self-harm is the most common function of NSSI (P. J. Taylor et al., 2018). The emotional extremes subtheme, however, speaks to the participants' views that high levels of distress were part of the reason that they engage in self-harm. This conflicts with several studies finding that emotion intensity and reactivity did not significantly or independently predict a higher frequency of self-harm (Gratz, 2006b; Gratz & Chapman, 2007; Gratz & Roemer, 2008). The emotional avoidance subtheme in particular relates to the Experiential Avoidance Model of NSSI (Chapman et al., 2006), and provides further empirical support for this theory's suggestion that NSSI is engaged in as it provides relief from negative internal states, and that engagement in NSSI is maintained as it is effective in facilitating this relief.

Self-Esteem as a Precondition. In this theme, participants' views of themselves and how this affected their wellbeing and engagement in NSSI were discussed. Participants varied in the extent to which they thought self-esteem was directly related to NSSI, but there was a general consensus that NSSI was unlikely to occur without the context of low self-esteem. This generally aligns with the research literature on NSSI and self-esteem to date, discussed in more detail above, but it should also be noted that NSSI has been found to also occur in those with narcissistic traits, who have very high self-esteem (Dawood et al., 2018).

The participants also noted a potential cyclical effect between self-harm and low self-esteem. This may relate to the reciprocal effect similar to that found by Robinson et al. (2019) regarding emotion dysregulation. A person with low self-esteem may engage in self-harm when distressed, then feel worse about themselves afterwards due to the stigma of self-harming, the shame they may feel about it, and the physical reminder left by the self-harm of both their distress and their damage to their bodies. For young people especially, their self-esteem is likely to be impacted by their perceptions of their relationships with their peers and by their physical appearance (Brinthaupt & Lipka, 2012; Tatnell et al., 2014). Self-harm is likely to have a detrimental effect on both of these, especially if physical scars remain. More research, specifically longitudinal research, would be needed to determine if this reciprocal relationship between self-esteem and NSSI is occurring, however.

Ambivalent Self-Kindness. The self-compassion theme, Ambivalent Self-Kindness, explored participants' perspectives of self-compassion, their progression from being highly self-critical and judgmental towards themselves to being increasingly kind to themselves, and how this related to self-harm.

Participants related less to the concept of self-compassion, but frequently discussed being self-critical and self-judgmental, especially in the past, and described having reduced this and having become kinder to themselves over time. It is possible that this absence of self-compassion from the initial accounts of engaging in NSSI could also be due to the participants' ages at the time that they were using NSSI to cope with their emotions. The participants generally described the start to their self-harm being in their pre-teens or early teenage years, and with this time being a stage where a sense of self is still being developed (Breen et al., 2013), it may have been that self-compassion was not a concept that they would have related to even if they had been aware of it. With the interviews happening mostly with people in their early twenties, it may have been that this transition into adulthood and

university and the added challenges it brings may have prompted more reflection on ways to care for and relate to oneself. Most of the interview participants had ceased or significantly reduced their self-harm by the time of the interview, but at the time when they were regularly self-injuring, they were younger and were likely still forming an independent, secure, identity. Adolescence typically involves a less secure and more nebulous sense of self as an individual transitions from being a child to being an adult and weathers the social, biological and academic changes involved; becoming more dependent on their peers and less dependent on their family, starting romantic relationships, entering the workforce, thinking in more concrete terms about their future, placing more weight on their academic success, and changing physically from having a child's body to that of an adult (Branje et al., 2021; Brinthaupt & Lipka, 2012; Brown & Plener, 2017; Porfeli & Lee, 2012). The development of self-compassion may therefore rely on the development of a sense of 'self'. Indeed, self-compassion appears to increase with age (Neff & Vonk, 2009), and longitudinal research assessing adolescents over a four-year period has suggested that self-esteem may be a necessary precipitant for the development of self-compassion, as expressing compassion towards oneself without feeling worthy of it makes it feel undeserved (Donald et al., 2018). It would make conceptual sense, therefore, that the interview participants did not relate to being self-compassionate before their sense of self was fully formed and viewed as worthy of being taken care of.

This also speaks to the relationship between self-esteem and self-compassion. While they are similar concepts, and were found to be positively correlated in this research, self-esteem involves an evaluation and judgment of oneself while self-compassion does not, being more of a way of relating to oneself (Donald et al., 2018; Neff, 2011; Neff & Vonk, 2009). However, it is possible that for young people these concepts may go hand-in-hand, with self-compassion being reliant on being judged as worthy enough to care for, and this in turn

buffering the more negative judgments and evaluations that may be made about oneself. It would have been helpful to examine the possible relationship between these two factors further in the interviews, although it is somewhat beyond the scope of this research.

This echoes the research of Sutherland et al. (2014), who undertook a qualitative study of the online accounts of people who self-harmed. They found that each of the dimensions of self-compassion were referenced in these accounts. Of specific interest to the Ambivalent Self-Kindness theme, the participants described self-kindness as increasing their tolerance of any perceived mistakes, as well as allowing them to acknowledge their progress over time. Furthermore, these participants descriptions of self-compassion, like those of the participants of this research, also often involved practical actions to care for oneself, such as resting, setting goals, and exercising (Sutherland et al., 2014).

The Body as a Coping Tool. This theme reflected the participants' tendency to engage in other behaviours that are harmful to the body and to use their physical bodies to cope with strong emotions, whether this took the form of self-harm, disordered eating, or excessive exercise.

Multiple participants were very engaged in exercise and sports and identified this as having a positive impact on their mental wellbeing. All but two of the participants also spoke to experiencing some level of (generally restrictive) disordered eating behaviours, including to a clinical level, with these behaviours being described at times as a way to attenuate emotions, and at other times as more related to fitting societal norms or ideals around women's bodies. This theme was also related to the self-esteem theme, in that the less value a person placed on their body, the more willing they may be to harm it. This echoes previous literature finding that a person's body regard can moderate the impact of emotion dysregulation (Muehlenkamp et al., 2013) and self-blame coping (Kruzan et al., 2022) on NSSI, with high body regard being protective.

The idea of self-harming to release emotional pain physically that was discussed in this theme has also been found in other research, with Gratz (2000) finding that participants described self-harm as a way to externalise emotional pain, making it more tangible, less abstract, and therefore easier to manage and understand; while Edmondson (2013) identified a function of self-harm they termed the 'transfer of pain' in their research.

There has also been some suggestion in the literature regarding whether NSSI and disordered eating behaviours may form two sides of the same coin. These behaviours have certainly been noted to co-occur (Laye-Gindhu & Schonert-Reichl, 2005; Muehlenkamp, Peat, et al., 2012; Ross et al., 2009; Turner, Yiu, et al., 2016), and this was also true among the interview participants. This idea that NSSI and disordered eating may be two manifestations of the same underlying disorder has been largely theoretical, or hypothesised while discussing the results of studies finding that NSSI and disordered eating are correlates of each other and may serve similar emotion regulation functions (Cross, 1993; Muehlenkamp, Peat, et al., 2012; Muehlenkamp, Suzuki, et al., 2019; Solano et al., 2005). There is also anecdotal evidence has been reported from clinicians on the interchangeable use of these behaviours by those who experience both eating disorders and NSSI – when one behaviour is treated, the other can be used to cope (Muehlenkamp et al., 2009). It is also notable that other research has suggested that some participants have viewed disordered eating as a form of self-harm in itself (Laye-Gindhu & Schonert-Reichl, 2005; Newton & Bale, 2012), and that this was also seen in this research – multiple interview participants asked me to clarify in the interviews if disordered eating behaviours (as well as substance use) were considered forms of self-harm for the purposes of this research. While these behaviours vary in their level of chronicity versus acuity and the extent to which they may move a person towards or away from a socially idealised appearance, they both reflect an underlying tendency to manage distress by using the body to cope. They may also both have

secondary effects that reinforce their use – while restrictive eating patterns can result in weight loss that receives social approval from others, self-harming has been shown to sometimes lead to improved relationships with parents (Hilt et al., 2008), as well as increased perceived social support (Turner, Cobb, et al., 2016).

Further research would also be helpful to understand the use of the physical body to cope that was identified in the qualitative theme 'the Body as a Coping Tool'. All but two of the participants described having engaged in disordered eating in the past – some of which would have likely been subclinical, and some of which was diagnosed or likely to have been at a diagnosable level. The correlation between NSSI and disordered eating has been noted before (de Silva, 2014; Muehlenkamp, Peat, et al., 2012; Ross et al., 2009; Turner, Yiu, et al., 2016; Vansteelandt et al., 2013). Disordered eating and NSSI both involve harming the body in some way, but with very different presentations and with varying immediacy in their effects. Understanding the relationship between these two behaviours and what they may have in common would be helpful for clinicians who work with those engaging in one or both behaviours. This research could include further exploration of whether one behaviour usually precedes the other, the self-reported functions of and reasons for each behaviour, and whether there are particular risk factors that may lead to a person engaging in both behaviours when they had previously engaged only in one. This would likely involve at least some longitudinal research, however, and may therefore take some time to undertake. In the meantime, clinicians working with youth who engage in one of these behaviours should consider screening for the other, if they do not do so already.

Constrained Choices for Managing Distress. This theme was identified even before coding began in earnest and appeared in my initial notes taken during and immediately after the interviews. It analysed how cultural, structural, social, and practical constraints and

limitations on the participants influenced their use of NSSI as opposed to a different coping method.

This theme relates to the Pragmatic Theory of NSSI, which suggests that people engage in self-harm because it is fast, can be done in many settings, does not cost anything, and is relatively accessible for young people, who may not be able to access alternative methods of immediate emotional avoidance such as alcohol or drugs (Nock, 2009). The Constrained Choices theme and Pragmatic Theory of NSSI both reflect a relatively understudied aspect to NSSI – that of the more practical reasons that young people may engage in NSSI, particularly when their other potential coping methods are limited. Reflecting this more 'practical' viewpoint on NSSI, the participants also spoke to one of the reasons they ceased self-harming being practical as well, with multiple participants reporting that they got sick of cleaning up after an episode of self-harm, hiding it from family and romantic partners, or simply disliked the scars it left behind. The increased freedom they experienced as they finished high school, began university, and moved out of home – and for some participants, as they gained easier access to substances to cope instead (which may also be a more socially acceptable way to alleviate emotions among this demographic) – also appeared to contribute to a reduction in self-harming, further supporting this theme's suggestion that a lack of choice in coping strategy played a role in the use of NSSI in particular.

