



UNIVERSITY OF
LIVERPOOL

Detached lives online: Understanding the relationship between mental health, well-being, and the online environment

Thesis submitted in accordance with the requirements of the University of Liverpool
for the degree of Doctor in Philosophy

By Joanne Deborah Worsley

September 2018

CONTENTS

Contents	i
List of tables and figures	vii
Abstract	ix
Declaration	xi
Acknowledgements	xii
Dissemination.....	xiii

PART 1

Introduction to the thesis.....	1
--	----------

Chapter 1: Background and literature review	2
--	----------

1.1 Foreword	2
---------------------------	----------

1.2 Mental health and well-being	2
---	----------

1.2.1 Conceptualising mental health	2
---	---

1.2.2 At-risk populations.....	3
--------------------------------	---

1.2.3 Prevalence of common mental health difficulties: Evidence of an increase?	4
---	---

1.2.4 A developmental perspective on psychological distress	6
---	---

1.2.4.1 Origins of attachment theory.....	6
---	---

1.2.4.2 Attachment theory in childhood.....	7
---	---

1.2.4.3 Attachment theory in adulthood.....	7
---	---

1.2.4.4 Insecure attachment and mental distress	9
---	---

1.2.4.5 Childhood adversities.....	9
------------------------------------	---

1.2.5 Resilience: The role of risk and protective factors.....	10
--	----

1.3 The digital age.....	11
---------------------------------	-----------

1.3.1 Digitalised lives.....	11
------------------------------	----

1.3.2 Social media	12
--------------------------	----

1.4 Interplay between the online environment and mental health	14
---	-----------

1.5 Positive impacts.....	15
----------------------------------	-----------

1.5.1 Social connectedness and relationships.....	15
---	----

1.5.2 Social capital	17
----------------------------	----

1.5.3 Online support networks, self-disclosure, and self-expression	19
---	----

1.6 The potential for harm to mental health and well-being	22
---	-----------

1.6.1 Patterns of usage.....	22
------------------------------	----

1.6.1.1 Time spent online.....	22
1.6.1.2 Excessive or problematic internet usage.....	25
1.6.2 Cybervictimisation	32
1.6.2.1 Cyberbullying	32
1.6.2.2 Cyberstalking	37
1.7 Aims and outline of the present thesis	39
1.7.1 Thesis aims.....	39
1.7.2 Thesis overview.....	40
1.7.3 Methodological considerations.....	43
1.8 Chapter summary.....	44
1.9 References.....	45
Chapter 2: Young people’s online environment: A scoping exercise.....	68
2.1 Foreword	68
2.2 The scoping exercise	68
2.3 What do young people discuss?	69
2.4 What do online forums offer?.....	74
2.5 What was learned?	75
2.6 Chapter summary.....	78
2.7 References.....	79
PART 2	
Problematic internet use and mental health: Toward a developmental understanding of problematic social media use	80
Chapter 3: Attachment anxiety and problematic social media use: The mediating role of well-being	81
3.1 Foreword	81
3.2 Abstract	82
3.3 Introduction	82
3.3.1 Attachment theory	83
3.3.2 Attachment styles and internet use.....	84
3.3.3 Well-being and internet use.....	85
3.3.4 The present study	86
3.4 Methods	87
3.4.1 Participants	87

3.4.2 Measures	87
3.4.2.1 Relationship Questionnaire.....	87
3.4.2.2 Ryff’s Psychological Well-Being Scales	87
3.4.2.3 Bergen Social Media Addiction Scale	88
3.4.3 Procedure.....	88
3.4.4 Statistical analyses.....	88
3.5 Results.....	89
3.5.1 Preliminary analyses	89
3.5.2 Hierarchical regression analysis.....	89
3.5.3 Mediation analysis.....	90
3.6 Discussion	91
3.7 Chapter summary.....	93
3.8 References.....	94

Chapter 4: Childhood maltreatment and problematic social media use: The role of attachment and depression 97

4.1 Foreword	97
4.2 Abstract	98
4.3 Introduction	98
4.3.1 Childhood maltreatment and problematic internet use.....	99
4.3.2 Attachment	100
4.3.3 Depression.....	101
4.3.4 The present study	101
4.4 Methods	102
4.4.1 Participants	102
4.4.2 Measures	102
4.4.2.1 Adverse Childhood Experiences Questionnaire.....	102
4.4.2.2 Relationship Questionnaire.....	102
4.4.2.3 Bergen Social Media Addiction Scale	103
4.4.2.4 Patient Health Questionnaire	103
4.4.3 Procedure.....	104
4.4.4 Statistical analyses.....	104
4.5 Results.....	104
4.5.1 Effect of childhood maltreatment on problematic social media use via insecure attachment dimensions	105
4.5.2 Effect of childhood maltreatment on problematic social media use via attachment anxiety and depressive symptoms in series.....	106

4.5.3 Effect of childhood maltreatment on problematic social media use via attachment avoidance and depressive symptoms in series	107
4.6 Discussion	108
4.7 Chapter summary.....	111
4.8 References.....	112

PART 3

Problematic internet experiences and mental health: A focus on risk and protective factors.....	115
--	------------

Chapter 5: Cyberbullying victimisation and mental distress: Testing the moderating role of attachment security, social support, and coping styles	116
--	------------

5.1 Foreword	116
5.2 Abstract	117
5.3 Introduction	117
5.3.1 Attachment styles and victimisation.....	119
5.3.2 Coping styles and victimisation	121
5.3.3 Social support and victimisation	122
5.3.4 The present study	123
5.4 Methods	123
5.4.1 Participants	123
5.4.2 Measures	124
5.4.2.1 Hospital Anxiety and Depression Scale.....	124
5.4.2.2 Multidimensional Scale of Perceived Social Support.....	124
5.4.2.3 Relationship Questionnaire	124
5.4.2.4 Cognitive Emotion Regulation Questionnaire	125
5.4.2.5 Cyberbullying Victimization.....	125
5.4.3 Statistical analyses.....	126
5.5 Results.....	126
5.5.1 Multiple regression analysis.....	128
5.5.2 Moderation analyses.....	128
5.5.2.1 Cyberbullying victimisation and perceived social support	128
5.5.2.2 Cyberbullying victimisation and secure attachment	129
5.5.2.3 Cyberbullying victimisation and positive coping styles	129
5.6 Discussion	133
5.7 Chapter summary.....	137

5.8 References.....	139
Chapter 6: Victims' voices: Understanding the emotional impact of cyberstalking and individuals' coping responses	144
6.1 Foreword	144
6.2 Abstract	145
6.3 Introduction	146
6.4 Methods	150
6.4.1 Participants	150
6.4.2 The online survey	150
6.4.3 Method of analysis	151
6.5 Analysis.....	152
6.5.1 Fear.....	153
6.5.2 Anxiety	153
6.5.3 Depressive symptoms.....	155
6.5.4 Secondary emotional responses.....	156
6.5.5 Global well-being consequences	156
6.5.6 Lack of effective victim support	157
6.5.7 Coping	160
6.6 Discussion	164
6.7 Chapter summary.....	169
6.8 References.....	170
PART 4	
Discussion and conclusions.....	172
Chapter 7: General discussion	173
7.1 Foreword	173
7.2 Specific findings	174
7.2.1 Research question 1: What are the risk factors associated with problematic social media use?	174
7.2.2 Research question 2: What factors confer vulnerability to cyberbullying victimisation and what factors protect against its negative consequences?	177
7.2.3 Research question 3: According to victims' perspectives, what factors protect against or confer vulnerability to negative outcomes following cyberstalking victimisation?	179
7.3 Integrative summary	181
7.4 Strengths and contributions to knowledge	183

7.5 Limitations of the research	184
7.6 Implications and policy recommendations	187
7.6.1 Implications and recommendations for family settings.....	187
7.6.1.1 Parenting programmes	187
7.6.1.2 Open communication channels and family relationships.....	189
7.6.2 Implications and recommendations for educational settings.....	190
7.6.2.1 Attachment aware schools	190
7.6.2.2 Promoting well-being within educational settings	192
7.6.2.3 Enhancing coping skills in educational settings	193
7.6.2.4 School interventions related to cyberbullying victimisation.....	194
7.6.3 Implications and recommendations for mental health services.....	194
7.6.3.1 Attachment-aware and trauma-informed services	194
7.6.3.2 Addressing problematic usage within an attachment-based framework.....	195
7.6.3.3 Cognitive behavioural therapy following cybervictimisation.....	196
7.6.4 Implications and recommendations for social media companies	196
7.6.4.1 Mental health support and advice	196
7.6.4.2 Pop-up messaging	197
7.6.4.3 Reporting incidents of cyberbullying and cyberstalking	197
7.6.5 Implications and recommendations for law enforcement	198
7.6.5.1 A victim-led training package.....	198
7.6.5.2 ‘Talking cyberstalking’: An awareness campaign	200
7.6.6 Summary of the key recommendations	200
7.7 Future research.....	201
7.8 Conclusions.....	202
7.9 References.....	206
Appendices	209
Appendix 1: Guidance on seeking institutional research ethics review for the collection and use of data obtained from the public domain	209
Appendix 1.1: Original correspondence (December 2014).....	209
Appendix 1.2: Follow-up correspondence (May 2018)	210
Appendix 2: Approval email (Study 1)	211
Appendix 3: Approval email (Study 2)	212
Appendix 4: Approval email (Study 3)	213
Appendix 5: Approval email (Study 4)	214
Appendix 6: Participant information sheet (Study 1)	215
Appendix 7: Participant consent form (Study 1)	217

Appendix 8: Participant debrief sheet (Study 1)	218
Appendix 9: Participant information sheet (Study 2)	219
Appendix 10: Participant consent form (Study 2)	220
Appendix 11: Participant debrief sheet (Study 2)	221
Appendix 12: Participant information sheet (Study 3)	223
Appendix 13: Parent information sheet (Study 3)	225
Appendix 14: Participant consent form (Study 3)	227
Appendix 15: Participant debrief sheet (Study 3)	228
Appendix 16: Head teacher information sheet (Study 3)	229
Appendix 17: Head teacher consent form (Study 3)	231

List of tables and figures

Tables

Table 3.1 Sample descriptives and correlation matrix showing Pearson’s correlation coefficients (<i>r</i>)	89
Table 3.2 Regression analysis showing age, gender, attachment anxiety, attachment avoidance, and psychological well-being as predictors of problematic social media use	90
Table 4.1 Descriptive statistics and Pearson’s correlations between childhood maltreatment, attachment anxiety, attachment avoidance, depression, and problematic social media use	105
Table 5.1 Descriptive statistics and Pearson’s correlations between cyberbullying victimisation, secure attachment, insecure attachment dimensions, social support, positive coping styles, and mental distress.....	127
Table 5.2 Regression analysis showing cyberbullying victimisation, family support, peer support, secure attachment, positive refocusing, and positive reappraisal as predictors of mental distress (i.e., symptoms of depression and anxiety)	128
Table 5.3 Hierarchical regression analyses predicting mental distress (i.e., symptoms of depression and anxiety).....	130
Table 6.1 The impact of cyberstalking on mental health and well-being.....	152

Figures

Figure 3.1 A simple mediation analysis showing attachment anxiety as the independent variable (IV), problematic social media use as the dependent variable (DV), and psychological well-being as the mediator. Values are unstandardised regression coefficients, standard errors (SEs) in parentheses, and associated <i>p</i> values.....	91
--	-----------

Figure 4.1 Parallel mediation analysis with childhood maltreatment as the independent variable (IV), problematic social media use as the dependent variable (DV), and attachment anxiety and attachment avoidance as the mediators. Values are unstandardised regression coefficients, standard errors (SEs) in parentheses, and associated <i>p</i> values	106
Figure 4.2 Serial multiple mediation analysis with childhood maltreatment as the independent variable (IV), problematic social media use as the dependent variable (DV), and attachment anxiety and depressive symptoms as the first and second mediators, respectively. Values are unstandardised regression coefficients, standard errors (SEs) in parentheses, and associated <i>p</i> values. Bracketed association = direct effect (controlling for indirect effects).	107
Figure 4.3 Serial multiple mediation analysis with childhood maltreatment as the independent variable (IV), problematic social media use as the dependent variable (DV), and attachment avoidance and depressive symptoms as the first and second mediators, respectively. Values are unstandardised regression coefficients, standard errors (SEs) in parentheses, and associated <i>p</i> values. Bracketed association = direct effect (controlling for indirect effects)	108
Figure 5.1 Plot of cyberbullying victimisation x peer support on symptoms of depression and anxiety	131
Figure 5.2 Plot of cyberbullying victimisation x secure attachment on symptoms of depression and anxiety	132
Figure 5.3 Plot of cyberbullying victimisation x positive refocusing on symptoms of depression and anxiety	132
Figure 5.4 Plot of cyberbullying victimisation x positive reappraisal on symptoms of depression and anxiety	133

Abstract

The work contained in this thesis aims to explore the interplay between the online world and mental health, with a particular focus on identifying features of people's lives that confer vulnerability or resilience in the context of the online environment. Qualitative and quantitative methods were both used to establish the factors that confer vulnerability to specific problematic internet experiences, namely excessive social media use and cybervictimisation, or resilience to the negative outcomes of such experiences.

In an attempt to better understand the psychology that underpins excessive social media use, attachment theory informed a quantitative study that aimed to illuminate why certain people use social media excessively (Chapter 3). Attachment anxiety was found to be positively associated with problematic social media use, whilst attachment avoidance was negatively associated with problematic social media use. Together, these findings suggest that attachment anxiety is a vulnerability factor and attachment avoidance is a protective factor in the context of social media overuse. The data further indicated that there was a significant indirect effect of attachment anxiety on problematic social media use via general feelings of well-being. In an attempt to develop a lifespan model of problematic social media use, the work focused on a psychological understanding of the link between childhood trauma, attachment insecurities, depressive symptoms, and problematic social media use in Chapter 4. Results revealed a history of childhood maltreatment was associated with more problematic social media use. Both insecure attachment dimensions (attachment anxiety and attachment avoidance) mediated the relationship between childhood maltreatment and problematic social media use in series with depressive symptoms. The model presented in Chapter 4 highlights novel environmental factors and psychological processes involved in the etiology of problematic social media use from a developmental perspective.

In addition to illuminating the psychological factors that underpin excessive social media use, the work explored whether specific factors confer vulnerability to cyberbullying victimisation or protection against its negative effects in a sample of adolescents (Chapter 5). Victims of cyberbullying experienced higher levels of depression and anxiety and endorsed self-statements indicative of attachment anxiety more than non-victims. Positive coping styles, secure attachment, and higher levels

of perceived social support from peers attenuated the positive relationship between cyberbullying victimisation and symptoms of depression and anxiety.

In Chapter 6 qualitative methods are used to understand the psychological and interpersonal harms of being stalked via electronic means through the voices and experiences of 100 cyberstalking victims. Through a thematic analysis of their written reflections, this Chapter demonstrates that the emotional impact of cyberstalking predominantly includes comorbid depression and anxiety. The findings further reveal that the relationship between cyberstalking and mental distress is influenced by the prevailing resilience or vulnerabilities of the victims. Social support was found to be particularly helpful in the context of cyberstalking; however, when some victims sought help from significant others, it appeared to increase, rather than decrease, the negative impact of the cyberstalking ordeal. Adaptive coping styles such as the ability to cognitively reframe thoughts may enable the re-establishment of some emotional control and lay the course to a more resilient path; however, less adaptive coping styles appear to be a common response to cyberstalking victimisation.

Overall, this body of research has contributed to our understanding of the relationship between the online world and mental health, and has identified risk and protective factors. The research presented here moves understanding forward by connecting up the increasing concerns of society regarding social media to the psychology that underpins them. The work further contributes to our understanding of the factors by which people's psychological adjustment is protected against the adverse effects of negative online experiences. In doing so, it supports well-being policy recommendations that should, in time, decrease the ill-effects of online lifestyles on future young people.

Declaration

This thesis is the result of my own work. The material contained in the thesis has not been presented, nor is currently being presented, either wholly or in part for any other degree or qualification.

Acknowledgements

First and foremost, I would like to thank Professor Rhiannon Corcoran for the mentorship that I received. I am extremely grateful for your invaluable support and continual guidance. Without your support, this would not have been possible.

Special thanks also go to Dr Jason McIntyre, Dr Jacqueline Wheatcroft, Dr Catrin Eames, and Professor Richard Bentall for their help along the way. Jason, I have improved under your guidance and will be forever grateful for your manuscript draft feedback.

I am grateful to all of the participants who took part in my research studies. Without their input, this research would not have been possible. Alongside the victims of cyberstalking who completed the survey, special thanks go to Dr Emma Short and the National Centre for Cyberstalking Research. Special thanks also go to Mr Chris Adamson, the assistant head teacher from Maricourt High School, who took time out of his busy schedule to help organise times for me to introduce the cyberbullying survey and collect data. I know working around both my teaching timetable and his pupils' timetables was very challenging at times and I will be forever grateful.

I would also like to thank the School of Psychology for employing me as a demonstrator and awarding me my PhD studentship. Thank you to everyone who kept me smiling during each semester, especially my fellow demonstrators Amy, Laura, Joanna, Flo, and Graeme. Special thanks also to members of the mental health in context lab group and the forensic lab group, especially Rosie for her help with the data collection for Chapter 3, and Grace and Jade who have listened to my struggles and always been there to offer advice!

Thanks also go to Emma for our weekly countryside walks and our annual trips to Snowdonia! Special thanks also go to my weekly climbing group members, especially Lucy for her constant encouragement. Bouldering functioned as a space away from the pressure of balancing part-time work alongside writing a PhD, and even though we did have the occasional PhD discussion in the climbing hangar, you all helped me to take a break from thesis writing!

Finally, special and heartfelt thanks to my family for their belief in me and to Joe for his continuous support. This thesis is dedicated in memory of my grandparents for being the most loving and caring people I have had the pleasure of knowing.

Dissemination

This thesis is submitted in fulfilment of the conditions for a PhD by published papers. In accordance with the University of Liverpool guidelines for submission of thesis by published papers, the empirical Chapters (Chapters 3-6) of this thesis take the form of journal article manuscripts. This thesis is presented in this format to ensure timely publication of research findings in this growing area of inquiry and to reflect the breadth of different studies conducted, all of which have been peer-reviewed and accepted for publication (Chapters 3-6). Although each Chapter is self-contained and this thesis comprises four separate but inter-related research studies focusing on the online world and mental health, each Chapter contributes to the overall aim of the thesis. As a result, however, some literature is replicated. First person plural is used throughout the thesis to maintain continuity with published Chapters. A brief foreword is presented before each Chapter to explicate how each study links to the preceding Chapter and to demonstrate how each individual study contributes to the overall aims of the thesis. A brief summary is presented at the end of each Chapter. Specific details pertaining to contribution of authors are presented at the beginning of each chapter.

Contributor statement

Joanne Worsley was primarily responsible for the conception and design of the studies in this thesis. Professor Rhiannon Corcoran provided additional direction in conception and design.

Joanne Worsley was responsible for the data collection, data analysis, data interpretation, and drafting of initial manuscripts. Joanne Worsley is first author on all peer-reviewed manuscripts.

Joanne Worsley was primarily responsible for critical revisions of submitted manuscripts. Professor Rhiannon Corcoran provided additional feedback on Chapter 3, Dr Jason McIntyre provided additional feedback on Chapters 4 and 5, and Dr Jacqueline Wheatcroft provided additional feedback on Chapter 6.

Empirical work in peer-reviewed publication form

Chapter 3 was accepted for publication in *Cyberpsychology, Behavior, and Social Networking* on 28/06/2018 (Manuscript ID: CYBER-2017-0555.R4):

Worsley, J.D., Mansfield, R., & Corcoran, R. (2018). Attachment anxiety and problematic social media use: The mediating role of well-being. *Cyberpsychology, Behavior, and Social Networking*, 21(9), 563-568. doi: 10.1089/cyber.2017.0555

Chapter 4 was accepted for publication in *Psychiatry Research* on 09/05/2018 (Manuscript ID: PSY11412):

Worsley, J.D., McIntyre, J.C., Bentall, R.P., & Corcoran, R. (2018). Childhood maltreatment and problematic social media use: The role of attachment and depression. *Psychiatry Research*, 267, 88-93. doi:10.1016/j.psychres.2018.05.023

Chapter 5 was accepted for publication in *Emotional and Behavioural Difficulties* on 08/08/2018 (Manuscript ID: EBD 547)

Worsley, J.D., McIntyre, J.C., & Corcoran, R. (2018). Cyberbullying victimisation and mental distress: Testing the moderating role of attachment security, social support, and coping styles. *Emotional and Behavioural Difficulties*. In press. doi: 10.1080/13632752.2018.1530497

Chapter 6 was accepted for publication in *SAGE Open* on 18/04/2017 (Manuscript ID: SO-16-1095.R1):

Worsley, J.D., Wheatcroft, J.M., Short, E., & Corcoran, R. (2017). Victims' voices: Understanding the emotional impact of cyberstalking and individuals' coping responses. *SAGE Open*, 7(2), 1-13. doi: 10.1177/2158244017710292

PART 1

Introduction to the thesis

Chapter 1

Background and literature review

1.1 Foreword

This Chapter introduces the relevant literature and provides an overview of attachment theory, which is the main theoretical framework used throughout the thesis. This Chapter begins by providing background information pertaining to mental health and internet usage. It then moves to a critical literature review focusing on the intersection between mental health and the online environment. In order to provide a balanced overview of the field, this section discusses both positive and negative aspects of the online environment. This review is selective as it focuses on activities and experiences that are most commonly associated with young people. Following the critical literature review, an overview of the thesis is presented.

1.2 Mental health and well-being

1.2.1 Conceptualising mental health

The World Health Organisation (WHO) defines health as “...a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1946, p.1315). Mental health, as an indivisible component of general health, is a concept that is used in a number of different ways. There are two aspects of mental health: positive mental health and mental distress.

Positive mental health, also referred to as mental well-being, is a complex construct, which covers both affect and psychological functioning, as well as hedonic and eudaimonic well-being (Ryan & Deci, 2001). There are two distinct approaches to defining well-being: the hedonic approach and the eudaimonic approach (Ryan & Deci, 2001). The former posits that hedonic or subjective well-being is characterised by positive affective elements, low negative affect, and high satisfaction with life (Diener, 1984), whereas the eudaimonic approach focuses on psychological well-being, which is defined more broadly in terms of the degree to which a person is functioning well (Ryff, 1989). Although these approaches are viewed independently, life satisfaction and the degree to which a person is fully functioning are related (Keyes & Annas, 2009), and this has led researchers to agree that well-being is a dynamic, multi-dimensional construct (Dodge, Daly, Huyton, & Sanders, 2012).

Mental distress is a broad term used to refer to phenomena that are often labelled or diagnosed as mental health problems. Mental health problems affect the

way in which individuals think, feel, and behave, and range from common mental health difficulties such as depression and anxiety, to more severe forms of distress such as psychosis. Presently, depression is the leading cause of disability worldwide (WHO, 2017a), and according to the National Institute for Clinical Excellence (NICE) guidelines, depression is characterised by low mood, a loss of interest and enjoyment in usual activities, and a range of associated emotional, cognitive, physical, and behavioural symptoms (NICE, 2010). Depression is highly comorbid with anxiety (Hirschfeld, 2001). For example, adolescents with depression are 6 to 12 times more likely to experience anxiety than adolescents without depression (Costello, Angold, & Foley, 2006). Generalised anxiety is characterised by excessive worry about a number of different events associated with heightened tension (NICE, 2014), and both anxiety and depression are associated with impaired interpersonal lives (Steger & Kashdan, 2009). Self-harm, defined as any act of self-poisoning or self-injury (NICE, 2004), is highly correlated with the presence of depression and anxiety (Mars et al., 2014; Moran et al., 2012). Self-harm is the strongest risk factor for subsequent suicide (Hawton & Harriss, 2007), which is the second most common cause of death among children and young people aged 10 to 24 years (Patton et al., 2009).

1.2.2 At-risk populations

Adolescence and young adulthood are known to be periods of peak risk for the onset of mental health difficulties (Kessler et al., 2007). Nationally representative household surveys of adults in the United States (US) suggest that half of all mental health problems start before the age of 14 years and three-quarters by the age of 24 years (Kessler, Berglund, Demler, Jin, & Walters, 2005). On average, approximately one in five young people experience mental health difficulties (Bor, Bor, Dean, Najman, & Hayatbakhsh, 2014; Patel, Flisher, Hetrick, & McGorry, 2007). However, a number of studies have revealed gender differences as girls are more likely to experience emotional problems, whereas boys are more likely to experience conduct or behavioural problems (Bor et al., 2014; Green, McGinnity, Meltzer, Ford, & Goodman, 2005; Patel et al., 2007).

Adolescence is a transitional period with considerable growth and challenge. During this period, individuals are required to adjust to the changing nature of their bodies, explore their identity, and gain independence from their parents (Steinberg,

2005). Although not all adolescents experience turbulence, this period is often characterised as a time of vulnerability, and the challenges adolescents face can be unsettling with many psychological difficulties surfacing at this time (Murphy & Fonagy, 2012). Indeed, adolescents are particularly susceptible to depression (Goodyer, Croudace, Dunn, Herbert, & Jones, 2010), and research suggests that 20% of girls and 7% of boys develop depressive symptoms before the end of adolescence (Angold, Erkanli, Silberg, Eaves, & Costello, 2002).

According to Arnett (2000), the liminal period between adolescence and adulthood is known as emerging adulthood, and this period generally spans the ages of 18 to 25 years. Emerging adulthood is characterised by a common set of social, personal, and identity-related changes (Arnett, 2000). As emerging adulthood is often characterised by change, exploration, and an array of transitions such as entering full-time employment, young adults may also have an increased vulnerability to mental health difficulties (Berry, 2004). Indeed, the transition to early adulthood has been associated with a spike in symptoms of anxiety. These symptoms may be related to significant social and environmental changes, such as independent living and full-time employment, which characterise the transition from adolescence to young adulthood (Copeland, Angold, Shanahan, & Costello, 2014).

1.2.3 Prevalence of common mental health problems: Evidence of an increase?

Globally, in 2015 the total estimated number of people living with depression and anxiety was 322 million and 264 million respectively, which is equivalent to 4.4% and 3.6% of the world's population (WHO, 2017b). For depression, the total for 2015 reflects an 18.4% increase since 2005, while the total estimated number of people living with anxiety in 2015 reflects a 14.9% increase since 2005 (Vos et al., 2016). A Global Burden of Disease Study that compared prevalence of both physical and mental health difficulties worldwide from 1990 to 2010 found that mental health difficulties, particularly depression and anxiety, have increased over this 20-year period (Bor et al., 2014; Murray et al., 2012). Critically, the largest increase in burden of emotional problems was observed in adolescents and young adults.

The most recent British surveys undertaken by the Office for National Statistics (ONS) found that 10% of children aged 5 to 15 years had a clinically diagnosable mental health problem (Green et al., 2005; Meltzer, Gatward, Goodman, & Ford, 2000). In these two surveys, the prevalence of anxiety and depression were

2-3% and 0.9%, respectively. Thus, there were no differences in rates of mental health difficulties between the British surveys undertaken by the ONS in 1999 and 2004. According to the ONS survey undertaken in 2004, the rate of self-harm in adolescents was 1.2% in those with no diagnosable mental health problem; however, this figure increased to 9.4% in those with anxiety and 18.8% in those with depression (Green et al., 2005).

In addition to the British surveys undertaken by the ONS, the Millennium Cohort Study has followed the lives of 19,571 children born across England, Scotland, Wales, and Northern Ireland from 2000 to 2001. Parents reported on their children's emotional difficulties at ages 3, 5, 7, 11, and 14. From ages 7 to 11, there was an increase in emotional symptoms, such as feeling depressed and anxious, from around 7% to 12% for both boys and girls (Patalay & Fitzsimons, 2017). However, a substantial gender difference in emotional problems was observed at age 14, with the proportion of girls identified as having emotional problems based on their parents' reports increasing from 12% at age 11 to 18% at age 14, whereas between the ages 11 and 14 years, the prevalence of emotional problems remained stable for boys (Patalay & Fitzsimons, 2017). When children aged 14 years reported on their own symptoms of emotional distress, almost one in four girls (24%) reported high levels of depressive symptoms compared to almost one in ten boys (9%; Patalay & Fitzsimons, 2017).

When comparing the prevalence of mental health difficulties in early adolescence between 2009 and 2014 in England, Fink et al. (2015) found that there were similar levels of mental health difficulties in both cohorts. Nevertheless, this study identified a significant increase in emotional problems among adolescent girls aged 11 to 13 years in 2014 compared to 2009, and a decrease in total difficulties in adolescent boys over the five-year period. Similarly, in a recent survey of English adolescents aged 14 years, there was a significant increase in psychological distress between 2005 and 2014 amongst adolescent girls (Lessof, Ross, Brind, Bell, & Newton, 2016). A striking gender difference was apparent in 2014 as 37% of female adolescents reported symptoms of psychological distress in comparison to 15% of male adolescents (Lessof et al., 2016). In line with this, in a recent Clinical Practice Research Datalink study of children, increases of prescription related records for depression were noted particularly among adolescent girls aged 15 to 17 years

(Sarginson et al., 2017). Taken together, these findings highlight an increasing burden of emotional problems for female adolescents.

Using electronic health records from 674 general practices in England, Morgan et al. (2017) investigated temporal trends in the incidence of self-harm from 2001 to 2014 among children and adolescents aged 10 to 19 years. During the observation period, the majority (73.3%) of those identified with at least one episode of self-harm were girls, while just over a quarter (26.7%) were boys. A high prevalence of depression and anxiety was found in the self-harm cohort, as depression diagnoses were recorded in over a third of girls and a quarter of boys. In relation to temporal trends, Morgan et al. (2017) reported an increased annual incidence of self-harm in girls (37.4 per 10,000) compared to boys (12.3 per 10,000). Morgan and colleagues also found a 68% increase in self-harm incidence among girls aged 13 to 16 years, from 45.9 per 10,000 in 2011 to 77.0 per 10,000 in 2014. With regard to gender differences in distress, a higher prevalence of depression, anxiety, and eating disorders was found in girls (Morgan et al., 2017).

According to the Adult Psychiatric Morbidity Survey (APMS) in 2014 (McManus, Bebbington, Jenkins, & Brugha, 2016), young women aged 16 to 24 years (26.0%) were almost three times as likely as men in this age group (9.1%) to have symptoms of common mental health problems (i.e., different types of depression and anxiety). Young women were also more likely than young men to self-harm, as one in four women (25.7%) reported self-harming, whereas fewer than 10% of men (9.7%) reported self-harming behaviour (McManus et al., 2016). The rates of common mental health difficulties (i.e., different types of depression and anxiety) have increased since the APMS in 1993, as young women aged 16 to 24 years (19.2%) were only twice as likely as men in this age group (8.4%) to have symptoms of common mental health problems (Meltzer, Gill, Petticrew, & Hinds, 1995).

1.2.4 A developmental perspective on psychological distress

1.2.4.1 Origins of attachment theory

Attachment theory evolved from seminal work by John Bowlby and Mary Ainsworth (Ainsworth, 1963, 1982, 1985; Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969, 1973, 1980). Through observations at a school for maladjusted children, Bowlby began to formulate impressions and opinions that became the foundations of

attachment theory. Ainsworth further developed Bowlby's ideas by proposing the concept of a 'secure base', a construct referring to the proposition that children gradually start to explore novel environments when they feel a secure dependence on their caregivers. The idea that attachment is a secure base from which to explore is a fundamental principle of attachment theory (Ainsworth, 1963). Mary Main is also a prominent figure in the attachment literature as Main and colleagues found that adult attachment representations impact upon the attachment categorisation of their children (Main, Kaplan, & Cassidy, 1985).

1.2.4.2 Attachment theory in childhood

Attachment theory, as espoused by Bowlby (1973), concerns the emotional bond that infants form with their primary caregiver through proximity seeking and maintaining behaviours. The innate psychobiological system, also known as the attachment behavioural system, motivates infants to seek proximity to significant others or attachment figures in times of need. An infant's perception of their caregiver's response to their bids for proximity fosters the development of internal working models about the self and others (Bowlby, 1973). Consistent, responsive, and emotionally available responses from attachment figures foster the development of a positive working model of the self and others. Such responses to proximity seeking show the infant that others are dependable and trustworthy, whilst also signifying that the infant is worthy of care, and this facilitates the development of a secure attachment style (Main & Solomon, 1990). Conversely, when caregivers are unavailable, unresponsive, and inconsistent, attempts for proximity seeking fail. When proximity seeking fails to relieve distress, negative models of the self and others are formed. Emotionally unavailable, unresponsive, and/or inconsistent parenting results in the development of insecure attachment styles such as anxious attachment, characterised by a negative view of the self and a positive view of others, or avoidant attachment, characterised by a positive view of the self and a negative view of others (Main & Solomon, 1990). When parents are confusing and contradictory, this results in the development of disorganised attachment, characterised by negative views about the self and others (Main & Solomon, 1990).

1.2.4.3 Attachment theory in adulthood

According to Bartholomew and Horowitz (1991), adult attachment can be conceptualised similarly to the childhood attachment styles of secure, preoccupied (anxious), dismissive (avoidant), and fearful (disorganised). In adulthood, an individual with a secure attachment style is able to form close relationships and is not overly concerned about being accepted by others. Individuals with a preoccupied attachment style have a tendency to rely on others and strive to be accepted by others. An individual with a dismissing attachment style tends to avoid close relationships and is overly self-reliant. A fearful attachment style reflects individuals who have a strong desire to form close relationships but tend to avoid others due to fear of rejection.

Characteristics from these attachment styles can be measured in terms of two independent dimensions: the anxious dimension and the avoidant dimension (Brennan, Clark, & Shaver, 1998). People who score low on both dimensions are secure; high scores on both dimensions are characteristic of fearful attachment; high scores on only the avoidant dimension are characteristic of dismissing attachment; and high scores on only the anxious dimension are characteristic of preoccupied attachment (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010). Attachment anxiety, characterised by a negative model of the self and a positive model of others, develops when the primary caregiver is viewed as inconsistent. Attachment avoidance, characterised by a negative model of others and a positive model of the self, develops when the primary caregiver is viewed as unresponsive and unavailable. Mikulincer and Shaver (2007) proposed that in addition to reflecting an individual's sense of attachment security, a person's location in the two-dimensional conceptual space also reflects the ways in which he or she deals with threats and distress. As secure individuals tend to score low on both attachment dimensions, these individuals tend to utilise efficient affect-regulation strategies. Conversely, individuals who score high on either dimension tend to rely on secondary attachment strategies, namely hyperactivating or deactivating strategies (Cassidy & Kobak, 1988). Individuals who experience inconsistent parenting tend to hyperactivate their attachment system as adults, which results in exaggerated reactions to distress in an attempt to acquire comfort and support (Mikulincer, Shaver, & Pereg, 2003). Conversely, avoidant individuals deactivate their attachment needs, tend to be overly self-reliant, and prefer to remain distant from others (Mikulincer et al., 2003).

1.2.4.4 Insecure attachment and mental distress

In accordance with Bowlby (1988), “interactions with inconsistent, unreliable, or insensitive attachment figures interfere with the development of a secure, stable mental foundation; reduce resilience in coping with stressful life events; and predispose a person to break down psychologically in times of crisis” (Mikulincer & Shaver, 2012, p.12). Thus, insecurity in attachment relationships confers a general vulnerability to mental health problems, and empirical evidence has demonstrated that attachment insecurities are associated with many forms of psychological distress including depression (Cantazaro & Wei, 2010) and anxiety (Bosmans, Braet, & Van Vlierberghe, 2010). With regard to the former, the loss of attachment security engenders the formation of pessimistic and hopeless representations of the self and the world. Consequently, the infant is left feeling powerless and helpless after unsuccessful attempts to gain support, love, approval, or admiration from an inconsistent or rejecting caregiver (Mikulincer & Shaver, 2007). In line with cognitive models of depression (e.g., Abramson, Metalsky, & Alloy, 1989; Beck, 1976), Bowlby (1980) posited that feelings of helplessness and powerlessness are conducive to symptoms of depression. Attachment insecurities can also engender symptoms of anxiety as when the attachment system is unable to accomplish its basic protective function, this leaves an infant feeling unsafe whilst navigating the world, and thus, insecure individuals view the world as an unsafe place, devoid of a secure base (Mikulincer & Shaver, 2007). More specifically, individuals who are anxious have frequent doubts concerning their capability to deal with threats and are therefore in a state of constant vigilance.

1.2.4.5 Childhood adversities

A central tenet of attachment theory is that insecure attachment styles stem from adverse childhood experiences (Bowlby, 1977). The attachment system is particularly reactive to childhood maltreatment, and indeed, childhood experiences of maltreatment have been identified as aetiological precursors of attachment insecurities (Bifulco, Moran, Ball, & Lillie, 2002; Whiffen, Judd, & Aube, 1999). Childhood maltreatment refers to sexual, physical, and psychological abuse, and physical and emotional neglect (Radford et al., 2011), and these adverse childhood experiences often co-exist (Felitti et al., 1998; Radford et al., 2011).

Childhood maltreatment impacts upon three core areas including disturbances of self (e.g., low self-worth and self-injurious behaviours), interpersonal problems (e.g., revictimisation and social withdrawal), and affect dysregulation (e.g., depression and anxiety states; Alexander, 1992; Pollock, 2001). It is now widely accepted that childhood trauma plays a role in the development and onset of mental health problems (Gilbert et al., 2009). For example, victims of childhood maltreatment are at increased risk of depression in adolescence and adulthood (Fergusson, Boden, & Horwood, 2008). Moreover, between a quarter and a third of maltreated children meet the *Diagnostic and Statistical Manual of Mental Disorders III* (3rd ed., DSM-III; American Psychiatric Association, 1987) criteria for major depression by their late 20s (Widom, DuMont, & Czaja, 2007).

1.2.5 Resilience: The role of risk and protective factors

Factors that increase a person's likelihood of experiencing mental health difficulties are known as risk factors, whereas factors that decrease the likelihood of a person experiencing mental health difficulties are known as protective factors. Resilience is generally defined as a dynamic process involving an interaction between both risk and protective processes, both internal and external to the individual, whereby individuals function positively in the face of adversity (Rutter, 1985, 1999). Thus, resilience is commonly referred to as the capacity to 'bounce back' from adversity (Allen, 2014). Protective factors are those which help people to achieve positive outcomes in the face of adversity, thus increasing resilience, whereas risk factors increase vulnerability (Allen, 2014).

Risk and protective factors may be especially important within both childhood and adolescence as many mental health difficulties in adulthood have their origins in childhood and adolescence (Taylor, 2016). Indeed, attachment theory attests to this link and it is well established that experiences of maltreatment during childhood are substantial predictors of a myriad of mental health difficulties in childhood, adolescence, and adulthood (Gilbert et al., 2009). Longitudinal evidence also demonstrates that common mental health difficulties arising in childhood often continue into adulthood (Fichter, Kohlboeck, Quadflieg, Wyschkon, & Esser, 2009). Thus, a shift in focus from fixing a problem that has already become established to enhancing prevention and developing resilience in young people is needed (Masten, 2011). Indeed, studying which factors buffer young people from mental health

difficulties in the context of risk factors is particularly important to improve mental health outcomes (Masten, 2001, 2011).

1.3 The digital age

1.3.1 Digitalised lives

The proliferation of digital devices has profoundly changed how humans interact with each other and this has implications for the role of early attachment in adult interactions and relationships. With interactions increasingly shifting from traditional to virtual conduits, the internet has disrupted the means of interpersonal communication with, arguably, the most profound impact on young people. Prensky (2001) described today's young people aged 16 to 24 years as digital natives, "a term used to describe those who have grown up with the internet, mobile phones and other technologies, and who are fundamentally different from previous generations in the way they communicate, seek information, engage, interact, and entertain themselves" (Prensky, 2001, p.368). Digital natives have been distinguished from digital immigrants, with Prensky (2001) describing the latter as people who have not grown up using digital technologies. According to the PISA Wellbeing survey, 47.6% of adolescents aged 15 years in the United Kingdom (UK) first used the internet between the ages of seven and nine, and over a quarter (27.6%) first used this medium when they were six or younger (OECD, 2017). Similarly, according to a European Union (EU) wide survey, children in the UK first used the internet at an average age of eight (Livingstone, Haddon, Vincent, Mascheroni, & Ólafsson, 2014). More specifically, for children aged 15 to 16 years, the average age of first use increased to nine, whereas for children aged 9 to 10 years, the average age of first use decreased to six (Livingstone et al., 2014). These findings highlight a trend toward internet access at increasingly younger ages.

Digital devices define and shape modern childhood (Lenhart, Smith, Anderson, Duggan, & Perrin, 2015). In fact, the amount of time adolescents spend online has more than doubled from an average of 8 hours per week in 2005 to 18.9 hours per week in 2015 (Ofcom, 2015). This figure rises to 29 hours per week for young people aged 16 to 24 years (Ofcom, 2016b). This may be due, in part, to the invention of smartphones, which are internet-enabled user-friendly devices that afford users a myriad of functions and uses. The majority (93%) of UK adolescents aged 15 years owned a smartphone in 2016, with younger children also reporting

smartphone usage and ownership (Ofcom, 2016a). In 2017, 39% of 8 to 11 year olds and 83% of 12 to 15 year olds owned a smartphone (Ofcom, 2017). In 2014, 56% of children and adolescents aged 9 to 16 years in the UK reported using a smartphone on a daily basis, and 76% of those who owned a smartphone were able to access the internet via their device (Mascheroni & Cuman, 2014). It is now common for young people to access the internet privately. For example, in a sample of 5,436 Canadian adolescents, the primary means of accessing the internet was via a smartphone (Steeves, 2014).

Although adolescents represent a significant user base, adults are also increasingly attracted to the internet. For instance, in the UK, almost all individuals aged 16 to 34 years (99%) were recent internet users (ONS, 2017). On average, adults report spending 25 hours online per week (Ofcom, 2016b) and 71% of adults now own a smartphone, which is the most popular device for accessing the internet (Ofcom, 2016b).

1.3.2 Social media

Social media refers to the web 2.0 capabilities of producing, sharing, and collaborating on content online (Kaplan & Haenlein, 2010). A defining feature of these social technologies is that they enable the creation and exchange of user-generated content. Social media is a broad term encompassing a wide range of technologies including “collaborative projects, blogs, content communities, social networking sites, virtual game worlds, and virtual social worlds” (Kaplan & Haenlein, 2010, p.60). Accordingly, individuals can utilise these platforms for a number of different activities, including socialising with peers, interacting with others based on shared interests, sharing images or videos, blogging, dating, gaming, or gambling (Allen, Ryan, Gray, McInerney, & Waters, 2014). Social media therefore serves a myriad of functions and, as summarised by McDool, Powell, Roberts, and Taylor (2016), “is a tool for developing and maintaining interpersonal relationships, a real-time portal for accessing information, news, advice, and support, as well as a canvas for sketching a selective and idealised self-portrait” (p.3).

Social networking, the most popular form of social media, is a broad term used to refer to a variety of apps and services. Social networking sites can be defined as web-based virtual communities that enable individuals to present themselves and establish or maintain connections with others (Ellison, Steinfield, & Lampe, 2007).

In 2017, 2.46 billion people used social networking sites worldwide (Statista, 2017a). In the same year, Facebook, with 2.07 billion active users, was the most popular social networking site (Statista, 2017b), though newer social networking sites, such as Instagram and Snapchat, have recently risen in popularity, particularly among younger people. Instagram was launched in 2010 and this image-sharing platform now has over 700 million users (Statista, 2017c). Snapchat, launched in 2011, enables users to send text, picture, and video messages to other users, and this platform now has more than 255 million active users (Statista, 2017d). Given its ephemeral nature, Snapchat differs from its predecessors as, once the receiver has viewed the message, it is automatically deleted.

Almost a quarter (23%) of children aged 8 to 11 years and three-quarters (74%) of adolescents aged 12 to 15 years in the UK have a profile on social media or on an instant messaging app (Ofcom, 2017). The number of adolescents aged 12 to 15 years stating that Facebook is their main social media platform decreased from 52% in 2016 to 40% in 2017, with nearly a third (32%) stating that Snapchat is now their main social media account (Ofcom, 2017). In fact, Snapstreaks, where users send each other messages every day over consecutive days on Snapchat, is a very popular feature amongst young people (Ofcom, 2017). Indeed, among young people aged 13 to 24 years in America, Snapchat was the most popular social networking site in 2017, followed by Facebook and Instagram (Statista, 2017e). Instant messaging apps, such as Facebook Messenger and Whatsapp, are also popular among young people insofar as 16 to 24 year olds now consider instant messaging as their most important means of communication (Ofcom, 2016b).

As social media platforms are young people's primary interface with the internet (McDool et al., 2016), use of these platforms has become an important leisure activity for many adolescents (e.g., Lenhart, 2015; Lenhart, Purcell, Smith, & Zickuhr, 2010). Indeed, 94.8% of adolescents aged 15 years in the UK reported using social media before or after school (OECD, 2017). Relatedly, over half (56%) of UK children aged 10 to 15 years spent up to three hours on social media on a normal school day; however, over a third (37%) reported that they did not spend any time on social media (ONS, 2015). Research has also demonstrated that girls use social media more than boys (Sampasa-Kanyinga & Lewis, 2015).

Lenhart (2015) found that 71% of adolescents access more than one social media platform. As young people most often use these sites in an 'always on' state,

they are perpetually connected to their social networks, and are regularly receiving or posting their own updates on these sites (Boyd, 2014). In fact, being ‘on’ has become the status quo and many young people have subscribed to the cultural norm of continual online social networking (Kuss & Griffiths, 2017). Indeed, there appears to be an inherent understanding in today’s culture that young people need to engage in continual social networking so that they do not miss out (Kuss & Griffiths, 2015, 2017). This continual engagement has been referred to in the literature as ‘the fear of missing out’ (FOMO), and this phenomenon has been defined as “a pervasive apprehension that others might be having rewarding experiences from which one is absent” (Przybylski, Murayama, Dehaan, & Gladwell, 2013, p.1841). It is now increasingly common for young people to be connected to their digital devices 24 hours per day. For example, in a sample of 5,436 Canadian adolescents, over a third (39%) reported sleeping with their mobile phones in case they receive a message or phone call during the night (Steeves, 2014).

On average, it is posited that people have an offline friendship network comprising between 10 to 20 individuals and a wider network of 150 social relationships (Dunbar, 1993). Nevertheless, the average number of online ‘friends’ far exceeds this. Indeed, social media enables users to be in contact with more people than they would typically encounter in their offline world, and as adolescents have an average of 300 Facebook friends (Madden et al., 2013), this suggests that their online networks comprise a higher number of weak ties as opposed to strong ones. Further to this, there are two different types of social media usage: active and passive. Active use of social media involves producing information including one-on-one exchanges (i.e., direct communication via a private message) as well as general exchanges (i.e., broadcasting information via status updates), whereas passive use of social media involves consuming information. Examples of passive usage include scrolling through newsfeed and browsing other people’s profiles. Presently, there is substantial debate surrounding the relationship between social media usage and mental health. However, our empirical understanding of the potential impact of social media on mental health is lacking.

1.4 Interplay between the online environment and mental health

As there is evidence for a rise in emotional problems among young people (McManus et al., 2016), recent years have seen an increased interest in the links

between internet use, particularly use of social media, and mental health. Given the continuing rise in internet penetrance and the prevalence of social media use among young people, understanding the intersection between increasing internet use and increasing prevalence of mental distress is critical. The online environment can provide many benefits as it offers unique opportunities for people to enhance existing relationships (Bessière, Pressman, Kiesler, & Kraut, 2010), increase feelings of social capital (Steinfeld, Ellison, & Lampe, 2008), and establish supportive communities (Gowen, Deschaine, Gruttadara, & Markey, 2012). Conversely, there is evidence that internet use can result in negative experiences such as problematic usage and cybervictimisation.

The following review explores the intersection between internet use and mental health, with a particular focus on social media and young people. It preferentially covers studies that have examined mental health with special regard to well-being and common mental health difficulties such as depression and anxiety. Benefits in relation to social connections, social capital, and social support are reviewed first, followed by a review focusing on internet experiences that are particularly relevant to young people, namely problematic internet use and cybervictimisation. Whilst there are other deleterious internet experiences that are also relevant to young people, such as online grooming and sexual abuse, these are beyond the scope of this review as previous research has identified excessive internet use and cyberbullying victimisation as the online experiences that young people are most commonly affected by (Hasebrink, Görzig, Haddon, Kalmus, & Livingstone, 2011; Wieland, 2015).