I would argue that this theme highlights how treatment focused on reducing engagement in NSSI must engage with the broader reasons people are harming themselves to cope. Despite being a maladaptive method of coping, NSSI is undeniably highly effective at reducing emotions for those who engage in it, and for people who are severely struggling, with limited options to cope, it may also help them avoid more significant physical harm in a suicide attempt (Klonsky, 2007, 2009; Klonsky & Glenn, 2009). Treatment providers must

ensure they are providing clients with other alternative possible coping strategies, *as well as* encouraging them to stop self-harming, if they are not already doing this.

Combining the Quantitative and Qualitative Results

Undertaking mixed methods research allows for the synthesis and comparison of both forms of the data produced. In this research, both the quantitative and qualitative phases of this research yielded useful data. At times the results of the different data and analyses of the phases aligned well with each other, but at other times they did not. The results of the quantitative and qualitative phases are discussed here in relation to the main variables of interest in this research – emotion dysregulation, self-esteem, and self-compassion – and their relationship to NSSI.

The lack of statistical significance for emotion dysregulation in the original logistic regression analyses may be due to the reduced frequency of NSSI in this young adult population – the relationship between these factors may be less salient for a slightly older population who are self-harming less frequently compared to adolescents. This was supported by the interview participants discussing their current engagement in NSSI. For example, Ella had significantly reduced the frequency of her self-harm over time, and believed she would now only engage in it occasionally when her negative emotions increased so quickly that she could not "catch them" and use other coping strategies in time before they overwhelmed her. Similarly, Danielle had ceased self-harming entirely in recent years, except for one incident where numerous stressors had occurred simultaneously and resulted in a high level of distress prior to her engaging in NSSI.

In contrast to the lack of significance of emotion dysregulation in the quantitative analysis, the qualitative data focused significantly on the participants' experiences of emotions and emotion dysregulation, and was the theme with the largest amount of data

attached to it by far, and with the most vivid descriptions by the participants. The subthemes of the 'Zero to 100' theme reflect how both very high and very low levels of negative emotions are related to NSSI. High levels of emotion were seen by participants as one of the main differentiating factors between those who use NSSI to cope and those who do not, and NSSI seen as a way to facilitate an end to high levels of distress. Collectively, these results and that of the literature to date suggest that the non-significance of emotion dysregulation as a predictor in the original logistic regression analysis may be an artefact of how the dependent variable was operationalised, and that emotion dysregulation is important to consider in understandings of NSSI; but that, in line with the original argument of this research, it is not a sufficient explanation for NSSI engagement.

In regard to self-esteem, the quantitative results found a consistent relationship between low self-esteem and engagement in NSSI across all analyses and coding methods. This contrasted with the qualitative results, however, with self-esteem being perhaps the most disagreed on factor between the participants – while they generally viewed self-esteem and NSSI as being related, they varied in their perception of this relationship. A common thread, however, was that low self-esteem was potentially part of the context in which NSSI occurred, but not necessarily a direct cause of it – that is, it may be a distal causal factor while struggling to regulate negative emotions is a proximal causal factor. For example, Hannah stated "I can't imagine someone self-harming and feeling bad about stuff, if they weren't, if they didn't have really low self-esteem". This may suggest that while self-esteem is related to NSSI, as seen in the quantitative results, it may be more of a general, rather than specific, risk factor for NSSI, in contrast with this research's suggestion that self-esteem may be one of the factors that specifically plays a role in the use of NSSI to cope with distress.

In terms of self-compassion, both phases of the research suggested that there was a relationship between self-compassion and NSSI, but that it is a relatively small or weak one.

Self-compassion was not consistently a significant negative predictor of NSSI engagement across all of the analyses, and the interview participants did not relate as strongly to the concept of self-compassion compared to emotion dysregulation or self-esteem in the qualitative phase. However, they did speak of moving towards becoming less self-critical and kinder to themselves over time as they matured into adulthood, and this appeared to have had a positive impact on their mental health and potentially buffered them from engaging in NSSI in the future.

Collectively, these results support the very broad argument of this research – that emotion dysregulation is related to NSSI, but is not alone a sufficient explanation of it, and that more understanding is needed regarding why people use their bodies specifically to cope with distress. It contributes to the literature to date by analysing how the independent variables may differ for those who engage in NSSI infrequently (the 'zero to three times' group); by analysing how 'self'-related factors may play a role compared to emotion dysregulation, as well as by allowing comparison of self-esteem and self-compassion's relationships to NSSI. However, the results varied across analyses and the phases of the research, and the hypotheses were not fully supported, suggesting that while emotion dysregulation, self-esteem, and self-compassion can all be considered related to engagement in NSSI in some way, in line with the research literature to date, more research is needed to fully understand NSSI and how it can be prevented and treated.

Strengths and Limitations of the Research

Strengths

There are several strengths to this research. Firstly, this study examined a slightly older population than is generally done in self-harm research. While there are a number of studies that examine self-harm in university and young adult populations, they are in the

minority compared to the research examining self-harm in adolescent populations. This is particularly true for New Zealand-based research – while there is some research examining university populations (Fitzgerald & Curtis, 2017), the majority of the research based in Aotearoa New Zealand has been with secondary school students, particularly as part of the Youth Wellbeing Project in the Wellington region (de Silva, 2014; Fraser et al., 2018; Garisch et al., 2016, 2017; Garisch & Wilson, 2015; K. Robinson et al., 2017, 2019, 2021; M. Wilson et al., 2015). The sampling of young adults rather than adults past early adulthood also increased the chance that participants can describe any adolescent experiences of self-harm with limited memory issues in the interviews; and asking only about NSSI in the past twelve months in the quantitative stage will have served a similar function or reducing the chance of inaccuracy in the results.

The way that the dependent variable was analysed may have impacted the results, as discussed above. However, it was also a strength of the research design. It was designed to capture those participants who may fall outside of the general perception of those who self-harm – either using it so infrequently it does not capture their typical coping strategies, or because they are 'experimenting' with possible coping strategies when highly distressed. This way of measuring self-harm allowed for us to capture those who had self-harmed only between one and three times in the previous year, unlike other research, which would have combined them with those who may use NSSI much more frequently and for whom NSSI was arguably a regular coping strategy. The use of a twelve-month time frame, rather than assessing lifetime use of NSSI, is also a strength of this research, as it means that a person's current emotion dysregulation, self-esteem, and self-compassion scores were being compared with their current frequency of NSSI, rather than any use of NSSI over the course of their lifetime.

Another strength is the use of a mixed methods design to examine the impact of emotion dysregulation, self-esteem, and self-compassion on NSSI. This allowed for the data from the same participant population obtained at both the quantitative and qualitative stages to be compared and contrasted with each other, as well as to the literature to date (Harding, 2013; Rohleder & Lyons, 2014). Combining quantitative and qualitive methods provides a wider and deeper understanding of the phenomena of interest than using only one, and highlights where the data may converge from each method, or differ (Harding, 2013; Rohleder & Lyons, 2014). Using qualitative or mixed methods designs may provide new and helpful information to understand these phenomena. For example, Edmondson (2013) found evidence of other functions of NSSI that were not identified or discussed in the quantitative literature base in a qualitative study of NSSI. They argued that the reliance on quantitative approaches to understand NSSI may limit our understanding of some of the less common reasons for engaging in NSSI, such as to express resilience, communicate distress to others, express emotion in a way that avoids harming others, or to regain focus or control over oneself (Edmondson, 2013).

Lastly, the open sciences practices and use of pre-registration are considered a significant strength of this research. The replication crisis in recent years has highlighted the need for more transparent and robust research practices in psychology, and open science practices have been encouraged to attempt to rectify this and prevent it from continuing (Lakens, 2019; Munafò et al., 2017; Nosek et al., 2018, 2019; van ’t Veer & Giner-Sorolla, 2016). Open sciences practices have therefore been used in this research. This included pre-registering the study on Open Science Framework, conducting the study as planned, stating when any analyses veered from the pre-registration and why, and stating when any post-hoc analyses were done, such as the ordinal logistic regression analysis. Pre-registration of research improves the credibility and trustworthiness of studies, facilitates replication of the

research findings, clarifies which analyses were 'post-hoc' – planned or undertaken after the data was collected, prevents selective outcome reporting, and facilitates the dissemination of research findings even when they are not formally published (Lakens, 2019; Nosek et al., 2018, 2019). Lastly, this research will also place the anonymised quantitative data and the RStudio syntax used to analyse it in an online repository (see Appendix E), so that other researchers can assess and check the validity and accuracy of the results.

Limitations

There are several limitations to this research, despite its strengths.

Generalisability. Firstly, the extent to which this research can be applicable and generalised to the rest of the population should be considered. The participant sample was young adults between the ages of 18 to 25. Given that this is a specific transitional period with a number of life changes typically involved, younger or older populations may relate differently to the independent variables and there may be more or less of a relationship between the independent and dependent variables for those outside of this developmental period. The transition to university alone involves a number of new stressors, which could contribute to increased risk of NSSI – and indeed, Ewing et al. (2019) assessed university students over three years and found that stressful experiences during university predicted an increased risk of NSSI over time through emotion dysregulation.

Even for those within the same age group as the participant sample, life at eighteen is often very different than life at 25, reflecting the intensity of the changes during this time period, and the need for caution when generalising these results. The participants were also predominantly – but not exclusively – university students. This also should be considered if these research results are to be generalised to young adults who had not attended university,

or to a population that did not have the same access to or level of participation in secondary and tertiary education that New Zealand does.

Both phases of this research were also with predominantly Pākehā (New Zealand European) and female participants. As discussed in the Chapter 1, NSSI can manifest differently for males and for those from non-Western cultures, and at different prevalence rates. This should be taken into account when applying the results of this research to males and people of different ethnicities, as well as for those who identify as genderqueer or nonbinary, who in this research represented too small a number to be able to statistically analyse the data – as is often the case in other studies as well.

It must also be noted that this research, like many studies done using human participants, used a self-selection recruitment method, and may therefore by subject to self-selection bias, despite the research advertisements making it explicit that a history of self-harming was not a requirement for participation. Participants would volunteer to participate after seeing the advertisement for the study online, but were not approached directly, and no efforts were made to collect a representative sample of the 18–25-year-old population. Because of this, the results should be interpreted with caution. The participants who self-selected may have had more of a vested interest in research on self-harm due to their own experience of self-harming, which may have increased the reported prevalence of NSSI in the past twelve months (35% total).

Cross-sectional Design. One of the biggest limitations of this study, given its cross-sectional and correlational design, is that while it is attempting to understand the impact of emotion dysregulation, self-esteem, and self-compassion on NSSI, it is not possible to make conclusive causal inferences. This may have been possible if the research was longitudinal or experimental and could assess with more certainty which factors caused others, or could experimentally manipulate them. The quantitative results, depending on the analysis, showed

that the independent variables were associated with NSSI, but not that they were present before the self-harming began, or that they caused the self-harming. While it would make sense that this was the case, these results are not able to demonstrate that, and it is only possible to assume that they were present prior to engaging in NSSI and may have played a causal role in its development. As discussed by Grosz et al. (2020), Haber et al. (2022) and Rohrer (2018), cross-sectional research often implies causation, despite explicitly stating that these results cannot prove causation; and alternative ways of supporting evidence of causality may be a more helpful next step in psychological literature. One of the methods used to support evidence of the independent variables having a causal impact on the dependent variable is by controlling for possible confounding variables, as was done in this research. The results of this research may therefore be considered slightly more trustworthy with some (although certainly not all) of the main possible confounding variables controlled for, although again, they can only tentatively support, but not prove, a causational link between the independent and dependent variables.

Measures. Another possible limitation of this research is the use of the full measures for the independent variables at the quantitative state. The Difficulties in Emotion Regulation Scale, Robson Self-Concept Questionnaire, and Self-Compassion Scale are 26, 30, and 26 items long respectively. The use of the full versions of these three measures may have led to the participants losing interest, and may be the reason many participants did not complete the survey to the end – and indeed, 93 participants did not complete the measure to this point or did not answer the NSSI question and were therefore excluded from the analyses. There are short forms of the Difficulties in Emotion Regulation Scale and Self-Compassion Scale available (Kaufman et al., 2016; Raes et al., 2011), and using these may have resulted in a larger sample. However, given the stopping rules used in the pre-registration, this would still to have been to a maximum of 300 participants, so would have increased the sample size by

only approximately 60 participants – potentially increasing the power of the statistical analyses, but likely having a minimal effect. The placement of the NSSI question at the end of the independent variables measures may have also meant that the sample of participants skewed more towards those with stronger opinions around self-harm, more investment in the study, and possibly more towards those who have personal experience of self-harm because of their willingness to complete all of the measures prior to this question. This potential skewing of participants may not be particularly problematic, and is likely to occur in much self-selection based research, but should be considered.

There were also high correlations between the independent variables. As discussed above, this indicates a level of multicollinearity in the logistic regression models. This may have been evidenced in the emotion dysregulation and self-compassion results in particular, with the significant effects of these variables alternating between the analyses and coding of the dependent variable. This multicollinearity may have reduced the statistical power of the analysis and should be considered in the interpretation of the reliability and validity of these results.

Another limitation of the quantitative phase of this research may be item 22 of the Robson Self-Concept Questionnaire, which was negatively correlated with the rest of the scale. This item states “There’s a lot of truth in the saying “What will be, will be”” and it may speak more to a sense of self-efficacy and self-determination than of self-esteem. There was no significant impact of either removing or retaining this item on the Cronbach’s alpha (.91 versus .92) and as such it was included, as planned in the pre-registration. Future research may wish to also assess the internal consistency of this measure and its impact on their results, and potentially exclude it.

Assessing both lifetime and twelve-month engagement in NSSI would have also been helpful. This would have enabled more analysis of how participants’ levels of emotion

dysregulation, self-esteem, and self-compassion may have differed across those who had never engaged in NSSI, those who had engaged in NSSI previously but not within the past twelve months, and those who had engaged in NSSI in the past twelve months. Given that many of those interviewed in this research described having previously self-harmed frequently, but not within the past year, it would have been helpful to have also collected data on the participants' lifetime engagement in NSSI in the quantitative phase. The interview participants generally reported becoming more self-compassionate and experiencing less emotion dysregulation in the present, due to a combination of maturing, becoming more independent, obtaining mental health treatment, leaving unhealthy and abusive friendships and relationships, and having more social support; and this was not captured in the quantitative data.

Similarly, the research could have been improved by an item or brief questionnaire assessing the participants' current mental health status, as well as their previous use of mental health services. While originally the mental health services item was used to obtain an understanding of the potential severity and clinical significance of any past or present mental health issues, it would have been helpful to also be able to understand the participants' current level of mental wellbeing. As mentioned in the literature review, previous research has found relationships between mental health symptoms and the constructs of interest in the current research. In terms of the dependent variable, symptoms of personality disorders, depression, eating disorders, PTSD, anxiety, and substance abuse are all positively correlated with NSSI (Cawood & Huprich, 2011; Fox et al., 2015, p. 201; Hilt et al., 2008; Ilieff & Hamza, 2023; Liu et al., 2021; Taliaferro et al., 2012; Wang et al., 2022; Zoroglu et al., 2003). However, there remains uncertainty regarding the degree to which these variables may *cause* NSSI.

Mental health symptoms may also affect the function of NSSI to the person. For example, Ilieff and Hamza (2023) found that post-traumatic stress symptoms and using NSSI to self-punish and cope with dissociation were particularly strongly correlated; while Hilt et al. (2008) found that depressive symptoms were associated with the emotion regulation function of self-harm. The results of these studies make conceptual sense – with lower mental wellbeing, managing the negative emotions that occur becomes harder, and other potential coping strategies become more difficult to engage in.

Emotion dysregulation may also be impacted by mental health symptoms. Previous literature has found that emotion dysregulation is related to mental health difficulties such depression, substance use, eating disorders, and personality disorders (Berking & Wupperman, 2012). It is also possible, however, that this relationship occurs in the other direction, with mental health difficulties over time eroding a person's emotion regulation abilities; or it may be that the relationship is reciprocal, similar to the findings of Robinson et al. (2019), who noted that engagement in NSSI appeared to decrease a person's emotion regulation ability over time.

Low self-esteem has also been linked to poor mental health, having been found to be positively correlated with symptoms of depression, anxiety, obsessive compulsive disorder, eating disorders, and substance abuse (Åkerlind et al., 1988; Barry et al., 2015; Ehntholt et al., 1999; Fox et al., 2015; Gual et al., 2002; Orth et al., 2008; Orth & Robins, 2013; Silverstone, 1991a); although again, establishing which may have occurred first is difficult, with most research being cross-sectional. Poor mental health may erode the self-esteem of a person by limiting their engagement in valued or enjoyable activities, their time spent with other people, and their physical wellbeing (for example, by decreasing their energy or impacting their sleep). In the context of both low self-esteem and mental health difficulties, it

makes conceptual sense that these factors may reinforce each other and contribute to further decreased wellbeing.

In the same way, low self-compassion is positively correlated with depressive symptoms (Johnson & O'Brien, 2013), and people with depression have been found to have lower levels of self-compassion even when depressive symptoms have been controlled for (Krieger et al., 2013). Self-compassion may increase a person's acceptance of and resilience towards experiencing mental health symptoms, while low self-compassion would likely contribute to self-criticism and further lower mood. It is also worth noting that "feelings of worthlessness or excessive or inappropriate guilt" (American Psychiatric Association, 2013, p. 161) is one of the clinical symptoms of Major Depressive Disorder referred to in the DSM-5, which aligns with both poor self-esteem and poor self-compassion.

It is possible that mental health symptoms may have effects on both the dependent variable, NSSI, as well as the independent variables of emotion dysregulation, self-esteem and self-compassion, therefore potentially acting as a confounding variable. As such, it might have been useful to directly measure mental health symptoms as well as assessing participants' prior use of mental health services. This could have allowed us to statistically control for any effects of mental health symptoms on NSSI in the analyses.

Lastly, this research may have also been improved by using a frequency rate of one to five episodes of NSSI in the past year, rather than one to three, for the dependent variable. Three episodes of NSSI was chosen as the cut-off point relatively arbitrarily as five seemed more like a habitual use of a coping strategy (happening almost every two months), while three seemed like a more unusual behaviour that would only be used in more extreme situations. However, given that the Diagnostic and Statistical Manual – Fifth Edition (DSM-5; American Psychiatric Association, 2013, 2022), has taken five instances of self-harm in the previous 12 months as its frequency criteria for the proposed NSSI Disorder, the current

research may have been more useful for the growing research field on this 'Disorder for Further Enquiry', and this was a missed opportunity. While this research did not aim to support or not support the addition of the NSSI Disorder to the DSM-5, and would not have been able to effectively assess whether a participant would meet the other diagnostic criteria of this proposed disorder, it could have been more useful to use five episodes of NSSI as a cut-off point to align this research with that of other studies being done on this topic; and to be able to estimate how much of this (presumably) non-clinical participant sample may therefore meet one of the criteria for being considered to be in a 'clinical' range of self-harming (Brausch et al., 2016). Having said that, the frequency criteria of the NSSI Disorder is a topic of debate, with some researchers suggesting that the clinical threshold be increased to avoid over- pathologisation of those who engage in NSSI only occasionally (Ammerman, Jacobucci, et al., 2017; Buelens et al., 2020; Muehlenkamp et al., 2017; Muehlenkamp & Brausch, 2016).

Interview-Related Limitations. Other limitations of this research may include the relatively heterogenous experience of the interview participants with the variables of interest. While a relatively similar group in their demographics, they varied in their use of self-harm to cope from having never used it, having used it once, to having used it frequently and even daily. The perspectives of the participants with little to no self-harm were also informative, but did result in a wider variety of experiences across the participant sample. The interview participants fell into two groups in my mind – one who had little to no experience of self-harm, and one which had used self-harm to cope with distress relatively regularly in the past. Interestingly, however, the participant with no history of self-harm was not particularly different from other participants on the emotion dysregulation, self-esteem, and Body as a Coping Tool themes, speaking to a number of these in the interview. It is worth noting that the two participants who had either no experience of self-harm or only one past episode of

self-harm both identified the same two main factors regarding why they would not engage in self-harm ever, or again – social support and feelings of disgust towards the idea of self-harming.

It is also worth noting that the qualitative data of this phase depended on interviews, and therefore the interviewing abilities of the researcher. With this being my first experience of qualitative research, I noted while transcribing and analysing the data that I missed some opportunities to clarify a participant's statement, or explore it further. As the analysis is only as good as the data it is based on, this may have meant that more interviewing experience (outside of the clinical interview assessment training) may have resulted in slightly different and likely improved results. While having a lack of experience coming into this qualitative phase was relatively unavoidable, this should nevertheless be noted as a possible limitation of the data collected, and therefore of the analysis resulting from it.