1.5 Positive impacts

1.5.1 Social connectedness and relationships

As the internet, particularly social media, enables individuals to stay in touch with family and friends (Boyd & Ellison, 2007; Ellison & Boyd, 2013), this form of communication can enhance existing relationships. Accordingly, the stimulation hypothesis (Valkenburg & Peter, 2007) posits that the internet enhances the closeness of existing friendships as reduced cues in the context of online communication stimulate individuals' self-disclosure. According to this hypothesis, individuals find it easier to self-disclose online rather than during face-to-face interactions as the online environment is perceived as less threatening (McKenna &

Bargh, 2000). Thus, using social networking sites can enhance existing friendships and the quality of relationships. In contrast, other authors have suggested that online communication hinders the closeness of existing friendships (e.g., Kraut et al., 1998). This hypothesis, known as the displacement hypothesis, suggests that individuals form superficial online friendships, and spending an increased amount of time online may monopolise time that would otherwise be devoted to offline relationships with family and friends. As social networking sites enable individuals to connect with large numbers of people, in superficial, less personal ways, it is possible that this outlet provides fewer opportunities for more intimate interactions. According to this hypothesis, using social networking sites may lead to a lack of quality connections offline.

When testing the stimulation and displacement hypotheses using a large sample of Dutch adolescents, Valkenburg and Peter (2007) did not find support for the displacement hypothesis. Instead, the results provided support for the stimulation hypothesis as the authors found that communicating online via instant messaging was positively related to the quality of existing adolescent friendships, which, in turn, predicted increases in well-being. However, as this study was cross-sectional, a reverse explanation for these findings is plausible. For instance, the quality of adolescents existing relationships may influence the way in which they use instant messaging. In another cross-sectional study of over 1,300 adolescents, although time spent communicating online reduced the amount of time adolescents spent interacting with their parents, time spent interacting with peers was not displaced (Lee, 2009). Using a longitudinal design, Bessièrè et al. (2010) reported that using the internet to communicate with friends and family was associated with a decline in depressive symptoms. Bessièrè and colleagues concluded that this finding supports the idea that the internet is a way to strengthen and maintain social ties.

Most recently, however, Nowland, Necka, and Cacioppo (2018) claimed that the stimulation and displacement hypotheses are not mutually exclusive and that online technologies can be used in both ways. In their recent review paper, Nowland and colleagues introduced a theoretical model illustrating the bidirectional relationship between loneliness and social internet use. In their model, the authors posit that social internet use is associated with higher feelings of loneliness when usage displaces offline interactions with online activities. However, when the internet is used to forge new friendships and enhance existing ones, this can lead to

reductions in feelings of loneliness. In addition, Nowland and colleagues also posit that the relationship is dynamic in that loneliness also determines how individuals interact with online technologies. Specifically, as loneliness is associated with withdrawal behaviour, lonely individuals are more likely to use online technologies in ways that displace offline friendships and interactions (Nowland et al., 2018).

Further to the stimulation hypothesis, researchers have also explored the impact of online communication on people's social relationships following two other hypotheses: the rich-get-richer hypothesis and the social compensation hypothesis. These hypotheses are concerned with whether socially integrated people or socially isolated people use the internet more frequently to communicate with others and who benefits more from this form of communication. According to the rich-get-richer hypothesis (Kraut et al., 2002), individuals who already have strong social networks benefit more from online communication than those who have weaker social networks. Thus, there are added benefits of using online communication for those who already have strong social skills. An alternative to the rich-get-richer hypothesis, known as the social compensation hypothesis (McKenna, Green, & Gleason, 2002), posits that lonely or socially anxious individuals, who are uncomfortable interacting with peers in face-to-face settings, are more likely to develop their social networks online. According to this hypothesis, interacting online will be more beneficial to individuals who are socially anxious or isolated as these individuals feel more comfortable developing friendships online in a safe environment (McKenna et al., 2002). Again, these hypotheses are not mutually exclusive as it is entirely possible that both models work for different individuals, and indeed, both hypotheses have received support. For instance, in support of the social compensation hypothesis, one study showed that introverted adolescents communicated online in order to compensate for lacking social skills and this increased their chances of making friends online (Peter, Valkenburg, & Schouten, 2005). Peter and colleagues also found that extroverted adolescents self-disclosed and interacted with others more often online, which, in turn, facilitated the formation of online friendships. Thus, contextual and individual factors may determine the impact of the internet on social relationships (Peter et al., 2005).

1.5.2 Social capital

Researchers have investigated whether general use of social networking sites increases feelings of bridging and bonding social capital. Ellison et al. (2007) examined the relationship between Facebook use and the formation and maintenance of social capital. The authors found that Facebook use was associated with both bridging social capital (i.e., informational benefits derived from a network of loose social ties) and bonding social capital (i.e., emotional support derived from strong ties to family and close friends). As the strongest relationship was found between Facebook use and bridging social capital, the authors concluded that social networking sites provide unique opportunities for users to maintain ‘weak ties’ cheaply and easily. Ellison et al. (2007) also found that the relationship between Facebook use and bridging social capital was greater for those reporting lower levels of self-esteem in comparison to those reporting higher levels of self-esteem. However, due to the cross-sectional nature of this study, the authors were unable to establish any time order to the relationship between Facebook use and social capital. Although Facebook use was strongly associated with bridging social capital, indicating that young adults were using Facebook to maintain a large network of friends, it is equally plausible that young adults with a large network of friends were more motivated to use this platform to manage their network. Further to this, it is not clear whether the influence of Facebook use on bridging social capital is transient or enduring. In an attempt to address these limitations, Steinfield et al. (2008) explored the relationship between Facebook use and social capital using a longitudinal design. Similar to the findings reported by Ellison et al. (2007), the authors reported that intensity of Facebook use predicted bridging social capital one year later. Taken together, these findings illustrate that social networking sites provide unique opportunities for users to develop and cultivate wide but loose relationships (i.e., weak ties with others that are not considered as central to the individual but which can promote a sense of belonging and social inclusion).

However, these studies examined the impact of general Facebook use, whereas more recent research recognises that the way in which people use social networking sites (i.e., active versus passive usage) may influence feelings of bonding and bridging social capital. Indeed, Burke, Marlow, and Lento (2010) reported opposing patterns of results for active and passive Facebook use in relation to bonding social capital and loneliness. Specifically, the authors reported that active Facebook use was associated with greater feelings of bonding social capital and

lower levels of loneliness, whereas the opposite pattern of results was found for passive Facebook use (Burke et al., 2010). Using a longitudinal design, Burke, Kraut, and Marlow (2011) found that active Facebook use predicted an increase in feelings of bridging social capital; however, neither active nor passive Facebook use predicted changes in feelings of bonding social capital. By contrast, in another longitudinal study, bonding social capital increased during both active and passive Facebook use (Burke & Kraut, 2014). Taken together, these studies demonstrate a clear positive relationship between active social media use and social capital; however, the evidence for passive usage remains mixed.

Active use of Facebook has also been linked to better mental health and well-being. For example, actively using Facebook has been found to increase feelings of perceived online social support, which, in turn, predicted a decrease in depressive symptoms (Frison & Eggermont, 2016). Notably, however, this relationship was only found for female participants. Similarly, individuals who receive more personalised communication such as messages, comments, and timeline posts reported improvements in well-being (Burke & Kraut, 2016). The authors also noted that simply browsing other people's status updates did not result in improvements in well-being. These findings therefore suggest that people have to interact with each other on the platform in order for the experience to be beneficial to one's well-being.

1.5.3 Online support networks, self-disclosure, and self-expression

As online interactions are unbounded by the constraints of face-to-face contact, this environment offers social interaction without physical proximity. Indeed, online social systems afford individuals a relatively anonymous medium in which they can affiliate with likeminded others (Bargh & McKenna, 2004). Social support and connectedness derived from using this environment may be beneficial when such opportunities are not available in face-to-face interaction.

The online environment can facilitate the formation of connections among people with stigmatising health conditions, such as depression and anxiety. Although individuals experiencing mental health difficulties tend to have diminished social networks and limited availability of social support, they maintain a need for human contact. Indeed, people suffering from mental health difficulties may perceive the online world as a non-threatening medium that provides opportunities to connect with similar others in a controlled environment. As online interactions do not require

verbal communication or immediate responses, individuals with stigmatising health conditions may find it easier to interact with others virtually. Indeed, Ybarra, Alexander, and Mitchell (2005) found that young people experiencing depression were less likely to have face-to-face interaction; however, they were more likely to communicate with others virtually compared to individuals without depression. Similarly, in another study, young people with depressive symptoms reported difficulties in forming face-to-face friendships and instead sought friendships online (Hwang, Cheong, & Feeley, 2009). The authors also documented that young people experiencing depression expressed thoughts and feelings online that they felt unable to express in their offline environment (Hwang et al., 2009). Collectively, these findings suggest that people experiencing mental health difficulties may view this environment as a safer space for developing relationships and expressing themselves.

In line with this, Gowen et al. (2012) found that young adults aged 18 to 24 years experiencing psychological distress reported using social media to establish a supportive community, rather than to strengthen an already existing one. Among new Myspace users, Baker and Moore (2008a) found that those who intended to use this social networking site for blogging reported higher levels of depression and anxiety, and felt more dissatisfied with their current social networks than those who did not intend to use the site to blog. The authors concluded that users were more inclined to blog in an attempt to enhance their social support systems. In a similar study, although levels of depression and anxiety remained constant over a two month period, there were significant increases in feelings of social integration and satisfaction with online and offline friendships among bloggers (Baker & Moore, 2008b). Thus, these findings suggest that blogging on Myspace enabled users to gain a sense of belonging to a group of likeminded people, and created a sense of community among users. However, as the nature and functionality of social media platforms constantly change, generalisability of the relationship between social integration and previously popular social networking sites, such as Myspace, to newer platforms such as Instagram and Twitter, needs further empirical consideration (Baker & Perez Algorta, 2016).

Further to this, online forums abound for a number of mental health issues including self-harm (Smithson et al., 2011), depression (Horgan, McCarthy, & Sweeney, 2013), and suicidality (Barak & Dolev-Cohen, 2006). With regard to the former, Smithson et al. (2011) investigated the nature of problem presentation and

responses in an online forum for young people who self-harm, and found that the most common piece of advice offered to distressed users was to contact healthcare professionals or services. In line with this, individuals who frequent self-harm forums or websites experience reduced feelings of isolation and acquire less destructive coping strategies to manage their feelings (Harris & Roberts, 2013). Additionally, a survey revealed that young people aged 16 to 25 years learnt more about mental health issues from online forums than from information sites, found it easier to discuss self-harm with strangers rather than their family or friends, and also placed particular value on interacting with others who share the same feelings (Jones et al., 2011). Most recently, Prescott, Hanley, and Ujhelyi (2017) found that a moderated mental health forum provided young people with both informational and emotional support which was either directive or non-directive in nature. Directive support refers to peer responders stating explicitly what other users should do, whereas non-directive support refers to responders providing other users with support by sharing their own experiences (Prescott et al., 2017). Taken together, online forums are beneficial in terms of providing emotional and informational support to young people with mental health concerns, and as users are able to ascertain support and advice 24/7 via online forums, this may be particularly important when traditional resources are unavailable.

Despite the potential opportunities for gaining social support, young people can also access harmful information and advice online. One notable concern is that pro-anorexia, pro-self-harm, and pro-suicide websites have gained in presence and popularity (Biddle, Donovan, Hawton, Kapur, & Gunnell, 2008; Lewis & Arbuthnott, 2012). It is common for these websites to promote behaviours such as anorexia or self-harm as normal lifestyle choices (Andrist, 2003; Bell, 2007; Luxton, June, & Fairall, 2012; Whitlock, Powers, & Eckenrode, 2006). Amongst European children aged 11 to 16 years, 11% have come across webpages where people discuss methods of hurting themselves, 6% have come across suicide websites, and 13% have come across websites that promote eating disorders (Mascheroni & Ólafsson, 2014). In a cross-sectional community study, Mars et al. (2015) reported that almost a quarter of young adults had come across a site that discussed self-harm or suicide, looked for information about self-harm or suicide using a search engine, or used the internet to discuss self-harm or suicidal feelings. In another study, Biddle et al. (2008) conducted a systematic web search of twelve suicide-associated terms to

simulate the results of a typical search conducted by a person seeking information on suicidal techniques. They analysed the first ten sites listed for each search, finding that approximately half were pro-suicide webpages. The authors concluded that it is very easy to find pro-suicide information online. However, it is not possible to conclude that accessing these websites makes it more likely for a vulnerable young person to self-harm or take their own life (Frith, 2017).

In light of the above, it is clear that the internet, particularly social media, offers a myriad of benefits. However, it is plausible that these benefits are offset and eclipsed by the psychological harm caused by social media use. In addition to websites that promote behaviours such as self-harm and anorexia, excessive internet use and cyberbullying victimisation are also of particular concern due to the links to mental health.

1.6 The potential for harm to mental health and well-being

1.6.1 Patterns of usage

1.6.1.1 Time spent online

Concerns have been raised over the amount of time people are spending online. In a survey of 2,025 adults and 500 adolescents, 59% considered themselves ‘hooked’ on their digital devices such as smartphones, tablets, or other connected devices (Ofcom, 2016b). In fact, 59% of young people aged 16 to 24 years in the UK report spending ‘too much’ time online (Ofcom, 2016b). The PISA Wellbeing study found that over a third (37.3%) of UK adolescents aged 15 years could be classified as extreme internet users, defined by the authors as someone who spends more than six hours per day on the internet on a typical weekend day (OECD, 2017); however, nearly a quarter of UK adolescents reported spending over six hours online outside of school on a typical weekday (OECD, 2017). When compared to moderate internet users, adolescents classified as extreme internet users were more likely to report feeling lonely, and were less likely to report feeling a sense of belonging at school (OECD, 2017).

When examining the relationship between internet use and depression among a large sample of young people from a representative Swiss survey, Bélanger, Akre, Berchtold, and Michaud (2011) found that non-internet users, occasional users (i.e., those who use the internet for less than one hour per week), and high internet users (i.e., those who use the internet for more than two hours per day) were at greater risk

of depressive symptoms than regular internet users (i.e., those who use the internet several days per week for two or less hours). This study provides evidence of a U-shaped relationship between internet use and depressive symptoms, and highlights the importance of distinguishing regular internet use from low and high internet use (Bélanger et al., 2011). In line with this, adolescents who reported spending five or more hours on the internet per day were at greater risk for depressive symptoms and suicidal ideation in a school-based, representative US survey (Messias, Castro, Saini, Usman, & Peeples, 2011).

Using two nationally representative surveys of US adolescents, Twenge, Joiner, Rogers, and Martin (2018) examined correlations between adolescents' mental health and a number of leisure activities including new media screen time (e.g., social media and smartphone use), older media screen time (e.g., television viewing), and non-screen leisure activities (e.g., in-person social interaction, sports/exercise, homework, and attending religious services). Adolescents who spent more time on social media and electronic devices such as smartphones were more likely to report depressive symptoms (Twenge et al., 2018); however, this relationship only existed for adolescent females and it is important to note that the links evidenced in this sample were statistically very small and correlational in nature. Cross-cultural research involving 10,930 adolescents from six European countries (Greece, Spain, Poland, the Netherlands, Romania, and Iceland) demonstrated that using social networking sites for two or more hours per day was associated with symptoms of depression and decreased academic performance and activity (Tsitsika et al., 2014). However, as this research was cross-sectional, the direction of the association cannot be substantiated and only small effect sizes were found in this study. Nevertheless, similar findings emerged in a representative sample of Canadian children and adolescents as Sampasa-Kanyinga and Lewis (2015) also found that use of social networking sites for more than two hours per day was associated with higher levels of psychological distress and suicidal ideation. In addition to child and adolescent samples, an association between depression and social media use was also found in terms of time spent on social media per day and number of visits to social media platforms per week in a nationally representative sample of US young adults (Lin et al., 2016). Again, however, as the data were cross-sectional, directionality cannot be firmly established. Thus, whilst these studies offer evidence of a link between time spent on social media and mental health

problems, they do not present demonstrable evidence that increased time spent on social media leads to depression. It is equally plausible that young people who are already experiencing mental health difficulties or low well-being choose to spend more time on social media and are propelled toward heavy engagement.

In contrast to the above findings, more recent research revealed that overall time spent on social media was not associated with mental health problems in a sample of US undergraduate students (Berryman, Ferguson, & Negy, 2018). The authors did, however, find an association between vaguebooking, which is a concept referring to “social media posts that contain little actual and clear information, but are worded in such a way as to solicit attention and concern from readers” (Berryman et al., 2018, p.2), and both loneliness and suicidal thoughts. Perhaps some forms of social media use, such as vaguebooking, function as a ‘cry for help’ among young people with pre-existing mental health problems. Hence, examining how people use social media may be more critical than overall time spent online with regard to mental health.

In addition to exploring the relationship between time spent online and common mental health difficulties such as depression, the negative impact of time spent online has been explored in relation to well-being. In a recent, large-scale study of more than 120,000 UK adolescents aged 15 years, Przybylski and Weinstein (2017) tested how weekday and weekend engagement with digital screens was related to mental well-being. They found that the relations between mental well-being and digital screen time were nonlinear and that moderate engagement was not harmful to adolescents’ well-being. Evidence of a negative effect was found when adolescents used their smartphones to engage in digital activities (e.g., social networking) for more than two hours per day on weekdays. The authors suggested that using smartphones to engage in digital activities (e.g., social networking) may interfere with structured activities such as academic pursuits or after-school activities. Again, these data were correlational, and the authors also noted that the effect size for the association between smartphone use and well-being was relatively small in comparison to the positive associations found between well-being and eating breakfast regularly or getting regular sleep (Przybylski & Weinstein, 2017).

Some longitudinal research aligns with these cross-sectional findings (e.g., McDool et al., 2016). Specifically, McDool and colleagues found that spending more time on social networking sites reduced the satisfaction that children aged 10 to 15

years felt with all aspects of their lives, except their friendships (McDool et al., 2016). Similarly, Kross et al. (2013) examined the longitudinal implications of Facebook use for subjective well-being. Kross and colleagues found that Facebook use predicted declines in two components of subjective well-being: how people feel moment-to-moment and life satisfaction, but neither decline in affect or worry predicted Facebook use. As Kross et al. (2013) also found that interacting face-to-face with other people directly led to feeling better over time, they suggested that Facebook use constitutes a unique form of social interaction that predicts impoverished well-being. In support of these findings, a recent longitudinal study found that using Facebook was negatively associated with well-being over time, whereas real life interactions were positively associated with well-being (Shakya & Christakis, 2017). Using an experimental design, Tromholt (2016) found that participants who took a break from Facebook for one week had higher levels of both cognitive and affective well-being compared to a control group of participants who continued to use this platform. Tromholt (2016) further demonstrated that the gain of well-being was greater for heavy Facebook users, passive Facebook users, and users who tend to envy others on Facebook.

A further experimental study reported that using Facebook passively, such as browsing newsfeeds or friends' Facebook profiles, led to a decrease in well-being by enhancing feelings of envy (Verduyn et al., 2015). This may explain the relationship between more time spent using social networking sites and low well-being (e.g., Kross et al., 2013). Because social media enables asynchronous communication, people have ample time to portray themselves in a favourable way (Nadkarni & Hofmann, 2012). It is therefore common for receivers of this information to perceive that their own life compares negatively to the carefully constructed lives of their Facebook friends (Chou & Edge, 2012). Indeed, Chou and Edge (2012) found that people who spent more time on Facebook were more likely to think that others were living happier, more engaged lives.

1.6.1.2 Excessive or problematic internet usage

One form of internet use, characterised by excessive preoccupations and an inability to control usage, has been referred to in the literature as problematic internet use or 'internet addiction' (Weinstein & Lejoyeux, 2010). While this phenomenon has been studied for almost 20 years (Young, 1998), the research field does not use coherent

terminology, and the labels ‘internet addiction’, ‘compulsive internet use’, ‘excessive internet use’, ‘problematic internet use’, and ‘pathological internet use’ are all regularly used (Widyanto & Griffiths, 2006). At present, there is no international consensus as to whether ‘internet use disorder’ exists or whether it is just a maladaptive behavioural pattern (i.e., a problematic use; Gmel, Notari, & Schneider, 2017). In this thesis, the terms ‘problematic use’ and ‘excessive use’ have been chosen and are used interchangeably throughout. The main aspects of problematic internet usage include cognitive preoccupation with the internet and an inability to control internet use, and these two aspects together result in continued use despite negative behavioural, psychosocial, or physical consequences (Gámez-Guadix, Orue, Smith, & Calvete, 2013; Gmel et al., 2017).

The most widely accepted model of problematic internet use is the cognitive-behavioural model¹ proposed by Davis (2001). This model identifies two distinct types of internet use that relate to the type and range of excessive use (Davis, 2001). Generalised problematic internet use is conceptualised as general, multidimensional overuse of the internet, whereas specific problematic internet use involves an overuse of a specific function of the internet, such as social networking. This model proposes that existing psychological problems, such as depression or social anxiety, predispose individuals to develop maladaptive cognitions (e.g., self-focused rumination, low self-efficacy, and negative self-appraisals) associated with their internet use, which subsequently results in negative consequences in different aspects of individual life. In accordance with this model, the presence of pre-existing mental health problems, such as prior depressive symptoms, constitute vulnerability to problematic use, and this widely accepted model therefore reflects the likelihood of pre-existing conditions underpinning problematic behaviours on the internet.

In a number of cross-sectional studies, problematic internet use has been associated with symptoms of depression (Andreou & Svoli, 2013; Cerutti et al., 2017; Ceyhan & Ceyhan, 2008; Chi, Lin, & Zhang, 2016; Király et al., 2014; Li et al., 2017; Lin, Ko, & Wu, 2011; Liu, Desai, Krishnan-Sarin, Cavallo, & Potenza, 2011; Park, Hong, Park, Ha, & Yoo, 2013; Tang et al., 2014; van Rooij, Ferguson, van de Mheen, & Schoenmakers, 2017; Yao, Han, Zeng, & Guo, 2013; Yen, Ko, Yen, Wu, & Yang, 2007) and anxiety (Kim & Davis, 2009; Wartberg et al., 2016;

¹ In this model, Davis (2001) uses the term ‘pathological internet use’

Yao et al., 2013). In a representative sample of 11,356 European adolescents, both depression and anxiety were found to be predictors of problematic internet use (Kaess et al., 2014), and similarly, in a sample of young patients with problematic internet use, high rates of anxiety and depression were found (Bozkurt, Coskun, Ayaydin, Adak, & Zoroglu, 2013). Although both subjective unhappiness and depressive symptoms were associated with problematic internet use in a representative sample of over 56,000 Korean adolescents, females experiencing these emotional difficulties had a greater risk of problematic internet use than males experiencing such difficulties (Ha & Hwang, 2014). In fact, different psychological reasons for excessively using the internet have been found with regard to gender. For example, in a sample of undergraduate students, depressive symptoms predicted problematic usage in females, whereas phobic anxiety predicted problematic usage in males (Hetzel-Riggin & Pritchard, 2011).

Using a longitudinal design, emotional problems significantly predicted problematic internet use over a two year period in a sample of adolescents over and above the influence of baseline problematic internet use (Strittmatter et al., 2016). Similarly, childhood social withdrawal, anxiety, and depression predicted later development of problematic internet use in a sample of male adolescents (Cho, Sung, Shin, Lim, & Shin, 2013). In a sample of emerging adults, anhedonia, a key facet of depression, prospectively predicted higher levels of problematic internet use (Guillot et al., 2016).

In contrast, problematic internet use has been found to be an antecedent to depression (Lam & Peng, 2010). More specifically, the authors reported that adolescents who did not display any symptoms of common mental health difficulties, but used the internet problematically at baseline, were 2.5 times more likely to have developed depression nine months later, after adjusting for potential confounding factors (Lam & Peng, 2010). Further to this, Gámez-Guadix (2014) applied the cognitive behavioural model to investigate the temporal and reciprocal relations between problematic internet use and depression in adolescents, and found that problematic internet use and depressive symptoms mutually influence each other. More specifically, negative outcomes associated with internet use predicted the development of depressive symptoms which, in turn, predicted the development of negative outcomes (Gámez-Guadix, 2014). By contrast, using a cross-lagged panel survey of college students, Yao and Zhong (2014) did not find evidence of a causal

relationship between problematic internet use and depressive symptoms. They did, however, find that problematic internet use led to an increase in feelings of loneliness over time; however, no evidence was found for the reverse relationship in that loneliness was not found to be predictive of problematic internet use over time (Yao & Zhong, 2014). Similarly, problematic internet use was found to be a consistent antecedent to the development of poor mental health, whilst poor mental health did not predict problematic internet use in another longitudinal study (Ciarrochi et al., 2016).

However, using a three-year longitudinal design, Liang and colleagues demonstrated that the relationship between depressive symptoms and problematic internet usage was dependent upon gender. For female adolescents, problematic use was found to predict the occurrence of symptoms of depression, although depressive symptoms were not found to predict problematic use, whereas for male adolescents, depressive symptoms predicted the occurrence of later problematic internet usage, although problematic internet use was not found to predict depression (Liang, Zhou, Yuan, Shao, & Bian, 2016). By contrast, in a two-year follow-up study, depression was found to predict problematic internet use among female adolescents only (Ko, Yen, Chen, Yeh, & Yen, 2009). Taken together, empirical evidence suggests that problematic internet use is both an antecedent to and consequence of mental health problems, and that different patterns of association may exist between common mental health difficulties and problematic internet use in males and females.

All of the studies cited above measure general internet use, without differentiating among different types of internet activity; however, given the range of specific affordances, the degree of consistency in the concept problematic internet use is questionable (Ryding & Kaye, 2018). As the internet incorporates an array of potential activities, internet use should not be treated as a monolithic activity (Bergmark, Bergmark, & Findahl, 2011; Shen & Williams, 2011). For example, despite sharing a medium, accessing the news online is an altogether different activity to chatting with 'friends' online. Indeed, it has recently been argued that people use particular online activities excessively, such as online gaming and social networking, rather than the internet per se (Meerkerk, Van Den Eijnden, Vermulst, & Garretsen, 2009; van Rooij et al., 2017). Thus, through engagement in these diverse activities, people may become 'addicted' to these experiences, rather than the medium itself (Widyanto, Griffiths, & Brunson, 2011). The use of different

activities by different people at different times may explain some of the inconsistent patterns reported in the data examining general internet usage reviewed above.

Given the prevalence of social networking among youth, excessive use of these social platforms may be particularly problematic to young people (Echeburúa & De Corral, 2010). Despite the popularity of social media among young people (Lenhart, 2015), empirical research examining problematic usage of these platforms in relation to mental well-being or symptoms of depression and anxiety is currently lacking in comparison to the wealth of research in this area pertaining to generalised problematic internet use. A few studies, however, have begun to explore the relationship between problematic social media use and common mental health difficulties.

Using a large nationally representative sample of Hungarian adolescents, Bányai et al. (2017) divided adolescent social media users into three different groups: no risk of problematic use, low risk of problematic use, and at-risk of problematic use. In total, 4.5% of adolescents were categorised as ‘at risk’, and those categorised in this group had the lowest level of self-esteem and the highest level of depressive symptoms. In a sample of over 1,000 Chinese adolescents, problematic social networking site use was associated with symptoms of depression, and insomnia was found to mediate this association (Li et al., 2017). Similarly, in a sample of Dutch adolescents aged 12 to 15 years, problematic social media use was found to be associated with depressive mood (van Rooij et al., 2017). Although a relationship between emotional symptoms measured using the Strengths and Difficulties Questionnaire and problematic social media use was found in a sample of over 21,000 Dutch adolescents (Mérelle et al., 2017), the authors did not consider this association to be practically relevant due to the small effect size. Furthermore, in a sample of adolescents and young adults, symptoms of depression and social anxiety were found to be associated with problematic use of social networking sites (Wegmann, Stodt, & Brand, 2015). In line with these findings, Shensa et al. (2017) also found a significant association between problematic social media use and depressive symptoms using a large sample of young US adults. As overall time spent on social media was not found to predict depressive symptoms, Shensa and colleagues extend previous findings by demonstrating that problematic social media use is independently associated with depressive symptoms regardless of overall time spent on social media (Shensa et al., 2017). In light of these findings, the authors

concluded that it may not be how much time people spend on these platforms, but rather how people use social media that is associated with depressive symptoms. By contrast, although Andreassen and colleagues found a positive association between symptoms of anxiety and problematic social media use, they found that problematic social media use was associated with lower levels of depression, which could be attributed to the fact that depression often entails social withdrawal (Andreassen et al., 2016).

However, there are a number of difficulties with drawing conclusions from this existing literature. First, these cross-sectional studies cannot substantiate the direction of association between problematic social media use and mental health problems. Thus, while young people with pre-existing psychological problems may be drawn to social media and propelled toward problematic use, it is also possible that people experiencing problematic social media use neglect other aspects of their lives which could contribute to depressive symptoms. Second, there are contradictory findings in this cross-sectional evidence. Thus, further research exploring this relationship is clearly warranted.

As well as exploring the relationship between problematic usage and mental health problems, researchers have also examined risk factors in relation to both generalised and specific problematic internet use. Some of the factors found to be associated with problematic internet use are low psychological well-being (Casale, Lecchi, & Fioravanti, 2015), low self-directedness (Montag, Jurkiewicz, & Reuter, 2010), poor interpersonal relations (Milani, Osualdella, & Di Blasio, 2009), lower school bonding (Chang, Chiu, Lee, Chen, & Miao, 2014), low self-esteem (Fioravanti, Dèttore, & Casale, 2012; Kim & Davis, 2009; Stieger & Burger, 2010), social anxiety (Lee & Stapinski, 2012), loneliness (Casale & Fioravanti, 2011; Ceyhan & Ceyhan, 2008; Kim, Larose, & Peng, 2009), alexithymia (Kandri, Bonotis, Floros, & Zafiropoulou, 2014; Scimeca et al., 2014), family dissatisfaction (Lam, Peng, Mai, & Jing, 2009), inter-parental conflict (Ko et al., 2015), parental mental ill-health (Lam, 2015), poor parent-child relationships (Chi et al., 2016; Liu & Kuo, 2007; Tang et al., 2014), stressful life events (Lu & Yeo, 2015), dissociation (Dalbudak, Evren, Aldemir, & Evren, 2014), attachment insecurities (Jia & Jia, 2016; Lin et al., 2011; Schimmenti, Passanisi, Gervasi, Manzella, & Famà, 2014; Şenormancı, Şenormancı, Güçlü, & Konkan, 2014; Shin, Kim, & Jang, 2011), traumatic childhood experiences (Schimmenti et al., 2017), and childhood

maltreatment (Dalbudak et al., 2014; Hsieh et al., 2016; Yates, Gregor, & Haviland, 2012). Previous research has also suggested that some people may excessively use the internet to cope with negative affect states (e.g., Beutel et al., 2011).

As social media now plays an increasingly central role in many people's lives (Allen et al., 2014), researchers have recently started to direct their attention towards identifying risk factors related to problematic social media use. Although this line of research is in its infancy, some of the factors found to be associated with problematic social media use include: low self-esteem (Andreassen, Pallesen, & Griffiths, 2017; Wilson, Fornasier, & White, 2010), narcissistic personality traits (Andreassen et al., 2017), extraversion and neuroticism (Wang, Ho, Chan, & Tse, 2015), FOMO (Blackwell, Leaman, Tramposch, Osborne, & Liss, 2017), and insecure attachment (Monacis, De Palo, Griffiths, & Sinatra, 2017). With regard to the latter psychological risk factor, Monacis and colleagues found an expected positive association between attachment anxiety and problematic social media use; however, they also reported a positive association between attachment avoidance and problematic social media use despite these individuals being less concerned with socialising and meeting new people. This is in contrast to the findings reported above, as recent research is consistent in demonstrating that only anxious attachment is involved in the development of generalised problematic internet use (Jia & Jia, 2016; Şenormancı et al., 2014).

Although numerous risk factors have been identified in relation to generalised problematic internet usage, less research has focused specifically on problematic social media use. As explained above, people seem to overuse particular online activities, such as social networking, rather than the internet per se, and so future research should focus on identifying underlying risk factors in relation to problematic social media use as opposed to generalised problematic internet usage. Furthermore, most studies do not examine why excessive usage occurs or persists (Kardefelt-Winther, 2014, 2017). In response to these limitations, Billieux, Maurage, Heeren, Schimmenti, and Khazaal (2015) have claimed that the area lacks theoretical models that could explain the unique factors and processes involved in the etiology of problematic use patterns. Thus, as well as continuing to explore the relationship between mental health and problematic social media usage, theoretical and empirical research in this field should focus on the psychological processes that lead to potentially problematic behaviours.

1.6.2 Cybervictimisation

1.6.2.1 Cyberbullying

Bullying occurs when a person is exposed repeatedly to negative actions of another individual (or group of individuals) and cannot easily defend him or herself (Olweus, 1999). Three basic criteria are often used when operationalising traditional bullying, namely intent to harm, power imbalance, and repetition. Although bullying occurs in different social contexts such as within the school, home, and the online environment (Fanti, Demetriou, & Hawa, 2012), the latter has now become a dominant conduit for bullying activity (Kowalski, Limber, & Agatston, 2012). Using the criteria associated with traditional bullying, cyberbullying can be defined as “an aggressive, intentional act carried out by a group or individual using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself” (Smith et al., 2008, p.376), and can take many forms including: sending threatening text or instant messages, social exclusion, posting defaming content online, and uploading or altering pictures to humiliate a victim (Smith et al., 2008).

There are a number of features that distinguish cyberbullying from traditional forms of bullying. These include the difficulty of escaping the online victimisation, the breadth of potential audience, the invisibility and/or anonymity of the perpetrator, and the lack of direct feedback (Slonje & Smith, 2008). As there are a number of features that distinguish cyberbullying from traditional bullying such as the permanence, permeability, and public nature of online posts, these features challenge factors central to traditional bullying, namely power imbalance, repetitiveness, and intentionality (Livingstone & Smith, 2014). Nevertheless, Smith, del Barrio, and Tokunaga (2013) contend that the factors defining traditional bullying can largely be applied to cyberbullying. Rather than physical strength, Smith et al. (2013) suggest that the imbalance of power may be linked to “differences in technological know-how between perpetrator and victim, relative anonymity, social status, number of friends, or marginalised group position” (p.36). Further to this, the criterion of repetition should be understood in terms of the number of people who are able to view online messages or images, or the length of time that a negative post remains online for (Olweus, 2013; Smith et al., 2013). Given the permanence of online content, a single act of cyberbullying may be repeated when viewed or distributed by multiple others (Aboujaoude, Savage, Starcevic, & Salame, 2015; Selkie, Fales, & Moreno, 2016). As negative interactions can be repeatedly viewed online, one

isolated incident may be a source of discomfort. Due to the lack of non-verbal cues and social feedback, perpetrators are not privy to a victim's immediate reaction, and thus they may be more aggressive online as feelings of personal accountability are reduced (Slonje & Smith, 2008). Intentionality in this context is therefore challenging due to the online disinhibition effect. Thus, the extent to which the defining criteria associated with traditional bullying (i.e., intent, repetition, and imbalance of power) need to be present when defining cyberbullying is questionable.

Cyberbullying has largely been defined as a youth problem (Aboujaoude et al., 2015). Shown to peak during mid-adolescence (Tokunaga, 2010), cyberbullying is a common feature of interpersonal relationships during adolescence and occurs almost exclusively via social media (Best, Manktelow, & Taylor, 2014; Whittaker & Kowalski, 2015). Most studies find that approximately 20% to 40% of young people have experienced cyberbullying victimisation (Tokunaga, 2010). In fact, according to an EU-wide survey, cyberbullying involvement rates have begun to exceed rates of traditional bullying involvement for the first time (Livingstone et al., 2014). However, when data from a nationally representative sample of English adolescents was analysed, Przybylski and Bowes (2017) found that only one in 25 adolescents aged 15 years had experienced significant cyberbullying in the past couple of months. Thus, due to difficulties in defining cyberbullying and differences in measurement, it is difficult to determine prevalence rates (Selkie et al., 2016).

In general, the more time young people spend on the internet, the more likely they are to experience cybervictimisation (Álvarez-García, Núñez Pérez, Dobarro González, & Rodríguez Pérez, 2015; Hinduja & Patchin, 2008; Kokkinos, Antoniadou, & Markos, 2014). As cyberbullying occurs almost exclusively via social media (Best et al., 2014; Whittaker & Kowalski, 2015), it is not surprising that increased use of these social platforms has been associated with a higher risk of becoming a victim (Sampasa-Kanyinga & Hamilton, 2015). For example, the more time an individual spends on Facebook, the greater their risk of experiencing victimisation (Kokkinos & Saripanidis, 2017).

According to an EU-wide survey, cyberbullying is the online risk that most upsets young people (Hasebrink et al., 2011). Specifically, 85% of victims reported being upset after experiencing cyberbullying. Furthermore, a review of 113 studies found that cyberbullying correlates with mental health problems in adolescence (Kowalski, Giumetti, Schroeder, & Lattanner, 2014). More specifically, a positive

relationship between cyberbullying and depressive symptoms has been documented (Bonanno & Hymel, 2013; Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2008; Kowalski & Limber, 2013; Olenik-Shemesh, Heiman, & Eden, 2012; Perren, Dooley, Shaw, & Cross, 2010; Turner, Exum, Brame, & Holt, 2013; Wang, Nansel, & Iannotti, 2011; Ybarra & Mitchell, 2004), and cyberbullying victimisation has also been associated with higher levels of anxiety and social anxiety (Aoyama, Saxon, & Fearon, 2011; Dempsey, Sulkowski, Nichols, & Storch, 2009; Sjursø, Fandrem, & Roland, 2016). In a rural and ethnoracially diverse sample of children and adolescents aged 10 to 13 years, victims of cyberbullying had higher levels of anxiety and depressive symptoms in comparison to non-victimised youth (Price, Chin, Higa-McMillan, Kim, & Christopher Frueh, 2013). Similar findings were also reported in a sample of young people from south-eastern US (Sontag, Clemans, Graber, & Lyndon, 2011).

Feinstein, Bhatia, and Davila (2014) examined the short-term prospective associations between cybervictimisation and symptoms of depression in a sample of young adults, finding that cybervictimisation was associated with increases in depressive symptoms over time. Feinstein and colleagues also found that cybervictimisation predicted increases in rumination, which, in turn, predicted increases in depressive symptoms. Thus, the negative consequences of cybervictimisation extend beyond mental health problems to maladaptive emotion regulation. In another short-term prospective study, cybervictimisation was found to predict increased depressive symptoms over time when controlling for traditional victimisation and social anxiety (Landoll, La Greca, Lai, Chan, & Herge, 2015). In line with these findings, baseline cyberbullying victimisation was associated with depressive symptoms 12 months later in a large sample of UK adolescents aged 12 to 13 years (Fahy et al., 2016). Fahy and colleagues also found that cybervictims and cyberbully-victims were more likely to report social anxiety symptoms over time. With regard to gender, both traditional and cyberbullying victimisation were associated with mental health problems in female adolescents after controlling for baseline mental health; however, there were no associations between these forms of victimisation and mental health problems among males (Bannink, Broeren, Van De Looij-Jansen, De Waart, & Raat, 2014).

While the unidirectional influence of cyberbullying victimisation on young people's mental health has been extensively examined, a few longitudinal studies

have also explored the reciprocal relationships. In support of a bi-directional model, Gámez-Guadix et al. (2013) found that cyberbullying victimisation led to an increase in depressive symptoms, and depressive symptoms, in turn, increased the probability of cyberbullying victimisation in a sample of Spanish adolescents. Similarly, a reciprocal relationship between cybervictimisation and common mental health difficulties (i.e., symptoms of depression and anxiety) has been identified over time in a sample of US adolescents (Rose & Tynes, 2015). By contrast, Frison, Subrahmanyam, and Eggermont (2016) found no support for a reciprocal relationship insofar as cybervictimisation on Facebook did not predict an increase in depressive symptoms. However, the authors did find evidence for the reverse relationship as depression was found to be a predictor of cybervictimisation on Facebook. Possibly, this indicates that the type of social media use is important. In an examination of the potential reciprocal relationships between social anxiety, loneliness, and online victimisation, van den Eijnden, Vermulst, van Rooij, Scholte, and van de Mheen (2014) only found evidence for a unidirectional relationship whereby loneliness and social anxiety predicted an increase in later online victimisation. Similarly, Pabian and Vandebosch (2016) demonstrated that social anxiety is a risk factor for cyberbullying victimisation, rather than an outcome of being victimised online.

It has been argued that cyberbullying has a greater impact on victims than traditional bullying (Cénat et al., 2014; O'Higgins Norman & Connolly, 2011). Reasons for this may include the uncontrollable nature of the internet, the enduring nature of content shared online, a larger audience, and the difficulty for victims to escape (Slonje, Smith, & Frisén, 2013). Compared to traditional bullying, victims of cyberbullying are less likely to know their perpetrator (Kowalski & Limber, 2007). In one study, half of the victims reported that they were unaware of their perpetrator's identity (Bauman, 2010). In a large study of over 20,000 youths, victims of cyberbullying reported higher levels of psychological distress than victims of traditional bullying (Schneider, O'Donnell, Stueve, & Coulter, 2012). However, the risk of psychological distress was most prominent for victims of both traditional bullying and cyberbullying. More specifically, young people who experience traditional bullying, cyberbullying, or both forms of victimisation are 2.31, 3.26, and 5.64 times more likely to report experiencing depressive symptoms than those who have not experienced victimisation (Schneider et al., 2012). Similarly, victims of

cyberbullying report higher levels of anxiety and depressive symptoms than victims of traditional bullying (Campbell, Spears, Slee, Butler, & Kift, 2012). By contrast, although a stronger association was found between cyberbullying victimisation and symptoms of anxiety than between traditional victimisation and symptoms of anxiety, a stronger association was found between traditional victimisation and depressive symptoms than between cybervictimisation and depressive symptoms in a sample of over 3,000 Norwegian adolescents (Sjursø et al., 2016).

Although traditional bullying and cyberbullying often co-occur, a number of cross-sectional studies have reported significant additive effects of being cyberbullied on depression, over and above the effects of being bullied via traditional methods (e.g., Bonanno & Hymel, 2013; Menesini, Calussi, & Nocentini, 2012; Perren et al., 2010). For instance, Bonanno and Hymel (2013) found that cyberbullying contributed to Canadian adolescents' depressive symptoms and suicidal ideation over and above their involvement in traditional forms of bullying. The authors also found that cyberbullying was a stronger predictor of suicidal ideation than for depressive symptoms. Bonanno and Hymel (2013) inferred that the repetitive and pervasive nature of cyberbullying could contribute to feelings of helplessness and hopelessness, which subsequently confer vulnerability to depression and suicidal ideation. Similarly, in another adolescent sample, cyberbullying was found to be associated with depression and anxiety after accounting for traditional bullying (Wigderson & Lynch, 2013), and in a university student sample, cybervictimisation was also associated with depressive symptoms above and beyond that of traditional victimisation (Tennant, Demaray, Coyle, & Malecki, 2015).

Further to this, in a 12-month longitudinal study, cybervictimisation was related to the development of negative cognitions and depressive symptoms over and above conventional types of peer victimisation (Cole et al., 2016). By contrast, Salmivalli and colleagues found that cybervictimisation had no longitudinal effect on depression over and above traditional peer victimisation (Salmivalli, Sainio, & Hodges, 2013). In another longitudinal study, although cybervictimisation was associated with symptoms of depression over and above traditional victimisation, this was only the case when victimisation was measured at time 2 (Machmutow, Perren, Sticca, & Alsaker, 2012).

Although a large and growing literature has explored the psychological impact of cyberbullying victimisation, less research has focused on identifying

factors that might reduce its negative consequences. In fact, it has recently been suggested that cyberbullying research should move beyond simply relating this adversity to mental health difficulties, and instead attempt to address heterogeneity in psychological adjustment in order to identify factors that confer protection (Fahy et al., 2016; Nixon, 2014). According to a review of the literature related to the effects of cyberbullying on adolescent health, there is currently little knowledge surrounding how cyberbullying interacts with adolescents' coping styles and social support (Nixon, 2014). Although Elgar et al. (2014) examined the role of family dinners in the context of cyberbullying, further research on the role of parents in youths' responses to bullying is needed as, when compared with the attention directed to schools and the peer context, less attention has been paid to the role of families in the context of cyberbullying (Bradshaw, 2014). In particular, there has been considerably less research on issues related to the family's role in preventing cyberbullying and protecting against its negative consequences (Bradshaw, 2014). An increased understanding of the factors that may help to protect adolescents against mental distress caused by cyberbullying is clearly of importance.

1.6.2.2 Cyberstalking

Traditional stalking describes a pattern of unwanted behaviours in which one individual intrudes upon or harasses another resulting in fear experienced by the victim (McEwan, Mackenzie, Mullen, & James, 2012). Cyberstalking, defined as the repeated pursuit of an individual via internet-related means in order to induce fear or distress, is thought to be relatively common (Spitzberg & Hoobler, 2002).

Cyberstalking can take many forms including sending direct threats via email, encouraging others to threaten or harass the victim, distributing intimate photographs online, impersonating the victim online, and seeking and compiling information on the victim (Short, Linford, Wheatcroft, & Maple, 2014). Baum, Catalano, Rand, and Rose (2009) reported that one in four offline stalking victims were also cyberstalked, and prevalence estimates suggest that about 20% to 40% of internet users are victimised by a cyberstalker (Reyns, Henson, & Fisher, 2012; Spitzberg & Hoobler, 2002). With advances in technology, the incidence of cyberstalking victimisation will continue to increase (Parsons-Pollard & Moriarty, 2009), and according to Piotrowski and Lathrop (2012), "the proliferation of smartphones and social networking has exacerbated the incidence of cyberstalking" (p.1). Social media

platforms, particularly social networking sites, offer a novel means to collate information about an individual, and as these sites facilitate intrusion-like behaviours, they are used as conduits for stalking and online harassment (Fox, 2016) such that use of these sites increases an individual's risk of becoming a victim of cyberstalking (Kraft & Wang, 2010).

The investigation of cyberstalking and mental health outcomes is rare (Short, Guppy, Hart, & Barnes, 2015). In relation to anxiety, cyberstalking victims experience patterns of emotional distress similar to the symptoms associated with post-traumatic stress disorder (PTSD), including hypervigilance and flashbacks of frightening incidents (Short et al., 2015). A qualitative analysis of victim narratives revealed that victims of cyberstalking experience panic attacks, flashbacks, and PTSD as a consequence of their ordeal (Short et al., 2014). Short and colleagues also found that these symptoms interfere with victims' lives leading to adverse effects in a number of domains such as unwanted changes to social relationships and occupational activities.

In a large German study, victims of cyberstalking reported increased symptoms of depression and anxiety (Dreßing, Bailer, Anders, Wagner, & Gallas, 2014). More specifically, nearly 80% of victims reported feelings of inner unrest, whilst just over a third (34.6%) reported symptoms of depression (Dreßing et al., 2014). Victims of cyberstalking also reported lower mental well-being than non-victims (Dreßing et al., 2014) with the average WHO-5 well-being index score for victims of cyberstalking in this German study being similar to the average score for victims of traditional stalking in a German population-based study (Dressing, Kuehner, & Gass, 2005).

When comparing stalking victims categorised in four groups according to degree of cyber involvement (i.e., 'purely online' which includes encountering cyberstalking only, 'cross-over' which includes cyberstalkers who cross over into offline stalking, 'proximal with online' which includes offline stalkers who utilise the internet as part of their harassment campaign, and 'purely offline' which includes encountering traditional stalking only), levels of psychological effects did not significantly differ (Sheridan & Grant, 2007). However, in terms of general effects, traditional stalking was associated with changes to social and occupational activities, whereas cyberstalking was associated with loss of family and friends. In a similar study, Brown, Gibson, and Short (2017) explored differences between victims

categorised as ‘purely online’, ‘cross-over’ (i.e., cases where the pursuit is initiated online and moves offline), and ‘proximal with online’ (i.e., cases where the stalking begins offline but the perpetrator also utilises electronic means) in terms of levels of impact. Brown and colleagues found that all victims experience a number of negative effects and are required to make a number of lifestyle changes due to becoming suspicious of other people, withdrawn, and/or experiencing forms of emotional distress (Brown et al., 2017). Despite this, when traditional stalking methods are utilised (i.e., in cases where the stalker makes contact in real life), the pursuit is more likely to result in changes in the victims’ lives with regard to their occupational activities, financial status, and relations with others.

There is, however, limited data on the effects of cyberstalking (Parsons-Pollard & Moriarty, 2009), and in particular, the examination of cyberstalking and mental health outcomes is rare (Short et al., 2015). The limited existing cyberstalking research is also largely quantitative and thus the perspectives of victims themselves are currently under-represented. Research should therefore explore the emotional toll of cyberstalking from victims’ perspectives. As the relationship between cyberstalking victimisation and mental health difficulties is likely to be influenced by the prevailing resilience or vulnerabilities of the victims, risk and protective factors should also be explored.