As the qualitative research question asked about each of the constructs of interest, emotion dysregulation, self-esteem, and self-compassion were all asked about in the interviews if they had not already been raised and discussed in the process of the participant describing their experience of NSSI. In practice, this resulted in self-esteem and self-compassion being more directly asked about in some of the interviews. While every effort was made to avoid the 'domain summary' theme advised against in Reflexive Thematic Analysis (Braun & Clarke, 2006, 2019, 2021b), it should be noted that the data for the self-compassion and self-esteem themes was more directly and deductively 'generated' in order to answer the research question. These themes are therefore likely impacted by self-esteem and self-compassion having been sometimes discussed in response to interviewer questions. There were a range of viewpoints and answers to these questions, however, and the themes generated were done so with the aim of developing "patterns of shared meaning" in regard to each of the constructs of interest (Braun & Clarke, 2019, p. 593), rather than a summary of

the participants' responses to the questions. Theme development was also done in an iterative process with the research's supervisors, with the themes reanalysed and updated when their feedback indicated that the theme was too close to being a domain summary. Having a broader research question, or rephrasing the research question to be less specific, may have in retrospect also aided the data analysis and theme generation processes.

The Impact of Covid-19. The data collection for this research took place just before the spread of Covid-19 throughout the world and the lockdowns that New Zealand and the rest of the world experienced. This pandemic and the numerous restrictions that were placed on people for the purpose of public safety had a double impact of individuals being in an objectively more uncertain environment than they were previously, and not being able to engage in their usual coping strategies (such as going to the gym and spending time with friends). This relates particularly to the theme of 'Constrained Choices for Managing Distress' generated in the qualitative phase of the research, which discussed how people's coping strategies were shaped by what was possible for them at the time.

The mental health impact of the Covid-19 pandemic and the public safety measures that were taken to manage it are still being studied, and it is likely that fully understanding its impact on people's mental wellbeing and how their coping strategies may have changed is still several years away. However, the research available at this stage does suggest that despite concerns that mental health issues would increase during and after the pandemic, this was relatively minimal. A meta-analysis of longitudinal research on mental health during this period found that while mental health issues increased slightly in the initial months of the pandemic, they returned to being close to pre-pandemic levels in the following months (E. Robinson et al., 2022). The rate of NSSI in particular also did not appear to significantly increase in general during this time (Brausch & Clapham, 2023; Lewis et al., 2022; Tang et al., 2023; Tatnell et al., 2023). However, this appears to be due to two differential effects.

While many struggled with isolation from social support and connection, increased anxiety, less routine and structure, increased stress, increased exposure to family conflict and domestic violence, reduced opportunities to engage in their usual coping strategies, and the economic impact of the pandemic; others benefitted from reduced social anxiety; being distanced from work, academic, and peer-related stresses; and increased time spent with family or on self-care (Brausch & Clapham, 2023; Fegert et al., 2020; Huscsava et al., 2022; Lewis et al., 2022; Plener, 2021; Tatnell et al., 2023). However, particular groups in the population also appeared to be at greater risk of poorer mental health and increased NSSI, such as the LGBTQ+ community, those who were unemployed or who had low socioeconomic status, and those with disabilities, a history of self-harm, poorer emotional self-efficacy, and experiences of trauma (Brausch & Clapham, 2023; De Luca et al., 2022; Fegert et al., 2020; Plener, 2021; Tatnell et al., 2023).

Implications and Recommendations

Clinical Implications

There are several clinical implications of this research. Firstly, some – but not all – of the results of this research are consistent with the idea that emotion dysregulation is an important target for mental health intervention. As discussed in Chapter Two, Dialectical Behaviour Therapy, a treatment modality which specifically focuses on increasing emotion regulation ability, has been shown to be effective at increasing the emotion regulation abilities of clients, decreasing the symptoms of Borderline Personality Disorder, and, of note to this research, at reducing NSSI frequency (Bloom et al., 2012; Choi-Kain et al., 2017; Miller, 2015; Panos et al., 2014). The results of the alternative logistic regression analyses and of the qualitative phase of this research support the importance of emotion dysregulation in understanding NSSI, and on focusing on building emotion regulation skills and abilities to

support clients who struggle with this. I would also argue that this is an important skill set for any young person to learn, regardless of their use of NSSI to cope. However, the lack of significance of emotion dysregulation in the original logistic regression model, and the relatively small coefficient even when the results were significant in the alternative logistic regression model, suggests that clinicians should not consider emotion regulation interventions sufficient. Particular attention should be paid to examining which other factors may be impacting the individual, and which factors are contributing to the use of NSSI specifically, to understand the mechanisms at play for the person.

The results of this research also suggested, however, that clinicians working with young adults should consider assessing and understanding their clients' self-esteem, as well as their emotion regulation skills. At the quantitative phase, low self-esteem was consistently noted as being related to NSSI across all of the analyses, unlike emotion dysregulation and self-compassion; and at the qualitative phase, while the participants varied in how they viewed its relationship to NSSI and the role it played, all spoke to self-esteem being associated with NSSI to varying extents. Notably, the participants did often use other terms to explain their experience of low self-esteem (for example, "self-hatred") but which would fit under the umbrella of self-esteem and their views and evaluations of themselves and their worth in the world.

The implication of these results is that self-esteem would be a helpful target in therapy with youth. However, the literature assessing the impact of self-esteem interventions for young people has found that it may not be a mental health panacea. As reviewed and discussed by Baumeister and colleagues (2003), self-esteem appears to be related to subjective wellbeing, happiness, and persistence at tasks; but does not significantly positively impact academic or employment performance, social skills, relationship quality or length, or reduced use of substances. Similarly, youth programmes aiming to improve self-esteem and

self-efficacy have been found to be poorly evaluated overall, and to have negligible, if any, positive effect (Morton & Montgomery, 2013). This conflicts with the results of the current research which found that self-esteem was more significantly related to NSSI than the other variables. However, it may be that improving self-esteem could help specific mental health issues such as NSSI, as opposed to generally improving wellbeing. It may also be that self-esteem, while here related to NSSI, is indirectly linked to mental health by facilitating the development of other mental wellbeing variables – for example, it has been shown to predict the development of self-compassion over time in adolescents (Donald et al., 2018), which is in turn related to improved psychological health and reduced engagement in NSSI (Cleare et al., 2019; Neff, 2003a, 2004, 2011; Neff et al., 2007, 2018; Neff & McGehee, 2010).

Self-compassion's relationship to NSSI was less clear in comparison to self-esteem. Nevertheless, it was a significant negative predictor of NSSI frequency in the original logistic regression, and self-kindness and reducing self-judgment were discussed in the interviews as a part of people recovering from NSSI and maintaining their improved mental wellbeing. These specific aspects to self-compassion – self-kindness and reducing self-judgment – may be more relatable for those at the older end of the participant age range, those who are closer to their mid-twenties, due to coming towards the end of this transitional stage and developing more of a sense of self and identity, and an awareness of which ways of coping are actually going to be effective as they continue into adulthood. However, the interview participants did report being highly self-critical and self-judgmental during the period that they were self-injuring. It is therefore unclear to what extent self-compassion, if adolescents were taught about it, would be helpful prior to early adulthood, and more research would be needed to clarify this. Collectively, these results suggest that while self-compassion interventions may not have a strong impact on the initial recovery from self-harm, clinicians may benefit from using self-compassion interventions to support the maintenance of psychological wellbeing in

the longer-term. The research on self-compassion-focused interventions for self-harm is very limited (Zade & Mojtabaee, 2016), so more research on these interventions is needed to examine if this suggestion may be accurate. However, mindfulness is a feature of self-compassion, and it is promising that mindfulness-focused interventions for mental health have been found to be effective, particularly for substance abuse and preventing relapses of depressive episodes (Creswell, 2017; Khoury et al., 2013; Sipe & Eisendrath, 2012)

Targeting more practical ways of engaging in self-compassion may also be particularly helpful, with the interview participants describing more practical forms of self-care such as getting enough rest and nutrition and developing routines being most helpful in the Ambivalent Self-Kindness theme. This practical form of self-care would need to be described in ways that are appropriate for the individual and for their age, however. While the participants described these habits as being helpful for their wellbeing in the present, they are also behaviours that, I would argue, teenagers and youth are often resistant to doing. Clinicians working with young people are likely to encourage these behaviours, and the finding that 'practical self-care' is helpful to young people's mental health is therefore unlikely to be a surprise to clinicians, as it aligns well with the behaviour activation phase of cognitive behaviour therapy for depression, which has been found to be somewhat effective with youth (F. Martin & Oliver, 2019). However, this subtheme may suggest that these behaviours may be palatable and practical ways in which the young person can be look after themselves, and that this may be a way for the clinician to present these suggestions, rather than telling them to do the same things that their parents likely are.

The Constrained Choices for Managing Distress theme generated from the interview data suggests that clinicians should consider the availability and accessibility of alternative coping strategies when attempting to reduce self-harm engagement. Numerous participants spoke to having no other way to cope with high levels of distress, and engaging in NSSI as

somewhat of a last resort. This theme in particular took me by surprise as a clinician, but has made me think through and reflect on the ease and accessibility of the coping strategies and methods I teach clients, particularly those who are young, incarcerated, financially struggling, or limited on time due to other life commitments. Our therapeutic modalities and methods need to fit clients, not vice versa, and be informed by their strengths and life circumstances.

This theme also reflects how psychological interventions need to be informed by the cultural, social, and practical limitations of our client's lives, rather than only focusing on what is 'between their ears'. Their socio-economic circumstances, culture, education, family, and peer group will all affect not only their mental health, but also their ability to manage any negative impacts of these, and this could potentially lead to a 'vicious cycle' and further helplessness if not interrupted or other possible coping strategies identified. Identifying which strategies the client is actually able to use, or any barriers to using certain coping strategies, would be helpful for clinicians to do, as well as providing several options for coping strategies, and identifying which ones may be helpful to use in which circumstances. Clinicians working with young people may also benefit from exploring with parents the ways in which the client can feel less constrained and engage in other coping strategies, provided that they are not harmful (for example, encouraging parents to allow their child to spend more time with their friends, without condoning the use of substances in their peer group).