1.7 Aims and outline of the present thesis

1.7.1 Thesis aims

The main focus of this thesis is on negative internet experiences in relation to mental health and well-being. Undoubtedly, the last decades have seen a wealth of research exploring this relationship. There are, however, a number of gaps in the extant literature that have yet to be fully addressed. These mark an important step toward i) understanding why certain individuals are vulnerable to problematic social media use, ii) facilitating the identification of individuals who may be at greater risk of experiencing mental health difficulties following problematic internet experiences, and iii) informing the development of more effective prevention and intervention strategies.

Given the continuing rise in internet penetrance and the prevalence of social media use among young people, understanding the interplay between the online world and mental health is critical. The general aims of the present thesis are three-

fold. The primary aim of the thesis is to further explore the intersection between the online world and mental health. Although the primary focus is on internet experiences that are particularly relevant to young people, it should be acknowledged that negative online experiences can affect people of all ages and this is reflected in the final empirical Chapter of this thesis. Second, the thesis aims to better understand the psychology that underpins problematic usage and experiences that are particularly relevant to young people in an attempt to inform prevention efforts. In concert with this aim, the thesis also aims to identify potential protective factors which may lessen the negative psychological impact on people who report negative online experiences in an attempt to inform intervention initiatives and practice. Thus, the studies presented in this thesis address a number of empirical questions relevant to understanding factors that are related to vulnerability or that confer resilience to challenges resulting from online activity. We specifically address the following research questions:

1. What are the risk factors associated with problematic social media use?
2. What factors confer vulnerability to cyberbullying victimisation and what factors protect against its negative consequences?
3. According to victims' perspectives, what factors protect against or confer vulnerability to negative outcomes following cyberstalking victimisation?

1.7.2 Thesis overview

Alongside the general literature review, a brief scoping exercise was undertaken in order to examine how young people talk about mental health online and the reasons why concerned or troubled young people turn to the internet. By exploring why and in what context young people go online, and how their use of the online environment is connected with their everyday life, the pragmatic scope of the online evidence presented in Chapter 2 provides a grounded context for understanding the psychology underlying general internet usage and engagement.

As the current literature on excessive social media use is in its infancy, research identifying factors that confer vulnerability is needed. At present, there remains a research gap surrounding which specific circumstances and characteristics may increase a young person's vulnerability in this context. Much of the existing research has been compromised by a failure to differentiate different types of internet activity. In order to redress the dominant focus on generalised problematic internet

use in prior literature, the current thesis focuses on social media and users' perceived problematic use of these platforms. As there is no international consensus as to whether 'internet use disorder' exists or whether it is just a maladaptive behavioural pattern (i.e., a problematic use; Gmel et al., 2017), the terms 'problematic' and 'excessive' use have been used interchangeably throughout the thesis to reflect a maladaptive behavioural pattern. These terms are preferable, as while indicative of problematic behaviour, self-reported symptoms covering addictive behaviour cannot offer evidence of clinical level impairment to warrant terms such as 'addiction' and 'disorder'. It should also be noted here that this thesis does not attempt to engage in the debate surrounding 'social media addiction' in a clinical sense.

As previous research often overlooks reasons why excessive use occurs and persists (Kardefelt-Winther, 2014), attachment theory was used in order to understand why certain individuals are vulnerable to problematic social media use. As it has been argued that attachment style is a "better candidate to explain some aspects of social media engagement" (Hart, Nailling, Bizer, & Collins, 2015, p.34) than other factors, this work explored problematic social media use from the perspective of attachment theory. Indeed, understanding the developmental precursors of problematic use provides a means of developing effective prevention initiatives. As a way to test the assertion that attachment theory may be a good candidate to explain some aspects of social media engagement, Chapter 3 proposed that problematic social media use stems from attachment insecurity. Specifically, this Chapter assumed that insecure attachment forms the etiological basis of problematic social media use, and investigated the roles that insecure attachment dimensions play in vulnerability to problematic social media use. In addition, the mediating role of psychological well-being was also tested.

Building on the quantitative findings presented in Chapter 3, a developmental model of problematic social media use from an attachment-based perspective, stemming from experiences of childhood maltreatment, was presented in Chapter 4. Specific psychological and clinical mediators through which a distal history of childhood maltreatment contributes to the development of problematic social media use in young adulthood were examined. Parallel mediation analysis investigated whether childhood maltreatment affects problematic social media use via its effects on the attachment system. Two serial multiple mediation analyses were also conducted. In the first serial mediation model, attachment anxiety and depressive

symptoms were entered in series, whereas in the second serial model, attachment avoidance and depressive symptoms were entered. Thus, in an attempt to offer an etiological contribution to the area, the model presented in Chapter 4 reveals the unique factors and psychological processes involved in the etiology of problematic social media use.

Further to examining developmental precursors to problematic social media use, this thesis also explored whether specific developmental risk factors confer vulnerability to cyberbullying victimisation. As cyberbullying peaks during mid-adolescence, an adolescent school sample was used. Chapter 5 also investigated whether specific psychological and cognitive factors underpin the onset of mental distress resulting from experiences of cyberbullying, with a view to identifying protective factors that might confer psychological resilience. More specifically, the moderating roles of secure attachment, positive coping styles, and perceived peer and familial support were tested.

As cyberbullying has been largely conceptualised as a youth problem, few data exist in adults (Aboujaoude et al., 2015). Among adults, cyberstalking has been described as relatively common (Spitzberg & Hoobler, 2002). Although a growing body of research has examined cyberbullying victimisation and mental health difficulties, the investigation of cyberstalking and mental health outcomes is rare (Short et al., 2015). Given that the limited existing cyberstalking research is largely quantitative, the perspectives of victims themselves are currently under-represented in this literature. Chapter 6 therefore explores the psychological and interpersonal harms of being stalked via electronic means through the voices and experiences of 100 cyberstalking victims. Through a thematic analysis of their written reflections, this Chapter also aims to identify the coping strategies drawn on by victims of cyberstalking, and the social and institutional responses that victims of this crime encounter as they try to cope. This Chapter contributes to the development of currently limited knowledge and understanding of cyberstalking in order to inform and improve social and institutional responses to victims.

The final Chapter will address the findings to each research question in turn, provide an integrative summary of the findings, address the overall strengths and limitations of the studies, consider implications and recommendations, and specify potential directions for future research. The concluding section will draw together the

main findings of the thesis, stressing how this body of research has contributed to our understanding of the relationship between mental health and online activity.

1.7.3 Methodological considerations

Using a mixed method design, qualitative and quantitative methods were both used to better understand the psychology that underpins online experiences that are particularly relevant to young people, and the factors that confer psychological resilience to the adverse effects of negative online experiences. Research often focuses on either a positivist approach or a naturalistic approach. Quantitative research aligns itself with positivism, whereas qualitative research aligns itself with naturalistic approaches (Larkin, Begley, & Devane, 2014). Mixed methods research, however, can provide richer data than the use of one method in isolation. Indeed, adopting a mixed methods approach is advantageous as this can provide a richer variety of views (Teddlie & Tashakkori, 2009).

Each particular method was selected to fit both the current state of the research base and the evidence being sought. On this basis, methods were chosen to fit the research questions being posed. Detailed quantitative or qualitative methods information is provided in each Chapter. By exploring why and in what context young people go online to begin with, and how their use of the online environment is connected with their everyday life, a pragmatic scope of the online evidence using a thematic approach is presented in Chapter 2. Chapters 3 and 4 propose theory and collect quantitative data in order to test alternative understandings of problematic social media use existing within an overarching theory (i.e., attachment theory). Chapter 5 also uses quantitative methods to explore whether specific psychological and cognitive factors underpin mental distress in the context of cyberbullying. As quantitative methods may restrict the elucidation of protective factors, this may limit information provision. Although this approach often maximises statistical power and is considered to be well suited to exploring the links between variables, it has also been critiqued for being narrow in its focus as it fails to capture the complexity of people's lives (Masten, 2001).

As previous cyberstalking research has been limited to the quantitative paradigm, the final qualitative Chapter delivers rich information necessary for a deeper understanding. As previous research in this area has explored superficial research questions using quantitative methods, Chapter 6 utilises a qualitative

method, namely thematic analysis, as this has the capacity to explore people's perspectives in greater detail. In contrast to other qualitative methods, thematic analysis is not associated with a particular theoretical framework. Different theoretical positions have different assumptions concerning what the data represents in terms of 'reality'. The qualitative analysis presented in Chapter 6 was conducted in an essentialist/realist framework. By adopting this theoretical framework, the analysis reports on the experience, meanings, and reality of participants. As the analysis was conducted from within an essentialist/realist framework that focuses on the explicit meanings in the data, the themes were identified at the semantic level (Braun & Clarke, 2006). Analysis followed Braun and Clarke's (2006) method for thematic analysis.

In sum, a mixed methods approach used in a way to advance prior research understandings was considered most likely to enable a deeper understanding of complex individual experiences. As each empirical Chapter is self-contained, a detailed methods section has been provided in each Chapter detailing the measures and methods of analysis utilised in each separate study.

1.8 Chapter summary

In this introductory chapter it has been shown that the internet offers users unique opportunities to enhance existing relationships and establish supportive networks. Although this literature review has highlighted the potential mental health and well-being benefits associated with internet use, the following Chapters focus primarily on negative internet experiences in relation to mental health and well-being. Together, this body of work will mark an important step toward i) understanding why certain individuals are vulnerable to problematic social media usage, ii) facilitating the identification of individuals who may be at greater risk of experiencing mental health difficulties following problematic internet experiences, and iii) informing the development of more effective prevention and intervention strategies.

1.9 References

- Aboujaoude, E., Savage, M. W., Starcevic, V., & Salame, W. O. (2015). Cyberbullying: Review of an old problem gone viral. *Journal of Adolescent Health, 57*(1), 10-18. doi:10.1016/j.jadohealth.2015.04.011
- Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review, 96*(2), 358-372. doi:10.1037/0033-295X.96.2.358
- Ainsworth, M. D. S. (1963). The development of infant-mother interaction among the Ganda. In B. M. Foss (Ed.), *Determinants of infant behavior* (pp. 67-104). New York: Wiley.
- Ainsworth, M. D. S. (1982). Attachment: Retrospect and prospect. In C. M. Parkes & J. Stevenson-Hinde (Eds.), *The place of attachment in human behavior* (pp. 3-30). New York: Basic Books.
- Ainsworth, M. D. S. (1985). Patterns of attachment. *The Clinical Psychologist, 38*(2), 27-29.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Oxford: Lawrence Erlbaum Associates.
- Alexander, P. C. (1992). Application of attachment theory to the study of sexual abuse. *Journal of Consulting and Clinical Psychology, 60*(2), 185-195. doi:10.1037//0022-006X.60.2.185
- Allen, K. A., Ryan, T., Gray, D. L., McInerney, D. M., & Waters, L. (2014). Social media use and social connectedness in adolescents: The positives and the potential pitfalls. *Australian Educational and Developmental Psychologist, 31*(1), 18-31. doi:10.1017/edp.2014.2
- Allen, M. (2014). *Local action on health inequalities: Building children and young people's resilience in schools*. London: Public Health England.
- American Psychiatric Association (1987). *Diagnostic and statistical manual of mental disorders (3rd ed.)*. Washington, DC: Author.
- Álvarez-García, D., Núñez Pérez, J. C., Dobarro González, A., & Rodríguez Pérez, C. (2015). Risk factors associated with cybervictimization in adolescence. *International Journal of Clinical and Health Psychology, 15*(3), 226-235. doi:10.1016/j.ijchp.2015.03.002
- Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors, 30*(2), 252-262. doi:10.1037/adb0000160
- Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors, 64*, 287-293. doi:10.1016/j.addbeh.2016.03.006
- Andreou, E., & Svoli, H. (2013). The association between Internet user characteristics and dimensions of Internet addiction among Greek adolescents. *International Journal of Mental Health and Addiction, 11*(2), 139-148. doi:10.1007/s11469-012-9404-3
- Andrist, L. C. (2003). Media images, body dissatisfaction, and disordered eating in adolescent women. *MCN The American Journal of Maternal/Child Nursing, 28*(2), 119-123. doi:10.1097/00005721-200303000-00014

- Angold, A., Erkanli, A., Silberg, J., Eaves, L., & Costello, E. J. (2002). Depression scale scores in 8–17-year-olds: Effects of age and gender. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *43*(8), 1052-1063. doi:10.1111/1469-7610.00232
- Aoyama, I., Saxon, T. F., & Fearon, D. D. (2011). Internalizing problems among cyberbullying victims and moderator effects of friendship quality. *Multicultural Education & Technology Journal*, *5*(2), 92-105. doi:10.1108/17504971111142637
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469-480. doi:10.1037/0003-066X.55.5.469
- Baker, D. A., & Perez Algorta, G. (2016). The relationship between online social networking and depression: A systematic review of quantitative studies. *Cyberpsychology, Behavior, and Social Networking*, *19*(11), 638-648. doi:10.1089/cyber.2016.0206
- Baker, J. R., & Moore, S. M. (2008a). Distress, coping, and blogging: Comparing new Myspace users by their intention to blog. *CyberPsychology & Behavior*, *11*(1), 81-85. doi:10.1089/cpb.2007.9930
- Baker, J. R., & Moore, S. M. (2008b). Blogging as a social tool: A psychosocial examination of the effects of blogging. *CyberPsychology & Behavior*, *11*(6), 747-749. doi:10.1089/cpb.2008.0053
- Bannink, R., Broeren, S., Van De Looij-Jansen, P. M., De Waart, F. G., & Raat, H. (2014). Cyber and traditional bullying victimization as a risk factor for mental health problems and suicidal ideation in adolescents. *PLoS ONE*, *9*(4), 1-7. doi:10.1371/journal.pone.0094026
- Bányai, F., Zsila, Á., Király, O., Maraz, A., Elekes, Z., Griffiths, M. D., . . . Demetrovics, Z. (2017). Problematic social media use: Results from a large-scale nationally representative adolescent sample. *PLoS ONE*, *12*(1), 1-13. doi:10.1371/journal.pone.0169839
- Barak, A., & Dolev-Cohen, M. (2006). Does activity level in online support groups for distressed adolescents determine emotional relief. *Counselling & Psychotherapy Research*, *6*(3), 120-124. doi:10.1080/14733140600848203
- Bargh, J. A., & McKenna, K. Y. A. (2004). The internet and social life. *Annual Review of Psychology*, *55*, 573-590. doi:10.1146/annurev.psych.55.090902.141922
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, *61*(2), 226-244. doi:10.1037/0022-3514.61.2.226
- Baum, K., Catalano, S., Rand, M., & Rose, K. (2009). *Stalking victimization in the United States*. Washington, DC: U.S. Department of Justice.
- Bauman, S. (2010). Cyberbullying in a rural intermediate school: An exploratory study. *Journal of Early Adolescence*, *30*(6), 803-833. doi:10.1177/0272431609350927
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York: International Universities Press.
- Bélanger, R. E., Akre, C., Berchtold, A., & Michaud, P. A. (2011). A U-shaped association between intensity of internet use and adolescent health. *Pediatrics*, *127*(2), e330-e335. doi:10.1542/peds.2010-1235

- Bell, V. (2007). Online information, extreme communities and internet therapy: Is the internet good for our mental health? *Journal of Mental Health, 16*(4), 445-457. doi:10.1080/09638230701482378
- Bergmark, K. H., Bergmark, A., & Findahl, O. (2011). Extensive internet involvement - addiction or emerging lifestyle? *International Journal of Environmental Research and Public Health, 8*(12), 4488-4501. doi:10.3390/ijerph8124488
- Berry, D. (2004). The relationship between depression and emerging adulthood: Theory generation. *Advances in Nursing Science, 27*(1), 53-69. doi:10.1097/00012272-200401000-00007
- Berryman, C., Ferguson, C. J., & Negy, C. (2018). Social media use and mental health among young adults. *Psychiatric Quarterly, 89*(2), 307-314. doi:10.1007/s11126-017-9535-6
- Bessièrè, K., Pressman, S., Kiesler, S., & Kraut, R. (2010). Effects of Internet use on health and depression: A longitudinal study. *Journal of Medical Internet Research, 12*(1), e6. doi:10.2196/jmir.1149
- Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and adolescent wellbeing: A systematic narrative review. *Children and Youth Services Review, 41*, 27-36. doi:10.1016/j.childyouth.2014.03.001
- Beutel, M. E., Brähler, E., Glaesmer, H., Kuss, D. J., Wölfling, K., & Müller, K. W. (2011). Regular and problematic leisure-time Internet use in the community: Results from a German population-based survey. *Cyberpsychology, Behavior, and Social Networking, 14*(5), 291-296. doi:10.1089/cyber.2010.0199
- Biddle, L., Donovan, J. L., Hawton, K., Kapur, N., & Gunnell, D. (2008). Suicide and the internet. *BMJ, 336*(7648), 800-802. doi:http://dx.doi.org/10.1136/bmj.39525.442674.AD
- Bifulco, A., Moran, P. M., Ball, C., & Lillie, A. (2002). Adult attachment style. II: Its relationship to psychosocial depressive-vulnerability. *Social Psychiatry and Psychiatric Epidemiology, 37*(2), 60-67. doi:10.1007/s127-002-8216-x
- Billieux, J., Maurage, P., Heeren, A., Schimmenti, A., & Khazaal, Y. (2015). Are we overpathologizing everyday life? A tenable blueprint for behavioral addiction research. *Journal of Behavioral Addictions, 4*(3), 119-123. doi:10.1556/2006.4.2015.009
- Blackwell, D., Leaman, C., Tramposch, R., Osborne, C., & Liss, M. (2017). Extraversion, neuroticism, attachment style and fear of missing out as predictors of social media use and addiction. *Personality and Individual Differences, 116*, 69-72. doi:10.1016/j.paid.2017.04.039
- Bonanno, R. A., & Hymel, S. (2013). Cyber bullying and internalizing difficulties: Above and beyond the impact of traditional forms of bullying. *Journal of Youth and Adolescence, 42*(5), 1-13. doi:10.1007/s10964-013-9937-1
- Bor, W., Bor, W., Dean, A. J., Najman, J., & Hayatbakhsh, R. (2014). Are child and adolescent mental health problems increasing in the 21st century? A systematic review. *Australian and New Zealand Journal of Psychiatry, 48*(7), 606-616. doi:10.1177/0004867414533834
- Bosmans, G., Braet, C., & Van Vlierberghe, L. (2010). Attachment and symptoms of psychopathology: Early maladaptive schemas as a cognitive link? *Clinical Psychology & Psychotherapy, 17*(5), 374-385. doi:10.1002/cpp.667
- Bowlby, J. (1969). *Attachment and Loss: Vol. 1*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and Loss: Vol. 2. Separation*. New York: Basic Books.

- Bowlby, J. (1977). The making and breaking of affectional bonds. I. Aetiology and psychopathology in the light of attachment theory. *British Journal of Psychiatry*, *130*(3), 201-210. doi:10.1192/bjp.130.3.201
- Bowlby, J. (1980). *Attachment and loss: Vol 3. Sadness and depression*. New York: Basic Books.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. London: Routledge.
- Boyd, D. M. (2014). *It's complicated: The social lives of networked teens*. New Haven: Yale University Press.
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, *13*(1), 210-230. doi:10.1111/j.1083-6101.2007.00393.x
- Bozkurt, H., Coskun, M., Ayaydin, H., Adak, I., & Zoroglu, S. S. (2013). Prevalence and patterns of psychiatric disorders in referred adolescents with Internet addiction. *Psychiatry and Clinical Neurosciences*, *67*(5), 352-359. doi:10.1111/pcn.12065
- Bradshaw, C. P. (2014). The role of families in preventing and buffering the effects of bullying. *JAMA Pediatrics*, *168*(11), 991-993. doi:10.1001/jamapediatrics.2014.1627
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. doi:10.1191/1478088706qp063oa
- Brennan, K., Clark, C., & Shaver, P. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. Simpson & W. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford Press.
- Brown, A., Gibson, M., & Short, E. (2017). Modes of cyberstalking and cyberharassment: Measuring the negative effects in the lives of victims in the UK. *Annual Review of CyberTherapy and Telemedicine*, *15*, 57-63.
- Burke, M., & Kraut, R. (2014). *Growing closer on facebook: Changes in tie strength through social network site use*. Paper presented at the Conference Human Factors in Computing Systems, Toronto, ON, Canada. Retrieved from http://delivery.acm.org/10.1145/2560000/2557094/p4187-burke.pdf?ip=138.253.156.90&id=2557094&acc=ACTIVE%20SERVICE&key=BF07A2EE685417C5%2E0622C687C1A10C50%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35&__acm__=1535463955_e8a75e6bab3563439c41171be37be591
- Burke, M., Kraut, R., & Marlow, C. (2011). *Social capital on Facebook: Differentiating uses and users*. Paper presented at the Conference Human Factors in Computing Systems, Vancouver, BC, Canada. Retrieved from http://delivery.acm.org/10.1145/1980000/1979023/p571-burke.pdf?ip=138.253.156.90&id=1979023&acc=ACTIVE%20SERVICE&key=BF07A2EE685417C5%2E0622C687C1A10C50%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35&__acm__=1535463908_f17a99c5db8c1687be17adfb6e40ab02
- Burke, M., & Kraut, R. E. (2016). The relationship between Facebook use and well-being depends on communication type and tie strength. *Journal of Computer-Mediated Communication*, *21*(4), 265-281. doi:10.1111/jcc4.12162

- Burke, M., Marlow, C., & Lento, T. M. (2010). *Social network activity and social well-being*. Paper presented at the Conference on Human Factors in Computing Systems, Atlanta, Georgia, USA. Retrieved from http://delivery.acm.org/10.1145/1760000/1753613/p1909-burke.pdf?ip=138.253.52.83&id=1753613&acc=ACTIVE%20SERVICE&key=BF07A2EE685417C5%2E0622C687C1A10C50%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35&__acm__=1535622001_173199fb8496ccc7a8f5b5d3a487faa5
- Campbell, M., Spears, B., Slee, P., Butler, D., & Kift, S. (2012). Victims' perceptions of traditional and cyberbullying, and the psychosocial correlates of their victimisation. *Emotional and Behavioural Difficulties*, *17*(3-4), 389-401. doi:10.1080/13632752.2012.704316
- Cantazaro, A., & Wei, M. (2010). Adult attachment, dependence, self-criticism, and depressive symptoms: A test of a mediational model. *Journal of Personality*, *78*(4), 1135-1162. doi:10.1111/j.1467-6494.2010.00645.x
- Casale, S., & Fioravanti, G. (2011). Psychosocial correlates of internet use among Italian students. *International Journal of Psychology*, *46*(4), 288-298. doi:10.1080/00207594.2010.541256
- Casale, S., Lecchi, S., & Fioravanti, G. (2015). The association between psychological well-being and problematic use of Internet communicative services among young people. *The Journal of Psychology*, *149*(5), 480-497. doi:10.1080/00223980.2014.905432
- Cassidy, J., & Kobak, R. R. (1988). Avoidance and its relation to other defensive processes. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 300-323). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cénat, J. M., Hébert, M., Blais, M., Lavoie, F., Guerrier, M., & Derivois, D. (2014). Cyberbullying, psychological distress and self-esteem among youth in Quebec schools. *Journal of Affective Disorders*, *169*, 7-9. doi:10.1016/j.jad.2014.07.019
- Cerutti, R., Spensieri, V., Presaghi, F., Valastro, C., Fontana, A., & Guidetti, V. (2017). An exploratory study on internet addiction, somatic symptoms and emotional and behavioral functioning in school-aged adolescents. *Clinical Neuropsychiatry*, *14*(6), 374-383.
- Ceyhan, A. A., & Ceyhan, E. (2008). Loneliness, depression, and computer self-efficacy as predictors of problematic internet use. *CyberPsychology & Behavior*, *11*(6), 699-701. doi:10.1089/cpb.2007.0255
- Chang, F. C., Chiu, C. H., Lee, C. M., Chen, P. H., & Miao, N. F. (2014). Predictors of the initiation and persistence of Internet addiction among adolescents in Taiwan. *Addictive Behaviors*, *39*(10), 1434-1440. doi:10.1016/j.addbeh.2014.05.010
- Chi, X., Lin, L., & Zhang, P. (2016). Internet addiction among college students in China: Prevalence and psychosocial correlates. *Cyberpsychology, Behavior, and Social Networking*, *19*(9), 567-573. doi:10.1089/cyber.2016.0234
- Cho, S.-M., Sung, M.-J., Shin, K.-M., Lim, K., & Shin, Y.-M. (2013). Does psychopathology in childhood predict Internet addiction in male adolescents? *Child Psychiatry & Human Development*, *44*(4), 549-555. doi:10.1007/s10578-012-0348-4

- Chou, H. T. G., & Edge, N. (2012). "They are happier and having better lives than I am": The impact of using facebook on perceptions of others' lives. *Cyberpsychology, Behavior, and Social Networking, 15*(2), 117-121. doi:10.1089/cyber.2011.0324
- Ciarrochi, J., Parker, P., Sahdra, B., Marshall, S., Jackson, C., Gloster, A. T., & Heaven, P. (2016). The development of compulsive internet use and mental health: A four-year study of adolescence. *Developmental Psychology, 52*(2), 272-283. doi:10.1037/dev0000070
- Cole, D. A., Zerkowicz, R. L., Nick, E., Martin, N. C., Roeder, K. M., Sinclair-McBride, K., & Spinelli, T. (2016). Longitudinal and incremental relation of cybervictimization to negative self-cognitions and depressive symptoms in young adolescents. *Journal of Abnormal Child Psychology, 44*(7), 1321-1332. doi:10.1007/s10802-015-0123-7
- Copeland, W. E., Angold, A., Shanahan, L., & Costello, E. J. (2014). Longitudinal patterns of anxiety from childhood to adulthood: The great smoky mountains study. *Journal of the American Academy of Child and Adolescent Psychiatry, 53*(1), 21-33. doi:10.1016/j.jaac.2013.09.017
- Costello, E. J., Angold, A., & Foley, D. L. (2006). 10-year research update review: The epidemiology of child and adolescent psychiatric disorders: II. Developmental epidemiology. *Journal of the American Academy of Child and Adolescent Psychiatry, 45*(1), 8-25. doi:10.1097/01.chi.0000184929.41423.c0
- Dalbudak, E., Evren, C., Aldemir, S., & Evren, B. (2014). The severity of Internet addiction risk and its relationship with the severity of borderline personality features, childhood traumas, dissociative experiences, depression and anxiety symptoms among Turkish university students. *Psychiatry Research, 219*(3), 577-582. doi:10.1016/j.psychres.2014.02.032
- Davis, R. A. (2001). Cognitive-behavioral model of pathological Internet use. *Computers in Human Behavior, 17*(2), 187-195. doi:10.1016/S0747-5632(00)00041-8
- Dempsey, A. G., Sulkowski, M. L., Nichols, R., & Storch, E. A. (2009). Differences between peer victimization in cyber and physical settings and associated psychosocial adjustment in early adolescence. *Psychology in the Schools, 46*(10), 962-972. doi:10.1002/pits.20437
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*, 542-575.
- Dodge, R., Daly, A. P., Huyton, J., & Sanders, L. D. (2012). The challenge of defining wellbeing. *International Journal of Wellbeing, 2*(3), 222-235. doi:10.5502/ijw.v2i3.4
- Dreßing, H., Bailer, J., Anders, A., Wagner, H., & Gallas, C. (2014). Cyberstalking in a large sample of social network users: Prevalence, characteristics, and impact upon victims. *Cyberpsychology, Behavior, and Social Networking, 17*(2), 61-67. doi:10.1089/cyber.2012.0231
- Dressing, H., Kuehner, C., & Gass, P. (2005). Lifetime prevalence and impact of stalking in a European population: Epidemiological data from a middle-sized German city. *British Journal of Psychiatry, 187*(2), 168-172. doi:10.1192/bjp.187.2.168
- Dunbar, R. I. M. (1993). Coevolution of neocortical size, group size and language in humans. *Behavioral and Brain Sciences, 16*(4), 681-735. doi:10.1017/S0140525X00032325

- Echeburúa, E., & De Corral, P. (2010). Addiction to new technologies and to online social networking in young people: A new challenge. *Adicciones*, 22(2), 91-96.
- Elgar, F. J., Napoletano, A., Saul, G., Dirks, M. A., Craig, W., Paul Poteat, V., . . . Koenig, B. W. (2014). Cyberbullying victimization and mental health in adolescents and the moderating role of family dinners. *JAMA Pediatrics*, 168(11), 1015-1022. doi:10.1001/jamapediatrics.2014.1223
- Ellison, N. B., & Boyd, D. (2013). Sociality through social network sites. In W. H. Dutton (Ed.), *The Oxford handbook of Internet studies* (pp. 151-172). Oxford: Oxford University Press.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of facebook "friends": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168. doi:10.1111/j.1083-6101.2007.00367.x
- Fahy, A. E., Stansfeld, S. A., Smuk, M., Smith, N. R., Cummins, S., & Clark, C. (2016). Longitudinal associations between cyberbullying involvement and adolescent mental health. *Journal of Adolescent Health*, 59(5), 502-509. doi:10.1016/j.jadohealth.2016.06.006
- Fanti, K. A., Demetriou, A. G., & Hawa, V. V. (2012). A longitudinal study of cyberbullying: Examining risk and protective factors. *European Journal of Developmental Psychology*, 9(2), 168-181. doi:10.1080/17405629.2011.643169
- Feinstein, B. A., Bhatia, V., & Davila, J. (2014). Rumination mediates the association between cyber-victimization and depressive symptoms. *Journal of Interpersonal Violence*, 29(9), 1732-1746. doi:10.1177/0886260513511534
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., . . . Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine*, 14(4), 245-258. doi:10.1016/S0749-3797(98)00017-8
- Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2008). Exposure to childhood sexual and physical abuse and adjustment in early adulthood. *Child Abuse and Neglect*, 32(6), 607-619. doi:10.1016/j.chiabu.2006.12.018
- Fichter, M. M., Kohlboeck, G., Quadflieg, N., Wyschkon, A., & Esser, G. (2009). From childhood to adult age: 18-year longitudinal results and prediction of the course of mental disorders in the community. *Social Psychiatry & Psychiatric Epidemiology*, 44(9), 792-803. doi:10.1007/s00127-009-0501-y
- Fink, E., Patalay, P., Sharpe, H., Holley, S., Deighton, J., & Wolpert, M. (2015). Mental health difficulties in early adolescence: A comparison of two cross-sectional studies in England from 2009 to 2014. *Journal of Adolescent Health*, 56(5), 502-507. doi:10.1016/j.jadohealth.2015.01.023
- Fioravanti, G., Dèttore, D., & Casale, S. (2012). Adolescent internet addiction: Testing the association between self-esteem, the perception of internet attributes, and preference for online social interactions. *Cyberpsychology, Behavior, and Social Networking*, 15(6), 318-323. doi:10.1089/cyber.2011.0358

- Fox, J. (2016). The dark side of social networking sites in romantic relationships. In B. K. Wiederhold, G. Riva, & P. Cipresso (Eds.), *The psychology of social networking: Personal experience in online communities* (pp. 78-89). Berlin: De Gruyter Open.
- Frison, E., & Eggermont, S. (2016). Exploring the relationships between different types of Facebook use, perceived online social support, and adolescents' depressed mood. *Social Science Computer Review*, *34*(2), 153-171. doi:10.1177/0894439314567449
- Frison, E., Subrahmanyam, K., & Eggermont, S. (2016). The short-term longitudinal and reciprocal relations between peer victimization on Facebook and adolescents' well-being. *Journal of Youth and Adolescence*, *45*(9), 1755-1771. doi:10.1007/s10964-016-0436-z
- Frith, E. (2017). *Social media and children's mental health: A review of the evidence*. London: Education Policy Institute.
- Gámez-Guadix, M. (2014). Depressive symptoms and problematic internet use among adolescents: Analysis of the longitudinal relationships from the cognitive-behavioral model. *Cyberpsychology, Behavior, and Social Networking*, *17*(11), 714-719. doi:10.1089/cyber.2014.0226
- Gámez-Guadix, M., Orue, I., Smith, P. K., & Calvete, E. (2013). Longitudinal and reciprocal relations of cyberbullying with depression, substance use, and problematic Internet use among adolescents. *Journal of Adolescent Health*, *53*, 446-452. doi:10.1016/j.jadohealth.2013.03.030
- Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *The Lancet*, *373*(9657), 68-81. doi:10.1016/S0140-6736(08)61706-7
- Gmel, G., Notari, L., & Schneider, E. (2017). *Is there an Internet addiction and what distinguishes it from problematic Internet use - An attempt to provide working definitions*. Retrieved from https://www.jugendundmedien.ch/fileadmin/user_upload/1_Medienmitteilungen_Aktuellmeldungen/170630_Report_definitions_Gmel_final.pdf
- Goodyer, I. M., Croudace, T., Dunn, V., Herbert, J., & Jones, P. B. (2010). Cohort profile: Risk patterns and processes for psychopathology emerging during adolescence: The ROOTS project. *International Journal of Epidemiology*, *39*(2), 361-369. doi:10.1093/ije/dyp173
- Gowen, K., Deschaine, M., Gruttadara, D., & Markey, D. (2012). Young adults with mental health conditions and social networking websites: Seeking tools to build community. *Psychiatric rehabilitation journal*, *35*(3), 245-250. doi:10.2975/35.3.2012.245.250
- Green, H., McGinnity, Á., Meltzer, H., Ford, T., & Goodman, R. (2005). *Mental health of children and young people in Great Britain, 2004*. Hampshire: Palgrave Macmillan.
- Guillot, C. R., Bello, M. S., Tsai, J. Y., Huh, J., Leventhal, A. M., & Sussman, S. (2016). Longitudinal associations between anhedonia and internet-related addictive behaviors in emerging adults. *Computers in Human Behavior*, *62*(1), 475-479. doi:10.1016/j.chb.2016.04.019
- Ha, Y. M., & Hwang, W. J. (2014). Gender differences in Internet addiction associated with psychological health indicators among adolescents using a national web-based survey. *International Journal of Mental Health and Addiction*, *12*(5), 660-669. doi:10.1007/s11469-014-9500-7

- Harris, I. M., & Roberts, L. M. (2013). Exploring the use and effects of deliberate self-harm websites: an Internet-based study. *Journal of Medical Internet Research, 15*(12), e285-e285. doi:10.2196/jmir.2802
- Hart, J., Nailling, E., Bizer, G. Y., & Collins, C. K. (2015). Attachment theory as a framework for explaining engagement with Facebook. *Personality and Individual Differences, 77*, 33-40. doi:10.1016/j.paid.2014.12.016
- Hasebrink, U., Görzig, A., Haddon, L., Kalmus, V., & Livingstone, S. (2011). *Patterns of risk and safety online: In-depth analyses from the EU Kids Online survey of 9- to 16-year-olds and their parents in 25 European countries*. London: EU Kids Online network.
- Hawton, K., & Harriss, L. (2007). Deliberate self-harm in young people: Characteristics and subsequent mortality in a 20-year cohort of patients presenting to hospital. *Journal of Clinical Psychiatry, 68*(10), 1574-1583. doi:10.4088/JCP.v68n1017
- Hetzel-Riggin, M. D., & Pritchard, J. R. (2011). Predicting problematic internet use in men and women: The contributions of psychological distress, coping style, and body esteem. *Cyberpsychology, Behavior, and Social Networking, 14*(9), 519-525. doi:10.1089/cyber.2010.0314
- Hinduja, S., & Patchin, J. W. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behavior, 29*(2), 129-156. doi:10.1080/01639620701457816
- Hirschfeld, R. M. A. (2001). The comorbidity of major depression and anxiety disorders: Recognition and management in primary care. *Primary Care Companion to the Journal of Clinical Psychiatry, 3*(6), 244-254. doi:10.4088/PCC.v03n0609
- Horgan, A., McCarthy, G., & Sweeney, J. (2013). An evaluation of an online peer support forum for university students with depressive symptoms. *Archives of Psychiatric Nursing, 27*(2), 84-89. doi:10.1016/j.apnu.2012.12.005
- Hsieh, Y. P., Shen, A. C. T., Wei, H. S., Feng, J. Y., Huang, S. C. Y., & Hwa, H. L. (2016). Associations between child maltreatment, PTSD, and internet addiction among Taiwanese students. *Computers in Human Behavior, 56*, 209-214. doi:10.1016/j.chb.2015.11.048
- Hwang, J. M., Cheong, P. H., & Feeley, T. H. (2009). Being young and feeling blue in Taiwan: Examining adolescent depressive mood and online and offline activities. *New Media & Society, 11*(7), 1101-1121. doi:10.1177/1461444809341699
- Jia, R., & Jia, H. H. (2016). Maybe you should blame your parents: Parental attachment, gender, and problematic Internet use. *Journal of Behavioral Addictions, 5*(3), 524-528. doi:10.1556/2006.5.2016.059
- Jones, R., Sharkey, S., Ford, T., Emmens, T., Hewis, E., Smithson, J., . . . Owens, C. (2011). Online discussion forums for young people who self-harm: User views. *The Psychiatrist, 35*(10), 368-370. doi:10.1192/pb.bp.110.033449
- Kaess, M., Durkee, T., Brunner, R., Carli, V., Parzer, P., Wasserman, C., . . . Wasserman, D. (2014). Pathological Internet use among European adolescents: Psychopathology and self-destructive behaviours. *European Child and Adolescent Psychiatry, 23*(11), 1093-1102. doi:10.1007/s00787-014-0562-7

- Kandri, T. A., Bonotis, K. S., Floros, G. D., & Zafiropoulou, M. M. (2014). Alexithymia components in excessive internet users: A multi-factorial analysis. *Psychiatry Research*, *220*(1-2), 348-355. doi:10.1016/j.psychres.2014.07.066
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, *53*(1), 59-68. doi:10.1016/j.bushor.2009.09.003
- Kardefelt-Winther, D. (2014). A conceptual and methodological critique of internet addiction research: Towards a model of compensatory internet use. *Computers in Human Behavior*, *31*(1), 351-354. doi:10.1016/j.chb.2013.10.059
- Kardefelt-Winther, D. (2017). Conceptualizing internet use disorders: Addiction or coping process? *Psychiatry and Clinical Neurosciences*, *71*(7), 459-466. doi:10.1111/pcn.12413
- Kessler, R. C., Amminger, G. P., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Ustun, T. B. (2007). Age of onset of mental disorders: A review of recent literature. *Current Opinion in Psychiatry*, *20*(4), 359-364. doi:10.1097/YCO.0b013e32816ebc8c
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*(6), 593-602. doi:10.1001/archpsyc.62.7.768
- Keyes, C., & Annas, J. (2009). Feeling good and functioning well: Distinctive concepts in ancient philosophy and contemporary science. *Journal of Positive Psychology*, *4*(3), 197-201. doi:10.1080/17439760902844228
- Kim, H.-K., & Davis, K. E. (2009). Toward a comprehensive theory of problematic Internet use: Evaluating the role of self-esteem, anxiety, flow, and the self-rated importance of Internet activities. *Computers in Human Behavior*, *25*(2), 490-500. doi:10.1016/j.chb.2008.11.001
- Kim, J., Larose, R., & Peng, W. (2009). Loneliness as the cause and the effect of problematic internet use: The relationship between internet use and psychological well-being. *CyberPsychology & Behavior*, *12*(4), 451-455. doi:10.1089/cpb.2008.0327
- Király, O., Griffiths, M. D., Urbán, R., Farkas, J., Kökönyei, G., Elekes, Z., . . . Demetrovics, Z. (2014). Problematic internet use and problematic online gaming are not the same: Findings from a large nationally representative adolescent sample. *Cyberpsychology, Behavior, and Social Networking*, *17*(12), 749-754. doi:10.1089/cyber.2014.0475
- Klomek, A. B., Marrocco, F., Kleinman, M., Schonfeld, I. S., & Gould, M. S. (2008). Peer victimization, depression, and suicidality in adolescents. *Suicide and Life-Threatening Behavior*, *38*(2), 166-180. doi:10.1521/suli.2008.38.2.166
- Ko, C. H., Wang, P. W., Liu, T. L., Yen, C. F., Chen, C. S., & Yen, J. Y. (2015). Bidirectional associations between family factors and Internet addiction among adolescents in a prospective investigation. *Psychiatry and Clinical Neurosciences*, *69*(4), 192-200. doi:10.1111/pcn.12204
- Ko, C. H., Yen, J. Y., Chen, C. S., Yeh, Y. C., & Yen, C. F. (2009). Predictive values of psychiatric symptoms for internet addiction in adolescents: A 2-year prospective study. *Archives of Pediatrics and Adolescent Medicine*, *163*(10), 937-943. doi:10.1001/archpediatrics.2009.159

- Kokkinos, C. M., Antoniadou, N., & Markos, A. (2014). Cyber-bullying: An investigation of the psychological profile of university student participants. *Journal of Applied Developmental Psychology, 35*(3), 204-214. doi:10.1016/j.appdev.2014.04.001
- Kokkinos, C. M., & Saripanidis, I. (2017). A lifestyle exposure perspective of victimization through Facebook among university students. Do individual differences matter? *Computers in Human Behavior, 74*, 235-245. doi:10.1016/j.chb.2017.04.036
- Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin, 140*(4), 1073-1137. doi:10.1037/a0035618
- Kowalski, R. M., & Limber, S. P. (2007). Electronic bullying among middle school students. *Journal of Adolescent Health, 41*(6), S22-S30. doi:10.1016/j.jadohealth.2007.08.017
- Kowalski, R. M., & Limber, S. P. (2013). Psychological, physical, and academic correlates of cyberbullying and traditional bullying. *Journal of Adolescent Health, 53*(1), S13-S20. doi:10.1016/j.jadohealth.2012.09.018
- Kowalski, R. M., Limber, S. P., & Agatston, P. W. (2012). *Cyberbullying. Bullying in the digital age*. West Sussex: Wiley-Blackwell.
- Kraft, E. M., & Wang, J. (2010). An exploratory study of the cyberbullying and cyberstalking experiences and factors related to victimization of students at a public liberal arts college. *International Journal of Technoethics, 1*(4), 74-91. doi:10.4018/jte.2010100106
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues, 58*(1), 49-74. doi:10.1111/1540-4560.00248
- Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukophadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist, 53*(9), 1017-1031. doi:10.1037/0003-066X.53.9.1017
- Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., . . . Ybarra, O. (2013). Facebook use predicts declines in subjective well-being in young adults. *PLoS ONE, 8*(8), 1-6. doi:10.1371/journal.pone.0069841
- Kuss, D. J., & Griffiths, M. D. (2015). *Internet addiction in psychotherapy*. Basingstoke: Palgrave Pivot.
- Kuss, D. J., & Griffiths, M. D. (2017). Social networking sites and addiction: Ten lessons learned. *International Journal of Environmental Research and Public Health, 14*(3), 1-17. doi:10.3390/ijerph14030311
- Lam, L. T. (2015). Parental mental health and Internet addiction in adolescents. *Addictive Behaviors, 42*, 20-23. doi:10.1016/j.addbeh.2014.10.033
- Lam, L. T., & Peng, Z. W. (2010). Effect of pathological use of the internet on adolescent mental health: A prospective study. *Archives of Pediatrics and Adolescent Medicine, 164*(10), 901-906. doi:10.1001/archpediatrics.2010.159
- Lam, L. T., Peng, Z. W., Mai, J. C., & Jing, J. (2009). Factors associated with Internet addiction among adolescents. *CyberPsychology & Behavior, 12*(5), 551-555. doi:10.1089/cpb.2009.0036

- Landoll, R. R., La Greca, A. M., Lai, B. S., Chan, S. F., & Herge, W. M. (2015). Cyber victimization by peers: Prospective associations with adolescent social anxiety and depressive symptoms. *Journal of Adolescence*, *42*, 77-86. doi:10.1016/j.adolescence.2015.04.002
- Larkin, P. M., Begley, C. M., & Devane, D. (2014). Breaking from binaries - using a sequential mixed methods design. *Nurse Researcher*, *21*(4), 8-12. doi:10.7748/nr2014.03.21.4.8.e1219
- Lee, B. W., & Stapinski, L. A. (2012). Seeking safety on the internet: Relationship between social anxiety and problematic internet use. *Journal of Anxiety Disorders*, *26*(1), 197-205. doi:10.1016/j.janxdis.2011.11.001
- Lee, S. J. (2009). Online communication and adolescent social ties: Who benefits more from internet use? *Journal of Computer-Mediated Communication*, *14*(3), 509-531. doi:10.1111/j.1083-6101.2009.01451.x
- Lenhart, A. (2015). *Teens, social media & technology*. Retrieved from <http://www.pewinternet.org/2015/04/09/teens-social-media-technology-2015>:
- Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010). *Social media & mobile Internet use among teens and young adults*. Retrieved from Washington, DC: http://www.pewinternet.org/files/old-media/Files/Reports/2010/PIP_Social_Media_and_Young_Adults_Report_Final_with_toplevels.pdf
- Lenhart, A., Smith, A., Anderson, M., Duggan, M., & Perrin, A. (2015). *Teens, technology & friendships: Video games, social media and mobile phones play an integral role in how teens meet and interact with friends*. Retrieved from <http://www.pewinternet.org/files/2015/08/Teens-and-Friendships-FINAL2.pdf>
- Lessof, C., Ross, A., Brind, R., Bell, E., & Newton, S. (2016). *Longitudinal study of young people in England cohort 2: Health and wellbeing at wave 2*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/599871/LSYPE2_w2-research_report.pdf
- Lewis, S. P., & Arbuthnott, A. E. (2012). Searching for thinspiration: The nature of Internet searches for pro-eating disorder websites. *Cyberpsychology, Behavior, and Social Networking*, *15*(4), 200-204. doi:10.1089/cyber.2011.0453
- Li, J. B., Lau, J. T. F., Mo, P. K. H., Su, X. F., Tang, J., Qin, Z. G., & Gross, D. L. (2017). Insomnia partially mediated the association between problematic Internet use and depression among secondary school students in China. *Journal of Behavioral Addictions*, *6*(4), 554-563. doi:10.1556/2006.6.2017.085
- Liang, L., Zhou, D., Yuan, C., Shao, A., & Bian, Y. (2016). Gender differences in the relationship between internet addiction and depression: A cross-lagged study in Chinese adolescents. *Computers in Human Behavior*, *63*, 463-470. doi:10.1016/j.chb.2016.04.043
- Lin, L., Sidani, J. E., Shensa, A., Radovic, A., Miller, E., Colditz, J. B., . . . Primack, B. A. (2016). Association between social media use and depression among U.S. young adults. *Depression and Anxiety*, *33*(4), 323-331. doi:10.1002/da.22466

- Lin, M. P., Ko, H. C., & Wu, J. Y. W. (2011). Prevalence and psychosocial risk factors associated with internet addiction in a nationally representative sample of college students in Taiwan. *Cyberpsychology, Behavior, and Social Networking, 14*(12), 741-746. doi:10.1089/cyber.2010.0574
- Liu, C. Y., & Kuo, F. Y. (2007). A study of Internet addiction through the lens of the interpersonal theory. *CyberPsychology & Behavior, 10*(6), 799-804. doi:10.1089/cpb.2007.9951
- Liu, T. C., Desai, R. A., Krishnan-Sarin, S., Cavallo, D. A., & Potenza, M. N. (2011). Problematic internet use and health in adolescents: Data from a high school survey in Connecticut. *Journal of Clinical Psychiatry, 72*(6), 836-845. doi:10.4088/JCP.10m06057
- Livingstone, S., Haddon, L., Vincent, J., Mascheroni, G., & Ólafsson, K. (2014). *Net Children Go Mobile: The UK Report*. London: London School of Economics and Political Science.
- Livingstone, S., & Smith, P. K. (2014). Annual research review: Harms experienced by child users of online and mobile technologies: The nature, prevalence and management of sexual and aggressive risks in the digital age. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 55*(6), 635-654. doi:10.1111/jcpp.12197
- Lu, X., & Yeo, K. J. (2015). Pathological Internet use among Malaysia university students: Risk factors and the role of cognitive distortion. *Computers in Human Behavior, 45*, 235-242. doi:10.1016/j.chb.2014.12.021
- Luxton, D. D., June, J. D., & Fairall, J. M. (2012). Social media and suicide: A public health perspective. *American Journal of Public Health, 102*(S2), S195-S200. doi:10.2105/AJPH.2011.300608
- Machmutow, K., Perren, S., Sticca, F., & Alsaker, F. D. (2012). Peer victimisation and depressive symptoms: Can specific coping strategies buffer the negative impact of cybervictimisation? *Emotional and Behavioural Difficulties, 17*(3-4), 403-420. doi:10.1080/13632752.2012.704310
- Madden, M., Lenhart, A., Cortesi, S., Gasser, U., Duggan, M., Smith, A., & Beaton, M. (2013). *Teens, social media, and privacy*. Retrieved from http://assets.pewresearch.org/wp-content/uploads/sites/14/2013/05/PIP_TeensSocialMediaandPrivacy_PDF.pdf
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development, 50*(1-2), 66-104. doi:10.2307/3333827
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. Greenberg, D. Cicchetti, & E. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 121-160). Chicago: The University of Chicago Press.
- Mars, B., Heron, J., Biddle, L., Donovan, J. L., Potokar, J., Gunnell, D., . . . Piper, M. (2015). Exposure to, and searching for, information about suicide and self-harm on the Internet: Prevalence and predictors in a population based cohort of young adults. *Journal of Affective Disorders, 185*, 239-245. doi:10.1016/j.jad.2015.06.001

- Mars, B., Heron, J., Crane, C., Hawton, K., Kidger, J., Lewis, G., . . . Gunnell, D. (2014). Differences in risk factors for self-harm with and without suicidal intent: Findings from the ALSPAC cohort. *Journal of Affective Disorders*, *168*, 407-414. doi:10.1016/j.jad.2014.07.009
- Mascheroni, G., & Cuman, A. (2014). *Net children go mobile: Final report*. Milano: Educatt.
- Mascheroni, G., & Ólafsson, K. (2014). *Net children go mobile: Risks and opportunities*. Milano: Educatt.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, *56*(3), 227-238. doi:10.1037//0003-066X.56.3.227
- Masten, A. S. (2011). Resilience in children threatened by extreme adversity: Frameworks for research, practice, and translational synergy. *Development and Psychopathology*, *23*(2), 493-506. doi:10.1017/S0954579411000198
- McDool, E., Powell, P., Roberts, J., & Taylor, K. (2016). *Social media use and children's wellbeing*. Germany: IZA - Institute of Labor Economics.
- McEwan, T. E., Mackenzie, R. D., Mullen, P. E., & James, D. V. (2012). Approach and escalation in stalking. *Journal of Forensic Psychiatry and Psychology*, *23*(3), 392-409. doi:10.1080/14789949.2012.679008
- McKenna, K. Y. A., & Bargh, J. A. (2000). Plan 9 from cyberspace: The implications of the internet for personality and social psychology. *Personality and Social Psychology Review*, *4*(1), 57-75. doi:10.1207/S15327957PSPR0401_6
- McKenna, K. Y. A., Green, A. S., & Gleason, M. E. J. (2002). Relationship formation on the Internet: What's the big attraction? *Journal of Social Issues*, *58*(1), 9-31. doi: 10.1111/1540-4560.00246
- McManus, S., Bebbington, P., Jenkins, R., & Brugha, T. (2016). *Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey 2014*. Leeds: NHS Digital.
- Meerkerk, G. J., Van Den Eijnden, R. J. J. M., Vermulst, A. A., & Garretsen, H. F. L. (2009). The Compulsive Internet Use Scale (CIUS): Some psychometric properties. *CyberPsychology & Behavior*, *12*(1), 1-6. doi:10.1089/cpb.2008.0181
- Meltzer, H., Gatward, R., Goodman, R., & Ford, T. (2000). *The mental health of children and adolescents in Great Britain*. London: The Stationery Office.
- Meltzer, H., Gill, B., Petticrew, M., & Hinds, K. (1995). *OPCS surveys of psychiatric morbidity in Great Britain, report 1: The prevalence of psychiatric morbidity among adults living in private households*. London: HMSO.
- Menesini, E., Calussi, P., & Nocentini, A. (2012). Cyberbullying and traditional bullying: Unique, additive, and synergistic effects on psychological health symptoms. In Q. Li, D. Cross, & P. K. Smith (Eds.), *Cyberbullying in the global playground: Research from International perspectives* (pp. 245-262). West Sussex: Wiley-Blackwell.
- Mérelle, S. Y. M., Kleiboer, A. M., Schotanus, M., Cluitmans, T. L. M., Waardenburg, C. M., Kramer, D., . . . van Rooij, A. J. (2017). Which health-related problems are associated with problematic video-gaming or social media use in adolescents? A large-scale cross-sectional study. *Clinical Neuropsychiatry*, *14*(1), 11-19.

- Messias, E., Castro, J., Saini, A., Usman, M., & Peebles, D. (2011). Sadness, suicide, and their association with video game and internet overuse among teens: Results from the Youth Risk Behavior Survey 2007 and 2009. *Suicide and Life-Threatening Behavior, 41*(3), 307-315. doi:10.1111/j.1943-278X.2011.00030.x
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- Mikulincer, M., & Shaver, P. R. (2012). An attachment perspective on psychopathology. *World psychiatry, 11*(1), 11-15. doi:10.1016/j.wpsyc.2012.01.003
- Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion, 27*(2), 77-102. doi:10.1023/A:1024515519160
- Milani, L., Osualdella, D., & Di Blasio, P. (2009). Quality of interpersonal relationships and problematic Internet use in adolescence. *CyberPsychology & Behavior, 12*(6), 681-684. doi:10.1089/cpb.2009.0071
- Monacis, L., De Palo, V., Griffiths, M. D., & Sinatra, M. (2017). Social networking addiction, attachment style, and validation of the Italian version of the Bergen Social Media Addiction Scale. *Journal of Behavioral Addictions, 6*(2), 178-186. doi:10.1556/2006.6.2017.023
- Montag, C., Jurkiewicz, M., & Reuter, M. (2010). Low self-directedness is a better predictor for problematic internet use than high neuroticism. *Computers in Human Behavior, 26*(6), 1531-1535. doi:10.1016/j.chb.2010.05.021
- Moran, P., Coffey, C., Romaniuk, H., Olsson, C., Borschmann, R., Carlin, J. B., & Patton, G. C. (2012). The natural history of self-harm from adolescence to young adulthood: A population-based cohort study. *The Lancet, 379*(9812), 236-243. doi:10.1016/S0140-6736(11)61141-0
- Morgan, C., Webb, R. T., Carr, M. J., Kontopantelis, E., Green, J., Chew-Graham, C. A., . . . Ashcroft, D. M. (2017). Incidence, clinical management, and mortality risk following self harm among children and adolescents: Cohort study in primary care. *BMJ, 359*, 1-9. doi:10.1136/bmj.j4351
- Murphy, M., & Fonagy, P. (2012). Mental health problems in children and young people. In S. C. Davies (Ed.), *Chief Medical Officer annual report 2012: Children and young people's health*. London: Department of Health and Social Care.
- Murray, C. J., Vos, T., Lozano, R., Naghavi, M., Flaxman, A. D., Michaud, C., . . . Des Jarlais, D. C. (2012). Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: A systematic analysis for the Global Burden of Disease Study 2010. *The Lancet, 380*(9859), 2197-2223. doi:10.1016/S0140-6736(12)61689-4
- Nadkarni, A., & Hofmann, S. (2012). Why do people use Facebook? *Personality and Individual Differences, 52*(3), 243-249. doi:doi:10.1016/j.paid.2011.11.007
- NICE. (2010). *Depression: Management of depression in primary and secondary care (updated edition)*. London: British Psychological Society.
- NICE. (2004). *Self-harm: The short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care*. Retrieved from <https://www.nice.org.uk/guidance/cg16/evidence/cg16-selfharm-full-guideline-2>

- NICE. (2014). *Anxiety disorders*. Retrieved from <https://www.nice.org.uk/guidance/qs53/resources/anxiety-disorders-pdf-2098725496261>
- Nixon, C. L. (2014). Current perspectives: The impact of cyberbullying on adolescent health. *Adolescent Health, Medicine and Therapeutics*, 5, 143-158. doi:10.2147/AHMT.S36456
- Nowland, R., Necka, E. A., & Cacioppo, J. T. (2018). Loneliness and social Internet use: Pathways to reconnection in a digital world? *Perspectives on Psychological Science*, 13(1), 70-87. doi:10.1177/1745691617713052
- O'Higgins Norman, J., & Connolly, J. (2011). Mimetic theory and scapegoating in the age of cyberbullying: The case of Phoebe Prince. *Pastoral Care in Education*, 29(4), 287-300. doi:10.1080/02643944.2011.626069
- OECD. (2017). *PISA 2015 results (Volume III): Students' wellbeing*. Retrieved from <https://www.oecd.org/pisa/PISA-2015-Results-Students-Well-being-Volume-III-Overview.pdf>
- Ofcom. (2015). *Children and parents: Media use and attitudes report*. Retrieved from https://www.ofcom.org.uk/__data/assets/pdf_file/0024/78513/childrens_parents_nov2015.pdf
- Ofcom. (2016a). *Children and parents: Media use and attitudes report*. Retrieved from https://www.ofcom.org.uk/__data/assets/pdf_file/0034/93976/Children-Parents-Media-Use-Attitudes-Report-2016.pdf
- Ofcom. (2016b). *The communications market report*. Retrieved from https://www.ofcom.org.uk/__data/assets/pdf_file/0024/26826/cmr_uk_2016.pdf
- Ofcom. (2017). *Children and parents: Media use and attitudes report*. Retrieved from https://www.ofcom.org.uk/__data/assets/pdf_file/0020/108182/children-parents-media-use-attitudes-2017.pdf
- Olenik-Shemesh, D., Heiman, T., & Eden, S. (2012). Cyberbullying victimisation in adolescence: Relationships with loneliness and depressive mood. *Emotional and Behavioural Difficulties*, 17(3-4), 361-374. doi:10.1080/13632752.2012.704227
- Olweus, D. (1999). Sweden. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying. A cross-national perspective* (pp. 7-27). London: Routledge.
- Olweus, D. (2013). School bullying: Development and some important challenges. *Annual Review of Clinical Psychology*, 9, 751-780. doi:10.1146/annurev-clinpsy-050212-185516
- ONS. (2015). *Measuring national well-being: Insights into children's mental health and well-being*. Retrieved from <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/2015-10-20>
- ONS. (2017). *Internet users in the UK: 2017*. Retrieved from <https://www.ons.gov.uk/businessindustryandtrade/itandinternetindustry/bulletins/internetusers/2017>
- Pabian, S., & Vandebosch, H. (2016). An investigation of short-term longitudinal associations between social anxiety and victimization and perpetration of traditional bullying and cyberbullying. *Journal of Youth and Adolescence*, 45(2), 328-339. doi:10.1007/s10964-015-0259-3

- Park, S., Hong, K. E. M., Park, E. J., Ha, K. S., & Yoo, H. J. (2013). The association between problematic internet use and depression, suicidal ideation and bipolar disorder symptoms in Korean adolescents. *Australian and New Zealand Journal of Psychiatry*, *47*(2), 153-159.
doi:10.1177/0004867412463613
- Parsons-Pollard, N., & Moriarty, L. J. (2009). Cyberstalking: Utilizing what we do know. *Victims and Offenders*, *4*(4), 435-441.
doi:10.1080/15564880903227644
- Patalay, P., & Fitzsimons, E. (2017). *Mental ill-health among children of the new century: Trends across childhood with a focus on age 14*. London: Centre for Longitudinal Studies.
- Patel, V., Flisher, A. J., Hetrick, S., & McGorry, P. (2007). Mental health of young people: A global public-health challenge. *The Lancet*, *369*(9569), 1302-1313.
doi:10.1016/S0140-6736(07)60368-7
- Patton, G. C., Coffey, C., Sawyer, S. M., Viner, R. M., Haller, D. M., Bose, K., . . . Mathers, C. D. (2009). Global patterns of mortality in young people: A systematic analysis of population health data. *The Lancet*, *374*(9693), 881-892. doi:10.1016/S0140-6736(09)60741-8
- Perren, S., Dooley, J., Shaw, T., & Cross, D. (2010). Bullying in school and cyberspace: Associations with depressive symptoms in Swiss and Australian adolescents. *Child and Adolescent Psychiatry and Mental Health*, *4*, 1-10.
doi:10.1186/1753-2000-4-28
- Peter, J., Valkenburg, P. M., & Schouten, A. P. (2005). Developing a model of adolescent friendship formation on the Internet. *CyberPsychology & Behavior*, *8*(5), 423-430. doi:10.1089/cpb.2005.8.423
- Piotrowski, C., & Lathrop, P. J. (2012). Cyberstalking and college-age students: A bibliometric analysis across scholarly databases. *College Student Journal*, *46*(3), 533-536.
- Pollock, P. H. (2001). *Cognitive analytic therapy for adult survivors of childhood abuse*. Chichester: John Wiley.
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, *9*(5), 1-6.
- Prescott, J., Hanley, T., & Ujhelyi, K. (2017). Peer communication in online mental health forums for young people: Directional and nondirectional support. *JMIR Mental Health*, *4*(3), e29-e29. doi:10.2196/mental.6921
- Price, M., Chin, M. A., Higa-McMillan, C., Kim, S., & Christopher Frueh, B. (2013). Prevalence and internalizing problems of ethnoracially diverse victims of traditional and cyber bullying. *School Mental Health*, *5*(4), 183-191.
doi:10.1007/s12310-013-9104-6
- Przybylski, A. K., & Bowes, L. (2017). Cyberbullying and adolescent well-being in England: A population-based cross-sectional study. *The Lancet*, *1*(1), 19-26.
doi:10.1016/S2352-4642(17)30011-1
- Przybylski, A. K., Murayama, K., Dehaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, *29*(4), 1841-1848.
doi:10.1016/j.chb.2013.02.014
- Przybylski, A. K., & Weinstein, N. (2017). A large-scale test of the goldilocks hypothesis: Quantifying the relations between digital-screen use and the mental well-being of adolescents. *Psychological Science*, *28*(2), 204-215.
doi:10.1177/0956797616678438

- Radford, L., Corral, S., Bradley, C., Fisher, H., Bassett, C., Howat, N., & Collishaw, S. (2011). *Child abuse and neglect in the UK today*. London: NSPCC.
- Ravitz, P., Maunder, R., Hunter, J., Sthankiya, B., & Lancee, W. (2010). Adult attachment measures: A 25-year review. *Journal of Psychosomatic Research*, 69(4), 419-432. doi:10.1016/j.jpsychores.2009.08.006
- Reyns, B. W., Henson, B., & Fisher, B. S. (2012). Stalking in the twilight zone: Extent of cyberstalking victimization and offending among college students. *Deviant Behavior*, 33(1), 1-25. doi:10.1080/01639625.2010.538364
- Rose, C., & Tynes, B. M. (2015). Longitudinal associations between cybervictimization and mental health among US adolescents. *Journal of Adolescent Health*, 57(3), 305-312. doi:10.1016/j.jadohealth.2015.05.002
- Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *British Journal of Psychiatry*, 147(6), 598-611. doi: 10.1192/bjp.147.6.598
- Rutter, M. (1999). Resilience concepts and findings: Implications for family therapy. *Journal of Family Therapy*, 21(2), 119-144. doi: 10.1111/1467-6427.00108
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52(1), 141-166. doi:10.1146/annurev.psych.52.1.141
- Ryding, F. C., & Kaye, L. K. (2018). "Internet addiction": A conceptual minefield. *International Journal of Mental Health and Addiction*, 16(1), 225-232. doi:10.1007/s11469-017-9811-6
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081. doi:10.1037/0022-3514.57.6.1069
- Salmivalli, C., Sainio, M., & Hodges, E. V. E. (2013). Electronic victimization: Correlates, antecedents, and consequences among elementary and middle school students. *Journal of Clinical Child and Adolescent Psychology*, 42(4), 442-453. doi:10.1080/15374416.2012.759228
- Sampasa-Kanyinga, H., & Hamilton, H. A. (2015). Use of social networking sites and risk of cyberbullying victimization: A population-level study of adolescents. *Cyberpsychology, Behavior, and Social Networking*, 18(12), 704-710. doi:10.1089/cyber.2015.0145
- Sampasa-Kanyinga, H., & Lewis, R. F. (2015). Frequent use of social networking sites is associated with poor psychological functioning among children and adolescents. *Cyberpsychology, Behavior, and Social Networking*, 18(7), 380-385. doi:10.1089/cyber.2015.0055
- Sarginson, J., Webb, R. T., Stocks, S. J., Esmail, A., Garg, S., & Ashcroft, D. M. (2017). Temporal trends in antidepressant prescribing to children in UK primary care, 2000-2015. *Journal of Affective Disorders*, 210, 312-318. doi:10.1016/j.jad.2016.12.047
- Schimmenti, A., Passanisi, A., Caretti, V., La Marca, L., Granieri, A., Iacolino, C., . . . Billieux, J. (2017). Traumatic experiences, alexithymia, and Internet addiction symptoms among late adolescents: A moderated mediation analysis. *Addictive Behaviors*, 64, 314-320. doi:10.1016/j.addbeh.2015.11.002
- Schimmenti, A., Passanisi, A., Gervasi, A. M., Manzella, S., & Famà, F. I. (2014). Insecure attachment attitudes in the onset of problematic internet use among late adolescents. *Child Psychiatry and Human Development*, 45(5), 588-595. doi:10.1007/s10578-013-0428-0

- Schneider, S. K., O'Donnell, L., Stueve, A., & Coulter, R. W. S. (2012). Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health, 102*(1), 171-177. doi:10.2105/AJPH.2011.300308
- Scimeca, G., Bruno, A., Cava, L., Pandolfo, G., Muscatello, M. R. A., & Zoccali, R. (2014). The relationship between alexithymia, anxiety, depression, and internet addiction severity in a sample of Italian high school students. *Scientific World Journal, 2014*, 1-8. doi:10.1155/2014/504376
- Selkie, E. M., Fales, J. L., & Moreno, M. A. (2016). Cyberbullying prevalence among US middle and high school-aged adolescents: A systematic review and quality assessment. *Journal of Adolescent Health, 58*(2), 125-133. doi:10.1016/j.jadohealth.2015.09.026
- Şenormancı, Ö., Şenormancı, G., Güçlü, O., & Konkan, R. (2014). Attachment and family functioning in patients with internet addiction. *General Hospital Psychiatry, 36*(2), 203-207. doi:10.1016/j.genhosppsych.2013.10.012
- Shakya, H. B., & Christakis, N. A. (2017). Association of Facebook use with compromised well-being: A longitudinal study. *American Journal of Epidemiology, 185*(3), 203-211. doi:10.1093/aje/kww189
- Shen, C., & Williams, D. (2011). Unpacking time online: Connecting internet and massively multiplayer online game use with psychosocial well-being. *Communication Research, 38*(1), 123-149. doi:10.1177/0093650210377196
- Shensa, A., Escobar-Viera, C. G., Sidani, J. E., Bowman, N. D., Marshal, M. P., & Primack, B. A. (2017). Problematic social media use and depressive symptoms among U.S. young adults: A nationally-representative study. *Social Science and Medicine, 182*(1), 150-157. doi:10.1016/j.socscimed.2017.03.061
- Sheridan, L. P., & Grant, T. (2007). Is cyberstalking different? *Psychology, Crime & Law, 13*(6), 627-640. doi:10.1080/10683160701340528
- Shin, S. E., Kim, N. S., & Jang, E. Y. (2011). Comparison of problematic internet and alcohol use and attachment styles among industrial workers in Korea. *Cyberpsychology, Behavior, and Social Networking, 14*(11), 665-672. doi:10.1089/cyber.2010.0470
- Short, E., Guppy, A., Hart, J. A., & Barnes, J. (2015). The impact of cyberstalking. *Studies in Media and Communication, 3*(2), 23-37. doi:10.11114/smc.v3i2.970
- Short, E., Linford, S., Wheatcroft, J. M., & Maple, C. (2014). The impact of cyberstalking: The lived experience - A thematic analysis. *Studies in Health Technology and Informatics, 199*, 133-137. doi:10.3233/978-1-61499-401-5-133
- Sjursø, I. R., Fandrem, H., & Roland, E. (2016). Emotional problems in traditional and cyber victimization. *Journal of School Violence, 15*(1), 114-131. doi:10.1080/15388220.2014.996718
- Slonje, R., & Smith, P. K. (2008). Cyberbullying: Another main type of bullying? *Scandinavian Journal of Psychology, 49*(2), 147-154. doi:10.1111/j.1467-9450.2007.00611.x
- Slonje, R., Smith, P. K., & Frisé, A. (2013). The nature of cyberbullying, and strategies for prevention. *Computers in Human Behavior, 29*, 26-32. doi:10.1016/j.chb.2012.05.024

- Smith, P. K., del Barrio, C., & Tokunaga, R. S. (2013). Definitions of bullying and cyberbullying: How useful are the terms? In S. Bauman, D. Cross, & J. Walker (Eds.), *Principles of cyberbullying research: Definitions, measures and methods* (pp. 26-40). New York: Routledge.
- Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry*, 49(4), 376-385. doi:10.1111/j.1469-7610.2007.01846.x
- Smithson, J., Sharkey, S., Hewis, E., Jones, R. B., Emmens, T., Ford, T., & Owens, C. (2011). Membership and boundary maintenance on an online self-harm forum. *Qualitative Health Research*, 21(11), 1567-1575. doi:10.1177/1049732311413784
- Sontag, L. M., Clemans, K. H., Graber, J. A., & Lyndon, S. T. (2011). Traditional and cyber aggressors and victims: A comparison of psychosocial characteristics. *Journal of Youth and Adolescence*, 40(4), 392-404. doi:10.1007/s10964-010-9575-9
- Spitzberg, B. H., & Hoobler, G. (2002). Cyberstalking and the technologies of interpersonal terrorism. *New Media and Society*, 4(1), 71-92. doi:10.1177/14614440222226271
- Statista. (2017a). Number of social media users worldwide from 2010 to 2021 (in billions). Retrieved from <https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/>
- Statista. (2017b). Most popular social networks worldwide as of April 2017, ranked by number of active users (in millions). Retrieved from <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>
- Statista. (2017c). Number of daily active Instagram users from October 2016 to September 2017 (in millions). Retrieved from <https://www.statista.com/statistics/657823/number-of-daily-active-instagram-users/>
- Statista. (2017d). Number of daily active Snapchat users from 1st quarter 2014 to 4th quarter 2017 (in millions). Retrieved from <https://www.statista.com/statistics/545967/snapchat-app-dau/>
- Statista. (2017e). Most popular social networks of teenagers in United States from fall 2012 to fall 2017. Retrieved from <https://www.statista.com/statistics/250172/social-network-usage-of-us-teens-and-young-adults/>
- Steeves, V. (2014). *Young Canadians in a wired world, phase III: Trends and recommendations*. Ottawa: MediaSmarts.
- Steger, M. F., & Kashdan, T. B. (2009). Depression and everyday social activity, belonging, and well-being. *Journal of Counseling Psychology*, 56(2), 289-300. doi:10.1037/a0015416
- Steinberg, L. (2005). *Adolescence*. New York: McGraw-Hill.
- Steinfeld, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 29(6), 434-445. doi:10.1016/j.appdev.2008.07.002

- Stieger, S., & Burger, C. (2010). Implicit and explicit self-esteem in the context of Internet addiction. *Cyberpsychology, Behavior, and Social Networking*, *13*(6), 681-688. doi:10.1089/cyber.2009.0426
- Strittmatter, E., Parzer, P., Brunner, R., Fischer, G., Durkee, T., Carli, V., . . . Kaess, M. (2016). A 2-year longitudinal study of prospective predictors of pathological Internet use in adolescents. *European Child and Adolescent Psychiatry*, *25*(7), 725-734. doi:10.1007/s00787-015-0779-0
- Tang, J., Zhang, Y., Li, Y., Liu, L., Liu, X., Zeng, H., . . . Lee, T. S. H. (2014). Clinical characteristics and diagnostic confirmation of Internet addiction in secondary school students in Wuhan, China. *Psychiatry and Clinical Neurosciences*, *68*(6), 471-478. doi:10.1111/pcn.12153
- Taylor, P. (2016). Resilience and protective factors in childhood and adolescence. In A. M. Wood & J. Johnson (Eds.), *The wiley handbook of positive clinical psychology* (pp. 279-291). West Sussex: John Wiley & Sons.
- Teddle, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. London: SAGE.
- Tennant, J. E., Demaray, M. K., Coyle, S., & Malecki, C. K. (2015). The dangers of the web: Cybervictimization, depression, and social support in college students. *Computers in Human Behavior*, *50*, 348-357. doi:10.1016/j.chb.2015.04.014
- Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior*, *26*, 277-287. doi:10.1016/j.chb.2009.11.014
- Tromholt, M. (2016). The Facebook experiment: Quitting Facebook leads to higher levels of well-being. *Cyberpsychology, Behavior, and Social Networking*, *19*(11), 661-666. doi:10.1089/cyber.2016.0259
- Tsitsika, A. K., Tzavela, E. C., Janikian, M., Ólafsson, K., Iordache, A., Schoenmakers, T. M., . . . Richardson, C. (2014). Online social networking in adolescence: Patterns of use in six European countries and links with psychosocial functioning. *Journal of Adolescent Health*, *55*(1), 141-147. doi:10.1016/j.jadohealth.2013.11.010
- Turner, M. G., Exum, M. L., Brame, R., & Holt, T. J. (2013). Bullying victimization and adolescent mental health: General and typological effects across sex. *Journal of Criminal Justice*, *41*(1), 53-59. doi:10.1016/j.jcrimjus.2012.12.005
- Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among U.S. adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*, *6*(1), 3-17. doi:10.1177/2167702617723376
- Valkenburg, P. M., & Peter, J. (2007). Online communication and adolescent well-being: Testing the stimulation versus the displacement hypothesis. *Journal of Computer-Mediated Communication*, *12*(4), 1169-1182. doi:10.1111/j.1083-6101.2007.00368.x
- van den Eijnden, R., Vermulst, A., van Rooij, A. J., Scholte, R., & van de Mheen, D. (2014). The bidirectional relationships between online victimization and psychosocial problems in adolescents: A comparison with real-life victimization. *Journal of Youth and Adolescence*, *43*(5), 790-802. doi:10.1007/s10964-013-0003-9

- van Rooij, A. J., Ferguson, C. J., van de Mheen, D., & Schoenmakers, T. M. (2017). Time to abandon internet addiction? Predicting problematic internet, game, and social media use from psychosocial well-being and application use. *Clinical Neuropsychiatry, 14*(1), 113-121.
- Verduyn, P., Lee, D. S., Park, J., Shablack, H., Orvell, A., Bayer, J., . . . Kross, E. (2015). Passive facebook usage undermines affective well-being: Experimental and longitudinal evidence. *Journal of Experimental Psychology: General, 144*(2), 480-488. doi:10.1037/xge0000057
- Vos, T., Allen, C., Arora, M., Barber, R. M., Bhutta, Z. A., Brown, A., . . . Zuhlke, L. J. (2016). Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990-2015: A systematic analysis for the Global Burden of Disease Study 2015. *The Lancet, 388*(9995), 1545-1602. doi:10.1016/S0140-6736(16)31678-6
- Wang, C. W., Ho, R. T. H., Chan, C. L. W., & Tse, S. (2015). Exploring personality characteristics of Chinese adolescents with internet-related addictive behaviors: Trait differences for gaming addiction and social networking addiction. *Addictive Behaviors, 42*, 32-35. doi:10.1016/j.addbeh.2014.10.039
- Wang, J., Nansel, T. R., & Iannotti, R. J. (2011). Cyber and traditional bullying: Differential association with depression. *Journal of Adolescent Health, 48*(4), 415-417. doi:10.1016/j.jadohealth.2010.07.012
- Wartberg, L., Brunner, R., Kriston, L., Durkee, T., Parzer, P., Fischer-Waldschmidt, G., . . . Kaess, M. (2016). Psychopathological factors associated with problematic alcohol and problematic Internet use in a sample of adolescents in Germany. *Psychiatry Research, 240*, 272-277. doi:10.1016/j.psychres.2016.04.057
- Wegmann, E., Stodt, B., & Brand, M. (2015). Addictive use of social networking sites can be explained by the interaction of Internet use expectancies, Internet literacy, and psychopathological symptoms. *Journal of Behavioral Addictions, 4*(3), 155-162. doi:10.1556/2006.4.2015.021
- Weinstein, A., & Lejoyeux, M. (2010). Internet addiction or excessive Internet use. *American Journal of Drug & Alcohol Abuse, 36*(5), 277-283. doi:10.3109/00952990.2010.491880
- Whiffen, V. E., Judd, M. E., & Aube, J. A. (1999). Intimate relationships moderate the association between childhood sexual abuse and depression. *Journal of Interpersonal Violence, 14*(9), 940-954. doi:10.1177/088626099014009002
- Whitlock, J. L., Powers, J. L., & Eckenrode, J. (2006). The virtual cutting edge: The Internet and adolescent self-injury. *Developmental Psychology, 42*(3), 407-417. doi:10.1037/0012-1649.42.3.407
- Whittaker, E., & Kowalski, R. M. (2015). Cyberbullying via social media. *Journal of School Violence, 14*(1), 11-29. doi:10.1080/15388220.2014.949377
- WHO. (1946). Constitution of the World Health Organisation. *American Journal of Public Health and the Nations Health, 36*(11), 1315-1323.
- WHO. (2017a). Depression. Retrieved from <http://www.who.int/en/news-room/fact-sheets/detail/depression>
- WHO. (2017b). *Depression and other common mental disorders: Global health estimates*. Geneva: World Health Organization.
- Widom, C. S., DuMont, K., & Czaja, S. J. (2007). A prospective investigation of major depressive disorder and comorbidity in abused and neglected children grown up. *Archives of General Psychiatry, 64*(1), 49-56. doi:10.1001/archpsyc.64.1.49

- Widyanto, L., & Griffiths, M. (2006). 'Internet addiction': A critical review. *International Journal of Mental Health and Addiction*, 4(1), 31-51. doi:10.1007/s11469-006-9009-9
- Widyanto, L., Griffiths, M. D., & Brunnsden, V. (2011). A psychometric comparison of the Internet Addiction Test, the Internet-Related Problem Scale, and self-diagnosis. *Cyberpsychology, Behavior, and Social Networking*, 14(3), 141-149. doi:10.1089/cyber.2010.0151
- Wieland, D. M. (2015). Psychiatric-mental health nurses' exposure to clients with problematic internet experiences: A mixed-methods pilot study. *Journal of Psychosocial Nursing and Mental Health Services*, 53(10), 31-40. doi:10.3928/02793695-20150923-02
- Wigderson, S., & Lynch, M. (2013). Cyber- and traditional peer victimization: Unique relationships with adolescent well-being. *Psychology of Violence*, 3(4), 297-309. doi:10.1037/a0033657
- Wilson, K., Fornasier, S., & White, K. M. (2010). Psychological predictors of young adults' use of social networking sites. *Cyberpsychology, Behavior, and Social Networking*, 13(2), 173-177. doi:10.1089/cyber.2009.0094
- Yao, B., Han, W., Zeng, L., & Guo, X. (2013). Freshman year mental health symptoms and level of adaptation as predictors of internet addiction: A retrospective nested case-control study of male Chinese college students. *Psychiatry Research*, 210(2), 541-547. doi:10.1016/j.psychres.2013.07.023
- Yao, M. Z., & Zhong, Z. J. (2014). Loneliness, social contacts and Internet addiction: A cross-lagged panel study. *Computers in Human Behavior*, 30, 164-170. doi:10.1016/j.chb.2013.08.007
- Yates, T. M., Gregor, M. A., & Haviland, M. G. (2012). Child maltreatment, alexithymia, and problematic internet use in young adulthood. *Cyberpsychology, Behavior, and Social Networking*, 15(4), 219-225. doi:10.1089/cyber.2011.0427
- Ybarra, M. L., Alexander, C., & Mitchell, K. J. (2005). Depressive symptomatology, youth Internet use, and online interactions: A national survey. *Journal of Adolescent Health*, 36(1), 9-18. doi:10.1016/j.jadohealth.2003.10.012
- Ybarra, M. L., & Mitchell, K. J. (2004). Online aggressor/targets, aggressors, and targets: A comparison of associated youth characteristics. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 45(7), 1308-1316. doi:10.1111/j.1469-7610.2004.00328.x
- Yen, J. Y., Ko, C. H., Yen, C. F., Wu, H. Y., & Yang, M. J. (2007). The comorbid psychiatric symptoms of Internet addiction: Attention Deficit and Hyperactivity Disorder (ADHD), depression, social phobia, and hostility. *Journal of Adolescent Health*, 4(1), 93-98. doi:10.1016/j.jadohealth.2007.02.002
- Young, K. S. (1998). *Caught in the net: How to recognize the signs of Internet addiction and a winning strategy for recovery*. New York: John Wiley & Sons.

Chapter 2

Young people's online environment: A scoping exercise

2.1 Foreword

Alongside the general literature review, a scoping exercise was undertaken in order to examine how young people talk about mental health online and the reasons why concerned or troubled young people turn to the internet. By exploring why and in what context young people go online, and how their use of the online environment is connected with their everyday life, this pragmatic piece provides a grounded context for understanding the psychology underlying general internet usage and engagement.

2.2 The scoping exercise

In order to capture first-hand young people's own experiences, three 'perspective-taking' search queries reflecting broad psychosocial issues were used to locate online forums. The 'perspective-taking' search queries used everyday language in an attempt to reflect typical searches undertaken by young people. The topics we selected for our search queries were 'unhappiness with life', 'unhappiness with appearance', and 'loneliness'. We were guided in the selection of these three topics by published research emphasising that image anxiety is a key cause of overall unhappiness in young people (NSPCC, 2015) and by ChildLine (a British charity helpline) in 2014/15 reporting that unhappiness and loneliness are amongst the top ten reasons for making contact (NSPCC, 2015). The pertinence of these topics was supported by a recent source of self-reported child well-being as the selected search queries relate to the specific issues highlighted as growing concerns in this report: unhappiness with life, unhappiness with appearance, and feelings of loneliness (The Children's Society, 2016).

Before the selected search queries were entered into Google, the browser's search history was cleared in order to prevent search results being influenced by previous searches. As people rarely look at results beyond the first page of search results (Eysenbach & Köhler, 2002; Hansen, Derry, Resnick, & Richardson, 2003), each link that appeared on the first page of search results was opened and assessed for relevance. Using the selected search queries, forums were predominately retrieved. Two retrieved by search 1 (S1: appearance-related unhappiness), four retrieved by search 2 (S2: general unhappiness), and four retrieved by search 3 (S3:

loneliness) yielded a total of ten online forums. Two of these forums were excluded from the exercise: the first as it was directed at an older target audience (e.g., www.mumsnet.com) and the second because it was a moderated forum. The majority of the forums included in the exercise (six out of the selected eight) enabled peers to respond to other users' posts. In the two remaining forums, there was no function to enable peers to comment on posts. Consistent with the thesis topic, we prioritised material posted by young people aged 25 or below.

Using a thematic approach (Braun & Clarke, 2006), we examined users' posts to gain an understanding of how and why young people use online forums. While this scoping exercise adheres to the ethical guidelines outlined in the British Psychological Society's guide for internet mediated research (British Psychological Society, 2017), there has been extensive discussion surrounding the ethical concerns of analysing data retrieved online (Flicker, Haans, & Skinner, 2004). One example concerns the issue of informed consent and whether this needs to be obtained if the data are collected from public forums (Sveningsson, 2004). Mindful of this debate, the University's ethics committee was approached who advised that the data is in the public domain and because it was regarded so, an exemption from the formal process of ethical approval was agreed. To minimise any concerns about potential identifiability, no identifying information about the users (e.g., usernames/pseudonyms) has been included in the following section, and the specific 'perspective-taking' search queries used to locate public forums have not been provided here in order to preserve anonymity. Further to this, in accordance with the ethical guidelines stated above, we considered whether it would be ethically defensible to include data retrieved from each forum on an individual basis. If the forum did not require pre-registration and all of the posts were publically available, we judged that users did not expect a level of privacy that would preclude their posts being utilised for the purpose of this exercise. Forums that required preregistration and moderated forums were excluded. As we analysed data extracted from public forums, we did not attempt to seek consent from individuals.

2.3 What do young people discuss?

In the limited sample reviewed, when addressing their concerns in online forums, it is common for young people to begin by disclosing the cause of their current problem and progress to expressing their consequent feelings and distress-related

thoughts, actions, and intentions. Young people discussed a range of mental health issues and distress-related behaviours including depression, anxiety, eating disorders, self-harm, and suicidality. They also discussed a wide range of recognisable antecedents, issues, and concerns such as childhood maltreatment, adverse family environments, bullying victimisation, identity concerns, and interpersonal matters such as friendship issues, isolation, and loneliness.

Many users disclosed experiences of bullying victimisation during their childhood, which was evidenced at home, in school, and online. For instance, one user stated he was suffering from harassment as a consequence of ‘coming out’, whereas other users were bullied because of their appearance:

I have recently came out on Instagram, I am now being bullied, I have people who torment me at school and follow me home only to abuse me more. (S2: male, 14 years)

I used to be really fat and everyone at school or out on the street bullied me. (S1: female, 13-15 years)

When I was 14 I met a guy.. I sent him a picture of me in my underwear..2 weeks later we had an argument, he sent that one picture around his school and mine. I woke up the day after completely unaware of what he had done to around 20 messages from unknown numbers.. “fat” “ugly” “kill yourself”. (S2: female, 18 years)

Young people also reported experiences of being emotionally, physically, and sexually abused. More specifically, young people reported being sexually abused by different members of their family, including both parental figures and wider relations, and in addition to sexual abuse, other users stated that they had experienced either physical or emotional abuse:

From the age of 5 to 13 my father and uncle sodomized me. (S2: male, 18 years)

My father still drinks and tells me that I am worth nothing. (S2: female, 15 years)

Until my parents divorced my dad used to beat the hell out of me for looking at him. (S2: male, 17 years)

In relation to the latter extract, many users discussed the breakdown of their parents’ marriage and interpersonal losses, such as the loss of a parent, were also disclosed:

When I was 3 years old my parents divorced and my father gave me up for adoption. (S2: female, 19 years)

My father killed himself when I was 12. (S2: female, 15 years)

I can't get over the death of my father. (S2: female, 19 years)

In addition to interpersonal losses, many users discussed difficulties in their early relationships with caregivers. Users discussed this in terms of a difficult relationship with one of their parental figures or parental mental health problems:

My mother is a paranoid schizophrenic. She is medicated, but she is still very crazy. She wants the best for me, but harasses me constantly about small insignificant things. She yells more and more. (S2: male, 14 years)

During my formative years, my mother was a violent/suicidal alcoholic. (S2: male, 22 years)

In addition to difficulties in early relationships and interpersonal adversities, some users' lives appear to be characterised by a general sense of isolation due to a paucity of meaningful social relationships:

I'm lonely: constantly. (S2: female, 19 years).

Do you ever just get to that point where you just want some human connection? Someone to support you. I don't have that, I've never had that. (S3: female, 19 years)

However, many users self-blame, referring to this being a choice they had taken or an aspect of themselves:

I'm so lonely, but I can only blame myself, I chose to be this way. (S3: male, 22 years)

Its gotten to the point where I have no social life whatsoever and I lost all my friends because I push people away. (S1: female, 19 years)

Conversely, some users wanted to express themselves emotionally; however, they did not have any supportive relationships in their offline environment:

I have no one. I can't tell anyone how I feel because my entire community is homophobic. (S2: male, 14 years)

I don't have any close friends, nobody to vent to. (S3: female, 19 years)

I feel like I have no one to confide in. My friends all left me because they didn't want to deal with me. (S2: female, 18-21 years)

Hence it appears as though a subset of users experience a lack of interpersonal support, and as a consequence, frequent online forums in the hope of making a

connection or finding an online source of emotional support. Other users grappled with adequately representing or communicating their feelings to others in their offline environment:

There is one boy I like, he is gay, I didn't know how to express my feelings then, he moved to Sweden. (S2: male, 14 years).

As users may feel able to express themselves online without feeling judged or stigmatised, this context provides a place where users can talk anonymously about issues that they feel unable to discuss with others during face-to-face conversations. In line with this, users were often seeking support in this online context from others who can offer a shared understanding:

I was always too afraid to post my personal problems, but then I noticed that everyone on here has been so supportive and relatable. Everyone has been through something bad like me. So I thought why not? I want to feel loved for once in my life by people who truly understand me. (S2: female, 18-21 years)

It is clear from the above quotes that there was a high incidence of negative interpersonal events and traumas disclosed. These experiences of victimisation and difficulties in early relationships impacted upon the users' sense of self with negative self-perceptions (e.g., self as worthless) emerging as a consequence of earlier interpersonal trauma. In line with this, mental distress appeared to be triggered by the aforementioned psychosocial factors including early caregiver experiences, interpersonal adversities, and social isolation:

When I was 12 I became anorexic because of the constant teasing I got about my weight. (S2: female, 17 years)

When i was 14 i met a guy.. i sent him a picture of me in my underwear..2 weeks later we had an argument, he sent that one picture around his school and mine. I woke up the day after completely unaware of what he had done to around 20 messages from unknown numbers.. "fat" "ugly" "kill yourself" ... i was diagnosed with severe depression, EDNOS [Eating Disorder Not Otherwise Specified] and body dysmorphic disorder (sic). (S2: female, 18 years)

It's gotten to the point where I have no social life whatsoever and I lost all my friends because I push people away, I hate going out because I feel too ugly and fat to be seen..I was diagnosed with severe depression and an eating disorder. (S1: female, 19 years).

Many users also discussed different ways in which they came to cope with their problems. Young people discussed how they often turned to self-injurious behaviours and some users reported self-harming as a form of emotional regulation:

It's gotten so bad I have drove myself to self-harm and I do it quite a lot. (S1: male, 13 years)

I've self-harmed before...I don't regret it. (S1: unknown, 15 years)

When I was 13 I went home grabbed a sharpener and unscrewed to blade, the pain was horrible, but it released my emotions. (S2: female, 18 years)

I have to cut just to make myself feel alive. (S2: female, 18-21 years)

Other young people reported using self-harm to change emotional pain to physical pain or to reduce overwhelming emotional feelings:

As my life slowly crumbles again, I now have the need to feel pain just to mask the pain I feel inside. (S2: female, 16-17 years)

An obsession with cutting to lesson (sic) the pain. (S2: female, 15 years)

In addition to self-harming behaviours, other young people viewed suicide as a way to escape from the desperation they felt:

Self-hatred consumes me and these thoughts won't leave my head. This has completely taken over my life, I've self-harmed and attempted suicide in the past and I wish I could just disappear. (S1: female, 19 years)

I still feel like killing myself, and maybe someday I will, but I hope I have a better reason than because I'm fat. (S1: female, 23 years)

In addition to suicidal feelings, many users also disclosed that they have previously attempted suicide, whilst others graphically detailed the suicidal method they utilised:

I'm 17 now and have attempted suicide twice. The first time I got about half way through slitting one wrist..The second time, I downed a bottle of aspirin and a vodka chaser to go along with it. (S2: female, 17 years)

I'm in the process of taking painkillers that I'm chasing down with vodka/rum. (S2: female, 20 years)

Discussions of events that triggered suicidal thoughts and attempts were frequent and a range of negative life events, such as interpersonal losses, were disclosed:

I flunked out of college because my depression was so severe and have tried to kill myself several times because I can't get over the death of my father. (S2: female, 19 years)

I may as well just take my life and end my misery, I never have fitted in and I never will. (S2: male, 14 years)

Many users felt that suicide was the only real solution to ending their despair and they therefore viewed suicide as a problem-solving strategy. However, despite these beliefs, distressed young people still frequented online forums presumably in the hope of finding a connection or acquiring new constructive coping strategies.

2.4 What do online forums offer?

It is clear from the above that young people are expressing their mental health concerns in digital spaces. It is therefore very important that the online community provides a supportive response. Although how peers respond to distressed young people was not the focus of our scoping exercise, it is important to note that all of the comments provided by peers were supportive in nature. Peers often provide emotional support by reassuring distressed users that they are not alone and that there are other people who feel the same way:

I feel the exact same way don't ever think you're alone at least 2% of the population feel the same way. (S1: unknown, 18-21 years)

I get you. (S1: female, 13-15 years)

Thus, the act of sharing experiences and receiving support online may lead to users feeling less alienated, as they learn that there are other people who share the same feelings. Many peers also respond by suggesting that the distressed user is welcome to converse with them:

I know your pain and frustration. And if you want to chat, I'll converse. (S3: male, 22 years)

Stay strong and if you want to talk. My kik is*****. (S1: female, 18-21 years)

As many users stated that they are socially isolated, online forums provide them with the means to make a connection with like-minded others at a crucial point in time. Being able to candidly disclose sensitive issues and receive emotional support may also provide a sense of solidarity with a like-minded, if distressed, community. This provides a sense of relief and comfort:

I don't know you and more than likely will never meet you, but I want you to know you made a difference in my life today. I finally realise I am not alone. (S2: male, 18 years)

It's kinda (sic) enlightening to find out that we're not alone in life. (S1: female, 22-25 years)

I feel exactly the same! It's good to read stuff like that, because we're not alone. (S1: female, 18-21 years)

Thanks for making me feel like I'm not the only one. (S3: unknown, 18-21 years)

I love you ALL for replying and relating to my story. I never would have imagined this would have gotten as many responses and anybody would relate to it...relate to me. (S1: female, 22-25 years)

Hence, online forums represent a common medium through which marginalised or excluded young people can discuss emotions and personal experiences to find solace.

Connecting with people who had similar experiences also provided users with new coping strategies. This highlights that, in some instances, online forums can present new ideas for how to 'get through', and some users expressed gratitude in response to acquiring new coping strategies:

The only reason I logged on tonight was to find more reason to try and kill myself again but your comments have definitely made me consider otherwise. So thanks again for like the millionth time! You guys may have just saved/changed my life. (S2: female, 20 years)

I've decided after reading your comment when I get back to my dad's I should try counseling (sic) again. (S2: female, 20 years)

Last, it appears that for some users, the mere act of typing their concerns online in an anonymous space is helpful as they were looking for an outlet to express their feelings of distress and despair:

It feels really good to get this off my chest. (S2: male, 18 years)

These are just my thoughts..lol I'm probably the only one who's this screwed up. I just had to let it out...Thank you for reading it. (S1: female, 22-25 years)

Thus, the online environment has a positive function enabling young people to anonymously discuss sensitive topics.

2.5 What was learned?

Young people discussed a range of mental health issues and distress-related behaviours including depression, anxiety, eating disorders, self-harm, and suicidality.

They also described a wide range of recognisable antecedents, issues, and concerns such as childhood maltreatment, adverse family environments, bullying victimisation, identity concerns, and interpersonal matters such as friendship issues, feeling different and judged, isolation, and loneliness. These specific determinants disclosed by young people in the online environment underpin common mental health difficulties.

Empirical evidence supports strong associations between childhood adversities and mental health problems (Kessler et al., 2010), and consistent with this notion, the present findings revealed that early childhood experiences characterised by bullying, dominating, or abusive relationships impacted users' sense of self and contributed to later experiences of distress, leading them to seek support from online forums. Given the range of family, relationship, and interpersonal difficulties disclosed in this online context, attachment theory may help explain young people's use of online forums as a way to find camaraderie and interpersonal support. Indeed, many young people disclosed and discussed attachment-disrupting life experiences, and according to attachment theory, suboptimal early-life caregiving environments engender attachment insecurities (Bowlby, 1973). The online context may thus offer a form of social connecting that is particularly appealing to individuals with attachment insecurities whose needs for belonging and connection with others cannot be fully met in offline social interactions.

In line with this, many users' lives appeared to be characterised by a general sense of isolation due to a paucity of meaningful social relationships, and as some young people felt inadequately supported by their offline relations, they appeared to be using online forums to seek emotional support and forge connections. These findings demonstrate how for some individuals social capital is being replaced by virtual capital with online forums providing vital, fast access to social support systems that seem unattainable offline. Being able to talk about your experiences in ways that other people obviously 'get' is likely to make you feel more connected, less isolated and different, and more in control, which, in turn, may improve feelings of loneliness, despair, helplessness, and hopelessness. Similarly, interacting online may distract users from experiencing suicidal thoughts or change their focus away from despair.

The findings also suggest that some young people were motivated to disclose personal experiences online to find others who can offer understanding. Indeed,

many young people seemed to be using online forums to seek support from like-minded and experienced young others, and peers were often people who had lived experience of such issues themselves and were therefore able to provide experientially acquired advice. The notion of 'shared experiences' appeared to shape the value of online forums, and learning that there are other people who have been or are currently going through a similar situation may provide a sense of normality to distressed young people. Specifically feeling a connection to others through a supportive, like-minded community helped distressed users to feel understood while also enabling them to realise that there are several other people in the same situation. Thus, interacting on online forums enables the validation and normalisation of emotional experiences previously experienced as isolating, odd, and potentially shameful. This alone seemed to position young people in a way that made them feel better equipped to manage their distress.

Despite the potential benefits of using online forums as a source of emotional support, there is a risk that material seen online may further contribute to maladaptive behaviours. It is possible that the content posted on specific forums may have presented young people with an array of new triggers for potentially harmful thoughts and behaviours. It is also possible that users forge connections that serve to reinforce negative thinking, harming behaviours, and suicidal ideation. However, during this exercise, we saw no evidence of this.