While not a specific focus of this research, clinicians may also benefit from understanding the experiences of mental health support that the participants described in the qualitative interviews. Some participants reported having found their psychologist or counsellor very helpful, but there were also negative stories of professional mental health support (for example, Anna's school counsellor breaking confidentiality), which ranged from dismissive to actively harmful and stigmatising. The participants reported wishing that the mental health professionals involved in their care had looked more at understanding and

treating the issues behind the NSSI behaviour, rather than focusing mostly, or solely, on the behaviour itself. While focusing on self-harm is necessary to manage risk, this may need to be explained further to clients so that they understand that the clinician is not only focusing on stopping the symptom of their distress, the NSSI, and not the distress itself. It may be particularly helpful to validate the efficacy of self-harm for young clients, while providing them with other options to cope, and psychoeducation on how the relief NSSI provides reinforces the use of it in the future. This may be a difficult line to walk for clinicians however, of validating the behaviour's purpose while also trying to prevent it. Some participants felt that their clinicians had not understood their reasoning for engaging in NSSI before trying to stop them from engaging in it, and reported that while they knew they should use different coping strategies; there was also an underlying feeling of 'it's my body so I can harm it if I want to', almost as if the participant was taking ownership and control over their own body and resisting the pressures from others to cope in a certain way.

Lastly, the participants, as discussed in the Constrained Choices for Managing Distress theme, did not find it easy to initiate support from their peers, family, or professionals, or to disclose their use of NSSI to manage their emotions. One participant was particularly clear that more efforts should be made to screen young people for mental health difficulties and NSSI, rather than putting the onus on them to reach out to others without knowing how others may respond. Chris encouraged our mental health system to become more proactive than reactive:

> There probably needs to be less of a focus on um… you see a lot of these 'get help' helplines and of course it's important to have that, it's really important to have that, but also, sometimes people need a push, to get the help, so maybe more focus on identifying people and saying 'hey maybe do you need help, do you need this, do you need us to come set this up with you?'

Research Implications and Directions for Future Research

This study suggests some implications for future academic research. Firstly, research on NSSI should continue to examine the relationship of emotion dysregulation and NSSI, and potentially use it as a moderator or mediator when examining other potential risk factors. The non-significance of emotion dysregulation when self-compassion was included (along with self-esteem and the control variables) in the logistic regression analyses suggests that its effects on NSSI may be mediated by self-compassion and potentially other self-focused psychological factors such as self-criticism. This supports the initial idea behind this research – that the emotion dysregulation experienced by people with NSSI is not a sufficient explanation for why NSSI is used to cope rather than a different coping strategy.

Kim et al. (2022) has undertaken similar analyses (albeit using moderation, not mediation) and examined some of the same variables to that of the current research. They hypothesised and found that self-esteem moderates the effect of emotion dysregulation on NSSI. However, their participant sample was small, only 60 adults, and their data was cross-sectional, making it difficult to determine which factors may be more appropriate as moderators or predictors. Undertaking similarly designed research to Kim et al. (2022), with emotion dysregulation as the moderator of the relationship between self-esteem and NSSI, would provide valuable information, especially as emotion dysregulation has been more extensively linked to NSSI in the literature to date compared to self-esteem, and may be more of a proximal risk factor for NSSI than self-esteem, which may be more of a distal risk factor.

Researchers examining why people engage in NSSI should consider continuing to try to identify and understand the more specific risk factors for NSSI, as Nock (2009) and Gratz (2006a) suggested. This research suggested that two forms of viewing or relating to oneself, self-esteem and self-compassion, may play a role in the use of NSSI specifically to cope with distress. However, even more specific risk factors, such as body regard (Kruzan et al., 2022;

Muehlenkamp et al., 2013) were referenced in the interview data, and may be helpful to examine further. As suggested by Hasking et al. (2017), person's beliefs and cognitions about the efficacy of NSSI and their own self-efficacy may also be specific risk factors that deserve further empirical attention, particularly while also measuring and controlling for emotion dysregulation. Beliefs about the efficacy of NSSI, as well as a person's level of body regard, may be specific risk factors that lead to the use of NSSI to cope rather than substances, social support, exercise, or other coping strategies.

Lastly, future research should also consider using five episodes of NSSI in the past year as a dividing point in the analysis rather than the three episodes used in this research to align the results with those of the growing field of research on the proposed NSSI Disorder (American Psychiatric Association, 2013, 2022) and to maintain consistency across the literature. Assessing both twelve-month and lifetime history of NSSI, as also suggested by Swannell et al. (2014), would also enable more detailed analyses of how emotion dysregulation and self-related psychological traits may impact a person and their use of NSSI.

Conclusion

This thesis describes the mixed methods research designed and undertaken to examine how emotion dysregulation, self-esteem, and self-compassion are related to NSSI. NSSI is indicative of psychological distress, and has been shown to be associated with increased psychopathology and future suicidality risk (Andover et al., 2012; de Silva, 2014; Gillies et al., 2018; Gollust et al., 2008; Guertin et al., 2001; Hamza & Willoughby, 2016; Hilt et al., 2008; Horwitz et al., 2015; Howe-Martin et al., 2012; Jacobson & Gould, 2007; Laye-Gindhu & Schonert-Reichl, 2005; Muehlenkamp, Peat, et al., 2012; Muehlenkamp & Gutierrez, 2007; Nock et al., 2006; T. Paul et al., 2002; Ross et al., 2009; Scott et al., 2015; Shao et al.,

2021). Understanding the factors that may lead to engagement in this behaviour could inform effective interventions, as well as prevention of NSSI by proactively identifying who may need to be taught adaptive ways to manage emotion (Gratz, 2006a).

This research involved both quantitative and qualitative data. At the quantitative stage, young adults aged 18 to 25 years old completed online surveys of emotion dysregulation, self-esteem, self-compassion, and NSSI frequency in the past year. At the qualitative stage, a sample of these survey participants were interviewed regarding their experience of NSSI and how they viewed its relationship to emotion dysregulation, self-esteem, and self-compassion. The results indicated that the relationships between the variables of interest and NSSI were not consistently as hypothesised or expected based on the literature to date, but nevertheless provided useful information regarding how a person's ability to manage their emotions and how their view of and relationship to themselves may relate to their use of self-harm to manage or alleviate distress. This research also adds to the knowledge base of NSSI in Aotearoa New Zealand, which is much needed given our particularly high suicide rate (Illmer, 2017; Mental Health Foundation, n.d.).

In conclusion, the findings of the quantitative and qualitative phases suggested that all three of the variables of interest are related to NSSI in some way, but that further research is needed to understand these relationships further and to identify other specific risk factors that may impact engagement in NSSI. Gaining a more comprehensive understanding of NSSI and the psychological factors that may impact or cause it would inform prevention and treatment of this behaviour and the distress underlying it, and would therefore be of great benefit to the adolescents and young adults engaging in NSSI and the professionals that support them.

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Appendices

Appendix A. Information Sheets

INFORMATION SHEET

SURVEY PHASE

Researcher Introduction and Research Description
I'm Donnella, and as part of my Doctorate of Clinical Psychology, I'm currently conducting research into non-suicidal self-injury (also called self-harm). My supervisors and I hope to better understand why people hurt themselves in order to improve treatment for those experiencing mental health difficulties. This research project consists of two stages – an online survey and a one-on-one interview. This Information Sheet refers only to the survey stage of this research, however, if you would like to participate in the interview as well, you can provide your contact details after submitting your survey answers. It would be great to have the participation of anyone aged between 18 and 25 involved, whether or not you have self-injured before. If you have any questions about this project, feel free to contact me at the email address below.

Participant Identification and Recruitment
We are advertising this research and recruiting participants through Stream and at lectures, with the permission of course co-ordinators and lecturers, through signs in the Health Centre and around campus, on Facebook, and through the Massey Research Online page.
We hope to recruit 238 participants for the survey stage of this research, the required number for the statistical analyses planned. Participants in the survey will be anonymous, unless you also volunteer to participate in the interview stage of this research, which will connect your email address to your survey responses.
To participate, you must be between 18 and 25 years of age and have studied for at least one year in a New Zealand high school. We ask that you do not participate if you believe you may be negatively affected or distressed by answering questions about self-injury.

Research Procedures - Survey
You will be asked to complete an online survey on a range of topics related to mental health, including self-injury, which is estimated to take ten to fifteen minutes to complete.
There are no conflicts of interest involved in this research project.

Support Processes
This research will ask you to report on personal experiences related to mental health issues, and you may experience discomfort or distress as a result.

A list of possible support services is available below. If you become concerned or distressed during or after participating in this research, or if you are experiencing mental health difficulties generally, we encourage you to consider contacting the organisations listed below, speaking with a trusted person, or talking to your GP. Should you become distressed while participating in the research, you are welcome to skip answering a particular question, pause temporarily, or stop participating by closing the survey. The support services list below will also appear at the end of the survey.

Data Management
The data collected as part of this research will be used solely for research purposes. Survey answers will be anonymous (you will not be asked to provide your name). If you wish to receive a summary of the findings of this research, or to enter the prize draw, you will need to provide your email address, but this information will be collected and stored separately to your survey data and will not be matched to your responses. You will need to provide your email address and first name if you are interested in taking part in the interview phase of this research. This will also connect your email address to your survey responses.

The data collected in this research will be, for the duration of the research, only accessible to the research team, and stored securely. Once this data has been analysed and the doctoral thesis completed, any information that may indicate who you are will be removed, and the data posted in an online repository that other researchers, as well as members of the public, can access. This is done to maintain scientific integrity and ensure that the claims and conclusions made by the researcher based on the results of this research are well-founded. Any identifiable data you provide, such as your email address, will be deleted as soon as the research project is complete (estimated date: December 2020). The de-identified data will be stored indefinitely.

Compensation for Participation
For survey participants, a prize draw will be conducted for 50 supermarket or petrol vouchers valued at $40.

Participant's Rights
You are under no obligation to accept the invitation to participate in this research. If you decide to participate, you have the right to decline to answer any particular question and to stop answering questions at any time. Your submission of responses to the questionnaire implies your consent.

Project Contacts
Please feel welcome to contact my supervisors or myself with any questions about this research.

Researcher: Donnella de Silva
donnella.de.silva.1@uni.massey.ac.nz
Supervisors: Dr. John Fitzgerald
J.M.Fitzgerald1@massey.ac.nz
Dr. Matt Williams
M.N.Williams@massey.ac.nz

Committee Approval Statement

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application NOR 18/59. If you have any concerns about the conduct of this research, please contact Committee Chair, Massey University Human Ethics Committee: Northern, email humanethicsnorth@massey.ac.nz .

Support Services

If you feel any distress during or after completing this survey, you could consider contacting the following support services.

If you would like to download this list to have available throughout the survey, as well as after the survey, you can find a pdf with this list here: [link to Dropbox pdf].

Youthline
0800 376 633
Text 234
talk@youthline.co.nz

Lifeline
0800 LIFELINE (0800 54 33 54) or free text HELP (4357)

Suicide Crisis Helpline
0508 TAUTOKO (0508 82 88 65)

1737 Need to Talk?
Phone or text 1737

The Lowdown
Text 5626

Homecare Medical Helpline
09 354 7774.