In consideration of the barriers that young people experience with face-to-face help-seeking, mental health practitioners need to recognise the potential of reaching out and interacting with young people online and move, with sensitivity, beyond traditional clinical care. In light of this, it can be argued that a responsive, informed, managed youth-friendly online service should be a public health priority.

In sum, young people are increasingly using online forums for emotional support, and as these spaces have become a source of daily exchange, user-generated content offers the opportunity to capture first-hand young people's own experiences and the determinants underlying their distress. This scoping exercise revealed that early experiences characterised by bullying, dominating, or abusive relationships impacted upon users' sense of self and contributed to later experiences of distress, and as young people's lives appeared to be characterised by a general sense of isolation, they appeared to be using online forums to seek support and forge supportive connections. This scoping exercise has highlighted the routine use of

online forums for the purpose of help and support seeking in periods of acute and chronic distress. Practitioners need to recognise and respond to the generational shift in preferred forms of help-seeking and understand that using online forums in this way has affective and social benefits. An urgent need exists to adapt to new forms of support that young people are comfortable engaging with as early intervention is crucial in the prevention of emotional difficulties which have potential to develop into more serious concerns over time.

2.6 Chapter summary

This scoping exercise was undertaken to examine the reasons why concerned or troubled young people turn to the internet and how they discuss mental health-related issues online. By exploring why and in what context young people go online to begin with, and how their use of the online environment is connected with their everyday life, this scoping exercise provides a grounded context for understanding the psychology underlying internet usage and engagement. It found broad confirmation of the academic literature reviewed in Chapter 1 by demonstrating the importance of disrupted attachment in the accounts of young people sampled. In doing so, it strengthens the foundation for the quantitative work of Chapters 3 and 4. As social media platforms are young people's primary interface with the internet (McDool, Powell, Roberts, & Taylor, 2016), the following Chapters focus specifically on social media usage and the resulting challenges.

2.7 References

- Bowlby, J. (1973). *Attachment and Loss: Vol. 2. Separation*. New York: Basic Books.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa
- British Psychological Society (2017). Ethics guidelines for Internet-mediated research. Retrieved from <http://www.bps.org.uk/publications/policy-and-guidelines/research-guidelines-policy-documents/research-guidelines-poli>
- Eysenbach, G., & Köhler, C. (2002). How do consumers search for and appraise health information on the world wide web? Qualitative study using focus groups, usability tests, and in-depth interviews. *British Medical Journal*, 324(7337), 573-577. doi:10.1136/bmj.324.7337.573
- Flicker, S., Haans, D., & Skinner, H. (2004). Ethical dilemmas in research on Internet communities. *Qualitative Health Research*, 14(1), 124-134. doi:10.1177/1049732303259842
- Hansen, D. L., Derry, H. A., Resnick, P. J., & Richardson, C. R. (2003). Adolescents searching for health information on the Internet: An observational study. *Journal of Medical Internet Research*, 5(4), e25. doi:10.2196/jmir.5.4.e25
- Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., . . . Williams, D. R. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *The British Journal of Psychiatry*, 197(5), 378-385. doi:10.1192/bjp.bp.110.080499
- McDool, E., Powell, P., Roberts, J., & Taylor, K. (2016). *Social media use and children's wellbeing*. Germany: IZA - Institute of Labor Economics.
- NSPCC. (2015). 'Always there when I need you'. *ChildLine Review 2014-15*. Retrieved from <https://www.nspcc.org.uk/globalassets/documents/annual-reports/childline-annual-review-always-there-2014-2015.pdf>:
- Sveningsson, M. (2004). Ethics in internet ethnography. In E. Buchanan (Ed.), *Readings in virtual research ethics: Issues and controversies* (pp. 45-61). Hershey, PA: Idea Group.
- The Children's Society (2016). The good childhood report 2016. Retrieved from https://www.childrensociety.org.uk/sites/default/files/pcr090_summary_web.pdf

PART 2

Problematic internet use and mental health: Toward a developmental understanding of problematic social media use

Chapter 3

Attachment anxiety and problematic social media use: The mediating role of well-being

3.1 Foreword

This Chapter contributes to the overall aim of the present thesis as it explores the relationship between the online world and mental health with a specific focus on problematic social media usage and well-being. This Chapter also addresses the second aim of this thesis, which is to better understand the underlying psychology of problematic usage.

As much of the existing research has been compromised by a failure to differentiate different types of internet activity, this Chapter explores problematic social media use from the perspective of attachment theory, examining whether there exist relationships between forms of insecure attachment and problematic usage in order to understand why certain individuals are vulnerable to problematic use. This Chapter therefore addresses the first research question in this thesis as it explores problematic social media use from a developmental perspective in an attempt to elucidate developmental risk factors.

Chapter 3 was accepted for publication in *Cyberpsychology, Behavior, and Social Networking* on 28/06/2018 (Manuscript ID: CYBER-2017-0555.R4):

Worsley, J.D., Mansfield, R., & Corcoran, R. (2018). Attachment anxiety and problematic social media use: The mediating role of well-being. *Cyberpsychology, Behavior, and Social Networking*, 21(9), 563-568. doi: 10.1089/cyber.2017.0555

The format and parts of the content have been altered to align with the style of the thesis. The roles of the co-authors are summarised as follows: Joanne Worsley designed the study in collaboration with Professor Rhiannon Corcoran and recruited participants as the study was advertised to the wider community via social networks. Rosie Mansfield assisted with participant recruitment. Joanne Worsley conducted the analysis and wrote the first draft of the manuscript. All authors critically assessed the manuscript and agreed on the submitted manuscript for publication. Joanne Worsley

was primarily responsible for critical revisions of the submitted manuscript. Professor Rhiannon Corcoran provided additional feedback.

3.2 Abstract

Insecure attachment is associated with a myriad of maladaptive outcomes including low well-being and problematic internet use. The lack of research investigating the roles that interpersonal attachment styles and psychological well-being play in problematic social media use is surprising. To address this gap, 915 young people aged 18 to 25 years completed an online survey measuring attachment styles, psychological well-being, and problematic social media use. We found that both greater attachment anxiety and less avoidance in attachment relationships were associated with problematic use of social media. The data further indicated that there was a significant indirect effect of attachment anxiety on problematic social media use via general feelings of psychological well-being, suggesting that individuals characterised by anxious attachment styles may be using social media as a means of enhancing psychological well-being. Although the cross-sectional nature of the study means that causality cannot be assumed, as psychological well-being was found to be negatively associated with problematic social media use, our findings bolster calls for the promotion of methods and interventions to enhance young people's well-being.

3.3 Introduction

Insecure attachment is associated with a myriad of maladaptive outcomes including low well-being (Kafetsios & Sideridis, 2006) and problematic internet use (Jia & Jia, 2016). The main aspects of problematic internet use include cognitive preoccupation with the internet, an inability to control internet use, and continued use despite negative consequences (Gámez-Guadix, Villa-George, & Calvete, 2012). Problematic use can be generalised or specific in nature. Generalised problematic use is conceptualised as general, multidimensional overuse of the internet, whereas specific problematic usage involves overuse of a specific function of the internet (Davis, 2001). Little is known about the association between attachment styles and specific types of problematic use; however, social media plays a central role in the social lives of young people (Allen, Ryan, Gray, McInerney, & Waters, 2014) and these platforms may be particularly attractive to individuals who are anxious in close

personal relationships. Furthermore, little is known about the factors that might mediate the association between adult attachment and problematic social media use. Psychological well-being, defined broadly in terms of the degree to which a person is functioning well (Ryff, 1989), is associated with attachment styles (Kafetsios & Sideridis, 2006), and specific aspects of psychological well-being, such as levels of autonomy, environmental mastery, and positive relations with others, have been found to be negatively associated with problematic internet use (Casale, Lecchi, & Fioravanti, 2015). The purpose of the present study was to explore the contribution of adult attachment and psychological well-being to problematic social media use, and the possible mediating role of psychological well-being in the relationship between attachment anxiety and problematic social media use.

3.3.1 Attachment theory

Attachment theory is a developmental theory of psychological functioning concerning the emotional bond that forms between an infant and her/his primary caregiver (Bowlby, 1969, 1973). Attachment theory proposes that infants develop interpersonal expectations or internal working models of the self and others through interactions with primary caregivers (Bowlby, 1973). The working models that individuals develop are carried forward into adulthood (Bowlby, 1969), and form the basis of future relationships, which, in turn, determine well-being (Bowlby, 1973; Sroufe, 2005). A positive working model is formed when the primary caregiver is seen as responsive, accessible, and trustworthy, resulting in a secure attachment style. This attachment style is characterised by positive beliefs about the self and others, and in Bowlby's exposition of attachment theory, he emphasised the importance of relational bonds with people who are available, sensitive, and supportive in times of need to individuals' psychological well-being (Bowlby, 1973, 1988).

Conversely, when the primary caregiver is inconsistent or unavailable, this leads to a negative working model, producing insecure attachment styles. Working models of insecure attachment are characterised along two orthogonal dimensions referred to as attachment anxiety and avoidance (Brennan, Clark, & Shaver, 1998). An anxious attachment style, characterised by a negative model of the self, develops when the primary caregiver is experienced as inconsistent (i.e., being sensitive and responsive to an infant's needs sometimes yet presenting as insensitive and

unresponsive at other times). Individuals who experience inconsistent parenting tend to hyperactivate their attachment system as adults, which results in exaggerated reactions to distress in an attempt to acquire comfort and support (Mikulincer, Shaver, & Pereg, 2003). An avoidant attachment style, characterised by a positive model of the self and a negative model of others, develops when a primary caregiver is experienced as unresponsive and unavailable. Individuals characterised by avoidant attachment styles deactivate their attachment needs, tend to be overly self-reliant, and prefer to remain distant from others (Mikulincer et al., 2003). Beliefs about the self and others play a crucial role in the quality of adult relationships and have implications for psychological well-being which may be particularly relevant in specific contexts where close relationships are integral to identity and functioning. One such context is emerging adulthood, defined as the period between the ages of 18 and 25 (Arnett, 2000). Empirical evidence supports the idea that adult attachment contributes to well-being with attachment security being associated with higher levels of overall well-being and attachment insecurity being inversely related to well-being (Kafetsios & Sideridis, 2006; Karreman & Vingerhoets, 2012; Wei, Liao, Ku, & Shaffer, 2011).

3.3.2 Attachment styles and internet use

Recently, there has been a growing interest in the role attachment plays in problematic internet use. Although both anxious and avoidant attachment styles have been found to predict problematic internet use (Shin, Kim, & Jang, 2011), more recent research suggests that only anxious attachment is involved in the development of problematic internet use (Jia & Jia, 2016; Şenormancı, Şenormancı, Güçlü, & Konkan, 2014). More specifically, research has consistently linked anxious attachment issues of preoccupation with relationships to problematic internet use (Schimmenti & Caretti, 2017; Schimmenti, Passanisi, Gervasi, Manzella, & Famà, 2014). However, the term problematic internet use has been criticised for being too vague, and given the nuances afforded to different aspects of internet domains, internet use should not be treated as a monolithic activity (Bergmark, Bergmark, & Findahl, 2011; Shen & Williams, 2011). In reality, people tend to overuse particular online activities, such as social networking, rather than the internet per se (van Rooij, Ferguson, van de Mheen, & Schoenmakers, 2017).

Social networking, the most popular form of social media, plays a central role in young people's social lives (Allen et al., 2014). As social media is generally used to foster and maintain relationships, an individual's attachment style may affect their use of these social platforms. As attachment anxiety is associated with hyperactivating strategies (e.g., being overly dependent on others), these individuals may exhibit higher levels of problematic social media usage as they may overuse social media in an attempt to seek comfort and belongingness online. Conversely, as attachment avoidance is associated with deactivating strategies (e.g., down-regulating needs for closeness), these individuals may be less likely to exhibit high levels of problematic use as social media is often associated with socially-oriented activities. Thus, these individuals may avoid social media as they would face-to-face interactions, tending to eschew the development and maintenance of relationships.

3.3.3 Well-being and internet use

Further to exploring the role of attachment in the context of internet use, researchers have also examined the relationship between several indices of well-being and problematic internet usage. A conceptual distinction has been made between subjective well-being, defined in terms of pleasure or happiness, and psychological well-being, defined more broadly in terms of human functioning (Ryff, 1989). Ryff's widely used taxonomy of psychological well-being (Ryff, 1989) comprises six dimensions: self-acceptance (being able to positively evaluate oneself and one's past life), autonomy (being able to evaluate oneself by personal standards and not look to others for approval), purpose in life (having goals and a sense of direction), positive relationships with others (having warm and trusting interactions with other people), environmental mastery (being able to manage, change, or improve the environment to meet one's specific needs), and personal growth (being open to new experiences). Using this taxonomy, levels of autonomy, environmental mastery, and positive relations with others have been found to be negatively associated with problematic internet use (Casale et al., 2015). A negative association has also been found between life satisfaction and problematic internet use (Bozoglan, Demirer, & Sahin, 2013; Lachmann, Sariyska, Kannen, Cooper, & Montag, 2016), and individuals classified as problematic or maladaptive internet users were less likely to report high subjective well-being (Mei, Yau, Chai, Guo, & Potenza, 2016).

However, in the few studies that explore the association between positive functioning and problematic internet usage, central emphasis has been afforded to short-term affective well-being at the expense of focusing on the way in which an individual interacts with the world, such as having a sense of purpose and direction, achieving satisfying relationships with others, and gaining a sense of self-realisation. Low psychological well-being may be related to problematic social media use as young people may overuse social media to achieve greater autonomy in terms of endorsement of one's own behaviour and higher self-direction and/or sense of mastery. In this way, young people may feel that social media can help them build relationships or to relate better with other people. Furthermore, as the attachment system underlies the formation and maintenance of relational bonds in adolescence and adulthood (Bowlby, 1988), it is possible that attachment anxiety influences problematic social media use indirectly through feelings of psychological well-being (Mikulincer & Shaver, 2007).

3.3.4 The present study

Although social media plays a central role in young people's lives (Allen et al., 2014), much of the existing research in this area has been compromised by a failure to differentiate different types of internet activity. In order to redress the dominant focus on generalised problematic internet use in prior literature, the purpose of the present study was to explore the contribution of adult attachment and psychological well-being to problematic social media use, and the possible mediating role of psychological well-being in the relationship between attachment anxiety and problematic social media use. On the basis of recent findings exploring generalised overuse of the internet, we predicted that:

1. attachment anxiety will be positively associated with problematic social media use, whereas attachment avoidance will not be associated with problematic social media use.
2. psychological well-being will be negatively associated with problematic social media use.
3. attachment anxiety will influence problematic social media use indirectly through general feelings of psychological well-being.

3.4 Methods

3.4.1 Participants

The sample comprised 915 young adults (68% female, $n = 626$) aged 18 to 25 years ($M = 20.19$, $SD = 1.58$). Participants were recruited through posts on social media platforms. Ethical approval was obtained from the University's ethics committee.

3.4.2 Measures

3.4.2.1 Relationship Questionnaire (Bartholomew & Horowitz, 1991)

The Relationship Questionnaire (RQ) is a 4-item scale containing statements describing each of the four attachment styles including: secure, preoccupied, dismissing, and fearful. Participants rated how well each description reflected their general relationship style on a 7-point scale (1 = not at all like me; 7 = very much like me). In line with the developers' recommendations, scores on the four attachment pattern ratings were combined to form scores on two underlying attachment dimensions: attachment anxiety and attachment avoidance. The anxiety dimension was obtained by summing the ratings of the two attachment patterns with negative self models (preoccupied and fearful) and subtracting the ratings of the two patterns with positive self models (secure and dismissing). The avoidance dimension rating was obtained by summing the ratings of the two attachment patterns with negative other models (dismissing and fearful) and subtracting the ratings of the two patterns with positive other models (secure and preoccupied). The scale has an acceptable, moderate, test–retest reliability (Griffin & Bartholomew, 1994), and good discriminant and face validity (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010).

3.4.2.2 Ryff's Psychological Well-Being Scales (Ryff, 1989)

Ryff's Psychological Well-Being Scales (PWBS) is one of the most widely used survey instruments to measure well-being (Abbott, Ploubidis, Huppert, Kuh, & Croudace, 2010; Huta & Waterman, 2014). In this study, the 18-item version of Ryff's PWBS was used. It comprises six dimensions: self-acceptance, autonomy, purpose in life, positive relations with others, environmental mastery, and personal growth (Ryff, 1989). Each item was rated on a 6-point Likert scale (1 = strongly disagree; 6 = strongly agree) and the overall psychological well-being score was

obtained by summing the responses of all 18 items. Internal consistency for this study was $\alpha = .78$.

3.4.2.3 Bergen Social Media Addiction Scale (Andreassen, Pallesen, & Griffiths, 2017)

To assess problematic use of social media, the Bergen Social Media Addiction Scale (BSMAS) was used. The BSMAS is a modified version of the previously validated Bergen Facebook Addiction Scale (BFAS; Andreassen, Torbjørn, Brunborg, & Pallesen, 2012). The original scale (BFAS) specifically assessed problematic Facebook use in the past twelve months and has shown good psychometric properties across studies. In the current version, the word *Facebook* was replaced with *Social Media* and social media was defined in the scale instructions as “*Facebook, Twitter, Instagram etc.*”. The BSMAS comprises six items reflecting each of the six ‘addiction’ components: salience, mood modification, tolerance, withdrawal, conflict, and relapse (Griffiths, 2005). Each item was rated on a 5-point Likert scale (1 = very rarely; 5 = very often) and the BSMAS score was obtained by summing the responses of all items. The BSMAS is a psychometrically valid scale (Bányai et al., 2017) with internal consistency for this study of $\alpha = .83$.

3.4.3 Procedure

Participants completed an online survey comprising the RQ, the PWBS, and the BSMAS. Participants first provided basic descriptive information about themselves including age and gender. All participants provided informed consent after reading the study information sheet and then ticking a consent checkbox before completing the measures.

3.4.4 Statistical analyses

Only participants who completed the survey in its entirety ($n = 915$) were included in the analysis (254 participants from an original 1169 were excluded from the analysis due to missing data substantial enough to compromise meaningful inclusion or not satisfying the inclusion criteria in relation to age). Descriptive statistics were computed for all variables. Pearson’s correlation coefficients were computed between the main variables of interest to investigate the associations. Before the regression analysis was conducted, a log-transformation was conducted on the

dependent variable to ensure it met parametric assumptions. A hierarchical regression analysis was conducted to assess the contributions of attachment anxiety, attachment avoidance, and psychological well-being to explaining problematic social media use.

Mediation was assessed in SPSS using model 4 of the PROCESS extension (Hayes, 2012). A simple mediation analysis was conducted to investigate the hypothesised relationship that attachment anxiety (IV) affects problematic social media use (DV) via its effects on general feelings of psychological well-being. PROCESS was used to compare the direct effect (IV-DV; controlling for the mediator) with the total effect of the IV on the DV, including the indirect pathway via the mediator. Mediation was assessed via bootstrapping with 10,000 resamples. Bias-corrected confidence intervals for indirect effects via the mediator were examined.

3.5 Results

3.5.1 Preliminary analyses

Descriptive characteristics of the final sample ($n = 915$) and the inter-correlations between the key variables are shown in Table 3.1.

	Mean (<i>SD</i>)	2	3	4
1. Attachment anxiety	-1.39 (4.52)	.12*	-.48*	.28*
2. Attachment avoidance	-0.65 (4.25)	-	-.18*	-.05
3. Psychological well-being	79.92 (10.21)		-	-.34*
4. Problematic social media use	12.88 (4.65)			-

* $p < .01$

Table 3.1 Sample descriptives and correlation matrix showing Pearson's correlation coefficients (r)

3.5.2 Hierarchical regression analysis

Hierarchical regression analysis assessed the contributions of attachment dimensions and psychological well-being to explaining problematic social media use (see Table 3.2). In the model, age and gender were entered first to account for any effects of

these variables. In the second step, attachment anxiety and avoidance were entered. In the third step, psychological well-being was entered. The overall regression model predicted approximately 15% of variance in problematic social media use, $R^2 = .15$, $F(5, 909) = 32.05$, $p < .001$.

Variable	Cumulative		Simultaneous	
	R^2 -Change	F (Change)	β	p
Step 1				
Age	.01	F(2, 912)=3.02	-.03	.268
Gender			.02	.449
Step 2				
Attachment anxiety	.09	F(2,910)=46.83*	.18	<.001
Attachment avoidance			-.13	<.001
Step 3				
Psychological well-being	.05	F(1, 909)=54.11*	-.26	<.001

* $p < .001$

Table 3.2 Regression analysis showing age, gender, attachment anxiety, attachment avoidance, and psychological well-being as predictors of problematic social media use

3.5.3 Mediation analysis

A simple mediation analysis (Figure 3.1) indicated a significant total effect of attachment anxiety on problematic social media use, $b(SE) = .29 (.03)$, $p < .001$. There was a significant indirect effect of attachment anxiety on problematic social media use via psychological well-being, $b(SE) = .13 (.02)$, 95% $CI [.09, .17]$. Effect size indices indicated that 45% of the total effect of attachment anxiety on problematic social media use was mediated through psychological well-being. Thus, psychological well-being partially mediated the relationship between attachment anxiety and problematic social media use.

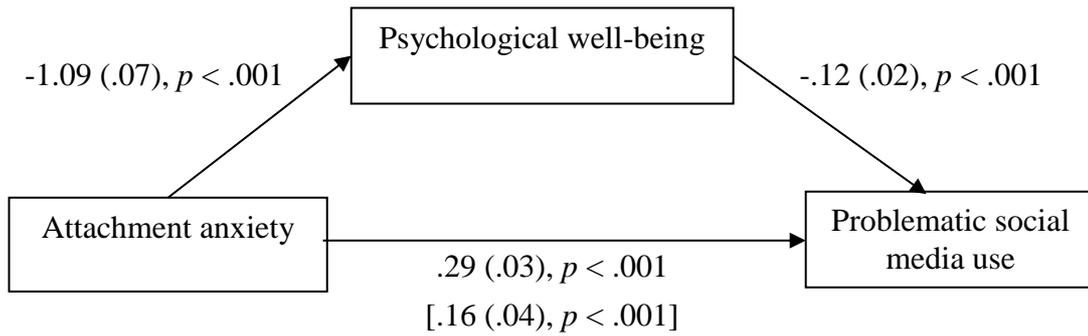


Figure 3.1 A simple mediation analysis showing attachment anxiety as the independent variable (IV), problematic social media use as the dependent variable (DV), and psychological well-being as the mediator. Values are unstandardised regression coefficients, standard errors (SEs) in parentheses, and associated p values.

3.6 Discussion

The purpose of the present study was to explore the contribution of adult attachment and psychological well-being to problematic social media use, as well as the mediating role of psychological well-being in the relationship between attachment anxiety and problematic social media use. In line with our first hypothesis grounded in attachment theory, there was a positive association between attachment anxiety and problematic social media use. As social media enables perpetual contact and enhanced control over self-presentation, these sites may facilitate the development and maintenance of interpersonal relationships for individuals characterised by attachment anxiety. As these individuals have a high need for social affiliation but find it hard to form social connections in the offline world, social media may afford a sense of connection that satisfies their needs for belonging, social feedback, and social validation. Contrary to hypothesis one, there was a negative association between attachment avoidance and problematic social media use; however, this finding is consistent with the characteristics associated with this form of insecure attachment. Attachment avoidance was associated with less problematic social media use as these individuals have a tendency to suppress relational concerns, and are characterised by an excessive need for self-reliance and a preference for distance from others. Thus, these individuals may avoid social media altogether.

In line with our second hypothesis, psychological well-being was negatively associated with problematic social media use in this sample. Further to this, we

tested a theoretically-driven model hypothesising that the association between attachment anxiety and problematic social media use would be mediated by general feelings of psychological well-being. In line with our predictions, attachment anxiety predicted psychological well-being, which sequentially predicted problematic social media use. Taken together, the present findings suggest that people who are anxiously attached and those who experience low well-being may be high-risk individuals and this information can usefully inform interventions.

The focus of any intervention should be on the underlying problems that prompt problematic usage, as surface interventions such as a forced reduction in social media use are unlikely to be successful in overcoming this problem behaviour (Kardefelt-Winther, 2017). Finding purposeful and meaningful offline activities may prevent young people from overusing social media to seek momentary pleasure, and examples of such meaningful pursuits may include volunteering, drama, or arts-based activities (Aked & Thompson, 2011).

In clinical settings, a specific psychotherapeutic strategy has been developed to enhance well-being, namely Well-being Therapy (Fava & Ruini, 2003). This specific strategy, based on Ryff's multidimensional model of psychological well-being (Ryff, 1989), has been modified and implemented in school settings. The school-based protocol was designed to teach children and adolescents about the importance of well-being, with particular emphasis on positive interpersonal relationships, purpose in life, and self-acceptance, and demonstrated increases in psychological well-being (Ruini, Belaise, Brombin, Caffo, & Fava, 2006; Ruini et al., 2009). Interventions like this can help young people establish purpose and meaning in life, which may subsequently reduce their reliance on social media.

Our findings should be considered in light of several limitations. We deliberately targeted younger participants at risk of problematic social media use but these participants were self-selected through social media. Second, participants may have responded in socially desirable ways. Last, the cross-sectional design of the study limits the conclusions that can be drawn, particularly with reference to the mediator-dependent variable relationship.

In conclusion, greater attachment anxiety, less avoidance in attachment relationships, and low psychological well-being were associated with problematic use of social media. As individuals characterised by attachment anxiety appear to be using social media to enhance feelings of well-being, our findings bolster calls for a

focus on enhancing psychological well-being. As attachment theory provides a fruitful theoretical framework for understanding why certain individuals are vulnerable, future investigations should continue to explore attachment processes with a view to developing a lifespan model of problematic social media use.

3.7 Chapter summary

This Chapter contributed to the overall aim of the present thesis as it explores the relationship between the online world and mental health with a specific focus on excessive social media usage and well-being. This Chapter also addressed the second aim of this thesis, which is to better understand the underlying psychology of problematic usage.

This Chapter addressed the first research question in this thesis as it explored problematic social media use from a developmental perspective. In doing so, this Chapter identified attachment anxiety as a vulnerability factor and attachment avoidance as a protective factor in the context of social media overuse. Indeed, negative feelings about the self may be a critical factor underpinning problematic usage. The findings further contribute to the overall aim of the thesis as psychological well-being was found to be negatively associated with problematic social media use. However, the low R^2 value obtained by the regression model suggests that additional variables may be important in understanding the underlying psychology of problematic usage. Thus, additional factors and pathways should be identified in order to usefully extend the model.

3.8 References

- Abbott, R. A., Ploubidis, G. B., Huppert, F. A., Kuh, D., & Croudace, T. J. (2010). An evaluation of the precision of measurement of Ryff's Psychological Well-being scales in a population sample. *Social Indicators Research, 97*(3), 357-373. doi:10.1007/s11205-009-9506-x
- Aked, J., & Thompson, S. (2011). *Five ways to wellbeing: New applications, new ways of thinking*. London: New Economics Foundation.
- Allen, K. A., Ryan, T., Gray, D. L., McInerney, D. M., & Waters, L. (2014). Social media use and social connectedness in adolescents: The positives and the potential pitfalls. *Australian Educational and Developmental Psychologist, 31*(1), 18-31. doi:10.1017/edp.2014.2
- Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors, 64*, 287-293. doi:10.1016/j.addbeh.2016.03.006
- Andreassen, C. S., Torbjørn, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook addiction scale. *Psychological Reports, 110*(2), 501-517. doi:10.2466/02.09.18.PR0.110.2.501-517
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469-480. doi:10.1037/0003-066X.55.5.469
- Bányai, F., Zsila, Á., Király, O., Maraz, A., Elekes, Z., Griffiths, M. D., . . . Demetrovics, Z. (2017). Problematic social media use: Results from a large-scale nationally representative adolescent sample. *PLoS ONE, 12*(1), 1-13. doi:10.1371/journal.pone.0169839
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*(2), 226-244. doi: 10.1037/0022-3514.61.2.226
- Bergmark, K. H., Bergmark, A., & Findahl, O. (2011). Extensive internet involvement - addiction or emerging lifestyle? *International Journal of Environmental Research and Public Health, 8*(12), 4488-4501. doi:10.3390/ijerph8124488
- Bowlby, J. (1969). *Attachment and Loss: Vol. 1*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and Loss: Vol. 2. Separation*. New York: Basic Books.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. London: Routledge.
- Bozoglan, B., Demirer, V., & Sahin, I. (2013). Loneliness, self-esteem, and life satisfaction as predictors of Internet addiction: A cross-sectional study among Turkish university students. *Scandinavian Journal of Psychology, 54*(4), 313-319. doi:10.1111/sjop.12049
- Brennan, K., Clark, C., & Shaver, P. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. Simpson & W. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford Press.
- Casale, S., Lecchi, S., & Fioravanti, G. (2015). The association between psychological well-being and problematic use of Internet communicative services among young people. *The Journal of Psychology, 149*(5), 480-497. doi:10.1080/00223980.2014.905432

- Davis, R. A. (2001). Cognitive-behavioral model of pathological Internet use. *Computers in Human Behavior, 17*(2), 187-195. doi:10.1016/S0747-5632(00)00041-8
- Fava, G. A., & Ruini, C. (2003). Development and characteristics of a well-being enhancing psychotherapeutic strategy: Well-being therapy. *Journal of Behavior Therapy and Experimental Psychiatry, 34*(1), 45-63. doi:10.1016/S0005-7916(03)00019-3
- Gámez-Guadix, M., Villa-George, F. I., & Calvete, E. (2012). Measurement and analysis of the cognitive-behavioral model of generalized problematic Internet use among Mexican adolescents. *Journal of Adolescence, 35*(6), 1581-1591. doi:10.1016/j.adolescence.2012.06.005
- Griffin, D., & Bartholomew, K. (1994). Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology, 67*(3), 430-445. doi:10.1037/0022-3514.67.3.430
- Griffiths, M. (2005). A 'components' model of addiction within a biopsychosocial framework. *Journal of Substance Use, 10*(4), 191-197. doi:10.1080/14659890500114359
- Hayes, A. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>
- Huta, V., & Waterman, A. S. (2014). Eudaimonia and its distinction from hedonia: Developing a classification and terminology for understanding conceptual and operational definitions. *Journal of Happiness Studies, 15*(6), 1425-1456. doi:10.1007/s10902-013-9485-0
- Jia, R., & Jia, H. H. (2016). Maybe you should blame your parents: Parental attachment, gender, and problematic Internet use. *Journal of Behavioral Addictions, 5*(3), 524-528. doi:10.1556/2006.5.2016.059
- Kafetsios, K., & Sideridis, G. D. (2006). Attachment, social support and well-being in young and older adults. *Journal of Health Psychology, 11*(6), 863-875. doi:10.1177/1359105306069084
- Kardefelt-Winther, D. (2017). *How does the time children spend using digital technology impact their mental well-being, social relationships and physical activity? An evidence-focused literature review*. Italy: UNICEF.
- Karreman, A., & Vingerhoets, A. J. J. M. (2012). Attachment and well-being: The mediating role of emotion regulation and resilience. *Personality and Individual Differences, 53*, 821-826. doi:10.1016/j.paid.2012.06.014
- Lachmann, B., Sariyska, R., Kannen, C., Cooper, A., & Montag, C. (2016). Life satisfaction and problematic Internet use: Evidence for gender specific effects. *Psychiatry Research, 238*, 363-367. doi:10.1016/j.psychres.2016.02.017
- Mei, S., Yau, Y. H. C., Chai, J., Guo, J., & Potenza, M. N. (2016). Problematic Internet use, well-being, self-esteem and self-control: Data from a high-school survey in China. *Addictive Behaviors, 61*, 74-79. doi:10.1016/j.addbeh.2016.05.009
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion, 27*(2), 77-102. doi:10.1023/A:1024515519160

- Ravitz, P., Maunder, R., Hunter, J., Sthankiya, B., & Lancee, W. (2010). Adult attachment measures: A 25-year review. *Journal of Psychosomatic Research*, 69(4), 419-432. doi:10.1016/j.jpsychores.2009.08.006
- Ruini, C., Belaise, C., Brombin, C., Caffo, E., & Fava, G. A. (2006). Well-being therapy in school settings: A pilot study. *Psychotherapy and Psychosomatics*, 75(6), 331-336. doi:10.1159/000095438
- Ruini, C., Ottolini, F., Tomba, E., Belaise, C., Albieri, E., Visani, D., . . . Fava, G. A. (2009). School intervention for promoting psychological well-being in adolescence. *Journal of Behavior Therapy and Experimental Psychiatry*, 40(4), 522-532. doi:10.1016/j.jbtep.2009.07.002
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081. doi:10.1037/0022-3514.57.6.1069
- Schimmenti, A., & Caretti, V. (2017). Video-terminal dissociative trance: Toward a psychodynamic understanding of problematic Internet use. *Clinical Neuropsychiatry*, 14(1), 64-72.
- Schimmenti, A., Passanisi, A., Gervasi, A. M., Manzella, S., & Famà, F. I. (2014). Insecure attachment attitudes in the onset of problematic internet use among late adolescents. *Child Psychiatry and Human Development*, 45(5), 588-595. doi:10.1007/s10578-013-0428-0
- Şenormancı, Ö., Şenormancı, G., Güçlü, O., & Konkan, R. (2014). Attachment and family functioning in patients with internet addiction. *General Hospital Psychiatry*, 36(2), 203-207. doi:10.1016/j.genhosppsy.2013.10.012
- Shen, C., & Williams, D. (2011). Unpacking time online: Connecting internet and massively multiplayer online game use with psychosocial well-being. *Communication Research*, 38(1), 123-149. doi:10.1177/0093650210377196
- Shin, S. E., Kim, N. S., & Jang, E. Y. (2011). Comparison of problematic internet and alcohol use and attachment styles among industrial workers in Korea. *Cyberpsychology, Behavior, and Social Networking*, 14(11), 665-672. doi:10.1089/cyber.2010.0470
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, 7(4), 349-367. doi:10.1080/14616730500365928
- van Rooij, A. J., Ferguson, C. J., van de Mheen, D., & Schoenmakers, T. M. (2017). Time to abandon internet addiction? Predicting problematic internet, game, and social media use from psychosocial well-being and application use. *Clinical Neuropsychiatry*, 14(1), 113-121.
- Wei, M., Liao, K. Y.-H., Ku, T.-Y., & Shaffer, P. A. (2011). Attachment, self-compassion, empathy, and subjective well-being among college students and community adults. *Journal of Personality*, 79(1), 191-221. doi:10.1111/j.1467-6494.2010.00677.x

Chapter 4

Childhood maltreatment and problematic social media use: The role of attachment and depression

4.1 Foreword

This Chapter contributes to the overall aims of the present thesis as it explores the relationship between the online world and mental health with a specific focus on problematic social media usage and depressive symptoms. This Chapter also addresses the second aim of the thesis as it attempts to further understand the underlying psychology of problematic usage.

Building on the quantitative findings presented in the previous Chapter, a developmental model of problematic social media use from an attachment-based perspective, stemming from stressful childhood experiences, is presented in this Chapter. In line with the first research question in this thesis, the purpose of this study was to develop a lifespan model of problematic social media use in order to elucidate the unique factors and psychological processes involved in the etiology of problematic social media use.

Chapter 4 was accepted for publication in *Psychiatry Research* on 09/05/2018 (Manuscript ID: PSY11412):

Worsley, J.D., McIntyre, J.C., Bentall, R.P., & Corcoran, R. (2018). Childhood maltreatment and problematic social media use: The role of attachment and depression. *Psychiatry Research*, 267, 88-93. doi: 10.1016/j.psychres.2018.05.023

The format and parts of the content have been altered to align with the style of the thesis. The roles of the co-authors are summarised as follows: Joanne Worsley conceived the original idea for the paper, conducted the analysis, and wrote the first draft of the manuscript. All authors critically reviewed and agreed on the submitted manuscript for publication. Joanne Worsley was primarily responsible for critical revision of the submitted manuscript. Dr Jason McIntyre provided additional feedback.

4.2 Abstract

Childhood maltreatment is associated with many maladaptive outcomes. This study sought to examine the association between childhood maltreatment and problematic social media use using a cross-sectional sample of young adults aged 17 to 25 years ($n = 1,029$). Specifically, we studied whether the relationship is mediated through (i) attachment anxiety, (ii) attachment avoidance, or (iii) both attachment dimensions operating in series with depressive symptoms. Results revealed that a history of childhood maltreatment was significantly associated with more problematic social media use. Both anxious and avoidant attachment dimensions independently mediated the relationship between childhood maltreatment and problematic use of social media, but in opposing directions. Attachment avoidance was associated with less problematic social media use, whilst attachment anxiety was associated with more problematic social media use. Attachment avoidance and depressive symptoms in series accounted for part of the relationship between childhood maltreatment and problematic social media use. Attachment anxiety and depressive symptoms in series fully mediated the relationship between childhood maltreatment and problematic social media use. The results suggest that childhood maltreatment may influence social media use directly, but also indirectly. People experiencing depressive symptoms may overuse social media in an attempt to alleviate their distress. However, causality cannot be established with the current design.

4.3 Introduction

Childhood maltreatment is associated with many maladaptive outcomes. These include insecure attachment (Baer & Martinez, 2006), diverse mental health difficulties (Cicchetti & Toth, 2005), and problematic internet use (Yates, Gregor, & Haviland, 2012). The main aspects of problematic internet use include cognitive preoccupation with the internet, an inability to control internet use, and continued internet use despite negative consequences (Gámez-Guadix, Villa-George, & Calvete, 2012). According to Davis (2001), problematic internet use can be generalised or specific: generalised problematic internet use is conceptualised as general, multidimensional overuse of the internet, whereas specific problematic internet use involves overuse of a specific function of the internet, such as social media. Little is known about the association between childhood maltreatment and specific types of internet activity; however, social media plays a central role in the

social lives of young people today (Allen, Ryan, Gray, McInerney, & Waters, 2014). There is a need for developmentally informed research to understand the basis of problematic social media use and childhood maltreatment is one potential vulnerability factor. It is also critical to delineate the pathway by which childhood maltreatment might affect problematic social media use.

4.3.1 Childhood maltreatment and problematic internet use

Recently, studies have identified an association between childhood maltreatment and problematic internet use. For instance, Yates et al. (2012) reported that experiences of childhood maltreatment were related to increased problematic internet use, and that this association was explained, in part, by alexithymia, which is an inability to identify and describe feelings. The authors concluded that childhood maltreatment generates cognitive-affective vulnerabilities which, in turn, leave individuals prone to problematic internet use. Mirroring these findings, Schimmenti et al. (2017) also found that the association between traumatic childhood experiences and problematic internet use was partially mediated by alexithymia in a sample of late adolescents. Further to this, Hsieh et al. (2016) reported an association between multiple forms of childhood maltreatment and problematic internet use and that post-traumatic stress disorder (PTSD) mediated this association. The authors hypothesised that, in attempts to avoid or allay negative affect and PTSD symptoms, maltreated individuals may immerse themselves in the virtual world, such that extensive internet use may represent a coping strategy for individuals exposed to adversities during their childhood. Examining specific types of adversity, Dalbudak, Evren, Aldemir, and Evren (2014) found that the forms of childhood maltreatment associated with an increased risk of problematic internet use were emotional abuse, emotional neglect, and physical neglect, with the most important form of maltreatment being emotional abuse. Moreover, suffering childhood sexual abuse has been associated with a seven-fold increase in risk of problematic internet use in adolescence (Schimmenti, Passanisi, Gervasi, Manzella, & Famà, 2014).

The few studies to date in this area are consistent in reporting a relationship between childhood maltreatment and problematic internet use. However, there remain gaps in the current state of knowledge. First, the existing body of research focuses on internet use as a monolithic activity; however, different internet activities have different affordances (Bergmark, Bergmark, & Findahl, 2011). Thus, the

association between childhood maltreatment and specific kinds of internet use, such as social media, has not received empirical attention. Further to this, no previous research has investigated theoretically derived factors that may explain the association between childhood maltreatment and problematic social media use.

4.3.2 Attachment

According to attachment theory, abusive or neglectful parenting negatively influences people's expectations of future relationships (Bowlby, 1969). Working models of insecure attachment are characterised along two orthogonal dimensions referred to as attachment anxiety and avoidance (Brennan, Clark, & Shaver, 1998). Attachment anxiety is associated with a negative image of the self and these individuals tend to have a hyperactivated attachment system. Hyperactivating strategies include intense efforts to attain closeness and exaggerated reactions to distress (Mikulincer, Shaver, & Pereg, 2003). Attachment avoidance is associated with a negative image of others and a deactivated attachment system. Avoidant individuals tend to elude closeness, be overly self-reliant, and avoid intimate relationships (Mikulincer et al., 2003). The body of research suggesting that maltreated children are more likely to exhibit an insecure attachment style is growing rapidly (Baer & Martinez, 2006; Cyr, Euser, Bakermans-Kranenburg, & Van Ijzendoorn, 2010) and indeed, previous research has shown strong links between insecure attachment and psychological distress (Hankin, 2005).

While both forms of insecure attachment are associated with depressive symptoms, recent research suggests that only attachment anxiety is involved in the development of problematic internet use (Jia & Jia, 2016; Şenormancı, Şenormancı, Güçlü, & Konkan, 2014). More specifically, anxious attachment attitudes related specifically to preoccupation with relationships have consistently been found to be an important risk factor for problematic internet use (Schimmenti & Caretti, 2017; Schimmenti et al., 2014).

As attachment quality is a primary developmental process that can be affected by childhood maltreatment, insecure attachment may be one putative psychological mechanism through which childhood maltreatment is associated with problematic social media use, and may therefore mediate the relationship between childhood maltreatment and problematic use of social media. As attachment anxiety is associated with hyperactivating attachment strategies, these individuals may

exhibit higher levels of problematic social media use in an attempt to seek comfort and belongingness online. Conversely, as social media is associated with socially-oriented activities, individuals characterised by attachment avoidance may be less likely to exhibit higher levels of problematic social media use due to their use of deactivating strategies (i.e., avoiding closeness). Thus, the mediation would likely be in opposing directions as anxious and avoidant attachment strategies are guided by opposite relational goals.

4.3.3 Depression

In accordance with theories of attachment, disturbances in the attachment relationship as a function of childhood maltreatment confer vulnerability to the development of depression (Goodman & Brand, 2009; Hankin, 2005). Specifically, people who have experienced maltreatment during childhood may develop insecure attachment relationships, which, alongside their associated negative self-perceptions and world views, may contribute to depression vulnerability (Goodman & Brand, 2009).

Although depression is characterised by social withdrawal and impoverished social networks, including low levels of social support and friendship quality, individuals experiencing depressive symptoms maintain their need for human contact. Indeed, Ybarra, Alexander, and Mitchell (2005) found that young people experiencing depression were less likely to have face-to-face interactions; however, they were more likely to communicate with others virtually compared to individuals without depression. Thus, for young people experiencing depression, socialising online may be a preferred substitute to interacting with others face-to-face. As social media represents a means by which to foster interactions without the concomitant anxiety of face-to-face contact, depressive symptoms may form part of the pathway through which childhood maltreatment affects problematic use of social media.

4.3.4 The present study

The aim of the present study was to develop a lifespan model of problematic social media use from an attachment-based perspective. Specifically, we aimed to identify psychological and clinical mediators through which a distal history of childhood maltreatment may contribute to the development of problematic social media use in young adulthood. In light of existing evidence, we hypothesised that childhood

maltreatment, a distal vulnerability factor, would be associated with problematic social media use. Moreover, we also examined whether the relationship between childhood maltreatment and problematic use of social media would be explained by one or more of the following three pathways (i) attachment anxiety, (ii) attachment avoidance, or (iii) both attachment dimensions operating in series with depressive symptoms, whereby higher levels of insecurity in attachment relationships led to higher levels of depression which, in turn, predicted problematic use of social media. Taken together, the proposed model integrates tenets of attachment theory in an attempt to further understand why young people may come to excessively use social media.

4.4 Methods

4.4.1 Participants

The sample comprised 1,029 students attending a single university in North West England (74.8% female, $n = 770$) aged 17 to 25 years ($M = 19.80$, $SD = 1.67$). Participants were recruited via a mass email as part of a university-wide student well-being survey. Ethical approval was obtained from the University's ethics committee.

4.4.2 Measures

4.4.2.1 Adverse Childhood Experiences Questionnaire (Felitti et al., 1998)

The Adverse Childhood Experiences (ACEs) questionnaire is a widely used 10-item scale assessing adverse childhood experiences. Questions were answered as 'yes' (1) or 'no' (0). Only the first five items of the scale pertaining to different forms of maltreatment (e.g., physical abuse, sexual abuse, emotional abuse, emotional neglect, and physical neglect) were utilised in the analysis, and the total number of 'yes' responses was tallied. Internal consistency in relation to these items was $\alpha = .60$.

4.4.2.2 Relationship Questionnaire (Bartholomew & Horowitz, 1991)

The Relationship Questionnaire (RQ) is a 4-item scale that contains statements describing each of the four attachment styles including: secure, preoccupied, dismissing, and fearful. Participants rated how well each description reflected their general relationship style on a 7-point scale (1 = not at all like me; 7 = very much like me). In line with the developers' recommendations, scores on the four pattern

ratings (secure, preoccupied, dismissing, and fearful) were combined to form scores on two underlying attachment dimensions: attachment anxiety and attachment avoidance. The anxiety dimension was obtained by summing the ratings of the two attachment patterns with negative self models (preoccupied and fearful) and subtracting the ratings of the two patterns with positive self models (secure and dismissing). The avoidance dimension rating was obtained by summing the ratings of the two attachment patterns with negative other models (dismissing and fearful) and subtracting the ratings of the two patterns with positive other models (secure and preoccupied). The RQ has been shown to have an acceptable test–retest reliability (Griffin & Bartholomew, 1994) and good discriminant and face validity (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010).

4.4.2.3 Bergen Social Media Addiction Scale (Andreassen, Pallesen, & Griffiths, 2017)

To assess problematic social media use, the Bergen Social Media Addiction Scale (BSMAS) was used. The BSMAS is an adapted version of the previously validated Bergen Facebook Addiction Scale (BFAS; Andreassen, Torbjørn, Brunborg, & Pallesen, 2012). The original scale (BFAS) assessed problematic Facebook use in the past twelve months and has shown good psychometric properties across previous studies. The adapted scale comprised a wording change that replaced ‘Facebook’ with ‘Social Media’ in each item, with social media defined in the scale instructions as “Facebook, Twitter, Instagram etc”. The BSMAS comprises six items reflecting each of the six ‘addiction’ components: salience, mood modification, tolerance, withdrawal, conflict, and relapse (Griffiths, 2005). Each question was rated on a 5-point Likert scale (1 = ‘very rarely’ to 5 = ‘very often’) and the BSMAS score was obtained by summing the responses of all six items. The BSMAS is a psychometrically valid scale (Bányai et al., 2017). Internal consistency for this study was $\alpha = .84$.

4.4.2.4 Patient Health Questionnaire (Kroenke & Spitzer, 2002)

The Patient Health Questionnaire (PHQ-9) is a self-report measure used to screen for depression. It measures the occurrence of depressive symptoms during the previous two weeks. All nine items are scored on a 4-point scale (0 = no symptoms, 1 = symptom occurred on several days, 2 = symptom occurred more than half of the

days, 3 = symptom occurred nearly every day). Internal consistency for this study was $\alpha = .89$.

4.4.3 Procedure

Participants completed an online survey comprising the RQ, the ACEs questionnaire, the PHQ-9, and the BSMAS amongst other measures of emotional distress and psychological mechanisms. All participants provided informed consent by ticking a checkbox before completing the measures.

4.4.4 Statistical analyses

Only participants who completed the survey in its entirety ($n = 1,029$) were included in the analysis (516 participants from an original 1,545 were excluded from the analysis due to either missing data or not satisfying the inclusion criteria in relation to age). Descriptive statistics were computed for all variables. Pearson's correlation coefficients were computed between the main variables of interest. The first mediation analysis investigated whether childhood maltreatment (IV) affects problematic social media use (DV) via its effects on the attachment system (attachment anxiety and attachment avoidance). Two serial multiple mediation analyses were also conducted where the independent variable (IV) was childhood maltreatment, the dependent variable (DV) was problematic social media use, and the mediators in the first serial model were attachment anxiety (M1) and depressive symptoms (M2). In the second serial model, attachment avoidance replaced attachment anxiety as M1. PROCESS (Hayes, 2012) was used to compare the magnitude of the direct effect (IV-DV; controlling for the mediators) to the total effect of the IV on the DV including the indirect pathway via the mediators. Specifically, the current analysis employed PROCESS models 4 (parallel mediation) and 6 (serial mediation). Mediation was assessed via bootstrapping with 10,000 resamples and 95% bias-corrected confidence intervals for indirect effects. A significant indirect effect is inferred by upper and lower confidence intervals that do not include zero. Age and gender were controlled for in each mediation model.

4.5 Results

Descriptive characteristics of the final included sample ($n = 1,029$) and the inter-correlations between the key variables are shown in Table 4.1.

	Mean (SD)	2	3	4	5
1. Childhood maltreatment	0.54 (0.94)	.20**	.15**	.31**	.13**
2. Attachment anxiety	0.43 (4.37)		.07*	.39**	.15**
3. Attachment avoidance	0.25 (4.23)		-	.14**	-.11**
4. Depression	10.07 (6.67)			-	.27**
5. Problematic social media use	14.28 (5.20)				

** $p < .01$, * $p < .05$

Table 4.1 Descriptive statistics and Pearson’s correlations between childhood maltreatment, attachment anxiety, attachment avoidance, depression, and problematic social media use

In total, 327 participants (31.8%) reported experiencing maltreatment during childhood. Among the different types of childhood maltreatment reported, emotional abuse was the most prevalent (21.3%, $n = 219$), followed by emotional neglect (16.7%, $n = 172$), physical abuse (11.7%, $n = 120$), sexual abuse (2.9%, $n = 30$), and physical neglect (1.7%, $n = 17$). Three quarters of the sample (75.2%, $n = 774$) reported an insecure attachment style. Of those who reported experiencing at least one form of childhood maltreatment ($n = 327$), the percentage of participants displaying an insecure attachment style was 84.4% ($n = 276/327$).

4.5.1 Effect of childhood maltreatment on problematic social media use via insecure attachment dimensions

A parallel mediation analysis (Figure 4.1) assessed the effect of childhood maltreatment on problematic social media use via both anxious and avoidant attachment dimensions. There was a significant total effect² of childhood maltreatment on problematic social media use, $b(SE) = .68 (.17)$, $p < .001$ and a significant indirect effect of childhood maltreatment on problematic social media use via both attachment anxiety, $b(SE) = .13 (.04)$, 95% CI = .07 to .22 and attachment avoidance, $b(SE) = -.11 (.04)$, 95% CI = -.20 to -.05. It should be noted that the

² Because the pathways are operating in opposite directions the change in the total effect when looking at the direct effect is not meaningful.

direction of the effects were different for the two attachment dimensions, with attachment anxiety positively associated and attachment avoidance negatively associated with problematic social media use. Effect size indices indicated that 20% of the total effect of childhood maltreatment on problematic social media use was mediated through attachment anxiety and 16% of the total effect of childhood maltreatment on problematic social media use was mediated through attachment avoidance. Thus, both attachment anxiety and attachment avoidance partially mediated the relationship between childhood maltreatment and problematic social media use.

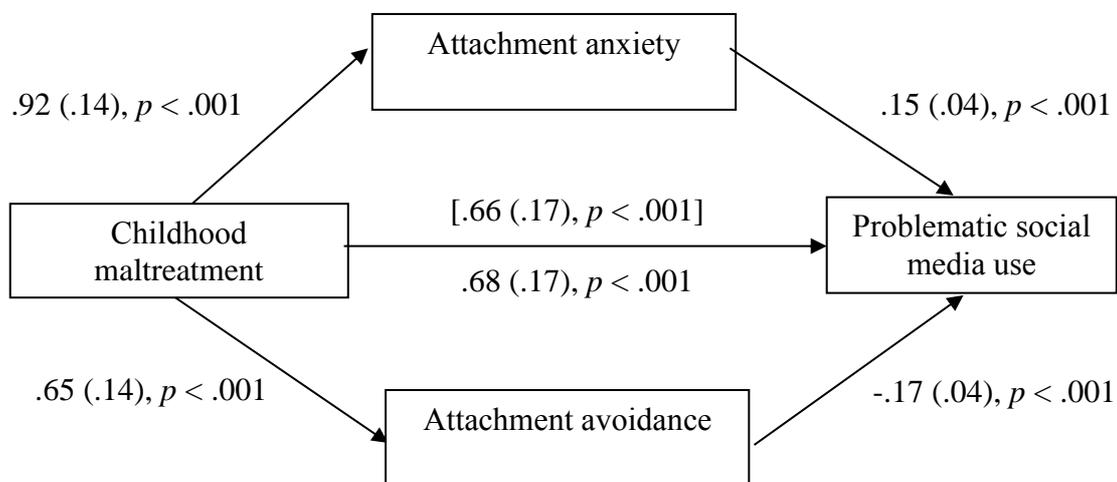


Figure 4.1 Parallel mediation analysis with childhood maltreatment as the independent variable (IV), problematic social media use as the dependent variable (DV), and attachment anxiety and attachment avoidance as the mediators. Values are unstandardised regression coefficients, standard errors (SEs) in parentheses, and associated p values.

4.5.2 Effect of childhood maltreatment on problematic social media use via attachment anxiety and depressive symptoms in series

The serial multiple mediation model (Figure 4.2) indicated a significant total effect of childhood maltreatment on problematic social media use, $b(SE) = .68 (.17), p < .001$. With regard to the indirect pathways, there was a significant indirect effect of childhood maltreatment on problematic social media use via depressive symptoms; $b(SE) = .28 (.06), 95\% CI = .18$ to $.40$ and there was also a significant indirect effect of childhood maltreatment on problematic social media use via attachment anxiety and depressive symptoms; $b(SE) = .08 (.02), 95\% CI = .05$ to $.13$. There were no

other significant indirect effects (via attachment anxiety; $b(SE) = .05 (.04)$, 95% CI = $-.02$ to $.13$). Notably, the direct effect of childhood maltreatment on problematic social media use was not statistically significant after controlling for the indirect effects, $b(SE) = .27 (.17)$, $p = .118$, suggesting that attachment anxiety and depressive symptoms fully mediate the effect of childhood maltreatment on problematic social media use.

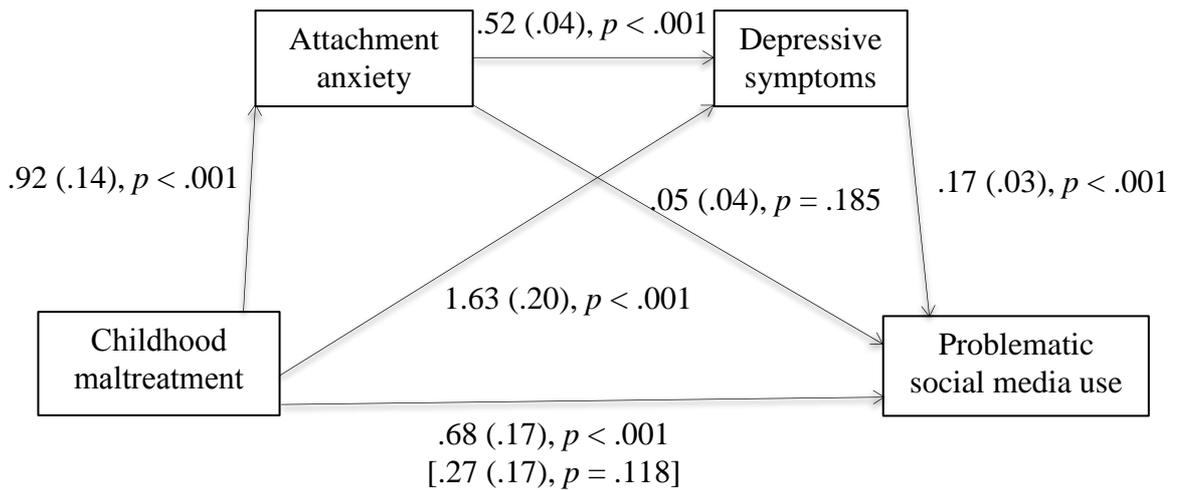


Figure 4.2 Serial multiple mediation analysis with childhood maltreatment as the independent variable (IV), problematic social media use as the dependent variable (DV), and attachment anxiety and depressive symptoms as first and second mediators, respectively. Values are unstandardised regression coefficients, standard errors (SEs) in parentheses, and associated p values. Bracketed association = direct effect (controlling for indirect effects).

4.5.3 Effect of childhood maltreatment on problematic social media use via attachment avoidance and depressive symptoms in series

The serial multiple mediation model (Figure 4.3) indicated a significant total effect of childhood maltreatment on problematic social media use, $b(SE) = .68 (.17)$, $p < .001$. With regard to the indirect pathways, there was a significant indirect effect of childhood maltreatment on problematic social media use via attachment avoidance; $b(SE) = -.13 (.04)$, 95% CI = $-.22$ to $-.06$, depressive symptoms; $b(SE) = .39 (.07)$, 95% CI = $.28$ to $.54$, and there was also a significant indirect effect of childhood maltreatment on problematic social media use via attachment avoidance and depressive symptoms; $b(SE) = .02 (.01)$, 95% CI = $.01$ to $.04$. Notably, the direct

effect of childhood maltreatment on problematic social media use remained statistically significant after controlling for the indirect effects, $b(SE) = .39 (.17)$, $p = .022$, suggesting that attachment avoidance and depressive symptoms only partially mediate the effect of childhood maltreatment on problematic social media use.

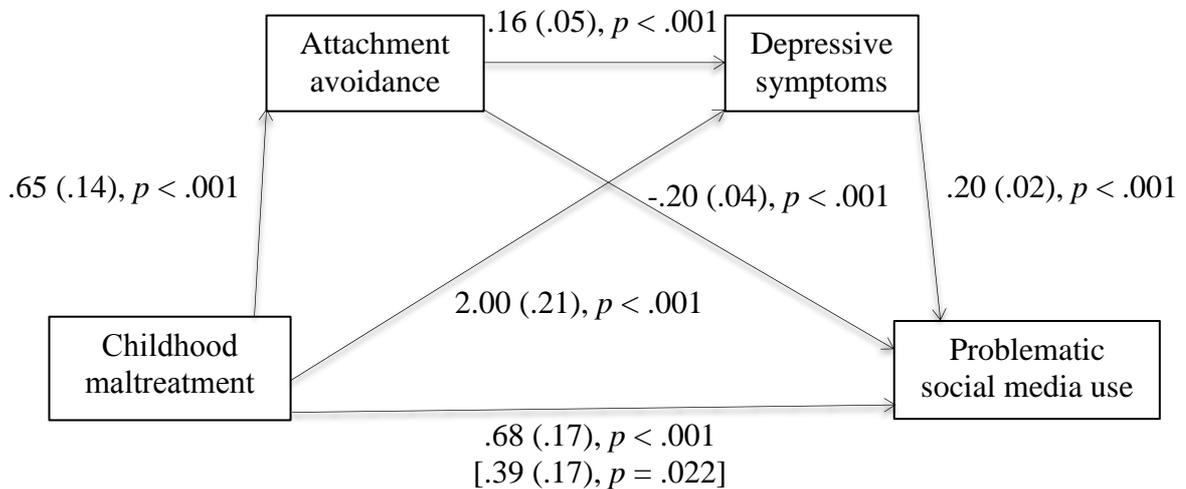


Figure 4.3 Serial multiple mediation analysis with childhood maltreatment as the independent variable (IV), problematic social media use as the dependent variable (DV), and attachment avoidance and depressive symptoms as first and second mediators, respectively. Values are unstandardised regression coefficients, standard errors (SEs) in parentheses, and associated p values. Bracketed association = direct effect (controlling for indirect effects).

4.6 Discussion

The aim of this study was to determine whether childhood maltreatment would be associated with problematic social media use in a university student sample. Moreover, we examined whether the relationship between childhood maltreatment and problematic social media use would be explained by attachment anxiety, attachment avoidance, or insecurity in attachment relationships operating in series with depressive symptoms. Thus, the secondary aim of the study was to delineate the pathway by which childhood maltreatment may lead to problematic social media use.

In line with our primary hypothesis and previous empirical findings (e.g., Yates et al., 2012), our results showed that a history of childhood maltreatment was associated with problematic social media use. Because people who have been maltreated are more likely to mistrust others and fear abandonment or rejection as a consequence, this may subsequently limit their ability to seek support and form

relationships (Bifulco & Thomas, 2012). People who suffer childhood maltreatment may therefore overuse social media in order to cope with this difficult life experience. Indeed, abusive and neglectful home environments may leave young people with limited exposure to positive models and an inability to develop appropriate coping strategies. In line with previous findings (e.g., Hsieh et al., 2016), excessive social media use may thus serve as a coping strategy for young people who suffered maltreatment during their childhood.

Mediation analysis tested the secondary hypotheses in two stages. In the first stage, we found that both attachment anxiety and attachment avoidance independently mediated the relationship between childhood maltreatment and problematic social media use, but in opposing directions. Specifically, greater attachment anxiety was associated with problematic social media use, whereas less avoidance in attachment relationships was associated with problematic social media use. Thus, individuals characterised by attachment anxiety may overuse social media in an attempt to seek comfort and belongingness online, and as attachment anxiety is associated with a need for social validation, social media provides a conduit for this without the need for potentially fear-inducing face-to-face social interactions. This may in turn increase people's risk of problematic use. Avoidant people are not characterised by such needs, and hence the negative mediation model we observed was consistent with a need for self-reliance among avoidant individuals.

In the second stage, when entering both attachment avoidance and depressive symptoms into a serial model, we found that both attachment avoidance and depressive symptoms in series did, in part, account for the relationship between childhood maltreatment and problematic social media use. Last, when entering both attachment anxiety and depressive symptoms into a serial model, we found that both attachment anxiety and depressive symptoms in series did fully account for the relationship between childhood maltreatment and problematic social media use. Young people with underlying depressive symptoms may find it harder to integrate with face-to-face social groups, and as social media represents a means by which to support interactions without the concomitant anxiety of face-to-face contact, these individuals may be more drawn to social media interactions to develop social networks.

Taken together, the results suggest that childhood maltreatment may lead to problematic social media use directly, but also indirectly through its impact on

attachment styles and mental health. Indeed, as abusive and neglectful home environments increase vulnerability to experiencing psychological difficulties through disrupted attachment organisation, young people may be excessively using social media sites in order to avoid or reduce negative emotions or as a means to find alternate social networks that do not involve distressing face-to-face interactions.

In light of these findings, prevention efforts should focus on helping young people to learn adaptive strategies because dealing with emotional difficulties through more positive methods may reduce reliance on social media as a coping strategy. The positive association found between symptoms of depression and problematic social media use also has a number of implications. For instance, it may be beneficial for clinicians to probe for underlying mental health difficulties among individuals experiencing excessive usage as the underlying problems that prompt excessive social media use need to be addressed in order to overcome this behaviour. Last, as social media is a potential avenue to reach young people, public health practitioners should consider disseminating educational messages concerning mental health difficulties via these platforms.

Our findings should be considered in light of several limitations. We deliberately targeted younger participants at risk of problematic social media use and mental health problems; however, participants were all self-selected volunteers and thus may represent a specific subset of the population. The high proportion of female respondents in the sample also suggests our sample may not be representative of the general population. Further, the retrospective reporting of adverse childhood experiences may have resulted in inaccurate maltreatment reporting, and although insecure attachment appears to be one psychological mechanism through which childhood maltreatment leads to problematic social media use, there may also be other unmeasured paths, via different psychological processes such as alexithymia. Last, as our data were cross-sectional, this limits inferences about directionality, particularly with reference to the mediator-dependent variable relationship. Longitudinal and prospective investigations would improve the inference of causality, as it is possible that depressive symptoms are a consequence of excessive social media use.

Given this study's theoretical grounding in an attachment-based perspective, the present findings highlight a possible developmental pathway for young adults experiencing problematic social media use, which appears to emerge from

experiences of maltreatment during childhood. The proposed model integrates aspects of attachment theory to understand why young people excessively use social media. The findings suggest that attachment-related adverse childhood experiences may reduce young people's access to effective support. This leaves them alone to deal with distress and, in turn, they may overuse social media in order to cope or as a means to find alternate social networks. The recognition of distinct factors that shape the relationship between childhood adversities and problematic social media use may provide evidence to support the development of future targeted interventions.

4.7 Chapter summary

This Chapter contributed to the overall aim of the present thesis as it explores the relationship between the online world and mental health with a specific focus on problematic social media usage and symptoms of depression. This Chapter also addressed the second aim of this thesis as it advanced understanding of the underlying psychology of problematic usage.

More specifically, this Chapter addressed the first research question in this thesis as it explored problematic social media use from a developmental perspective in an attempt to offer an etiological contribution to the area. In doing so, this Chapter identified childhood maltreatment as a previously unconsidered risk factor that may underpin apparent overuse of social media. The findings presented in this Chapter also offer insight into potential mechanisms by suggesting that the relationship between childhood maltreatment and problematic social media use was mediated by attachment insecurities and depressive symptoms. These findings suggest that some young people may be vulnerable to problematic social media use due to pre-existing mental health difficulties of developmental origins, and overuse of social media in an attempt to alleviate distress may therefore be a coping response. However, using the internet in this way may leave individuals vulnerable to cyberbullying victimisation, which may be experienced as damaging re-victimisation for those who have experienced adversities in their childhood.

4.8 References

- Allen, K. A., Ryan, T., Gray, D. L., McInerney, D. M., & Waters, L. (2014). Social media use and social connectedness in adolescents: The positives and the potential pitfalls. *Australian Educational and Developmental Psychologist*, *31*(1), 18-31. doi:10.1017/edp.2014.2
- Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors*, *64*, 287-293. doi:10.1016/j.addbeh.2016.03.006
- Andreassen, C. S., Torbjørn, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook addiction scale. *Psychological Reports*, *110*(2), 501-517. doi:10.2466/02.09.18.PR0.110.2.501-517
- Baer, J., & Martinez, C. D. (2006). Child maltreatment and insecure attachment: A meta-analysis. *Journal of Reproductive and Infant Psychology*, *24*(3), 187-197. doi:10.1080/02646830600821231
- Bányai, F., Zsila, Á., Király, O., Maraz, A., Elekes, Z., Griffiths, M. D., . . . Demetrovics, Z. (2017). Problematic social media use: Results from a large-scale nationally representative adolescent sample. *PLoS ONE*, *12*(1), 1-13. doi:10.1371/journal.pone.0169839
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, *61*(2), 226-244. doi: 10.1037/0022-3514.61.2.226
- Bergmark, K. H., Bergmark, A., & Findahl, O. (2011). Extensive internet involvement - addiction or emerging lifestyle? *International Journal of Environmental Research and Public Health*, *8*(12), 4488-4501. doi:10.3390/ijerph8124488
- Bifulco, A., & Thomas, G. (2012). *Understanding adult attachment in family relationships: Research, assessment and intervention*. London: Routledge.
- Bowlby, J. (1969). *Attachment and Loss: Vol. 1*. New York: Basic Books.
- Brennan, K., Clark, C., & Shaver, P. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. Simpson & W. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford Press.
- Cicchetti, D., & Toth, S. L. (2005). Child maltreatment. *Annual review of clinical psychology*, *1*, 409-438. doi:10.1146/annurev.clinpsy.1.102803.144029
- Cyr, C., Euser, E. M., Bakermans-Kranenburg, M. J., & Van Ijzendoorn, M. H. (2010). Attachment security and disorganization in maltreating and high-risk families: A series of meta-analyses. *Development and Psychopathology*, *22*(1), 87-108. doi:10.1017/S0954579409990289
- Dalbudak, E., Evren, C., Aldemir, S., & Evren, B. (2014). The severity of Internet addiction risk and its relationship with the severity of borderline personality features, childhood traumas, dissociative experiences, depression and anxiety symptoms among Turkish university students. *Psychiatry Research*, *219*(3), 577-582. doi:10.1016/j.psychres.2014.02.032
- Davis, R. A. (2001). Cognitive-behavioral model of pathological Internet use. *Computers in Human Behavior*, *17*(2), 187-195. doi:10.1016/S0747-5632(00)00041-8

- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., . . . Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 14*(4), 245-258. doi:10.1016/S0749-3797(98)00017-8
- Gámez-Guadix, M., Villa-George, F. I., & Calvete, E. (2012). Measurement and analysis of the cognitive-behavioral model of generalized problematic Internet use among Mexican adolescents. *Journal of Adolescence, 35*(6), 1581-1591. doi:10.1016/j.adolescence.2012.06.005
- Goodman, S. H., & Brand, S. R. (2009). Depression and early adverse experiences. In I. H. Gotlib, C. L. Hammen, I. H. Gotlib, & C. L. Hammen (Eds.), *Handbook of depression, 2nd ed.* (pp. 249-274). New York: Guilford Press.
- Griffin, D., & Bartholomew, K. (1994). Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology, 67*(3), 430-445. doi:10.1037/0022-3514.67.3.430
- Griffiths, M. (2005). A 'components' model of addiction within a biopsychosocial framework. *Journal of Substance Use, 10*(4), 191-197. doi:10.1080/14659890500114359
- Hankin, B. L. (2005). Childhood maltreatment and psychopathology: Prospective tests of attachment, cognitive vulnerability, and stress as mediating processes. *Cognitive Therapy and Research, 29*(6), 645-671. doi:10.1007/s10608-005-9631-z
- Hayes, A. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>
- Hsieh, Y. P., Shen, A. C. T., Wei, H. S., Feng, J. Y., Huang, S. C. Y., & Hwa, H. L. (2016). Associations between child maltreatment, PTSD, and internet addiction among Taiwanese students. *Computers in Human Behavior, 56*, 209-214. doi:10.1016/j.chb.2015.11.048
- Jia, R., & Jia, H. H. (2016). Maybe you should blame your parents: Parental attachment, gender, and problematic Internet use. *Journal of Behavioral Addictions, 5*(3), 524-528. doi:10.1556/2006.5.2016.059
- Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: A new depression diagnostic and severity measure. *Psychiatric Annals, 32*(9), 509-515. doi:10.3928/0048-5713-20020901-06
- Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion, 27*(2), 77-102. doi:10.1023/A:1024515519160
- Ravitz, P., Maunder, R., Hunter, J., Sthankiya, B., & Lancee, W. (2010). Adult attachment measures: A 25-year review. *Journal of Psychosomatic Research, 69*(4), 419-432. doi:10.1016/j.jpsychores.2009.08.006
- Schimmenti, A., & Caretti, V. (2017). Video-terminal dissociative trance: Toward a psychodynamic understanding of problematic Internet use. *Clinical Neuropsychiatry, 14*(1), 64-72.
- Schimmenti, A., Passanisi, A., Caretti, V., La Marca, L., Granieri, A., Iacolino, C., . . . Billieux, J. (2017). Traumatic experiences, alexithymia, and Internet addiction symptoms among late adolescents: A moderated mediation analysis. *Addictive Behaviors, 64*, 314-320. doi:10.1016/j.addbeh.2015.11.002

- Schimmenti, A., Passanisi, A., Gervasi, A. M., Manzella, S., & Famà, F. I. (2014). Insecure attachment attitudes in the onset of problematic internet use among late adolescents. *Child Psychiatry and Human Development, 45*(5), 588-595. doi:10.1007/s10578-013-0428-0
- Şenormancı, Ö., Şenormancı, G., Güçlü, O., & Konkan, R. (2014). Attachment and family functioning in patients with internet addiction. *General Hospital Psychiatry, 36*(2), 203-207. doi:10.1016/j.genhosppsych.2013.10.012
- Yates, T. M., Gregor, M. A., & Haviland, M. G. (2012). Child maltreatment, alexithymia, and problematic internet use in young adulthood. *Cyberpsychology, Behavior, and Social Networking, 15*(4), 219-225. doi:10.1089/cyber.2011.0427
- Ybarra, M. L., Alexander, C., & Mitchell, K. J. (2005). Depressive symptomatology, youth Internet use, and online interactions: A national survey. *Journal of Adolescent Health, 36*(1), 9-18. doi:10.1016/j.jadohealth.2003.10.012

PART 3

Problematic internet experiences and mental health: A focus on risk and protective factors

Chapter 5

Cyberbullying victimisation and mental distress: Testing the moderating role of attachment security, social support, and coping styles

5.1 Foreword

This Chapter contributes to the overall aim of the present thesis as it explores the relationship between the online world and mental health with a specific focus on cyberbullying victimisation and mental health difficulties. This Chapter also addresses the third thesis aim as it attempts to identify potential protective factors which may lessen the negative psychological impact on people who report negative online experiences.

Further to examining the underlying psychology of problematic usage, this Chapter explores the factors that confer vulnerability to cyberbullying victimisation. In addition to this, although a large body of research is consistent in linking the experience of cyberbullying victimisation to mental health difficulties, less is known about the factors that confer protection against the adverse effects of cyberbullying. This Chapter therefore attempts to identify psychological and cognitive factors that underlie individual heterogeneity in response to cyberbullying victimisation. Thus, this Chapter addresses the second research question in this thesis as it explores the factors that confer vulnerability to cyberbullying victimisation and the factors that protect against its negative consequences.

Chapter 5 was accepted for publication in *Emotional and Behavioural Difficulties* on 08/08/2018 (Manuscript ID: EBD 547)

Worsley, J.D., McIntyre, J.C., & Corcoran, R. (2018). Cyberbullying victimisation and mental distress: Testing the moderating role of attachment security, social support, and coping styles. *Emotional and Behavioural Difficulties*. In press. doi: 10.1080/13632752.2018.1530497

The format and parts of the content have been altered to align with the style of the thesis. The roles of the co-authors are summarised as follows: Joanne Worsley conceived the original idea for the paper and attended a single secondary school in northern England to collect the data. Given the nature of the sample and survey questions, Joanne Worsley attended the secondary school whilst participants

completed the survey in order to answer students' questions. Joanne Worsley conducted the analysis and wrote the first draft of the manuscript. All authors critically reviewed and agreed on the submitted manuscript for publication. Joanne Worsley was primarily responsible for critical revision of the submitted manuscript. Dr Jason McIntyre provided additional feedback.

5.2 Abstract

Although it has been well established that cyberbullying leads to mental health problems, less is known about the factors that confer resilience to the adverse effects of cyberbullying among young people. To address this gap, adolescents aged 13 to 19 years ($n = 476$) completed a survey measuring cyberbullying victimisation, attachment styles, perceived social support, coping styles, and mental distress. Compared to non-victims, victims of cyberbullying experienced higher levels of depression and anxiety and endorsed more self-statements indicative of attachment anxiety. Peer support, security in attachment relationships, and the endorsement of positive coping strategies attenuated the positive relationship between cyberbullying victimisation and mental health difficulties. While family support was the strongest bivariate predictor of reduced mental distress it did not appear to buffer adolescents from mental distress in the context of cyberbullying. Although peer relations should be the target of intervention programmes within school settings, the findings overall point to the importance of including families in cyberbullying prevention programmes.

5.3 Introduction

Bullying has been defined as a repeated, intentional act that is carried out by an individual or a group of individuals against someone who cannot easily defend him- or herself (Olweus, 1999). People who are bullied suffer from a range of psychological, behavioural, and physical consequences, including increased risk of depression, psychosis, headaches, stomach aches, and suicide-related behaviours (Copeland, Angold, Costello, & Wolke, 2013; Gini & Pozzoli, 2013; Varese et al., 2012). While substantial prior research has focused on face-to-face bullying (Smith, del Barrio, & Tokunaga, 2013), the proportion of people reporting online bullying increased from 19% to 34% between 2007 and 2016 (Patchin & Hinduja, 2016). This phenomenon, known as cyberbullying, has been defined as “an aggressive,

intentional act carried out by a group or individual using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself” (Smith et al., 2008, p.376).

There are a number of features of cyberbullying which distinguish this form of bullying from its traditional counterpart. One is the difficulty of escaping it as, in comparison to traditional bullying, cyberbullying can occur more frequently in the victim’s home (Slonje & Smith, 2008). Another characteristic of cyberbullying is the potential for large audiences afforded by the online environment (Slonje & Smith, 2008). In addition to this, there is increased invisibility and anonymity compared to traditional bullying. Due to the lack of social feedback, perpetrators are not privy to a victim’s immediate reaction, and thus they may be more aggressive online as feelings of personal accountability are reduced (Slonje & Smith, 2008). Collectively, these features challenge factors central to traditional bullying, namely repetition, power imbalance, and intentionality (Livingstone & Smith, 2014). Given the permanence of online content, a single act of cyberbullying may be repeated when viewed or distributed by multiple others (Aboujaoude, Savage, Starcevic, & Salame, 2015; Selkie, Fales, & Moreno, 2016). Thus, the criterion of repetition should be understood in terms of the number of people who are able to view the online content or the length of time that a negative post remains online (Olweus, 2013; Smith et al., 2013). Rather than physical strength, the criterion of power imbalance may be linked to “differences in technological know-how between the perpetrator and victim, relative anonymity, social status, number of friends, or marginalised group position” (Smith et al., 2013 p.36). The final criterion, intentionality, is complicated in this context due to the online disinhibition effect (Suler, 2004). Thus, the extent to which the defining criteria associated with traditional bullying (i.e., intent, repetition, and imbalance of power) need to be present when defining cyberbullying is subject to considerable debate (Smith, 2013).

Cyberbullying has been associated with symptoms of depression and anxiety (Aoyama, Saxon, & Fearon, 2011; Calvete, Orue, & Gámez-Guadix, 2016; Fahy et al., 2016; Fisher, Gardella, & Teurbe-Tolon, 2016; Juvonen & Gross, 2008). In fact, it has been suggested that cyberbullying has a greater impact on victims than traditional bullying (Cénat et al., 2014; O’Higgins Norman & Connolly, 2011). Reasons for this assertion include the uncontrollable nature of social media, the permanence of content shared on these social platforms, a larger audience, and the

degree of difficulty to escape online bullies (Slonje, Smith, & Frisé, 2013). In line with this suggestion, victims of cyberbullying report significantly more social difficulties, and higher levels of depression and anxiety, than victims of traditional bullying (Campbell, Spears, Slee, Butler, & Kift, 2012). Thus, there is a need to understand the consequences of cyberbullying, as well as the characteristics of those who become victims and the factors that minimise its effects. In comparison to schools and the peer context, there has been considerably less research on the role of families in preventing cyberbullying and its consequences (Bradshaw, 2014). The present study explores the characteristics of those who report cyberbullying victimisation and the role of secure attachment, perceived familial and peer support, and positive coping styles as potential protective factors in the context of cyberbullying.

5.3.1 Attachment styles and victimisation

According to attachment theory, infants develop internal working models of the self and others in response to early experiences with their caregiver (Bowlby, 1973). A secure attachment is formed when a primary caregiver is sensitive and responsive to an infant's needs, and this optimal form of parenting fosters the development of positive beliefs about the self and others. Emotionally unavailable, unresponsive, and/or inconsistent parenting results in the development of insecure attachment styles. For example, an anxious attachment style, characterised by a negative view of the self and a positive view of others, is formed when a primary caregiver is inconsistent, whereas an avoidant attachment style, characterised by a positive view of the self and a negative view of others, is formed when a primary caregiver is emotionally unavailable (Main & Solomon, 1990). When parents are confusing and contradictory, this results in the development of disorganised attachment, characterised by negative views about the self and others (Main & Solomon, 1990). Adult attachment theory proposes that the beliefs about the self and others acquired through early interactions with primary caregivers guide expectations in future attachment-related interactions (Bartholomew & Horowitz, 1991). According to Bartholomew and Horowitz (1991), adult attachment can be conceptualised similarly to the childhood attachment styles of secure, preoccupied (anxious), dismissive (avoidant), and fearful (disorganised), and characteristics from these styles can be

categorised into two dimensions: the anxious dimension (model of self) and the avoidant dimension (model of others).

Previous research suggests that children with insecure attachment styles are more likely to become victims of traditional bullying (Kokkinos, 2013). However, little is known about the role of attachment in the context of cyberbullying. As individuals characterised by insecure attachment styles have difficulty forming and maintaining relationships (Mikulincer & Shaver, 2007), they may be more likely to rely on the online world to meet their interpersonal needs. More specifically, as attachment anxiety is related to over-disclosing personal information (Mikulincer & Shaver, 2007), higher Facebook use when feeling sad or lonely (Oldmeadow, Quinn, & Kowert, 2013), and excessive social media use (Worsley, McIntyre, Bentall, & Corcoran, 2018), individuals who score high on this attachment dimension may be at greater risk of being cyberbullied. Conversely, as people characterised by attachment avoidance prefer self-reliance and superficial relationships, they may be less likely to overuse social aspects of the internet (Worsley et al., 2018). Because social relationships are less important to people who score high on this attachment dimension, avoidant individuals should be less prone to cyberbullying victimisation. Indeed, in a sample of university students aged 18-26 years, maternal attachment anxiety was found to be associated with cyberbullying victimisation, while attachment avoidance was not (Varghese & Pistole, 2017). This remains, however, an under-researched area, particularly among adolescents who are most at risk of cyberbullying victimisation.

Although insecure attachment patterns may confer vulnerability, security in attachment relationships may be a source of resilience that reduces mental distress in the context of cyberbullying. Consistent with this possibility, Kokkinos, Voulgaridou, Koukoutsis, and Markos (2016) reported that face-to-face peer victimisation was associated with lower levels of depression in adolescents who were securely attached. In accordance with attachment theory, the authors suggested that individuals who are securely attached may be more adept at regulating their emotions and harnessing social support which, in turn, may confer resilience and reduce the possibility of developing depressive symptoms in response to the experience. Kokkinos and colleagues also suggested that securely attached individuals may employ more adaptive coping strategies that can protect them from experiencing low mood. As people with a secure attachment style may be more adept at harnessing

social support and employing adaptive coping styles, this attachment style may confer protection against cyberbullying.

5.3.2 Coping styles and victimisation

Coping refers to the cognitive and behavioural efforts individuals make to manage stress and related emotions (Lazarus & Folkman, 1984). Lazarus and Folkman (1984) dichotomised coping into problem-focused coping (i.e., attempting to minimise emotional distress by engaging in behaviour to modify oneself or the environment) and emotion-focused coping (i.e., employing cognitive coping strategies to allay emotional distress).

Previous research suggests that active coping buffers the effect of traditional bullying victimisation on depressive symptoms in a sample of adolescents (Yin et al., 2017). Specific cognitive coping strategies have also been found to moderate the effect of traditional bullying victimisation on mental distress. For example, positive refocusing reduced the effect of bullying victimisation on depression, whereas rumination enhanced the effect of bullying victimisation on depression (Garnefski & Kraaij, 2014). Similarly, positive reappraisal was found to reduce the effect of bullying victimisation on anxiety, while rumination and catastrophizing were found to enhance the effect of bullying victimisation on anxiety (Garnefski & Kraaij, 2014).

Moving to the cyberbullying literature, a systematic review revealed that victims of cyberbullying employ a wide range of coping strategies including technical solutions (e.g., deleting or blocking threatening messages), avoidance strategies (e.g., ignoring the situation), confrontation (e.g., retaliating or seeking revenge), and seeking either emotional or instrumental support (McGuckin et al., 2013). While the literature has described the array of coping strategies drawn on by victims of cyberbullying, less research has explored the role of specific coping strategies as potential buffers against mental distress caused by cyberbullying. Despite this lacuna, the extent to which victims *seek* social support as a coping mechanism following cyberbullying victimisation has been explored. Specifically, Machmutow, Perren, Sticca, and Alsaker (2012) investigated whether certain coping strategies moderated the impact of cybervictimisation on depressive symptoms. They found that high levels of support seeking from friends and family buffered against the negative impact of cybervictimisation on depression insofar as victims who

reported seeking more social support reported less depressive symptoms. However, very little is known about the adaptive value of different cognitive coping styles in relation to cyberbullying victimisation. As the positive cognitive coping styles of reappraisal (i.e., attaching a positive meaning to a negative event) and refocusing (i.e., thinking about enjoyable matters rather than a negative event) were found to buffer the negative mental health outcomes associated with traditional bullying (Garnefski & Kraaij, 2014), these positive cognitive coping styles may also be helpful resources in the context of cyberbullying.

5.3.3 Social support and victimisation

Social support may affect outcomes for young people in a number of different ways. Although some researchers have investigated the mediating role of social support (Chen & Wei, 2013; Malecki, Demaray, & Davidson, 2008; Pouwelse, Bolman, Lodewijckx, & Spaa, 2011), most previous research in relation to traditional bullying examines the stress-buffering theory (Davidson & Demaray, 2007; Flouri & Buchanan, 2002; Holt & Espelage, 2007; Kochenderfer-Ladd & Skinner, 2002), and according to a critical review of the literature, the stress-buffering model may be particularly useful in explaining cyberbullying experiences (Tokunaga, 2010).

According to the stress-buffering model (Cohen & Wills, 1985), social support acts as a buffer between interpersonal stressors and negative outcomes. Supportive families have been shown to buffer primary school children from the negative outcomes associated with traditional bullying victimisation (Bowes, Maughan, Caspi, Moffitt, & Arseneault, 2010). With regard to gender effects, previous research has suggested that parental support for females, and teacher-, classmate-, and school support for males, buffers the effects of traditional peer victimisation on psychological well-being (Davidson & Demaray, 2007). Further to this, Elgar et al. (2014) reported family contact and communication, such as that which happens at shared mealtimes, may help protect young people from the harms of cyberbullying. Frison, Subrahmanyam, and Eggermont (2016) found support from friends to be effective in buffering against the harmful effects of online peer victimisation on young people's mental health; showing that higher levels of perceived peer support conferred resilience against depression and low life satisfaction following peer cybervictimisation on Facebook. Conversely, Tennant, Demaray, Coyle, and Malecki (2015) found no evidence that social support

attenuated the association between cyberbullying victimisation and depression. However, Tennant and colleagues investigated the role of overall social support, whereas previous findings suggest that the buffering effect depends on the source of support (e.g., Stice, Ragan, & Randall, 2004).

Given these conflicting findings, we aimed to provide a more comprehensive test of the hypothesis that social support confers resilience against cyberbullying. Specifically, we examined whether both perceived familial and peer support attenuated the negative effects of cyberbullying on mental health, as both parents and peers may play an important role in helping young people to develop a different, more positive way of conceptualising their online experience, and in promoting specific coping strategies that offset the impact of this form of victimisation.

5.3.4 The present study

The current study aimed to test the relationship between cyberbullying victimisation and common mental health difficulties amongst a sample of adolescents, and to identify psychological and cognitive factors that mitigate the negative effects of cyberbullying on mental health. We predicted that:

1. victims of cyberbullying will report higher levels of mental distress (i.e., symptoms of depression and anxiety) than non-victims.
2. victims of cyberbullying will endorse more self-statements indicative of attachment anxiety (but not attachment avoidance) than non-victims.
3. secure attachment would buffer the relationship between cyberbullying victimisation and symptoms of depression and anxiety.
4. perceived familial and peer social support would buffer the relationship between cyberbullying victimisation and symptoms of depression and anxiety.
5. positive coping styles, such as reappraisal and refocusing, would buffer the relationship between cyberbullying victimisation and symptoms of depression and anxiety.

5.4 Methods

5.4.1 Participants

The sample comprised 476 adolescents (54.8% female) aged 13 to 19 years ($M = 14.84$, $SD = 1.31$) attending a single secondary school in an urban area of northern

England. All pupils in years 9, 10, 11, and sixth form were invited to participate. The questionnaire was administered in a classroom during school hours. Ethical approval was obtained from the University's ethics committee.

5.4.2 Measures

5.4.2.1 Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983)

The Hospital Anxiety and Depression Scale (HADS) is a 14-item scale that measures symptoms of depression and anxiety experienced over the preceding week. The HADS comprises two 7-item subscales (scored on a 0-3 scale). An overall score and two separate scores for anxiety and depression were obtained (the overall score ranges from 0-42 and the subscale scores range from 0-21). Prior work has validated the HADS for use with adolescents (White, Leach, Sims, Atkinson, & Cottrell, 1999). Internal consistency for this study was $\alpha = .86$ for the overall scale, and $\alpha = .71$ and $\alpha = .84$ for the depression and anxiety subscales, respectively.

5.4.2.2 Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988)

The Multidimensional Scale of Perceived Social Support (MSPSS) is a 12-item scale that measures supportive relationships within three contexts: family, peer, and significant others. Because the latter would be less relevant to school children, only two of the subscales were selected: perceived family support (4 items) and perceived peer support (4 items). Participants responded on a 7-point Likert scale (1 = very strongly disagree; 7 = very strongly agree). The possible scores for each subscale range from 4 to 28, with higher scores indicating greater perceived support. The MSPSS has been validated for use with adolescents (Canty-Mitchell & Zimet, 2000), and in our data both subscales were found to have good reliability: $\alpha = .93$ for family support and $\alpha = .93$ for peer support.

5.4.2.3 Relationship Questionnaire (Bartholomew & Horowitz, 1991)

The Relationship Questionnaire (RQ) is a 4-item questionnaire that measures four attachment styles: secure, preoccupied, dismissing, and fearful. The paragraphs in the RQ were adapted to reflect the simplified language used in the adolescent-relationship questionnaire (Scharfe & Bartholomew, 1995). Participants were instructed to rate how well each attachment style description reflected their own

general relationship style on a 7-point Likert scale (1 = not at all like me; 7 = very much like me). In line with the developers' recommendations, the ratings were used to calculate anxious ((fearful + preoccupied) – (secure + dismissing)) and avoidant ((fearful + dismissing) – (secure + preoccupied)) attachment dimensions. Higher scores on the anxious dimension reflect a higher negative view of the self, whereas higher scores on the avoidant dimension reflect a higher negative view of others. The scale has an acceptable test–retest reliability (Griffin & Bartholomew, 1994) and good discriminant and face validity (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010).

5.4.2.4 Cognitive Emotion Regulation Questionnaire (Garnefski, Kraaij, & Spinhoven, 2001)

The Cognitive Emotion Regulation Questionnaire (CERQ-short) is an 18-item scale used to assess individual differences in coping, and is comprised of nine distinct subscales: self-blame, other-blame, acceptance, rumination, catastrophizing, refocus on planning, putting into perspective, positive reappraisal, and positive refocusing (Garnefski et al., 2001). Participants were asked to think about an event that they found stressful and specify how they had coped with it by rating 18 statements. Cognitive coping strategies were measured on a 5-point Likert scale (1 = almost never; 5 = almost always). Individual subscale scores were obtained by summing up the scores on the items belonging to each particular subscale (ranging from 2 to 10) with higher scores representing greater use of the coping strategy. The CERQ-short was selected over the original 36-item scale due to time restrictions within the school setting. All items were created to be easily understood by participants as young as 12 years (Garnefski & Kraaij, 2006). Internal consistencies for the two subscales used in the current study were $\alpha = .61$ (positive refocusing) and $\alpha = .72$ (positive reappraisal).

5.4.2.5 Cyberbullying Victimization (Hinduja & Patchin, 2014)

After being provided with a definition (e.g., “cyberbullying is when someone repeatedly harasses, mistreats, or makes fun of another person online or while using mobile phones or other electronic devices”), students were asked to report how often they had been cyberbullied in their entire life on a 6-point scale (1 = never; 6 = very often).

5.4.3 Statistical analyses

Only participants who completed the survey in its entirety ($n = 476$) were included in the analysis (111 participants from an original 587 were excluded from the analysis due to missing data). Independent-samples t-tests were conducted using SPSS version 22 to assess group differences and Cohen's d was used as an effect size measure. We conducted a multiple regression to assess the relative importance of cyberbullying victimisation, secure attachment, different coping mechanisms, and different forms of support in predicting mental distress. We conducted hierarchical regression analyses to test the hypotheses that security in attachment relationships, perceived peer and familial support, and positive coping styles moderated the relationship between cyberbullying victimisation and symptoms of depression and anxiety. The HADS total score was used in the regression analyses to reflect mental distress (i.e., the endorsement of symptoms of depression and anxiety). All independent variables were standardised, and the standardised variables were used to test main effects and compute interaction terms. The same procedures were used for all moderation analyses. Cyberbullying victimisation and each psychological or cognitive factor (e.g., secure attachment style, perceived familial support, perceived peer support, positive reappraisal, and positive refocusing) were entered at Block 1. To test for the moderation effect of each factor independently, we entered a single interaction term at Block 2. Standardised beta values are reported in Table 2. When plotting significant interaction effects, we used unstandardised regression coefficients. Significant interaction effects were plotted according to procedures described by Aiken and West (1991).

5.5 Results

Approximately 30% of adolescents in our sample (29.6%; $n = 141$) reported experiencing cyberbullying in their lifetimes. Descriptive statistics of the final sample ($n = 476$) and the inter-correlations between the key variables are shown in Table 5.1. As no correlations between the proposed moderators were above 0.7, each moderator was considered independently in subsequent analyses.

	Mean (<i>SD</i>)	2	3	4	5	6	7	8	9	10
1. Cybervictimisation	1.51 (1.01)	.13**	-.00	-.03	-.25**	-.11*	.09*	.11*	.25**	.28**
2. Attachment anxiety	-0.64 (3.76)	-	.16**	-.51**	-.28**	-.20**	-.13**	-.07	.26**	.34**
3. Attachment avoidance	-0.05 (3.54)		-	-.60**	-.11*	-.14**	-.05	.01	.11*	.10*
4. Secure attachment	3.93 (1.81)			-	.21**	.22**	.22**	.16**	-.16**	-.11**
5. Family support	22.38 (5.92)				-	.57**	.10*	.09*	-.32**	-.26**
6. Peer support	21.48 (5.83)					-	.13**	.09	-.20**	-.14**
7. Positive refocusing	5.17 (2.08)						-	.48**	-.03	-.01
8. Positive reappraisal	5.92 (2.29)							-	-.07	.08
9. Depressive symptoms	4.53 (3.41)								-	.59**
10. Anxiety symptoms	7.54 (4.51)									

**p<.01, *p<.05

Key: Secure attachment rated on a 7-point Likert scale. Insecure attachment dimensions calculated as follows: attachment anxiety ((fearful + preoccupied) – (secure + dismissing)) and attachment avoidance ((fearful + dismissing) – (secure + preoccupied)).

Table 5.1 Descriptive statistics and Pearson’s correlations between cyberbullying victimisation, secure attachment style, insecure attachment dimensions, social support, positive coping styles, and mental distress

An independent samples t-test revealed that participants who were victims of cyberbullying experienced significantly higher levels of depression and anxiety ($M = 14.87$, $SD = 7.48$) compared to non-victims ($M = 10.88$, $SD = 6.56$), $t(474) = -5.81$, $p < .001$, $d = -0.58$. In addition, an independent samples t-test revealed that victims of cyberbullying ($M = 0.24$, $SD = 3.97$) endorsed more self-statements indicative of attachment anxiety compared to non-victims ($M = -1.02$, $SD = 3.61$), $t(474) = -3.36$, $p = .001$, $d = -0.34$. In relation to attachment avoidance, there was no difference between victims ($M = -0.04$, $SD = 3.49$) and non-victims ($M = -0.05$, $SD = 3.56$), $t(474) = -0.03$, $p = .975$, $d = -0.00$.

5.5.1 Multiple regression analysis

A multiple regression analysis assessed the contributions of cyberbullying victimisation, secure attachment, positive coping styles, and forms of perceived social support to explaining mental distress (i.e., symptoms of depression and anxiety; see Table 5.2). The overall regression model predicted approximately 16% of variance in mental distress, $R^2 = .16$, $F(6, 469) = 15.22$, $p < .001$. Family support was the strongest negative predictor of mental distress.

Variable	β	p
Cybervictimisation	.23	<.001
Family support	-.25	<.001
Peer support	.00	.943
Secure attachment	-.09	.048
Positive refocusing	-.01	.778
Positive reappraisal	.04	.464

Table 5.2 Regression analysis showing cyberbullying victimisation, family support, peer support, secure attachment, positive refocusing, and positive reappraisal as predictors of mental distress (i.e., symptoms of depression and anxiety).

5.5.2 Moderation analyses

5.5.2.1 Cyberbullying victimisation and perceived social support

In the first model (see Table 5.3), cyberbullying victimisation and family support predicted approximately 16% of the variance in mental distress, $R^2 = .16$, $F(3, 472) =$

29.25, $p < .001$. The first step accounted for 16% of variance with cyberbullying victimisation and lower levels of family support being associated with mental distress. Step 2 did not account for any of the variance as the interaction term was not significant. In the second model (see Table 5.3), cyberbullying victimisation and peer support predicted approximately 12% of the variance in mental distress, $R^2 = .12$, $F(3, 472) = 21.89$, $p < .001$. The first step accounted for 11% of variance with cyberbullying victimisation and lower levels of peer support being associated with mental distress. Step 2 accounted for 1% of the variance and the interaction term was significant.

5.5.2.2 Cyberbullying victimisation and secure attachment

In the third model (see Table 5.3), cyberbullying victimisation and secure attachment predicted approximately 12% of the variance in mental distress, $R^2 = .12$, $F(3, 472) = 20.59$, $p < .001$. The first step accounted for 11% of variance with cyberbullying victimisation and lower levels of security in attachment relationships being associated with mental distress. Step 2 accounted for 1% of the variance and the interaction term was significant.