Massey Health and Counselling Centre (or your university's equivalent, if you do not study at Massey University).
09 213 6700
studenthealth@massey.ac.nz
www.massey.ac.nz/massey/student-life/services-and-resources/health-counselling-services/albany/counselling-services.cfm

INFORMATION SHEET

INTERVIEW PHASE

Researcher Introduction and Research Description
I'm Donnella, and as part of my Doctorate of Clinical Psychology, I'm currently conducting research into non-suicidal self-injury (also called self-harm). My supervisors and I hope to better understand why people hurt themselves in order to improve treatment for those experiencing mental health difficulties. This research project consists of two stages – an online survey and a one-on-one interview. This Information Sheet refers only to the interview stage of this research. It would be great to have the participation of anyone aged between 18 and 25 involved, whether or not you have self-injured before. If you have any questions about this project, feel free to contact me at the email address below.

Participant Identification and Recruitment
We are advertising this research and recruiting participants through Stream and at lectures, with the permission of lecturers, through signs in the Health Centre and around campus, on Facebook, and through the Massey Research Online page.
Interview participants are asked to disclose their email address (to organise the interview) and their first names, but this information will not be shared beyond the research team. Should you choose to participate, you will be given a pseudonym when your data is reported in this study. We hope to recruit ten participants for the interview stage of this research.
To participate, you must be between 18 and 25 years of age and have studied for at least one year in a New Zealand high school. We ask that you do not participate if you believe you may be negatively affected or distressed by discussing self-injury.

Research Procedures - Interviews
The interviews will involve discussing how the participant manages their emotions and their thoughts on self-injury (whether or not they have self-injured previously). The interviews will be transcribed and the transcript sent to you for review within seven days. The interviews will take approximately one hour and participants will be thanked and reimbursed for travel expenses with a voucher (details below).
There are no conflicts of interest involved in this research project.

Support Processes
This research will ask participants to report on personal experiences related to mental health issues, and some participants may experience discomfort or distress as a result.

A list of possible support services is available below. If you become concerned or distressed during or after participating in this research, or if you are experiencing mental health difficulties generally, we encourage you to consider contacting the organisations listed below, speaking with a trusted person, or talking to your GP. Should you become distressed while participating in the research, you have the right to skip answering a particular question, pause temporarily, or stop participating by notifying the interviewer. A printed copy of the support services list below will also be given to interview participants directly.

Data Management
The data collected as part of this research will be used solely for research purposes. If you wish to receive a summary of the findings of this research, please notify the researcher of this at the time of the interview. The data collected will be, for the duration of the research project, only accessible to the research team, and stored securely. Once this data has been analysed and the doctoral thesis completed, any information that may indicate who you are will be removed, and the data posted in an online repository that other researchers can access. This is done to maintain scientific integrity and ensure that the claims and conclusions made by the researcher based on the results of this research are well-founded. The identifiable data you provide, such as your name and email address, will be deleted as soon as the research project is complete (estimated date: December 2020).

Compensation for Participation
All interview participants will be thanked for their time with vouchers valued at $30.

Participant's Rights
You are under no obligation to accept the invitation to participate in this research. If you decide to participate, you have the right to:

- Decline to answer any particular question,
- Withdraw from the study at any point in the interview, at which point there will be a discussion with the researcher about how to manage the data collected from at that point,
- Ask questions about the study at any time,
- Provide information on the understanding that your name will not be used unless you give permission to the researcher,
- Ask for the audio-recorder to be turned off at any time during the interview.
- Be given access to a summary of the project findings when it is concluded.

Project Contacts
Please feel welcome to contact my supervisors or myself with any questions about this research.

Researcher: Donnella De Silva
donnella.de.silva.1@uni.massey.ac.nz
Supervisors: Dr. John Fitzgerald
J.M.Fitzgerald1@massey.ac.nz
Dr. Matt Williams
M.N.Williams@massey.ac.nz

Committee Approval Statement

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application NOR 18/59. If you have any concerns about the conduct of this research, please contact Committee Chair, Massey University Human Ethics Committee: Northern, email humanethicsnorth@massey.ac.nz .

Support Services

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Massey Health and Counselling Centre (or your university's equivalent, if you do not study at Massey University).
09 213 6700
studenthealth@massey.ac.nz
www.massey.ac.nz/massey/student-life/services-and-resources/health-counselling-services/albany/counselling-services.cfm

Appendix B. Full Version of Survey

Screening Questions

Are you between 18 and 25 years of age?

Must answer yes. Those who answer no will be thanked for their interest.

Have you studied for one year or more at a New Zealand high school?

Must answer yes. Those who answer no will be thanked for their interest.

This survey will ask about personal experiences of self-injury and mental health. We request that you do not participate if you believe that reporting self-injury experiences may cause you to experience any distress.

Do you believe that reporting self-injury experiences may cause you any distress?

Must answer no; those who answer yes will be thanked for their interest and redirected to a list of support services.

Survey

Demographic Information

Please give your age:

- (18-25)

Please give the gender you identify as:

- (male, female, nonbinary/genderqueer, I prefer not to answer)

Please indicate your ethnicity:

- (Pākehā/NZ European, Māori, Asian, Pasifika, Middle Eastern, Other)
- (Participants can select more than one ethnicity)

What do you consider to be your primary role or activity?

- (I am a full time student/part time student/full time paid worker/part time paid worker/full time parent or caregiver)

Have you ever previously accessed professional support for a mental health/wellbeing issue? (For example, seeing a GP for low mood, or a school counsellor for anxiety).

- Yes/No

Difficulties in Emotion Regulation Scale

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

1----------2----------3----------4----------5

almost never (0-10%)	sometimes (11-35%)	about half the time (36-65%)	most of the time (66-90%)	almost always (91-100%)

I am clear about my feelings.
I pay attention to how I feel.
I experience my emotions as overwhelming and out of control.
I have no idea how I am feeling.
I have difficulty making sense out of my feelings.
I am attentive to my feelings.
I know exactly how I am feeling.
I care about what I am feeling.
I am confused about how I feel.
When I'm upset, I acknowledge my emotions.
When I'm upset, I become angry with myself for feeling that way.
When I'm upset, I become embarrassed for feeling that way.
When I'm upset, I have difficulty getting work done.
When I'm upset, I become out of control.
When I'm upset, I believe that I will remain that way for a long time.
When I'm upset, I believe that I will end up feeling very depressed.
When I'm upset, I believe that my feelings are valid and important.
When I'm upset, I have difficulty focusing on other things.
When I'm upset, I feel out of control.
When I'm upset, I can still get things done.
When I'm upset, I feel ashamed at myself for feeling that way.
When I'm upset, I know that I can find a way to eventually feel better.
When I'm upset, I feel like I am weak.
When I'm upset, I feel like I can remain in control of my behaviors.
When I'm upset, I feel guilty for feeling that way.
When I'm upset, I have difficulty concentrating.
When I'm upset, I have difficulty controlling my behaviors.
When I'm upset, I believe there is nothing I can do to make myself feel better.
When I'm upset, I become irritated at myself for feeling that way.
When I'm upset, I start to feel very bad about myself.
When I'm upset, I believe that wallowing in it is all I can do.
When I'm upset, I lose control over my behavior.
When I'm upset, I have difficulty thinking about anything else.

When I'm upset, I take time to figure out what I'm really feeling.
When I'm upset, it takes me a long time to feel better.
When I'm upset, my emotions feel overwhelming**.**

Robson Self-Concept Questionnaire

This questionnaire deals with attitudes and beliefs which some people have about themselves. Please indicate how much you agree or disagree with each statement by ringing the single number in each section which represents how you typically feel most of the time.
Since people vary so much in the opinions they hold, there are no right or wrong answers.

Completely Disagree Disagree Agree Completely Agree

1----------2----------3----------4----------5----------6----------7

I have control over my own life.
I'm easy to like.
I never feel down in the dumps for very long.
I can never seem to achieve anything worthwhile.
There are lots of things I'd change about myself if I could.
I am not embarrassed to let people know my opinions.
I don't care what happens to me.
I seem to be very unlucky.
Most people find me reasonably attractive.
I'm glad I'm who I am.
Most people would take advantage of me if they could.
I am a reliable person.
It would be boring if I talked about myself.
When I'm successful, there's usually a lot of luck involved.
I have a pleasant personality.
If a task is difficult, that just makes me all the more determined.
I often feel humiliated.
I can usually make up my mind and stick to it.
Everyone else seems much more confident and contented than me.
Even when I quite enjoy myself, there doesn't seem much purpose to it all.
I often worry about what other people are thinking about me.
There's a lot of truth in the saying "What will be, will be".
I look awful these days.
If I really try, I can overcome most of my problems.
It's pretty tough to be me.
I feel emotionally mature.
When people criticise me, I often feel helpless and second-rate.
When progress is difficult, I often find myself thinking it's just not worth the effort.
I can like myself even when others don't.
Those who know me well are fond of me.

Please check that you have responded to every statement.

Self-Compassion Scale

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

1----------2----------3----------4----------5

Almost never Almost always

I’m disapproving and judgmental about my own flaws and inadequacies.
When I’m feeling down I tend to obsess and fixate on everything that’s wrong.
When things are going badly for me, I see the difficulties as part of life that everyone goes through.
When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
I try to be loving towards myself when I’m feeling emotional pain.
When I fail at something important to me I become consumed by feelings of inadequacy.
When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
When times are really difficult, I tend to be tough on myself.
When something upsets me I try to keep my emotions in balance.
When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
I’m intolerant and impatient towards those aspects of my personality I don't like.
When I’m going through a very hard time, I give myself the caring and tenderness I need.
When I’m feeling down, I tend to feel like most other people are probably happier than I am.
When something painful happens I try to take a balanced view of the situation.
I try to see my failings as part of the human condition.
When I see aspects of myself that I don’t like, I get down on myself.
When I fail at something important to me I try to keep things in perspective.
When I’m really struggling, I tend to feel like other people must be having an easier time of it.
I’m kind to myself when I’m experiencing suffering.
When something upsets me I get carried away with my feelings.
I can be a bit cold-hearted towards myself when I'm experiencing suffering.
When I'm feeling down I try to approach my feelings with curiosity and openness.
I’m tolerant of my own flaws and inadequacies.
When something painful happens I tend to blow the incident out of proportion.
When I fail at something that's important to me, I tend to feel alone in my failure.
I try to be understanding and patient towards those aspects of my personality I don't like.