5.5.2.3 Cyberbullying victimisation and positive coping styles

Cyberbullying victimisation and positive refocusing predicted 11% of the variance in mental distress, $R^2 = .11$, $F(3, 472) = 18.68$, $p < .001$ (see Table 5.3). The first step accounted for 9% of variance with only cyberbullying victimisation a significant predictor. The second step accounted for 2% of the variance and the interaction term was significant. In the final model (see Table 5.3), cyberbullying victimisation and positive reappraisal predicted 10% of the variance in mental distress, $R^2 = .10$, $F(3, 472) = 17.57$, $p < .001$. The first step accounted for 9% of the variance with only cyberbullying victimisation a significant predictor. The second step accounted for 1% of the variance and the interaction term was significant.

Predictors	Cumulative		Simultaneous	
	R^2 (Change)	F(Change)	β	p
Cyberbullying and family support				
Step 1	.16	F(2,473)=43.39**		
	Cyberbullying		.21	<.001
	Family support		-.26	<.001
Step 2	.00	F(1,472)=0.99		
	CB x family support		-.05	.32
Cyberbullying and peer support				
Step 1	.11	F(2,473)=29.69**		
	Cyberbullying		.27	<.001
	Peer support		-.14	.001
Step 2	.01	F(1,472)=5.71*		
	CB x peer support		-.11	.017
Cyberbullying and secure attachment				
Step 1	.10	F(2,473)=28.18**		
	Cyberbullying		.30	<.001
	Secure attachment		-.12	.005
Step 2	.01	F(1,472)=4.94*		
	CB x secure attachment		-.10	.027
Cyberbullying and positive refocusing				
Step 1	.09	F(2,473)=23.60**		
	Cyberbullying		.34	<.001
	Positive refocusing		-.05	.221
Step 2	.02	F(1,472)=8.12*		
	CB x refocusing		-.13	.005
Cyberbullying and positive reappraisal				
Step 1	.09	F(2,473)=23.02**		
	Cyberbullying		.33	<.001
	Positive reappraisal		-.03	.557
Step 2	.02	F(1,472)=6.15*		
	CB x reappraisal		-.11	.013

** $p < .001$, * $p < .05$

Table 5.3 Hierarchical regression analyses predicting mental distress (i.e., symptoms of depression and anxiety)

Significant interaction effects were plotted according to procedures described by Aiken and West (1991). Adolescents' predicted anxious-depressed scores at low and

high levels ($\pm 1SD$) of cyberbullying victimisation and at low ($-1SD$) and high levels ($+1SD$) of peer support, secure attachment, positive refocusing, and positive reappraisal are shown in Figures 5.1, 5.2, 5.3, and 5.4 respectively.

After probing the simple slopes, the analyses revealed that the associations between cyberbullying victimisation and symptoms of depression and anxiety were weaker at higher levels ($+1SD$) of peer support (gradient slope; $B = 1.26$), $t(472) = 2.90$, $p = .004$, secure attachment (gradient slope; $B = 1.51$), $t(472) = 3.78$, $p < .001$, positive refocusing (gradient slope; $B = 1.56$), $t(472) = 4.20$, $p < .001$, and positive reappraisal (gradient slope; $B = 1.54$), $t(472) = 3.95$, $p < .001$. On the other hand, this relationship was stronger at lower levels ($-1SD$) of peer support (gradient slope; $B = 2.54$), $t(472) = 6.60$, $p < .001$, secure attachment (gradient slope; $B = 2.66$), $t(472) = 6.59$, $p < .001$, positive refocusing (gradient slope; $B = 3.28$), $t(472) = 6.47$, $p < .001$, and positive reappraisal (gradient slope; $B = 3.11$), $t(472) = 6.15$, $p < .001$.

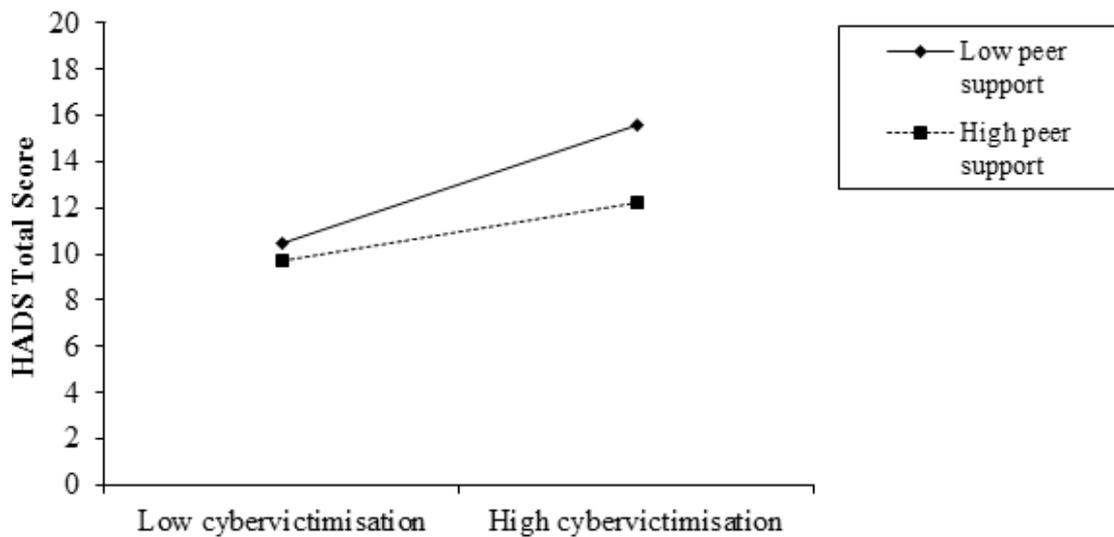


Figure 5.1 Plot of cyberbullying victimisation x peer support on symptoms of depression and anxiety

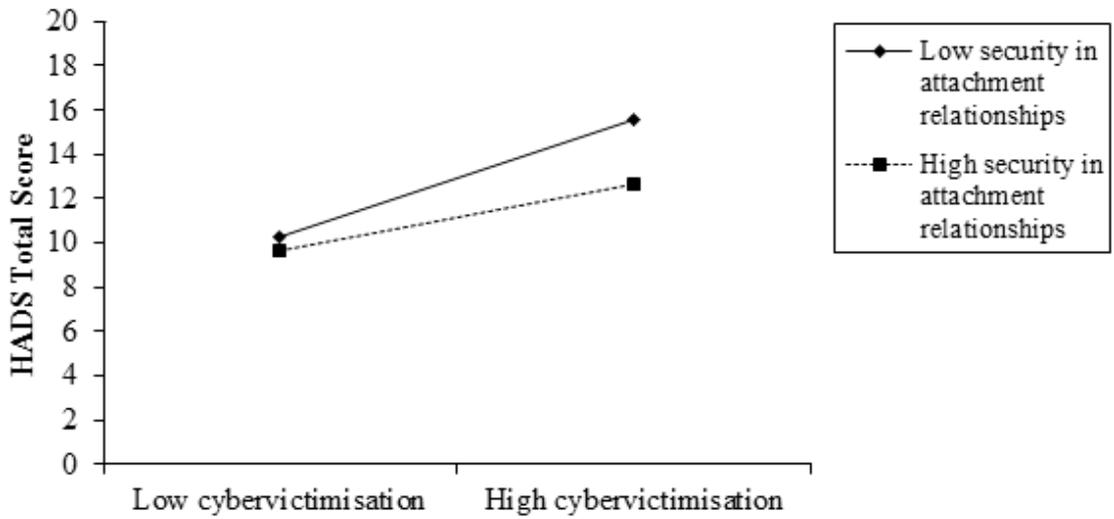


Figure 5.2 Plot of cyberbullying victimisation x secure attachment on symptoms of depression and anxiety

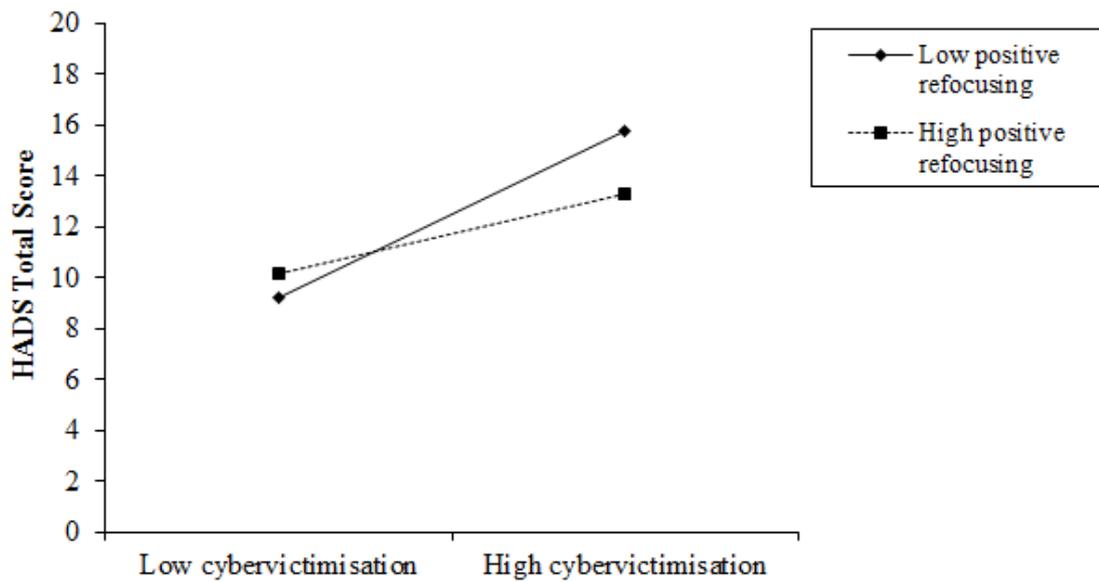


Figure 5.3 Plot of cyberbullying victimisation x positive refocusing on symptoms of depression and anxiety

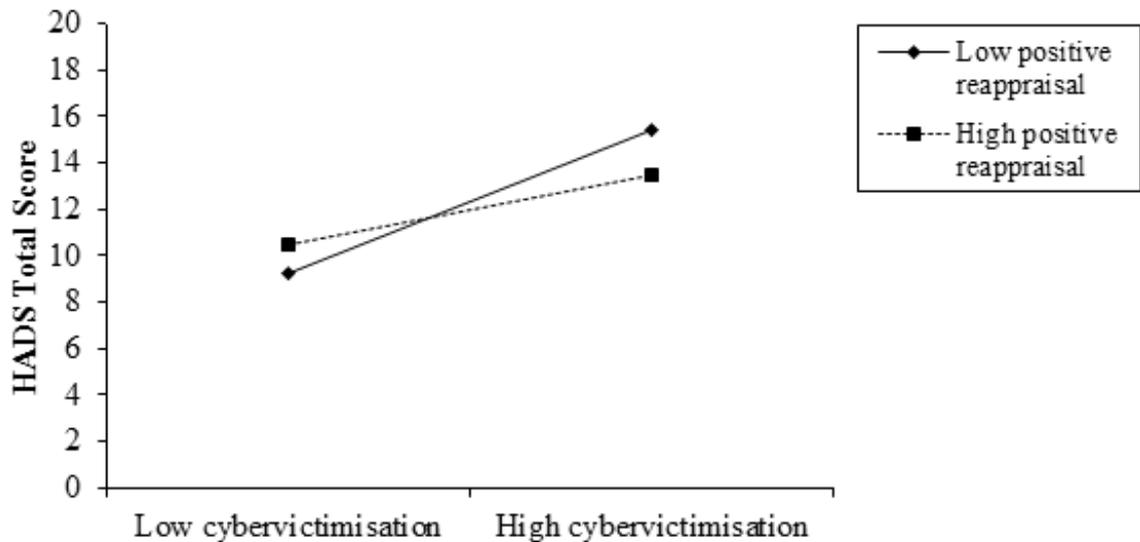


Figure 5.4 Plot of cyberbullying victimisation x positive reappraisal on symptoms of depression and anxiety

5.6 Discussion

The present study assessed the relationship between cyberbullying victimisation and common mental health difficulties in young people. The study also examined whether the relationship between cyberbullying victimisation and symptoms of depression and anxiety was attenuated by attachment security, perceived social support, and specific coping styles. In line with our first hypothesis and previous empirical findings (e.g., Aoyama et al., 2011; Juvonen & Gross, 2008), cyberbullying victims reported higher levels of anxiety and depressive symptoms compared to non-victimised youth. This form of victimisation may lead to an increase in mental health difficulties because adolescents may attribute the negative encounter to their own deficiencies, which may consequently compromise their own sense of self-worth. More specifically, the shame and humiliation caused by cyberbullying victimisation may engender self-blame and negative views of the self which may translate into mental health difficulties as, in accordance with Beck's cognitive theory, individuals prone to experiencing depression have negative views of the self (Beck, 1976).

In line with our second hypothesis and previous empirical findings concerning college students (e.g., Varghese & Pistole, 2017), victims of cyberbullying endorsed self-statements indicative of attachment anxiety more than non-victims. This supports the assertion that as individuals who are characterised by

attachment anxiety have a higher need for social validation and a tendency to disclose personal information online, they may be especially vulnerable to cyberbullying victimisation. Hence, the way in which individuals characterised by attachment anxiety conduct themselves online may render them vulnerable to cyberbullying victimisation. Further to this, as individuals who are anxiously attached are more likely to overuse social media (Worsley et al., 2018), they may be especially vulnerable to cyberbullying victimisation due to mere exposure.

The current study also investigated whether specific factors underpin the onset of mental distress resulting from experiences of cyberbullying, with a view to identifying protective factors that might confer psychological resilience. In line with our third hypothesis, cyberbullying victimisation was associated with lower levels of mental distress in adolescents who were securely attached. This finding suggests that attachment security is a source of psychological resilience that sustains mental health during times of trauma.

Family support was found to be the most important predictor of mental distress in our sample compared to peer support, positive coping styles, and secure attachment; however, contrary to our predictions, this form of support did not significantly attenuate the association between cyberbullying victimisation and symptoms of depression and anxiety. One explanation for this is that young people tend to spend more time with their peers and less time with their parents during adolescence (Steinberg, 2005), and as a consequence, they may choose to turn to their peers for support when faced with challenges online.

In line with this theorising and our predictions, we found that perceived peer support moderated the impact of cyberbullying victimisation on mental distress, as adolescents exposed to cyberbullying and who perceived greater peer support reported fewer symptoms of depression and anxiety. The social support offered by peers may serve a stress-relieving function as it may relieve some of the stress that develops as a consequence of being cyberbullied, and this may enable victims of cyberbullying to cope more effectively with the emotional sequelae. It is also possible for peers to play an important role in helping victims of cyberbullying to reframe the meaning of their online experience which may subsequently enable them to develop a different, more positive way of conceptualising it. Peer support may also bolster resilience through updating negative self-cognitions. Thus, family support may be important for reducing psychological distress in general. However,

peer support may be particularly helpful in the context of cyberbullying victimisation.

In line with hypothesis five and previous empirical findings concerning traditional bullying (e.g., Garnefski & Kraaij, 2014), the coping strategies of positive refocusing and positive reappraisal significantly attenuated the association between cyberbullying victimisation and symptoms of depression and anxiety. The ability to cognitively reappraise or refocus thoughts may enable adolescents to re-establish some emotional control, leading to enhanced psychological resilience. These findings therefore suggest that adolescents who have the ability to reappraise or refocus thoughts cope more effectively with the emotional sequelae of cyberbullying.

Taken together, the findings bolster calls for an integrated approach to protecting victims of cyberbullying from its negative psychological consequences. Specifically, intrapersonal interventions to promote mental health in this context should include building the capacity of young people through enhanced positive cognitive coping styles and social skills, whilst concomitantly fostering a supportive school environment where peer relationships are valued. Indeed, the creation and use of peer support programmes could be promoted in school settings with the backing of school administrators. The importance of parenting in terms of preventing cyberbullying victimisation should also be acknowledged, and although peer relations should be the focus of intervention programmes within school settings, the findings highlight the importance of including families in cyberbullying prevention initiatives.

The present findings also support the implementation of the attachment aware schools framework. In accordance with this framework, schools should acknowledge the role of staff members as secondary attachment figures who can help children to reshape insecure attachment-related behaviours and support the development of secure attachment styles (Parker, Rose, & Gilbert, 2016). This model advocates the use of emotion coaching in supporting children and young people's behaviour and emotions. The goal of emotion coaching is to improve competencies in dealing with difficult emotions, and this in turn supports the adult-child relationship. Nurturing and emotionally supportive relationships promote prosocial behaviour, which subsequently promotes social acceptance and friendship. Generally, the present findings emphasise the importance of interpersonal relationships as part of any

prevention or intervention package aimed at reducing the incidence of cyberbullying and the associated negative psychological effects.

There are, however, several limitations of this study that require consideration when interpreting the findings. As the study was cross-sectional, the correlates could be antecedents or consequences of cyberbullying victimisation. Thus, whilst this cross-sectional study can provide an indication that cyberbullying victimisation is associated with symptoms of depression and anxiety, the direction of influence requires additional enquiry. It is plausible that adolescents with mental health difficulties may find it more difficult to integrate with face-to-face social groups and thus turn to online socialising, increasing their chances of being bullied due to mere exposure. Second, the data were self-reported and therefore measure subjective measures of incidence. Future research could usefully include multiple informants (e.g., parent and self-report) as their use has been shown to better predict adjustment compared with mono-informant assessments (Ladd & Kochenderfer-Ladd, 2002). Third, although the cyberbullying scale used in this study did include the criterion of repetition, it did not include imbalance of power as a criterion to demarcate cyberbullying, and thus, it could be argued that it measured cyberaggression rather than cyberbullying (Smith et al., 2013). Last, although high levels of perceived peer support offered protection against experiencing symptoms of depression and anxiety, the current study did not investigate whether this form of social support was perceived from peers whilst online or offline. As an increasing number of relationships are now formed and maintained online, it may be beneficial to explore whether online supportive relationships can protect adolescents from the negative psychological consequences of cyberbullying victimisation. Further to this, as cyberbullying has been largely conceptualised as a youth problem, few data exist in adults (Aboujaoude et al., 2015). Among adults, cyberstalking, defined as the repeated pursuit of an individual utilising electronic means, has been compared with cyberbullying and is now common in contemporary society (Spitzberg & Hoobler, 2002). Future work might therefore attempt to explore the emotional impact of cyberstalking alongside the resilience and vulnerabilities of the exposed victims in an adult sample.

Notwithstanding these limitations, the present findings highlight the role of cyberbullying in relation to adolescents' mental health and identify psychological and cognitive factors that may confer resilience. Specifically, attachment anxiety was

found to confer vulnerability to cyberbullying victimisation in our adolescent sample. Indeed, the identification of vulnerable young people, such as those characterised by attachment anxiety, may serve to thwart incidents of cyberbullying. The present findings also underscore the importance of perceived social support from peers, secure attachment styles, and positive cognitive coping styles, which appear to play fundamental roles in protecting adolescents against anxiety and depressive symptoms in the event of cyberbullying victimisation. This research therefore contributes to our understanding of the factors that underlie individual heterogeneity in response to cyberbullying victimisation, and leads to two main practical conclusions. First, the importance of parenting in terms of preventing cyberbullying victimisation should be acknowledged, and although peer relations should be the target of intervention programmes within school settings, the findings highlight the importance of including families in cyberbullying prevention programmes. Second, schools should acknowledge the role of staff members as secondary attachment figures who can help support the development of secure attachment styles. In sum, it will be important for schools and homes to focus on building supportive offline relationships that will help young people deal with online challenges.

5.7 Chapter summary

This Chapter contributed to the overall aim of the present thesis as it explores the relationship between the online world and mental health with a specific focus on cyberbullying victimisation and mental health difficulties. This Chapter also addressed the third aim of this thesis as it identified potential protective factors that lessen the negative psychological impact on adolescents who report negative online experiences.

More specifically, this Chapter addressed the second research question in this thesis as it explored the factors that confer vulnerability to cyberbullying victimisation and the factors that protect against its negative consequences. The findings presented in this Chapter move understanding forward by illustrating that attachment anxiety confers vulnerability to cyberbullying victimisation in adolescence. The research contained in this Chapter also contributes to our understanding of the psychological and cognitive factors whereby adolescents' psychological adjustment is protected against the adverse effects of cyberbullying victimisation. As the findings illustrate the protective role of secure attachment

styles, positive coping styles, and perceived peer support against symptoms of depression and anxiety due to cyberbullying, this research furthers our understanding of the factors that underlie individual heterogeneity in response to cyberbullying victimisation.

As cyberbullying has been largely conceptualised as a youth problem, few data exist in adults. Among adults, cyberstalking has been compared with cyberbullying, and although a growing body of research has explored the relationship between cyberbullying victimisation and mental health difficulties using adolescent samples, the investigation of cyberstalking and mental health outcomes is rare.

5.8 References

- Aboujaoude, E., Savage, M. W., Starcevic, V., & Salame, W. O. (2015). Cyberbullying: Review of an old problem gone viral. *Journal of Adolescent Health, 57*(1), 10-18. doi:10.1016/j.jadohealth.2015.04.011
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. London: Sage Publications.
- Aoyama, I., Saxon, T. F., & Fearon, D. D. (2011). Internalizing problems among cyberbullying victims and moderator effects of friendship quality. *Multicultural Education & Technology Journal, 5*(2), 92-105. doi:10.1108/17504971111142637
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*(2), 226-244. doi: 10.1037/0022-3514.61.2.226
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York: International University Press.
- Bowes, L., Maughan, B., Caspi, A., Moffitt, T. E., & Arseneault, L. (2010). Families promote emotional and behavioural resilience to bullying: Evidence of an environmental effect. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 51*(7), 809-817. doi:10.1111/j.1469-7610.2010.02216.x
- Bowlby, J. (1973). *Attachment and Loss: Vol. 2. Separation*. New York: Basic Books.
- Bradshaw, C. P. (2014). The role of families in preventing and buffering the effects of bullying. *JAMA Pediatrics, 168*(11), 991-993. doi:10.1001/jamapediatrics.2014.1627
- Calvete, E., Orue, I., & Gámez-Guadix, M. (2016). Cyberbullying victimization and depression in adolescents: The mediating role of body image and cognitive schemas in a one-year prospective study. *European Journal on Criminal Policy and Research, 22*(2), 271-284. doi:10.1007/s10610-015-9292-8
- Campbell, M., Spears, B., Slee, P., Butler, D., & Kift, S. (2012). Victims' perceptions of traditional and cyberbullying, and the psychosocial correlates of their victimisation. *Emotional and Behavioural Difficulties, 17*(3-4), 389-401. doi:10.1080/13632752.2012.704316
- Canty-Mitchell, J., & Zimet, G. D. (2000). Psychometric properties of the Multidimensional Scale of Perceived Social Support in urban adolescents. *American Journal of Community Psychology, 28*(3), 391-400. doi:10.1023/A:1005109522457
- Cénat, J. M., Hébert, M., Blais, M., Lavoie, F., Guerrier, M., & Derivois, D. (2014). Cyberbullying, psychological distress and self-esteem among youth in Quebec schools. *Journal of Affective Disorders, 169*, 7-9. doi:10.1016/j.jad.2014.07.019
- Chen, J.-K., & Wei, H.-S. (2013). School violence, social support and psychological health among Taiwanese junior high school students. *Child Abuse & Neglect, 37*(4), 252-262. doi:10.1016/j.chiabu.2013.01.001
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*(2), 310-357. doi:10.1037/0033-2909.98.2.310

- Copeland, W. E., Angold, A., Costello, E. J., & Wolke, D. (2013). Adult psychiatric outcomes of bullying and being bullied by peers in childhood and adolescence. *JAMA Psychiatry, 70*(4), 419-426. doi:10.1001/jamapsychiatry.2013.504
- Davidson, L. M., & Demaray, M. K. (2007). Social support as a moderator between victimization and internalizing-externalizing distress from bullying. *School Psychology Review, 36*(3), 383-405.
- Elgar, F. J., Napoletano, A., Saul, G., Dirks, M. A., Craig, W., Paul Poteat, V., . . . Koenig, B. W. (2014). Cyberbullying victimization and mental health in adolescents and the moderating role of family dinners. *JAMA Pediatrics, 168*(11), 1015-1022. doi:10.1001/jamapediatrics.2014.1223
- Fahy, A. E., Stansfeld, S. A., Smuk, M., Smith, N. R., Cummins, S., & Clark, C. (2016). Longitudinal associations between cyberbullying involvement and adolescent mental health. *Journal of Adolescent Health, 59*(5), 502-509. doi:10.1016/j.jadohealth.2016.06.006
- Fisher, B. W., Gardella, J. H., & Teurbe-Tolon, A. R. (2016). Peer cybervictimization among adolescents and the associated internalizing and externalizing problems: A meta-analysis. *Journal of Youth and Adolescence, 45*(9), 1727-1743. doi:10.1007/s10964-016-0541-z
- Flouri, E., & Buchanan, A. (2002). Life satisfaction in teenage boys: The moderating role of father involvement and bullying. *Aggressive Behavior, 28*(2), 126-133. doi:10.1002/ab.90014
- Frison, E., Subrahmanyam, K., & Eggermont, S. (2016). The short-term longitudinal and reciprocal relations between peer victimization on Facebook and adolescents' well-being. *Journal of Youth and Adolescence, 45*(9), 1755-1771. doi:10.1007/s10964-016-0436-z
- Garnefski, N., & Kraaij, V. (2006). Cognitive emotion regulation questionnaire - development of a short 18-item version (CERQ-short). *Personality and Individual Differences, 41*(6), 1045-1053. doi:10.1016/j.paid.2006.04.010
- Garnefski, N., & Kraaij, V. (2014). Bully victimization and emotional problems in adolescents: Moderation by specific cognitive coping strategies? *Journal of Adolescence, 37*(7), 1153-1160. doi:10.1016/j.adolescence.2014.07.005
- Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and Individual Differences, 30*(8), 1311-1327. doi:10.1016/S0191-8869(00)00113-6
- Gini, G., & Pozzoli, T. (2013). Bullied children and psychosomatic problems: A meta-analysis. *Pediatrics, 132*(4), 720-729. doi:10.1542/peds.2013-0614
- Griffin, D., & Bartholomew, K. (1994). Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology, 67*(3), 430-445. doi:10.1037/0022-3514.67.3.430
- Hinduja, S., & Patchin, J. W. (2014). Cyberbullying: Identification, prevention, & response. Retrieved from <https://cyberbullying.org/Cyberbullying-Identification-Prevention-Response.pdf>
- Holt, M. K., & Espelage, D. L. (2007). Perceived social support among bullies, victims, and bully-victims. *Journal of Youth and Adolescence, 36*(8), 984-994. doi:10.1007/s10964-006-9153-3
- Juvonen, J., & Gross, E. F. (2008). Extending the school grounds? Bullying experiences in cyberspace. *Journal of School Health, 78*(9), 496-505. doi:10.1111/j.1746-1561.2008.00335.x

- Kochenderfer-Ladd, B., & Skinner, K. (2002). Children's coping strategies: Moderators of the effects of peer victimization? *Developmental Psychology*, 38(2), 267-278. doi:10.1037//0012-1649.38.2.267
- Kokkinos, C. M. (2013). Bullying and victimization in early adolescence: Associations with attachment style and perceived parenting. *Journal of School Violence*, 12(2), 174-192. doi:10.1080/15388220.2013.766134
- Kokkinos, C. M., Voulgaridou, I. P., Koukoutsis, N. D., & Markos, A. (2016). Peer victimization and depression in Greek preadolescents: Personality and attachment as moderators. *Personal Relationships*, 23(2), 280-295. doi:10.1111/per.12126
- Ladd, G. W., & Kochenderfer-Ladd, B. (2002). Identifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and characteristics of identified victims. *Psychological Assessment*, 14(1), 74-96. doi:10.1037/1040-3590.14.1.74
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Livingstone, S., & Smith, P. K. (2014). Annual research review: Harms experienced by child users of online and mobile technologies: The nature, prevalence and management of sexual and aggressive risks in the digital age. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 55(6), 635-654. doi:10.1111/jcpp.12197
- Machmutow, K., Perren, S., Sticca, F., & Alsaker, F. D. (2012). Peer victimisation and depressive symptoms: Can specific coping strategies buffer the negative impact of cybervictimisation? *Emotional and Behavioural Difficulties*, 17(3-4), 403-420. doi:10.1080/13632752.2012.704310
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. Greenberg, D. Cicchetti, & E. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 121-160). Chicago: The University of Chicago Press.
- Malecki, C. K., Demaray, M. K., & Davidson, L. M. (2008). Relationship among social support, victimization, and student adjustment in a predominantly Latino sample. *Journal of School Violence*, 7(4), 48-71. doi:10.1080/15388220801973847
- McGuckin, C., Perren, S., Corcoran, L., Cowie, H., Dehue, F., Ševčíková, A., . . . Völlink, T. (2013). Coping with cyberbullying: How can we prevent cyberbullying and how victims can cope with it. In P. K. Smith & G. Steffgen (Eds.), *Cyberbullying through the new media: Findings from an International network* (pp. 121-135). New York: Psychology Press.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- O'Higgins Norman, J., & Connolly, J. (2011). Mimetic theory and scapegoating in the age of cyberbullying: The case of Phoebe Prince. *Pastoral Care in Education*, 29(4), 287-300. doi:10.1080/02643944.2011.626069
- Oldmeadow, J. A., Quinn, S., & Kowert, R. (2013). Attachment style, social skills, and Facebook use amongst adults. *Computers in Human Behavior*, 29(3), 1142-1149. doi:10.1016/j.chb.2012.10.006

- Olweus, D. (1999). Sweden. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying. A cross-national perspective* (pp. 7-27). London: Routledge.
- Olweus, D. (2013). School bullying: Development and some important challenges. *Annual Review of Clinical Psychology, 9*, 751-780. doi:10.1146/annurev-clinpsy-050212-185516
- Parker, R., Rose, J., & Gilbert, L. (2016). Attachment aware schools: An alternative to behaviourism in supporting children's behaviour? In H. Lees & N. Noddings (Eds.), *The Palgrave International handbook of alternative education* (pp. 441-463). London: Palgrave Macmillan.
- Patchin, J. W., & Hinduja, S. (2016). Summary of our cyberbullying research (2004-2016). Retrieved from <https://cyberbullying.org/summary-of-our-cyberbullying-research>
- Pouwelse, M., Bolman, C., Lodewijkx, H., & Spaa, M. (2011). Gender differences and social support: Mediators or moderators between peer victimization and depressive feelings? *Psychology in the Schools, 48*(8), 800-814. doi:10.1002/pits.20589
- Ravitz, P., Maunder, R., Hunter, J., Sthankiya, B., & Lancee, W. (2010). Adult attachment measures: A 25-year review. *Journal of Psychosomatic Research, 69*(4), 419-432. doi:10.1016/j.jpsychores.2009.08.006
- Scharfe, E., & Bartholomew, K. (1995). Accommodation and attachment representations in young couples. *Journal of Social and Personal Relationships, 12*(3), 389-401. doi:10.1177/0265407595123004
- Selkie, E. M., Fales, J. L., & Moreno, M. A. (2016). Cyberbullying prevalence among US middle and high school-aged adolescents: A systematic review and quality assessment. *Journal of Adolescent Health, 58*(2), 125-133. doi:10.1016/j.jadohealth.2015.09.026
- Slonje, R., & Smith, P. K. (2008). Cyberbullying: Another main type of bullying? *Scandinavian Journal of Psychology, 49*(2), 147-154. doi:10.1111/j.1467-9450.2007.00611.x
- Slonje, R., Smith, P. K., & Frisé, A. (2013). The nature of cyberbullying, and strategies for prevention. *Computers in Human Behavior, 29*, 26-32. doi:10.1016/j.chb.2012.05.024
- Smith, P. K. (2013). School bullying. *Sociologia, Problemas e Práticas, 0*(71), 81-98. doi:10.7458/SPP2012702332
- Smith, P. K., del Barrio, C., & Tokunaga, R. S. (2013). Definitions of bullying and cyberbullying: How useful are the terms? In S. Bauman, D. Cross, & J. Walker (Eds.), *Principles of cyberbullying research: Definitions, measures and methods* (pp. 26-40). New York: Routledge.
- Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry, 49*(4), 376-385. doi:10.1111/j.1469-7610.2007.01846.x
- Spitzberg, B. H., & Hoobler, G. (2002). Cyberstalking and the technologies of interpersonal terrorism. *New Media and Society, 4*(1), 71-92. doi:10.1177/14614440222226271
- Steinberg, L. (2005). *Adolescence*. New York: McGraw-Hill.

- Stice, E., Ragan, J., & Randall, P. (2004). Prospective relations between social support and depression: Differential direction of effects for parent and peer support? *Journal of Abnormal Psychology, 113*(1), 155-159. doi:10.1037/0021-843X.113.1.155
- Suler, J. (2004). The online disinhibition effect. *CyberPsychology & Behavior, 7*(3), 321-326. doi:10.1089/1094931041291295
- Tennant, J. E., Demaray, M. K., Coyle, S., & Malecki, C. K. (2015). The dangers of the web: Cybervictimization, depression, and social support in college students. *Computers in Human Behavior, 50*, 348-357. doi:10.1016/j.chb.2015.04.014
- Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior, 26*, 277-287. doi:10.1016/j.chb.2009.11.014
- Varese, F., Smeets, F., Drukker, M., Lieveise, R., Lataster, T., Viechtbauer, W., . . . Bentall, R. P. (2012). Childhood adversities increase the risk of psychosis: A meta-analysis of patient-control, prospective- and cross-sectional cohort studies. *Schizophrenia Bulletin, 38*(4), 661-671. doi:10.1093/schbul/sbs050
- Varghese, M. E., & Pistole, M. C. (2017). College student cyberbullying: Self-esteem, depression, loneliness, and attachment. *Journal of College Counseling, 20*(1), 7-21. doi:10.1002/jocc.12055
- White, D., Leach, C., Sims, R., Atkinson, M., & Cottrell, D. (1999). Validation of the Hospital Anxiety and Depression Scale for use with adolescents. *The British Journal of Psychiatry, 175*(5), 452-454. doi:10.1192/bjp.175.5.452
- Worsley, J. D., McIntyre, J. C., Bentall, R. P., & Corcoran, R. (2018). Childhood maltreatment and problematic social media use: The role of attachment and depression. *Psychiatry Research, 267*, 88-93. doi:10.1016/j.psychres.2018.05.023
- Yin, X. Q., Wang, L. H., Liang, X. B., Wang, J. L., Zhang, G. D., Li, J., & Zimmerman, M. A. (2017). The promotive effects of peer support and active coping on the relationship between bullying victimization and depression among chinese boarding students. *Psychiatry Research, 256*, 59-65. doi:10.1016/j.psychres.2017.06.037
- Zigmond, A. S., & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica, 67*(6), 361-370. doi:10.1111/j.1600-0447.1983.tb09716.x
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52*(1), 30-41. doi:10.1207/s15327752jpa5201_2

Chapter 6

Victims' voices: Understanding the emotional impact of cyberstalking and individuals' coping responses

6.1 Foreword

This Chapter contributes to the overall aim of the present thesis as it explores the relationship between the online world and mental health with a focus on cyberstalking victimisation and mental health difficulties. This Chapter also addresses the third thesis aim as it attempts to identify potential protective factors which may lessen the negative psychological impact on people who report negative online experiences.

Although a growing body of research has explored the relationship between cyberbullying victimisation and mental health difficulties, the investigation of cyberstalking and mental health outcomes is rare. As the findings reported in the previous Chapter add to the increasing evidence base that cyberbullying victimisation puts adolescents at increased risk for subsequent mental health difficulties, this Chapter explores the psychological impact of cyberstalking in a wider adult sample. Given that the limited existing cyberstalking research is largely quantitative, the perspectives of victims themselves are currently underrepresented in this literature. This Chapter therefore explores the psychological and interpersonal harms of being stalked via electronic means through the voices and experiences of 100 cyberstalking victims. In concert with this aim, this Chapter also aims to identify the coping strategies drawn on by victims of cyberstalking, and the social and institutional responses that victims of this hidden crime encounter as they try to cope. Thus, this Chapter addresses the third research question in this thesis as it explores the factors that protect against and confer vulnerability to negative outcomes following cyberstalking victimisation in order to inform social and institutional responses to victims.

Chapter 6 was accepted for publication in SAGE Open on 18/04/2017 (Manuscript ID: SO-16-1095.R1):

Worsley, J.D., Wheatcroft, J.M., Short, E., & Corcoran, R. (2017). Victims' voices: The emotional impact of cyberstalking and how individuals cope with this phenomenon. *SAGE Open*, 7(2), 1-13. doi: 10.1177/2158244017710292

The format and parts of the content have been altered to align with the style of the thesis. The role of the co-authors are summarised as follows: Joanne Worsley conceived the original idea for the paper having received access to data from the director of the National Centre for Cyberstalking Research, Dr Emma Short. Joanne Worsley decided on the research aims for the current study, conducted the qualitative data analysis, interpreted the data, and wrote the first draft of the manuscript. Professor Rhiannon Corcoran and Dr Jacqueline Wheatcroft contributed useful comments while the manuscript was being prepared for publication. All authors agreed on the submitted manuscript for publication. Joanne Worsley was primarily responsible for the critical revision of the manuscript. Dr Jacqueline Wheatcroft provided additional feedback.

6.2 Abstract

Recent quantitative research has identified similar detrimental effects on victims of cyberstalking as those that arise from traditional stalking. The current study thematically analysed 100 victim narratives gathered by means of an online survey with a view to assessing the mental health and well-being implications of the experience of cyberstalking. Coping strategies employed by victims and the perceived effectiveness of each strategy were also explored. The findings suggest that the emotional impact of cyberstalking predominantly includes co-morbid anxiety and depression. Common coping strategies adopted by victims in our sample include avoidant coping, ignoring the perpetrator, confrontational coping, support seeking, and cognitive reframing. Taken together, the findings demonstrate that the ramifications of cyberstalking are widespread, affecting psychological, social, interpersonal, and economic aspects of life. To adapt, some victims made major changes to both their work and social life, with some ceasing employment and others modifying their usual daily activities. The widespread negative effects of cyberstalking identified in this study highlight that this phenomenon should be a concern to both legal and mental health professionals, particularly as the comments made by our sample illustrate the current inadequacy of response and provision. Recommendations are discussed and provided for law enforcement and mental health professionals.

6.3 Introduction

Traditional stalking is a considerable public health issue and describes a constellation of behaviours in which one individual intrudes upon or harasses another resulting in fear experienced by the victim as a result of the unwanted pursuit (McEwan, Mackenzie, Mullen, & James, 2012). Ubiquitous access to the internet has dramatically altered communication in contemporary society, and these electronic means provide perpetrators with novel ways of pursuing individuals. In light of this, a phenomenon known as cyberstalking has emerged that can be defined as the repeated pursuit of an individual utilising electronic means in order to induce fear or distress (Maple, Short, & Brown, 2011). As the internet is a rapidly evolving medium, many new forms of cyberstalking are emerging and provide additional tools for stalkers' arsenal. Cyberstalking can take many forms including sending direct threats via email, encouraging others to threaten or harass the victim, distributing intimate photographs online, impersonating the victim online, and seeking and compiling information on the victim (Short, Linford, Wheatcroft, & Maple, 2014). Social networking sites provide a novel way to gather information about an individual, and as such sites facilitate intrusion-like behaviours, they are being used as conduits for stalking and online harassment (Fox, 2016). Indeed, according to Kraft and Wang (2010), social media has made stalking much easier and visiting social networking sites can lead to an increased likelihood of becoming a victim of cyberstalking. However, in many cases, the perpetrator makes use of both online and offline stalking techniques (Maple et al., 2011; Sheridan & Grant, 2007), and other researchers have also reported that it is common for cyberstalking to begin with the issuing of threats and escalate to physical assault (Bocij, Griffiths, & McFarlane, 2002).

Stalking is one of the most common forms of interpersonal violence. Figures from the British Crime Survey 2011 demonstrate that one in five women and one in 10 men will be stalked at some point during their life (Smith, Coleman, Eder, & Hall, 2011), and more recent figures from the 2013/14 Crime Survey for England and Wales demonstrate that 4.4% of women and 2.5% of men aged 16 to 59 years reported experiencing stalking over a period of one year (Office for National Statistics, 2015). Using data from a supplement to the 2006 National Crime Victimization Survey (NCVS), Baum, Catalano, Rand, and Rose (2009) reported that during a 12-month period, 1.4% of adults in the United States were victims of

stalking, and cyberstalking behaviour was reported in one in four stalking cases (26.1%). Taken together, the characteristics of both online and offline variants of stalking consist of repeated nuisance behaviours that are intrusive and that result in negative impacts in the victim (Shimizu, 2013).

A burgeoning literature reports the negative impacts of traditional stalking in terms of victims' mental health and well-being (Blaauw, Winkel, Arensman, Sheridan, & Freeve, 2002; Brewster, 1998; Kuehner, Gass, & Dressing, 2007; Pathé & Mullen, 1997). Lifestyle changes also appear to be a universal response to being stalked offline with a diverse array of responses reported by victims. For instance, some victims changed workplace or school, others relocated residence, and many victims eschewed social outlets in favour of staying at home through fear of encountering their stalker (Pathé & Mullen, 1997). With regard to the emotional impact of traditional stalking, Pathé and Mullen (1997) found that victims' mental health deteriorated after the onset of harassment. More specifically, victims reported heightened anxiety levels, vivid flashbacks of their stalking ordeal, and persistent nausea (Pathé & Mullen, 1997). Purcell, Pathe, and Mullen (2005) reported that stalking victims had elevated levels of general psychological symptoms compared to short-lived harassment victims and controls, and almost one in five victims reported post-traumatic stress symptomology. Similarly, Kamphuis and Emmelkamp (2001) also documented that many victims experienced clinical or subclinical manifestations of post-traumatic stress disorder (PTSD) as a consequence of their stalking ordeal. Additionally, Kuehner et al. (2007) found associations between stalking victimisation and specific mental health problems, classified according to the *Diagnostic and Statistical Manual of Mental Disorders IV* (4th ed., *DSM-IV*; American Psychiatric Association, 1994), with the most prevalent mental health problems being major depression and panic disorder. Collectively, such studies highlight that traditional stalking poses a serious threat to the mental health of victims. One factor shown to play an important role in the relationship between interpersonal stressors and psychological difficulties is coping (Lazarus, 1998).

Coping refers to the cognitive and behavioural efforts a person utilises to manage stress (Lazarus & Folkman, 1984). Various conceptualisations of coping are reported in the psychological literature, and many are underpinned by Lazarus and Folkman's (1984) theory which dichotomises coping into problem-focused strategies (e.g., engaging in behaviour to change the situation such as seeking professional

support) and emotion-focused strategies (e.g., trying to avoid the source of stress). Victims of traditional stalking employ a wide array of coping strategies to deter perpetrators and manage the negative emotional impact of the unwanted pursuit. Cupach and Spitzberg (2004) and Spitzberg (2002) developed a typology of common coping strategies employed by stalking victims. Coping strategies are conceptualised into the following five categories: moving inward, moving outward, moving away, moving toward, and moving against (Cupach & Spitzberg, 2004). The moving inward category reflects the victim using idiosyncratic problem-solving skills, discounting help from others, ignoring the problem, and blaming the self. In direct contrast, the moving outward category reflects the victim seeking guidance and support from others and this includes both formal support from law enforcement as well as social support from family and friends. Moving away coping strategies aim to avoid and limit access from the perpetrator, and specific behaviours include restricting accessibility and relocating. Last, both moving toward and moving against coping strategies involve attempts to reason with the perpetrator. However, moving against coping strategies include issuing verbal threats and using physical violence in order to deter perpetrators. More recent studies (e.g., Geistman, Smith, Lambert, & Cluse-Tolar, 2013; Johansen & Tjørnhøj-Thomsen, 2016) have categorised victims' coping responses as either formal responses (i.e., contacting law enforcement) versus informal responses (i.e., dealing with the perpetrator on their own or with the help of significant others), or external strategies (i.e., seeking assistance from external resources such as law enforcement and/or family and friends) versus internal strategies (i.e., changing everyday routines and employing 'safety' behaviours).

Moving to the cyberstalking literature, it is interesting to note that the majority of this literature is quantitative. Using data from the 2006 NCVS to compare traditional stalking and cyberstalking victims, Nobles, Reys, Fox, and Fisher (2014) reported that individuals stalked via electronic means employed more self-protective behaviours, such as changing usual activities and changing email addresses, in comparison with traditional stalking victims. The authors offered an explanation for their findings couched in the dynamics of online interaction as they suggested that communication via electronic means is just as personal as, or more personal than, face-to-face communication, and therefore cyberstalking may elicit a personal violation which consequently elicits more diverse self-protective behaviours (Nobles et al., 2014). Alternatively, given the pervasive and public nature of social

media, stalking occurring via these means may influence victims' behaviours as humiliating content is visible to a larger audience, and as it is challenging to completely remove content from the internet, it cannot be easily overlooked. In light of this, cyberstalking may be more detrimental to victims' emotional health and reputation, and consequently, victims may employ additional self-protective behaviours.

Despite this difference, previous research has revealed a general picture of similarity between traditional stalking victims and those stalked via electronic means with regard to victims' general responses to the ordeal. Specifically, Sheridan and Grant (2007) reported that the extent of physical and emotional consequences did not differ significantly according to degree of cyberinvolvement. With regard to social consequences, the only difference was that traditional stalking was associated with more changes to the victim's employment status and social routines, whereas cyberstalking was more strongly associated with loss of significant relationships. More recently, using standardised measures of anxiety and PTSD, Short, Guppy, Hart, and Barnes (2015) reported that both traditional stalking and cyberstalking victims experience comparable elevated levels of psychological distress as a consequence of the ordeal. In line with this, when Dreßing, Bailer, Anders, Wagner, and Gallas (2014) presented users of a German social networking site with a list of psychosomatic and psychosocial symptoms, over half of the individuals who had experienced cyberstalking reported anger, helplessness, and anxiety. They also found that victims of cyberstalking scored significantly lower on a standardised measure of well-being than a comparison group who had not experienced cyberstalking. Thus, there were still significant negative outcomes for victims despite these interactions taking place online.

Given the limited existing cyberstalking research is largely quantitative, the perspectives of victims themselves are currently under-represented in this literature. Experiential data can provide valuable insights about the impact of cyberstalking, the coping strategies employed by victims, and the experience of responses and provisions from relevant professional bodies during and following the ordeal. In light of this, the current research aims to qualitatively examine the narratives of victims, specifically with regard to the mental health and well-being consequences of cyberstalking, as well as the coping strategies used to manage the ordeal effectively. As far as the authors are aware, no research has examined these issues in this context

to date. Furthermore, victims' experiences of professional involvement, particularly law enforcement, during and following the cyberstalking ordeal are explored.

6.4 Methods

6.4.1 Participants

Data from a self-identified sample of 100 anonymous participants who defined themselves as victims of cyberstalking were gathered by an online survey. The sample comprised 65 females and 34 males (one participant's gender was unspecified) who were aged between 15 and 68 years ($M = 38.93$, $SD = 11.42$) and the majority of participants were from the United Kingdom. This sample of 100 victims was obtained as a random sample from the Electronic Communication Harassment Observation (ECHO) project and represented 28.33% of the total sample from the wider project ($n = 353$). In half of all cases, there had been little or no prior relationship between the stalker and the victim with 25.53% of cases reporting that the stalker was an acquaintance and 24.47% of cases reporting that the stalker was a stranger. Other relationships between stalker and victim included: someone dated casually (13.83%), lived with/was married to/have children with (11.70%), unknown (9.57%), work colleague (6.38%), close friend (4.26%), partners 'ex' (2.13%), pupil (1.06%), and relative (1.06%). Ethical approval was obtained from the University's ethics committee. All participants were provided with information prior to taking part and provided informed consent on that basis. All participants were assured of their anonymity. No incentives were provided for participation.

6.4.2 The online survey

The online survey was launched by the National Centre for Cyberstalking Research (NCCR) and hosted on the website of the British Charity Network for Surviving Stalking (NSS). Participants were invited through a NSS newsletter, national broadcasts, and print media in news stories related to cyberstalking. The questions were developed iteratively by professionals and researchers. There was an inbuilt check for the kind of experiences that people were reporting in the form of a definition: 'cyberstalking is a course of action that involves more than one incident perpetrated through or utilising electronic means (such as the internet or mobile technology) that causes distress, fear or alarm. Have you experienced cyberstalking which meets this definition?'

The online survey was designed to capture information about the experiences of cyberstalking, and importantly, it did not explicitly address the effects of the experience on the victims. The survey participants, all victims of cyberstalking, were asked to respond to the following broad open-ended questions: (a) How did it all begin? When did you realise it was becoming a problem? (b) Give examples of each of the harassment behaviours experienced. (c) Did any actions improve the situation? (d) Did any actions make the situation worse? (e) Are there any actions that you feel would have protected you better if they had been available to you? (f) What else could have helped improve the situation?