NSSI Measure

Non-suicidal self-injury (NSSI), often called self-harm in New Zealand, is behaviour where a person damages their body on purpose without intending to end their life (i.e., it is not a suicide attempt). This behaviour can include, **but is not limited to**, cutting, burning, or severely scratching the skin, punching parts of the body, or overdosing on a substance on purpose. Socially accepted behaviours, such as piercings or tattoos, are not considered non-suicidal self-injury.
In the past **12 months**, how many times have you harmed your body in a way similar to this description of non-suicidal self-injury?

- Not at all
- 1-3 times
- More than 3 times

Final Questions

Thank you for participating in this research!
Just a few more questions:

Are you interested in participating in the interview stage of this research? This will involve discussing self-injury and other mental health-related factors. The meeting would be held in the Albany Village campus, and would take approximately one hour. You would be thanked for your participation with a $30 petrol or supermarket voucher.
If you are interested in participating, please enter your email below. This will be connected to your survey responses, and will be used to contact you to organise the interview.
Email:

Would you like to receive a summary of the results of this research? If so, please enter your email below. Your survey answers will not be connected with your email address.
Email:

Would you like to enter the prize draw for one of 50 $40 petrol or supermarket vouchers? If so, please enter your email below. Your survey answers will not be connected with your email address.
Email:

Thank you for your participation! The information you provide will help us understand self-injury in more detail and to support youth engaging in it. It can be a difficult topic to talk about, and if you are distressed as a result of this survey, or are experiencing mental health difficulties in general, we suggest you consider making contact with one of the support services below.

If you would like to download this list to have available after the survey, you can find a pdf with this list here: [link to Dropbox pdf].

Youthline
0800 376 633
Text 234
talk@youthline.co.nz

Lifeline
0800 LIFELINE (0800 54 33 54) or free text HELP (4357)

Suicide Crisis Helpline
0508 TAUTOKO (0508 82 88 65)

1737 Need to Talk?
Phone or text 1737

The Lowdown
Text 5626

Homecare Medical Helpline
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Massey Health and Counselling Centre (or your university's equivalent, if you do not study at Massey University).
09 213 6700
studenthealth@massey.ac.nz
www.massey.ac.nz/massey/student-life/services-and-resources/health-counselling-services/albany/counselling-services.cfm

Appendix C. Interview Schedule

Note – the interview will be semi-structured to unstructured, depending on the participant, and not all of these questions may be asked. Questions about similar topics are sometimes phrased differently to reflect if the participant has a personal history of self-injury or not.

Questions

- Could you tell me a bit about yourself, and what made you interested in taking part in this study?
- Investigate self-injury history to open conversation:
    - Have you personally self-injured?
        - How long did this continue for, and is it ongoing?
    - Do you know anyone [else] who has self-injured?
        - What happened? Investigate whether they were the person's support system, what they attribute the self-injury to.
- Explore coping with emotions, self-injury in general:
    - Do you think you can usually manage your emotions, or do they sometimes get the better of you?
    - How do you usually manage stress/your emotions?
    - How did you cope the last time you felt stressed/sad/distressed?
        - Why do you think you chose that coping strategy?
- Explore what self-injury means to them, whether they have self-injured or not:
    - Why do you think you self-injured?
    - Why do you think people who self-injure do this?
        - Do you think anything separates you from someone who self-injures?
- Self-esteem and self-compassion:
    - Lots of people think that people who self-injure have low self-esteem, or don't like themselves very much. What do you think?
    - Do you think that you are, in general, kind to yourself? Why/why not?
        - Will try to avoid actually using the term self-compassion, and ideally self-esteem as well.

Appendix D. Ethics Approval Letter

Date: 14 December 2018

Dear Donnella De Silva

Re: Ethics Notification - **NOR 18/59** - **The Relationship Between Self-Injury, Emotion Regulation and Gender Among Tertiary Students**

Thank you for the above application that was considered by the Massey University Human Ethics Committee: **Human Ethics Northern Committee** at their meeting held on **Friday, 14 December, 2018**.

Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

Associate Professor Tracy Riley, Dean Research
Acting Director (Research Ethics)

Research Ethics Office, Research and Enterprise
Massey University, Private Bag 11 222, Palmerston North, 4442, New Zealand **T** 06 350 5573; 06 350 5575 **F** 06 355 7973
E humanethics@massey.ac.nz **W** http://humanethics.massey.ac.nz

Appendix E. Link to Pre-Registration, Archived Data, and R Syntax

Please refer to the link below to view the pre-registration of this research and the attached quantitative data and syntax.

Full pre-registration:

https://osf.io/7wtm5

Data and syntax:

https://osf.io/gnzrp/?view_only=6ae10a5e8622418ea40761be320ee24b

Appendix F. Research Case Study

Massey University

Clinical Psychology

CASE STUDY 3

The Impact of my Doctoral Research Experience on my Practice as an Intern Psychologist

Candidate : Donnella de Silva

Clinical Psychology Programme Massey University

Student ID : [redacted]

Setting: Pregnancy and Parental Service, Community Alcohol and Drug Service

Supervisors: Nicole Cope and Barbara Pike

This case was completed during internship at Community Alcohol and Drug Service in 2020 and represents the work of the candidate.

Supervisor

Nicole Cope

Principal Psychologist

Student

Donnella de Silva

[redacted]

Date: 28.08.2020 *(Updated September 2021).*

Abstract

This research case study describes my doctoral research project to date and how the process of undertaking this research impacted my clinical knowledge and practice as an Intern Psychologist at the Pregnancy and Parental Service at CADS. While my internship was not directly related to my doctoral research, emotion regulation was a common theme between them, and the knowledge gained from the research process supported my clinical practice by increasing my understanding of emotion regulation difficulties and what that is like for my clients (particularly helpful when facilitating an emotion regulation-focused group treatment programme), understanding self-compassion as a possible way to cope with feelings of shame, and understanding the use of alcohol or substances as an emotion regulation tool. My doctoral research experience, and the knowledge I developed as part of it, meant that I was in better position to understand in greater depth my clients' experiences, despite the coping mechanisms of choice being different.

Doctoral Research Overview

My doctoral research examines the relationships between non-suicidal self-injury (NSSI), emotion dysregulation, self-esteem, and self-compassion. This research began by seeking to examine in further detail why some people harm their bodies when distressed rather than seeking other coping mechanisms and tools, whether adaptive or maladaptive. Why, for example, does a person choose to cut or burn their skin rather than drink excessively, exercise, or talk to a friend?

Non-suicidal self-injury, also referred to as self-harm, is defined as the "direct and deliberate destruction of body tissue in the absence of any observable intent to die" (Nock, 2010, p. 342). It is engaged in primarily by adolescents and young adults and appears to be particularly prevalent in Aotearoa New Zealand (Fitzgerald & Curtis, 2017; Garisch & Wilson, 2015). The literature on NSSI has focused on understanding the functions of this behaviour. It has identified that there are several key reasons individuals engage in this behaviour – emotion regulation, communicating emotional pain to others, ending dissociation or numbness, preventing suicidal behaviour, and self-punishment (Klonsky, 2007). The majority of people engaging in NSSI endorse emotion regulation as their primary reason for harming themselves (Bentley et al., 2014; Klonsky & Glenn, 2009; Zetterqvist et al., 2013). The literature on NSSI has also shown that those engaging in it are more likely to struggle to manage their emotions in general and score highly on measures of emotion dysregulation.

There is a lack of research examining the NSSI and emotion dysregulation relationship in further detail, however. Understanding what differentiates those who struggle to manage their emotions and self-injure to cope, from those who also struggle to manage their emotions, but engage in other methods of emotion regulation, would be particularly helpful to prevent engagement in this behaviour. This gap in the research was noted by Nock,

who argued for further research examining specific – rather than general – risk factors for NSSI engagement:

> if NSSI and some psychiatric disorders share an etiologic pathway and represent different forms of behaviour that can serve the same function, one is left wondering why some people select NSSI rather than another pathological behaviour to regulate their affective and social experiences (Nock, 2009, p. 80).

This gap in the literature has also been noted by Muehlenkamp, Bagge, Tull, and Gratz (2013), who attempted to determine whether body regard was one reason some emotionally-dysregulated people self-injure while others do not. They discovered that body regard moderated the relationship between emotion dysregulation and engagement in NSSI, suggesting that there is some level of self-perception or self-regard involved in determining who engages in NSSI and who does not.

My doctoral research followed the arguments of Nock (2009) and Muehlenkamp et al. (2013) but suggests that self-esteem and self-compassion in particular are two concepts that may impact the emotion dysregulation and NSSI relationship. These two concepts were chosen as this research argues that in the relationship between emotion dysregulation and NSSI, there is currently little focus or explanation of why the person's physical body is used to regulate their emotions, and why people simultaneously internalise their distress by turning it onto themselves and externalise it by expressing it viscerally on their skin. Self-esteem and self-compassion are two ways of viewing oneself and relating to oneself that have been linked to well-being, and low levels of each have been found to correlate to engagement in NSSI (Forrester et al., 2017; Jiang et al., 2017; Laye-Gindhu & Schonert-Reichl, 2005; Neff, 2011). I therefore argue that there must be some aspect of self-perception involved in the process of a person managing their emotions by engaging in NSSI when distressed, rather than engaging in other coping strategies.

Study Aims and Hypotheses

This study aimed to examine the relationship between NSSI and emotion dysregulation in further detail, and to explore whether self-esteem and self-compassion impact this relationship and whether a person may choose to use their body as a coping tool when distressed. There were three main hypotheses for the quantitative stage:

1. Emotion dysregulation scores will be higher among those with self-injury, and will positively predict engagement in NSSI in a dichotomous logistic regression analysis.
2. Self-esteem scores will be lower among those with self-injury and will negatively predict engagement in NSSI in a dichotomous logistic regression analysis.
3. Self-compassion scores will be lower among those with self-injury, and will negatively predict engagement in NSSI in a dichotomous logistic regression analysis.

The qualitative phase involves coding from the data, rather than analysing interview data based on a theory or idea of the researcher, and as such there are no hypotheses for the qualitative phase.

Methodology and Analysis

This was a mixed-methods research project, involving both quantitative and qualitative components. The quantitative aspect to this study involved an online survey of young adults, the majority of whom were university students. The quantitative data of this research is being analysed by running logistic regression analyses using R software.

The qualitative phase involved individual interviews with nine of the survey participants, which are being analysed using interpretive phenomenological analysis (IPA; Smith & Osborn, 2008). IPA is a qualitative data analysis method that involves a double hermeneutic, or dual interpretation process by the researcher – that is, the participant describes how they have made sense of their personal experiences, and the researcher then identifies themes and interprets the participant's way of understanding these experiences

(Pietkiewicz & Smith, 2014; Smith & Osborn, 2008). IPA was chosen for this research as I was interested in how people understood and made meaning of their personal experiences of NSSI – this methodology focuses more on how the participant reflects on their own personal experiences, rather than their general perception of a phenomenon, and provides a greater depth of understanding to a participant's lived experience. This methodology was used to analyse the interview data to create an in-depth understanding of the relationships between self-esteem, self-compassion, emotion dysregulation, and NSSI, and how these influence each other.

Participants

A total of 237 people participated in the survey phase of this study. They were recruited through posts on Stream, Massey University's communication portal, posts on Massey University and the University of Auckland's social media pages and groups, community pages, and personal shared posts. To participate they were required to be between 18 and 25 years of age and to have studied for at least one year at a New Zealand high school (this was to ensure that study findings could be applied to a New Zealand context while not excluding international students). There were nine total interview participants – eight female and one male, and eight Pākehā and one person of biracial Asian and Pākehā ethnicity.

Procedure

For the qualitative phase, the participants completed an online survey consisting of a series of psychometric measures:

- The Difficulties in Emotion Dysregulation Scale (Gratz & Roemer, 2004)
- The Robson Self-Concept Questionnaire (Robson, 1989)
- The Self-Compassion Scale (Neff, 2003)

- An NSSI measure created for this study, which first defined NSSI and then asked how many times the participant engaged in NSSI over the past twelve months, with zero, one-three times, and more than three times being the response options.

The survey participants had the option at the end of the survey to volunteer to participate in individual interviews about self-injury and emotion dysregulation. All students who volunteered for this and who were available at the interview time and place (the Centre for Psychology in Albany) were interviewed.

Interview participants were thanked for their contribution with a voucher. A prize draw was run for survey participants to encourage participation.

Ethics

This research was granted ethical approval by the Massey University Human Ethics Committee (NOR 18/59) in December 2018. There were a number of ethical considerations to take into account, given the sensitive topic of research and the fact that NSSI is a risk factor for later engagement in suicidal behaviour (Asarnow et al., 2011; Laye-Gindhu & Schonert-Reichl, 2005; Wilkinson et al., 2011). To limit the risk of causing harm to the participants, they were asked on the consent page to not participate in the survey if they believed they may become distressed as a result, and the contact details of support services and helplines were provided to survey participants when they finished the survey and to interview participants when we met face-to-face. A safety plan was also made to manage any potential disclosures of risk in the interviews.

Results

The data from this research is still being analysed and so the results of this research will not be discussed here. This case study will instead focus on how engaging in the process of psychological research and learning more about emotion dysregulation and coping

techniques has impacted my clinical practice during my internship at the Pregnancy and Parental Service at the Community Alcohol and Drug Service (CADS).

Internship

My internship is with the Pregnancy and Parental Service at the Community Alcohol and Drug Service with the Waitematā DHB. This is an assertive outreach service that works with pregnant women and mothers of children under the age of three years who are experiencing substance-related issues and who are poorly engaged with other social or health services. While our clients are the mothers and soon-to-be mothers, the service's focus is on improving wellbeing outcomes for their children in the future. The service liaises with Oranga Tamariki, Maternal Mental Health, Probation Officers, antenatal care, Kaianga Ora (Housing New Zealand), Family Violence Services, and others to ensure that there is an wrap-around service for families who are at the "most complex end of the spectrum" and who may otherwise struggle to obtain professional support or treatment due to financial difficulties, lack of stable accommodation, trauma, cognitive difficulties, mental health difficulties, limited access to treatment resulting from a lack of transport and childcare, stigmatization, fear of judgment from others, and fear of being reported to child protection services (Parsonage et al., 2015, p. 19).

The Pregnancy and Parental Service is relatively new, initiated in 2000, and is in only a handful of locations throughout the country, with plans to create services in further regions in the future (Parsonage et al., 2015). It serves, and provides intensive support for, over 100 clients and their families each year, working with each client for an average of 12 months. The service will also support the fathers as individual clients themselves, although this is rare. The majority of clients live in areas of high deprivation (Parsonage et al., 2015). The service works from a strengths-focused and harm reduction approach, aiming to support clients to reach the substance use goals they have made for themselves, rather than focusing

on achieving abstinence. There is also a significant focus on risk management, whether that is the client's risk to self, risk from others, or risk to others (namely children in their care).

The psychologist's role within this team is to provide client assessment and intervention, particularly for mental health issues that are either underlying or co-existing with substance use; and supporting team reviews of client treatment and risk within a multi-disciplinary team (Parsonage et al., 2015).

Reflection

There are a number of ways in which I believe my doctoral research has impacted my clinical practice at CADS Pregnancy and Parental Service and improved my understanding of the difficulties our clients are experiencing.

The client and participant population groups of my doctoral research and my internship were quite different in all but their gender (predominantly female), having different occupations, ages, and life experiences. However, they have one major similarity in common – the use of maladaptive coping mechanisms, whether substances or NSSI – to manage or regulate emotions when distressed. I found this particularly notable as substance use was spoken about by several of my research participants, who reflected on the similarities in function between NSSI and substance use for them and who asked me whether substance use was considered NSSI. One participant even noted that he would have probably used substances if they were available to him in high school, but instead turned to self-injury to cope when experiencing significant emotion dysregulation as it was more accessible. This statement echoes the 'Pragmatic Hypothesis' of NSSI, which states that adolescents may engage in self-injury because it is effective, fast, and more available than other maladaptive coping strategies, such as alcohol or other substances, that adults can access comparatively easily (Nock, 2010). There is also some suggestion in the literature that younger adults may already include substance use in their understanding of non-suicidal self-injury, suggesting

that academic researchers and those with lived experience may differ in the behaviours they consider self-harm (Laye-Gindhu & Schonert-Reichl, 2005).

My research participants and internship client base also experience a higher level of emotion dysregulation. Emotion dysregulation has been something that I have reflected on significantly throughout the process of studying NSSI and then again while working with PPS clients and co-facilitating an emotion regulation-focused group at CADS. Emotion dysregulation took me quite some time to fully understand at the beginning of my doctoral research, partly because it is a poorly defined and inconsistently used term, and it was at first a concept that I was led to by the literature on NSSI, rather than it being an area of interest. While I felt familiar with the concepts of self-esteem and self-compassion, emotion dysregulation in the way that it is focused on in much of the NSSI literature is also not something that I could easily relate to on a personal level, as I have not previously experienced significant and rapid changes in my mood, or felt like I could not control my emotions or behaviour when distressed, and at first I could not understand what that would be like for someone. I underestimated the importance of emotion regulation abilities as a result, and how being unable to manage our emotions effectively or adaptively underlies mental health issues as a whole. I had always leaned toward focusing on how mental health issues impact how we are thinking and functioning in the world, rather than on the affect or emotion, despite that sometimes causing the most distress. Talking about emotion regulation with participants in the interview phase of the doctoral research and how they experienced and understood their emotions and their difficulties in managing them was what made the biggest difference in understanding emotion dysregulation in greater depth and what going from ‘zero to one hundred’, as multiple participants put it, was like for a person.

My learning around emotion dysregulation continued at CADS as I prepared to co-facilitate Managing Mood, a dialectical behaviour therapy (DBT)-informed group run to

support clients to learn to manage their emotions as they reduce their use of what had previously been their main coping mechanism – substances. This required firstly participating in the group as a member (while identifying myself as also being a member of staff) and I found it valuable, despite not having had many of the experiences of the other group members. I particularly enjoyed the discussions around the functions of emotions as messages that something is wrong (or right) or that we are acting against our values or are in a situation that crosses our boundaries in some way, rather than emotions being 'bad' or something to aim to reduce. The model of therapy I predominantly use, cognitive behavioural therapy, is focused on improving how people feel by changing their thoughts and behaviours, and I found the positive approach of DBT to even negative emotions being functional refreshing. This approach of 'coping with strong emotions' rather than 'not feeling strong emotions' is something that I have since also discussed with my individual therapy clients.

Those with lived experience of substance abuse and/or of NSSI can often experience shame as a result. In regards to NSSI, Nixon, Cloutier and Aggarwal (2002) found that shame was the most common emotion felt after self-injuring. For substance use, the relationship is complex, with feelings of shame both contributing to the development and maintenance of, and occurring as a result of, addiction to substances (Wiechelt, 2007). Self-compassion has been identified as a positive trait or way of relating to the self that can decrease feelings of shame (Johnson & O'Brien, 2013). Having some background knowledge of self-compassion from my research in mind has been particularly valuable when discussing topics that my individual clients are ashamed of; and when co-facilitating the Managing Mood group, which includes a module on managing shame, approaching it as a potential trigger for continued substance use. This knowledge of self-compassion and its components (self-kindness vs. self-judgement, common humanity vs. isolation, and mindfulness vs. over-identification) has also

been personally useful while navigating my first year as a practicing psychologist and the learning curve (and many mistakes!) it involves.

Another way in which research has impacted my clinical practice that has stood out to me since the beginning of the internship is the different lens of each profession within the multi-disciplinary team, and in particular, the value of having learnt how to provide support to clients from the scientist-practitioner model. While the clinical components of the Doctorate of Clinical Psychology training have emphasized the importance of this, undertaking my own research project has provided a deeper understanding of the process of *creating* evidence-based practice, techniques and measures; and a better understanding of how and why what we consider best practice is continually evolving and changing. I believe it has also made me more familiar with reading the literature critically and being able to identify when a study's design or rationale is flawed in some way, what makes a 'good' piece of research, and therefore which approaches and therapeutic techniques are most likely to be helpful to a particular client. It has been a valuable 'lens' to have, and has been a key way in which I understand the professional role of a psychologist.

Conclusions

I did not anticipate, given that my topic of research is quite different to my internship role's focus and the client base it involves, how useful undertaking the doctoral research would be for my internship year. It has been helpful both in the sense of understanding more about what my clients are experiencing, such as emotion dysregulation, the use of maladaptive coping mechanisms, and shame; and practicing in an evidence-based way. I did not expect the extent to which emotion dysregulation in particular can underlie multiple mental health difficulties, including addiction – although this now seems obvious in retrospect! Having a thorough understanding of what emotion dysregulation is like for a person as a result of discussing this with interview participants has been invaluable and I

have felt much more like I have been able to relate to and understand my clients when discussing ways to support them to manage their emotions. This to me should be the aim of psychological research as a whole – to not just research a topic or phenomenon to understand it, but to develop knowledge that will improve our care and support for people struggling with mental health difficulties.

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