6.4.3 Method of analysis

Survey responses were analysed using the thematic analysis procedure described by Braun and Clarke (2006). Thematic analysis is a flexible qualitative method that aims to identify, analyse, and report recurrent themes in data (Braun & Clarke, 2006). This analysis takes a realist epistemological standpoint, treating participants' narratives as representative of their lived reality. Thematic analysis was selected for several reasons: first, the narratives may be varied, specifically with regard to individual experience, and therefore may not yield a single overarching theory; second, as no prior qualitative research had been conducted specifically assessing the mental health and well-being implications of cyberstalking, this method was considered most useful for providing an initial description of the consequences of cyberstalking; and last, thematic analysis is sensitive to individual nuance. However, as this analysis does not attempt to describe the content of the entire dataset, the analysis could be described as more theoretical than inductive as the coding process was driven by our analytical interest in the mental health and well-being consequences of cyberstalking rather than to provide an overall description of the dataset.

The steps for conducting thematic analysis as outlined in detail by Braun and Clarke (2006) were followed: first, the data were read carefully to identify meaningful units of text relevant to the research topic and initial codes were generated. The codes dealing with the same issue were then grouped together in order to generate the thematic structures. The analysis was conducted across all the aforementioned questions, rather than for each question independently in order to identify themes across the data as a whole. The themes, drawn purely from within the

data, are illustrated by anonymous direct quotations. As the data were supplied from the NCCR and provided online, there are no line numbers present to report. However, to illustrate the breadth of participant contribution to the paper, we have included the participant number beside each quotation.

6.5 Analysis

The World Health Organisation (WHO) has described health as "...a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1946, p.1315). In light of this, cyberstalking could influence health in a number of ways, and the ramifications of this ordeal are therefore potentially multi-layered with serious potential outcomes. Using the method of analysis described above, the participants' descriptions of the emotional, cognitive, and lifestyle impact of cyberstalking were explored. The themes and associated subordinate themes, summarised in Table 6.1, illustrate the number of ways that cyberstalking can influence health and are each discussed in turn.

Themes	Subordinate themes
Fear	
Anxiety	Specific anxiety symptoms Physiological responses Persistent/chronic anxiety
Depressive symptoms	Low mood Lack of control Helplessness
Secondary emotional responses	
Global well-being consequences	
Lack of effective victim support	Police Other

Table 6.1 The impact of cyberstalking on mental health and well-being

6.5.1 Fear

In line with the definition of cyberstalking, a preponderance of victims experience a heightened sense of fear as a consequence of the cyberstalking ordeal, and fear as an intense emotion may overshadow every other aspect of life, for instance:

My whole life stopped because I was in so much fear. (Participant 19)

In the end I became phobic. (Participant 92)

There are about 6 people who write things about me and to me that make me fearful. (Participant 9)

Also, it seemed that victims found it difficult to determine which self-protective strategy to adopt in response to their fear:

When under fear, in panick (sic) it is difficult to work out what is the best solution. (Participant 54)

Thus, fear was a consequence of the repeated pursuit felt by the victims, and it is possible that victims develop anxiety as a consequence of the fear response and the helpless position they find themselves in to relieve this fear.

6.5.2 Anxiety

It appeared that anxiety could manifest as a post-traumatic stress response or as acute physiologically-based responses such as panic attacks. Some participants reported experiencing intense, disabling anxiety which can be linked specifically to the cyberstalking ordeal. When anxiety is tied to such a traumatic event, it is sometimes accompanied by flashbacks:

I still have flashbacks and experience anxiety when going into my inbox.
(Participant 81)

To this day I still have flashbacks when sat in my front room. (Participant 99)

Taken together, such quotations serve to highlight that vivid memories of the cyberstalking ordeal are re-lived involuntarily, and ultimately, this can have a severe emotional impact. In addition to vivid flashbacks, intrusive recollections were also reported:

I imagine I see his face in every car that passes. (Participant 2)

Collectively, intrusive recollections and vivid flashbacks are commonly reported symptoms of PTSD. Although some participants reported post-traumatic stress symptomology, others overtly stated that they have suffered PTSD as a consequence of the traumatic ordeal:

I became very ill in August 2009 and now suffer complex PTSD/depression as a result of the harassment and abuse. (Participant 92)

Taken together, many victims reported suffering from clinical or subclinical manifestations of PTSD. In addition to distressing recollections and flashbacks, other participants described distress in the form of paranoia and mistrust:

I get paranoied (sic) very easily and reluctant to trust indirect communications. (Participant 54)

I found myself being suspicious of friends and customers who I had known well for years. (Participant 63)

Moreover, some participants described that the various states of anxiety exemplified above may also take the form of panic attacks:

I had panic attacks and nervous breakdowns. (Participant 68)

I still have anxiety attacks when the phone rings. (Participant 67)

Thus, as a consequence of the cyberstalking ordeal, some participants experienced intense periods of overwhelming anxiety alongside pronounced physiological effects. Persistent nausea was reported by one participant who experienced the urge to vomit every time she addressed her incoming mail:

I began to fall apart and would be sick when I had to address incoming email. (Participant 93)

In line with this, heightened anxiety levels manifested as ‘shakes’ in another participant:

Her last email left me shaking. (Participant 72)

In addition, some participants also experienced persistent/chronic anxiety which manifested in the form of constant hypervigilance:

I am constantly looking around my shoulder when leaving school. (Participant 1)

The stress and fear of having to look over your shoulder all the time. (Participant 64)

The emotional impact of cyberstalking could be long-lasting as some participants still experienced anxiety when accessing emails or hearing the phone ringing:

I still..experience anxiety when going to my inbox. My health has not been the same since. (Participant 81)

I still have anxiety attacks when the phone rings. (Participant 67)

6.5.3 Depressive symptoms

Reflecting the fact that anxiety and depression very commonly occur together, profound anxiety was often reported alongside depressive symptoms. For instance, one participant stated she now suffers:

Complex PTSD/depression as a result of the harassment and abuse.
(Participant 92)

Depression encompasses a wide array of symptoms including loss of control, low mood, rumination, and feelings of helplessness and hopelessness. Some participants expressed a lack of control over the situation:

You are made to feel with less control of your life. (Participant 54)

I realised then I had lost all control of the situation. A low point. (Participant 14)

Taken together, such cognitions may contribute to the low mood experienced by victims. For others, low mood was triggered by the stalker's specific tactic:

Her two replies accusing me of all sorts of things I hadn't ever done made me feel pretty low. (Participant 3)

Low mood is accompanied by negative automatic cognitions, which consequently lead to the emotional elements of depression. In line with this, rumination also arises amongst victims as one participant stated:

The whole situation occupied my thoughts constantly. (Participant 63)

In addition, feelings of helplessness were prominent amongst victims, for instance,

Impotence at how little I can do is the main emotion I feel. (Participant 55)

I was helpless to defend myself. (Participant 19)

I was also made to feel helpless about the situation. (Participant 64)

Similarly, participants also expressed pessimistic views of the future, such as,

I feel it is something I will never entirely escape. (Participant 53)

He will follow me for the rest of my life and I can do nothing. (Participant 2)

I realised it was a problem fairly early on, but there was nothing I could do about it. (Participant 95)

Thus, participants felt unable to change the situation; however, by remaining passive, victims may exacerbate their depressive symptoms. Taken together, the cyberstalking ordeal leaves victims with a low opinion of the control they have over their own lives, and thus, with a pessimistic future outlook.

6.5.4 Secondary emotional responses

In addition to the primary emotional consequences detailed above, it appears as though once the acute fear abates, anger or annoyance at the situation is expressed. For instance,

I stopped getting afraid quite some time ago, now I'm more annoyed.

(Participant 14)

Despite resolving this amicably four weeks or so ago, there's still an element of trauma for want of a better term, and I still have a reasonably short fuse.

(Participant 42)

One participant entertained aggressive thoughts and claimed that she wanted to physically assault her stalker:

Punching him in the face! I know that sounds stupid but it made me so angry and upset. (Participant 21)

In addition to anger and annoyance, other participants felt embarrassed by the situation and such negative self-directed affect may serve to deter victims from seeking help, for instance:

I probably should have entered counselling earlier although I felt too ashamed. (Participant 98)

Embarrassment has made me reluctant to involve the police. (Participant 44)

6.5.5 Global well-being consequences

In addition to specific forms of distress and emotion, some participants acknowledged the breadth of potential well-being consequences of cyberstalking as for some the impact was all-encompassing:

On the whole this stalker has had a huge affect on my life and mental stability. (Participant 63)

When I look back I think I was an emotional wreck who didn't know which way to turn. (Participant 63)

I nearly had a breakdown and I am a psychotherapist. (Participant 99)

It was the worst experience of my life. (Participant 80)

The breadth of potential consequences were also highlighted:

I had a friend who killed himself over the EXACT SAME incidents that I experienced, but he did not leave facebook, and therefore took his own life. (Participant 27)

I am no child, but if this was a child, I could see them driven to suicide because of this kind of bullying. (Participant 61)

Victims also reported that the cyberstalking ordeal affected social, interpersonal, and economic aspects of their lives. More specifically, the profound states of chronic anxiety and low mood evidenced above negatively influenced victims' working lives and impaired their relationships with significant others. Job losses can have damaging effects on individuals' well-being and many participants were required to withdraw from their job:

My only response was to withdraw from the public eye almost entirely – pulling out of several high profile jobs. (Participant 53)

Proving that they can hear my conversations and read my emails and files in a deliberate attempt to intimidate me and 'still' me into inactivity which has affected my work and lost me jobs. (Participant 90)

I now have NO email what so ever so makes it hard for me to apply for jobs online. (Participant 17)

In addition to withdrawing from jobs, other victims terminated their use of particular websites, for instance,

I am deaf, and have to leave this site and the many freonds (sic) I have made as it provokes this man. (Participant 9)

Hence some victims lost contact with their online friends as a consequence of curtailing their internet use, and this may induce feelings of isolation. Similarly, many victims reported that the cyberstalking ordeal placed an undue amount of strain on their relationships with significant others. For instance,

She turned a lot of my friends against me and destroyed one good friendship for several years. (Participant 77)

The resulting consequence is that my husband and I had to cut his family out of our lives for good as it is too painful a reminder of the trauma we went through. (Participant 6)

Taken together, the loss of such significant relationships as a consequence of the ordeal may negatively impact victims' well-being.

6.5.6 Lack of effective victim support

In light of such negative consequences, it is not surprising that victims seek professional help. However, the majority of participants expressed strong

dissatisfaction with the lack of support they received in relation to the cyberstalking ordeal. Most victims reported that they were not taken seriously by law enforcement, and in light of this, many victims suggested that an increased awareness of the serious nature of this phenomenon amongst police officers is warranted:

The police didn't take this seriously enough and I felt really stupid and humiliated. (Participant 19)

It was such a struggle to get the police to take it seriously and convince them it was more than just a few words on websites/emails, texts etc. (Participant 20)

Some police officers even found the situation comical during the years. (Participant 56)

I think law enforcement people should be taking cyber harassment more seriously than they are at the moment. It is not just children and teenagers who are affected by it but also adults and so more attention needs to be given to this issue. (Participant 16)

A preponderance of victims reported that they did not receive any support at all and some victims expressed dissatisfaction with the continuity of support. For instance,

I was left on my own with no support. (Participant 19)

The police never referred me to any support organisations. (Participant 15)

I had little continuity from the police which meant that I was often re-telling all the information to different officers. (Participant 15)

More support from the police would have been really helpful. (Participant 99)

In light of this, participants highlighted that law enforcement personnel should signpost victims to anti-stalking organisations:

It would have been better if I had received more proactive advice such as putting me onto an anti-stalking organisation, and empowering me to enable me to deal with it. (Participant 64)

If the police don't have time, they could give the victim the contact details of an anti-stalking organisation. (Participant 63)

In addition, it appeared as though the police did not take action if the victim's physical health was not in jeopardy:

Without physical attack, they seem unwilling to do much. (Participant 74)

As long as you are not physically injured, the police do not act. (Participant 44)

In line with this, one participant suggested that law enforcers should be made aware of the extent of psychological damage sustained by victims of cyberstalking:

Police should be made aware of the distress that the victim is put under.

Some sort of leaflet would be very useful of best actions to take i.e. do not reply, gather evidence etc. (Participant 59)

More worryingly, some participants believe that the way they were dealt with by professionals directly contributed to escalation of negative impact. For instance,

I do not believe that I would have become ill if the Police had taken effective action at a much earlier stage to protect myself and my children. (Participant 92)

Similarly, in other cases, law enforcers exacerbated the victim's feelings of helplessness:

Reporting him (police, website/service providers) made the situation worse too, because it did nothing and therefore I felt more helpless, and like the system was on his side. (Participant 24)

The police did take me seriously but I was also made to feel helpless about the situation. (Participant 64)

Such negative experiences with law enforcement may add to victims' feelings of vulnerability. Thus, victims may feel further disempowered by this apparent lack of effective support, and as a consequence of reporting the ordeal to police without an effective response, they may feel, paradoxically, that the cyberstalker is empowered. Last, some victims were made to feel as though they were at fault:

The police made us feel like we were almost to blame. (Participant 20)

They said it was my fault for putting the information online in teh (sic) first place. (Participant 92)

In addition to the lack of support provided by law enforcement personnel, many participants also expressed strong dissatisfaction with the lack of support they received from other expected sources of help. With regard to social networking sites, a preponderance of victims reported that they did not receive any response from Facebook after they reported the ordeal. For instance,

There was no reponse (sic) from hotmail or facebook in regards to the breach of security – which totally appalled me that they continued to allow this woman to impersonate and abuse me online. (Participant 6)

More worryingly, some participants believed that as they were not offered any form of protection or help from expected sources, this contributed to the escalation of negative impact:

The university did not do anything to protect me, and I feel that a system that was less lenient would have spared me a lot of distress and psychological abuse. I was given no support throughout the whole thing. (Participant 68)

Even health professional friends washed their hands of me and so in that sense, colluded in the abuse of me. (Participant 77)

Having more friends on my side would have given me strength to take steps to stop things much earlier – and probably before it got so out of hand that I had panic attacks and nervous breakdowns. (Participant 68)

In line with this, many victims suggested that increasing general awareness is vital in combatting cyberstalking and the negative emotional consequences. When victims were asked what could have improved the situation, many victims acknowledged the urgent need for increased public awareness, for instance:

People having a better understanding of cyberstalking. My friends, family and employers all reacted very strongly and judged me. (Participant 96)

If my friends had known a little more about what harassment and stalking is, they wouldn't have brushed him off as harmless as long as they did (some of them still do) and refuse to believe that he was a problem for me. (Participant 68)

Even the friends and family who really understand my whole long story still feel obliged to talk to the harasser in social situations leaving me feeling extremely angry that they belittle my experience. (Participant 62)

6.5.7 Coping

Given the negative impact of cyberstalking outlined above, the specific ways that victims reported coping with cyberstalking were also explored. Coping responses can be seen as attempts to respond to an interpersonal stressor and the themes were organised into restrictive behavioural approaches (e.g., avoiding and ignoring the perpetrator) and non-restrictive approaches (e.g., confrontational coping, support seeking, and cognitive reframing). These approaches encompass the different coping strategies drawn on by victims to deal with the situation.

Restrictive behavioural approaches predominately include both avoiding and/or ignoring the perpetrator. For instance, most victims modified their usual daily activities through fear of encountering the perpetrator:

I stopped answering all phone calls. I also stopped looking out my window when being attracted to do so. (Participant 74)

I had to..modify my day-to-day schedule so I wouldn't see him. (Participant 69)

I also avoided places where I knew he would normally be. (Participant 50)

Similarly, many victims restricted their social media activity in order to avoid coming into contact with the perpetrator online. Specifically, many victims avoided particular webpages, and changed both their email address and/or privacy settings on social networking sites in order to limit the perpetrator's access:

I don't go on social networking sites anymore or even own a mobile phone. (Participant 20)

I left the forum and all my blog/other social networking have privacy settings to friends only. (Participant 21)

I changed my email address after a couple of months. (Participant 59)

Therefore, many participants used some form of avoidant coping for short-term relief, and although this coping strategy does not appear to improve victims' quality of life, it appears to be effective as, in most cases, it successfully terminated unwanted intrusions:

I quit the internet totally and that pretty much blocked off his communications with me. (Participant 50)

When I stopped using social networking sites, I did not have to be subjected to the abuse that I received on them. (Participant 27)

By adopting this coping strategy, victims appear to be proactively trying to protect themselves and this coping strategy successfully made individuals less accessible to the perpetrator. However, one participant expressed resistance to adopting this coping strategy as, by avoiding particular social media platforms, the victim felt paradoxically that the cyberstalker was given more control:

When I approached an anti-stalking organisation about it, they replied and suggested I stop using the forums, stop my blog or use a different name. I already did that once, and as far as I can see, that's making me act like a

victim and playing right into a stalker's hands. I would prefer it if I was the one empowered, rather than the stalker. (Participant 3)

In contrast, other victims took control of the situation by ignoring the perpetrator, for instance:

I ignored the problems which was quite difficult. (Participant 30)

For some victims, adopting this coping strategy also appeared to effectively deal with the unwanted intrusions:

Ignoring him was probably the best response as any response from me appeared to either inflame him or make him happy. (Participant 64)

The only thing that helped was refusing to communicate with him at all. (Participant 67)

Ignoring and not reacting if possible, is quite effective. (Participant 54)

In contrast to taking control by ignoring the perpetrator, other participants took a more agentic stance by directly confronting the perpetrator. By adopting this coping strategy, victims appeared to be addressing the command imbalance by attempting to regain power, for instance:

I told them to leave me alone. The e-mails stopped but stalking online didn't. (Participant 19)

However, this coping strategy may be psychologically rewarding for the perpetrator, and thus, in some cases directly communicating with the perpetrator inflamed the situation, for instance:

Responding did not help. He just learned that the price for talking to me was calling 30+ times in a row. (Participant 67)

Confronting her via email just made her send more abusive emails. (Participant 76)

Any attempt to tell her to stop just makes it worse. She ramps it up even more. (Participant 7)

Moreover, for other victims, an authoritative figure directly contacted the perpetrator. It appears as though when perpetrators are addressed by a figure of authority, this may reduce the victim's vulnerability in the perpetrator's mind as adopting this coping strategy appeared to culminate in desistance, for instance:

When the police finally took action and issued a harassment order things seemed to improve. (Participant 100)

I contacted the head of my college department, as my harasser was in the same major as me, and he interceded. After that the harassment stopped.

(Participant 75)

Social support seeking was also evident and primarily included disclosing the situation to friends and family members:

I contacted friends and circulated messages which had been sent privately.

They then provided a barrier between myself and the individual. (Participant 22)

By sharing the abuse with a close circle of friends/relatives and dealing with it in journalistic terms, at no time have I become paranoid, despite much anxiety suffered. (Participant 85)

My father wrote him a priority letter threatening him that if he did not desist we would get the police involved. (Participant 69)

However, indirectly communicating with the perpetrator may in some cases inflame the situation, for instance:

Allowing a friend to respond on my behalf inflamed the situation. (Participant 48)

Although for others, this coping strategy was effective:

It only improved after my father rang him to ask him to stop. (Participant 25)

Last, a preponderance of victims adopted a coping strategy known as cognitive reframing. These participants attempted to reframe the meaning of their experiences and tried to understand the perpetrator's behaviour by basing it in a framework, for instance:

Even after everything she has done, I don't hate her. I just want her to get some treatment and leave me alone. (Participant 7)

She needs mental health support. I was scared but understand she needs care. (Participant 19)

Here, victims were trying to find a way to construe the ordeal as filled with meaning and these participants did not accept victimhood or blame themselves for the ordeal. Thus, the ability to cognitively reframe thoughts could enable the re-establishment of some emotional control, laying the course to a more resilient path. By empathically representing their stalker as a person in distress and in need of help, a repositioning of their own responsive behaviour and stance was enabled. Thus, reframing the experience less as a self-focused emotional ordeal and more in terms of other-

focused emotional understanding changes how the victim experiences and reacts to the ordeal placing it in an understandable framework while also making it even less about 'blaming' the self. In fact, a preponderance of victims were empathic towards their stalker, stating that such behaviour must emerge as a result of a mental health difficulty in the perpetrator. For example,

Worrying emails that obviously came from a mentally ill mind. (Participant 40)

By this time I was aware that he had multiple addictions and appeared delusional. (Participant 93)

The extent to which such representations reduced or exacerbated fear or anxiety could not be extracted from the data however.

6.6 Discussion

The thematic analysis of material voluntarily offered within an online survey launched by the National Centre for Cyberstalking Research (NCCR) has provided nuanced insights about both the emotional and restrictive lifestyle consequences of cyberstalking, and the experience of care from law enforcement and other professional agencies. The current findings suggest that the emotional impact of cyberstalking predominantly includes co-morbid anxiety and depression. Profound states of chronic anxiety and low mood negatively influenced victims' working lives and impaired their relationships with significant others. Victims employed a wide array of coping strategies to deter perpetrators and manage the negative emotional impact of the unwanted pursuit. Common coping strategies adopted by victims included avoidant coping, ignoring the perpetrator, confrontational coping, support seeking, and cognitive reframing. Unfortunately, when victims sought help, it seems that the way they were dealt with by police officers and significant others increased, rather than decreased, the negative impact of the ordeal.

It appears that the psychological consequences of experiencing cyberstalking are broadly comparable to those of traditional stalking, including depressive symptoms, heightened anxiety levels, and post-traumatic stress responses (Kuehner et al., 2007; Pathé & Mullen, 1997; Purcell et al., 2005). The qualitative findings reported here are also in line with earlier quantitative cyberstalking research which showed that over half of victims reported feelings of helplessness and anxiety (Dreßing et al., 2014). Further to this, the coping strategies employed by victims of

cyberstalking are consistent with the typology of common coping strategies offered by Cupach and Spitzberg (2004) as being employed by victims of traditional stalking. For instance, confronting the perpetrator and cognitive reframing reflect 'moving towards' coping strategies, avoidant coping reflects 'moving away' coping strategies, ignoring the perpetrator reflects 'moving inward' coping strategies, and seeking support from external sources reflects 'moving outward' coping strategies.

The relationship between cyberstalking victimisation and emotional distress is likely to be influenced by the resilience or vulnerabilities of the victims, and as coping strategies have been linked to psychological functioning, they represent viable targets for intervention. The ability to cognitively restructure thoughts may enable resilience as, based on the comments made by our sample, being able to empathically represent the stalker as themselves a distressed person and internally framing their behaviour appears to form part of dealing with the ordeal effectively. However, the reports of many victims did not indicate that this cognitive coping strategy was adopted, and instead, victims reported modifying their usual daily activities and restricted their social media activity in order to avoid coming into contact with the perpetrator. Although this coping strategy successfully made victims less accessible to their stalker, as the internet has become increasingly important in many facets of life, especially communication and social interaction, there were negative social consequences associated with avoiding the online milieu such as social disconnectedness and job losses. More specifically, restricting access to social media platforms often separates victims from positive social connections with friends and family, and this may subsequently reduce access to social support and increase feelings of isolation. As coping strategies have the potential to determine the mental health outcomes experienced by victims, coping responses should represent a key target for therapeutic intervention, and establishing adaptive, cognitive coping strategies may be beneficial in helping victims regain a sense of empowerment and mastery.

The current findings also suggest that victims frequently engage with law enforcement personnel to both gain support and to provide evidence for investigation. Victims' feedback about this engagement provides insights for practitioners as the current support and protection available to victims of cyberstalking seems unreliable and inadequate. Most notably, the victims acknowledged that during the cyberstalking ordeal, a supportive police officer who

understands the complex nature of cyberstalking is required as most victims reported that the actions of expected sources of help were ineffectual, and victims were often made to feel as though they were to blame. It is notable that, unlike preferred practice in relation to victims of face-to-face harassment, participants in this survey reported lack of consistency in their dealings with the police. Given the intense distress experienced in response to cyberstalking, parity of practice is clearly needed. Instead, victims reported being questioned by a number of different police officers, and expressed frustration due to this inconsistency. Hence, in future, the number of officers interacting with the victim should be limited in order to enhance consistency and continuity. Finally, in the limited number of cases where the police did act, the victims were not kept informed about the progress of the case. Thus, a further recommendation is that all victims should be informed as the case progresses according to the protocol. On balance, it is clear that victims of cyberstalking have to deal with a number of additional stressors; first as a direct consequence of the perpetrators behaviour followed by what is viewed as ineffectual support from law enforcement personnel. In order to minimise the feeling of revictimisation, police officers should demonstrate appropriate empathy as instantiated in best practice guidance procedures associated with traditional stalking. To this end, workshops and training courses should be provided to law enforcers to increase awareness of the extent of psychological damage sustained by victims and the importance of treating cyberstalking offences seriously from first responder. Overall, the process should culminate in a referral to suitable support agencies when necessary.

In line with this, given the extent of psychological damage sustained by victims of cyberstalking, a referral to psychological therapy should be made available for victims when necessary as the current findings demonstrate that the experience prompts negative evaluations about themselves, others, and/or the world. More specifically, a course of cognitive behavioural therapy focusing on the victim's cognitions may assist in restructuring any morbid perceptions as it is common for victims of cyberstalking to become hypervigilant and develop a view of the world as unsafe, a view of the self as helpless and to blame, and a view of the future that is hopeless and pessimistic. Thus, restoring the victim's view of him or herself as a worthwhile individual and correcting generalised threat-focused evaluations about the world should be of principal importance. In addition, therapists should focus not only on the victim's cognitions, but also equally on their avoidance

responses/‘safety’ behaviours. The current findings demonstrate that victims frequently avoid external cues associated with the ordeal, such as the phone ringing, incoming mail, certain websites, and places associated with the perpetrator in order to prevent becoming overwhelmed with difficult emotions. However, such avoidant coping or ‘safety’ behaviours are often counterproductive as, although in the short term avoidance behaviours will be rewarded by a reduction in distress, in the long term such behaviours may exacerbate the victim’s restrictive behaviours and feelings of isolation which may lead to detachment. For instance, one participant was advised by law enforcement personnel to restrict their social media activity by withdrawing from a particular website; however, as a consequence, the victim lost contact with his social connections and may have felt, paradoxically, that the cyberstalker was empowered. Avoidance may respond to behavioural techniques, which assist victims to gradually resume abandoned daily activities such as answering the phone or addressing incoming mail and manage the associated anxiety. Taken together, interventions should focus on both restructuring any morbid perceptions and teaching victims not to adopt habitual avoidant coping strategies or ‘safety’ behaviours.

Despite the practical implications of the current study, there are several limitations that require consideration when interpreting the findings. First, as the survey was disseminated through online channels, those victims with limited access to digital technologies may not be represented, particularly as the current findings demonstrated that it is common for victims to avoid the internet as a consequence of their cyberstalking ordeal. Second, as the sample consisted of individuals who were self-identified victims there is potential for bias in the responses. Participants may have already been aware of the British Charity Network for Surviving Stalking as a result of their cyberstalking ordeal. Therefore, the current sample may be considered unrepresentative of cyberstalking victims in the general population. The sample may have recruited those more aware and distressed victims, which may have influenced the current analysis. Nevertheless, these criticisms can in part be balanced against the number of responders. Equally, it is important to highlight that the reports of the victims in this particular survey may be an underestimation of the extent of negative consequences of cyberstalking. This is because the survey questions did not explicitly ask participants to reflect on their emotional responses. As the data were extracted from a series of broad open-ended questions not tailored specifically toward mental health and well-being, the analysis is an emerging, unprompted story,

and this therefore is considered one of the key strengths of the current study. Thus, using the open-ended questions enabled an untainted and potentially more accurate story to be elicited, and adopting this approach also enabled those critical aspects of mental health and well-being to emerge.

Based on the sheer number of victims reporting or suspecting the presence of psychological difficulties in their stalkers, further research should investigate the link between mental health difficulties and cyberstalking behaviour. Qualitative data from the perpetrators of this crime would be extremely effective in ascertaining the nature of cyberstalking, and in particular, the association between life experiences, mental health difficulties, and cyberstalking behaviour. In line with this, some victims were empathic towards their stalker by acknowledging that their perpetrator needs mental health support. Further research could therefore explore gender differences among cyberstalking victims as, in line with the fear of crime literature (e.g., Warr & Ellison, 2000), female cyberstalking victims may be more likely to express fear for themselves, whereas male cyberstalking victims may be more likely to express concern for their stalker. Last, as revenge porn is becoming increasingly prevalent (Kamal & Newman, 2016), future research should qualitatively examine the narratives of revenge porn victims, specifically with regard to the mental health and well-being consequences as well as the coping strategies used to manage the ordeal effectively. The authors are currently investigating this issue as, to date, this phenomenon has received very little empirical attention.

To summarise, this study is the first to qualitatively examine both the negative emotional impact of cyberstalking and individuals' coping responses. Data analysis indicates the extent of the psychological and social impairments experienced by victims of cyberstalking behaviour and highlights that this phenomenon should be an immediate concern to both legal and mental health professionals alike. There is scope for improvement in how victims are dealt with and increasing general awareness is vital. It is noteworthy that the stalking threat does not have to be physical to cause psychological damage, and in this, the findings appear to consolidate previous results of quantitative studies of cyberstalking, such as those presented by Dreßing et al. (2014). The relationship between cyberstalking victimisation and emotional distress is likely to be influenced by the resilience or vulnerabilities of the victims, and as coping strategies have been linked to psychological functioning, they represent viable targets for intervention. Specifically,

the ability to cognitively restructure thoughts may enable resilience as being able to empathically represent the stalker as themselves a distressed person appears to form part of dealing with the ordeal effectively. However, many victims frequently engaged in avoidance/‘safety’ behaviours in attempt to both avoid feelings of distress regarding their victimisation and avoid coming into contact with the perpetrator. Consequently, interventions should focus on enabling victims to not habitually rely on avoidant coping strategies in addition to restructuring any morbid perceptions. Intervening before avoidance or ‘safety’ behaviours become ingrained and fostering adaptive cognitive coping strategies may enable victims to regain a sense of empowerment. In sum, as technology continues to develop, cyberstalking rates will continue to rise, therefore, a more coherent approach to understanding and addressing this nuisance behaviour is necessary in order to prevent cyberstalking from occurring and also to mitigate the effects after such cybervictimisation has occurred.

6.7 Chapter summary

This Chapter contributed to the overall aim of the present thesis as it explores the relationship between the online world and mental health with a specific focus on cyberstalking victimisation and mental health difficulties. This Chapter also addressed the third thesis aim as it identified potential protective factors that lessen the negative psychological impact on people who report negative online experiences.

This Chapter addressed the final research question in this thesis as it explored the factors that protect against and confer vulnerability to negative outcomes following cyberstalking victimisation from victims’ perspectives. The findings presented in this Chapter qualitatively extend previous literature by providing nuanced understandings of the psychological and interpersonal consequences of cyberstalking victimisation. The findings further reveal that the relationship between cyberstalking victimisation and mental distress is influenced by the prevailing resilience or vulnerabilities of the victims. In sum, this Chapter contributes to the development of currently limited knowledge and understanding of cyberstalking and informs social and institutional responses to victims.

6.8 References

- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders (4th ed.)*. Washington, DC: Author.
- Baum, K., Catalano, S., Rand, M., & Rose, K. (2009). *Stalking victimization in the United States*. Washington, DC: U.S. Department of Justice.
- Blaauw, E., Winkel, F. W., Arensman, E., Sheridan, L., & Freeve, A. (2002). The toll of stalking: The relationship between features of stalking and psychopathology of victims. *Journal of Interpersonal Violence, 17*(1), 50-63. doi:10.1177/0886260502017001004
- Bocij, P., Griffiths, M., & McFarlane, L. (2002). Cyberstalking: A new challenge for criminal law. *The Criminal Lawyer, 122*, 3-5.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. doi:10.1191/1478088706qp063oa
- Brewster, M. P. (1998). *An exploration of the experiences and needs of former intimate stalking victims: Final report submitted to the National Institute of Justice*. West Chester, PA: West Chester University.
- Cupach, W. R., & Spitzberg, B. H. (2004). *The dark side of relationship pursuit: From attraction to obsession and stalking*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Dreßing, H., Bailer, J., Anders, A., Wagner, H., & Gallas, C. (2014). Cyberstalking in a large sample of social network users: Prevalence, characteristics, and impact upon victims. *Cyberpsychology, Behavior, and Social Networking, 17*(2), 61-67. doi:10.1089/cyber.2012.0231
- Fox, J. (2016). The dark side of social networking sites in romantic relationships. In B. K. Wiederhold, G. Riva, & P. Cipresso (Eds.), *The psychology of social networking: Personal experience in online communities* (pp. 78-89). Berlin: De Gruyter Open.
- Geistman, J., Smith, B., Lambert, E. G., & Cluse-Tolar, T. (2013). What to do about stalking: A preliminary study of how stalking victims responded to stalking and their perceptions of the effectiveness of these actions. *Criminal Justice Studies, 26*(1), 43-66. doi:10.1080/1478601X.2012.712534
- Johansen, K. B. H., & Tjørnhøj-Thomsen, T. (2016). The consequences of coping with stalking—results from the first qualitative study on stalking in Denmark. *International Journal of Public Health, 61*(8), 883-889. doi:10.1007/s00038-016-0851-7
- Kamal, M., & Newman, W. J. (2016). Revenge pornography: Mental health implications and related legislation. *Journal of the American Academy of Psychiatry and the Law, 44*(3), 359-367.
- Kamphuis, J. H., & Emmelkamp, P. M. G. (2001). Traumatic distress among support-seeking female victims of stalking. *American Journal of Psychiatry, 158*(5), 795-798. doi:10.1176/appi.ajp.158.5.795
- Kraft, E. M., & Wang, J. (2010). An exploratory study of the cyberbullying and cyberstalking experiences and factors related to victimization of students at a public liberal arts college. *International Journal of Technoethics, 1*(4), 74-91. doi:10.4018/jte.2010100106
- Kuehner, C., Gass, P., & Dressing, H. (2007). Increased risk of mental disorders among lifetime victims of stalking - findings from a community study. *European Psychiatry, 22*(3), 142-145. doi:10.1016/j.eurpsy.2006.09.004
- Lazarus, R. S. (1998). *Fifty years of the research and theory of R. S. Lazarus*. Mahwah, NJ: Lawrence Erlbaum Associates.

- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Maple, C., Short, E., & Brown, A. (2011). *Cyberstalking in the United Kingdom: An analysis of the ECHO pilot survey*. Luton: National Centre for Cyberstalking Research.
- McEwan, T. E., Mackenzie, R. D., Mullen, P. E., & James, D. V. (2012). Approach and escalation in stalking. *Journal of Forensic Psychiatry and Psychology*, 23(3), 392-409. doi:10.1080/14789949.2012.679008
- Nobles, M. R., Reynolds, B. W., Fox, K. A., & Fisher, B. S. (2014). Protection against pursuit: A conceptual and empirical comparison of cyberstalking and stalking victimization among a national sample. *Justice Quarterly*, 31(6), 986-1014. doi:10.1080/07418825.2012.723030
- Office for National Statistics. (2015). Chapter 4: Violent crime and sexual offences – intimate personal violence and serious sexual assault. Retrieved from http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/dcp171776_394500.pdf
- Pathé, M., & Mullen, P. E. (1997). The impact of stalkers on their victims. *The British Journal of Psychiatry*, 170(1), 12-17. doi:10.1192/bjp.170.1.12
- Purcell, R., Pathe, M., & Mullen, P. E. (2005). Association between stalking victimisation and psychiatric morbidity in a random community sample. *British Journal of Psychiatry*, 187, 416-420. doi:10.1192/bjp.187.5.416
- Sheridan, L. P., & Grant, T. (2007). Is cyberstalking different? *Psychology, Crime & Law*, 13(6), 627-640. doi:10.1080/10683160701340528
- Shimizu, A. (2013). Domestic violence in the digital age: Towards the creation of a comprehensive cyberstalking statute. *Journal of Gender, Law & Justice*, 28(1), 116-137.
- Short, E., Guppy, A., Hart, J. A., & Barnes, J. (2015). The impact of cyberstalking. *Studies in Media and Communication*, 3(2), 23-37. doi:10.11114/smc.v3i2.970
- Short, E., Linford, S., Wheatcroft, J. M., & Maple, C. (2014). The impact of cyberstalking: The lived experience - A thematic analysis. *Studies in Health Technology and Informatics*, 199, 133-137. doi:10.3233/978-1-61499-401-5-133
- Smith, K., Coleman, K., Eder, S., & Hall, P. (2011). *Homicides, firearm offences and intimate violence 2009/10*. London: Home Office.
- Spitzberg, B. H. (2002). The tactical topography of stalking victimization and management. *Trauma, Violence, & Abuse*, 3(4), 261-288. doi:10.1177/1524838002237330
- Warr, M., & Ellison, C. G. (2000). Rethinking social reactions to crime: Personal and altruistic fear in family households. *American Journal of Sociology*, 106(3), 551-578. doi:10.1086/318964
- WHO. (1946). Constitution of the World Health Organisation. *American Journal of Public Health and the Nations Health*, 36(11), 1315-1323.

PART 4
Discussion and conclusions

Chapter 7

General discussion

7.1 Foreword

The general aims of the present thesis were three-fold. The first aim of the thesis was to explore the interplay between the online world and mental health. The primary focus was on internet experiences that are particularly relevant to young people, namely excessive social media use and cyberbullying victimisation. Second, the thesis aimed to better understand the psychology that underpins these online experiences. In concert with this aim, the thesis also attempted to identify potential protective factors which may lessen the negative impact on people who report negative online experiences. The four studies presented in this thesis addressed a number of empirical questions relevant to understanding factors that are related to vulnerability or that confer resilience to challenges resulting from online activity. Three research questions were examined:

1. What are the risk factors associated with problematic social media use?
2. What factors confer vulnerability to cyberbullying victimisation and what factors protect against its negative consequences?
3. According to victims' perspectives, what factors protect against or confer vulnerability to negative outcomes following cyberstalking victimisation?

To address the first research question, Chapters 3 and 4 examined the psychological and social factors underpinning problematic social media use. Chapter 3 explored problematic social media use from the perspective of attachment theory, examining whether there exist relationships between insecure attachment dimensions and problematic use of social media. Building on the quantitative findings presented in Chapter 3, a developmental model of problematic social media use from an attachment-based perspective was presented in Chapter 4. To address research question 2, Chapter 5 explored the characteristics of those who report experiencing cyberbullying victimisation, and whether cognitive and psychological factors including secure attachment, social support, and positive coping styles conferred resilience to the adverse effects of cyberbullying victimisation. To address the final research question in this thesis, Chapter 6 explored the factors that confer vulnerability or protection in the face of cyberstalking.

This final Chapter will provide specific and integrative summaries of the findings, address the overall strengths and limitations of the studies, consider implications and recommendations, and specify potential directions for future research. The concluding section will draw together the main findings of the thesis, detailing how this body of research has contributed to our understanding of the relationship between online activity and mental health, particularly among young people.

7.2 Specific findings

7.2.1 Research question 1: What are the risk factors associated with problematic social media use?

Although numerous risk factors have been identified in relation to generalised problematic internet use, less research has focused specifically on problematic social media use. In order to address the need for better theoretical accounts in this area, studies 1 and 2 explored problematic social media use from the perspective of attachment theory.

Chapter 3 revealed theoretically consistent relationships between insecure attachment dimensions and excessive social media use. In line with findings grounded in attachment theory, while greater attachment anxiety was associated with higher levels of problematic use of social media, less avoidance in attachment relationships was also associated with higher levels of problematic use. In the domain of interpersonal relationships, social media may confer advantages over face-to-face interactions for people characterised by attachment anxiety as social media enables perpetual contact and enhanced control over self-presentation. Indeed, it may be that those who are characterised by attachment anxiety spend more time on social media sites perfecting their self-portrayal in order to ensure that other users view them positively. As attachment anxiety is associated with a need for social validation, social media provides a conduit for this without the need for potentially fear-inducing face-to-face social interactions which may, in turn, increase people's risk of problematic use, and as these individuals have a negative view of the self, they may believe that having a large number of friends or followers on social media and receiving likes or comments on their posts equates to success. Further to this, as social media enables perpetual contact with others, people who are high in attachment anxiety have instant access to social interaction with a myriad of people.

Thus, it is possible that social media platforms provide a sense of closeness and belonging that satisfies attachment needs in people who are characterised by attachment anxiety. The findings therefore highlight the importance of the online context in addressing unmet psychological needs as the need to compensate for a lack of belonging and social reassurance in face-to-face interactions may drive excessive social media use. Conversely, avoidant people are not characterised by such needs, and the negative association we observed between attachment avoidance and problematic social media use was consistent with a need for self-reliance among avoidant individuals. Thus, attachment avoidance was found to confer protection in this context.

Taken together, these findings suggest that attachment anxiety is a vulnerability factor and attachment avoidance is a protective factor in the context of social media overuse. These findings are consistent with expectations based on attachment theory and suggest that the way people experience and use social media may have a direct relationship with their style of attachment. Although these conclusions are in line with the characteristics associated with both insecure attachment dimensions, the findings extend current understanding as, prior to this research, attachment avoidance was considered to be a factor that confers vulnerability across diverse contexts. However, the present findings suggest that, in the online context, attachment avoidance confers protection.

Building on the findings presented in Chapter 3, the data in Chapter 4 support a developmental process model of problematic social media use. The developmental model of problematic social media use evaluated insecure attachment as a candidate developmental process by which childhood maltreatment contributes to problematic social media use. We also tested whether the relationship between childhood maltreatment and problematic social media use was mediated through both insecure attachment dimensions (i.e., attachment anxiety and avoidance) operating in series with depressive symptoms.

The key finding presented in Chapter 4 was that childhood maltreatment leads to problematic social media use in young adulthood. Because people who have been maltreated are more likely to mistrust others and may fear abandonment or rejection as a consequence, this may subsequently limit their desire or ability to seek support in and from relationships (Bifulco & Thomas, 2012). People who have suffered childhood maltreatment may perceive others as unavailable or feel isolated

from their support system, and they may therefore overuse social media as a means to find alternative social networks.

The findings presented in Chapter 4 also revealed that the relationship between childhood maltreatment and problematic social media use was mediated by attachment anxiety and attachment avoidance in opposing directions. Specifically, both greater attachment anxiety and less avoidance in attachment relationships were associated with higher levels of problematic social media use. Further to this, we found that both attachment avoidance and depressive symptoms in series did, in part, account for the relationship between childhood maltreatment and problematic social media use, whilst both attachment anxiety and depressive symptoms in series fully accounted for the relationship between childhood maltreatment and problematic social media use.

To summarise the findings presented in Chapter 4, childhood maltreatment may lead to problematic social media use directly, but also indirectly through its impact on attachment styles and mental health. Abusive and neglectful home environments foster insecure attachment patterns with caregivers, leaving infants with limited exposure to positive models and an inability to develop appropriate coping strategies. As limited opportunities for reinforcement of appropriate coping strategies and emotional expressivity increases young people's risk for depressive symptoms, in order to alleviate their psychological distress, young people may use social media as a coping strategy; however, this can result in overuse. This is similar to the social compensation hypothesis in that young people with underlying depression may use social media to distract themselves from feelings of sadness.

Taken together, the findings presented in Chapters 3 and 4 suggest that problematic social media use can be understood within an attachment theory framework. These findings indicate that attachment theory is a powerful theoretical framework that usefully extends current understanding of the development and persistence of problematic social media use. The advantage of using an attachment theory approach is that it offers a more theoretically grounded framework for understanding why people overuse social media, a question often overlooked in this research area (Kardefelt-Winther, 2014, 2017a). Our model of problematic social media use expands on previous research by highlighting childhood maltreatment as a previously unconsidered risk factor that may underpin apparent overuse, and examining insecure attachment and depressive symptoms as possible risk factors in

experiencing problematic social media use following adverse childhood experiences. In sum, these findings illustrate the value of attachment theory in understanding the development and persistence of problematic social media usage, and although social media use is a normal and widespread modern behaviour, programmes targeting attachment styles could prove fruitful in preventing overuse.

7.2.2 Research question 2: What factors confer vulnerability to cyberbullying victimisation and what factors protect against its negative consequences?

Further to examining developmental precursors to problematic social media use, the developmental factors that confer vulnerability to cyberbullying victimisation, a common negative sequelae for young people who make heavy use of social media (Sampasa-Kanyinga & Hamilton, 2015), were explored in Study 3. Chapter 5 revealed that victims of cyberbullying endorsed self-statements indicative of attachment anxiety more than non-victims. In line with the findings outlined above, these individuals may be especially vulnerable to cyberbullying victimisation as they tend to overuse social media to compensate for a lack of belonging and social reassurance in face-to-face interactions. Consequently, those who spend more time on social media are exposed to more opportunities for cyberbullying. In terms of prevention, the identification of vulnerable young people may serve to thwart possible cyberbullying incidents, and as victims of cyberbullying endorsed self-statements indicative of attachment anxiety more than non-victims, parents may play an important role in preventing cyberbullying victimisation. With regard to attachment avoidance, however, there were no differences between victims and non-victims. Thus, in line with our previous findings, attachment avoidance does not confer vulnerability in this context.

In support of existing research, our findings demonstrate that cyberbullying victimisation presents a clear risk for symptoms of depression and anxiety in adolescence. Study 3 also examined whether the relationship between cyberbullying victimisation and symptoms of depression and anxiety was attenuated by attachment security, perceived social support, and specific coping styles. The findings revealed that attachment security attenuated the positive relationship between cyberbullying victimisation and symptoms of depression and anxiety. This finding is compatible with the proposition that attachment security is a resilience resource that sustains mental health even during times of trauma. Further to this, the positive cognitive

coping strategies of refocusing and reappraisal also significantly attenuated the positive association between cyberbullying victimisation and symptoms of depression and anxiety. Thus, the ability to cognitively reappraise or refocus thoughts may enable adolescents to re-establish some emotional control. The findings presented in Chapter 5 also demonstrate that perceived peer support attenuated the relationship between cyberbullying victimisation and symptoms of depression and anxiety. Social support offered by peers may serve a stress-relieving function that enables victims to cope more effectively with the psychological sequelae of cyberbullying. As social support from peers may help to reduce stress levels and enable victims of cyberbullying to cope effectively, this form of social support may be an important mechanism to bolster resilience among victims of cyberbullying. Familial support did not appear to buffer adolescents from mental distress in this context. However, family support was the strongest bivariate predictor of reduced mental distress. Thus, family support may be important for reducing psychological distress in general, whereas peer support may be particularly helpful in the context of cyberbullying victimisation. It is possible that adolescents are not comfortable discussing the contents of the cyberbullying encounters with their parents as it may be embarrassing, morally reprehensible, or may even be illicit. Thus, sharing such experiences with parents may be anxiety-provoking. Parents may also, in response, decide to impose restrictions on internet use as a way of trying to limit the exposure.

To summarise, as the findings presented in Chapter 5 demonstrate that cyberbullying presents a threat to adolescents' mental health, preventing this form of victimisation is an important public health matter. The findings from Study 3 move understanding forward by illustrating that whilst attachment anxiety confers vulnerability to cyberbullying victimisation, attachment security buffers the positive relationship between cyberbullying victimisation and mental distress in adolescence. As these findings are in line with previous research exploring the role of attachment in traditional bullying (Kokkinos, 2013; Kokkinos, Voulgaridou, Koukoutsis, & Markos, 2016), our existing knowledge concerning the importance of supportive parent-child relationships can be applied to prevention and intervention programmes targeting negative online experiences and the adverse psychological sequelae. Thus, universal prevention programmes targeting attachment styles could prove fruitful. In addition, these findings further contribute to the literature by illustrating the

protective role of perceived peer support and positive coping styles against symptoms of depression and anxiety due to cyberbullying. These findings apply to both resilience and vulnerability as low scores for each factor explain why some adolescents experience more emotional distress than others. Thus, this research contributes to our understanding of the factors that underlie individual heterogeneity in response to cyberbullying victimisation.

7.2.3 Research question 3: According to victims' perspectives, what factors protect against or confer vulnerability to negative outcomes following cyberstalking victimisation?

Chapter 6 explored the psychological and interpersonal harms of being stalked via electronic means through the voices and experiences of 100 cyberstalking victims, as well as the vulnerabilities and resilience of the victims. According to victims' narratives, the emotional impact of cyberstalking predominately includes comorbid depression and anxiety. The findings presented in Chapter 6 also reveal that the relationship between cyberstalking and mental distress is influenced by the prevailing resilience or vulnerabilities of the victims. With regard to psychological resilience, some victims explicitly stated that the social support they received from significant others conferred protection against the development of mental health difficulties. In line with this, other victims suggested that social support from family and friends would have equipped them with the strength to take action before their mental health deteriorated. However, when some victims sought help from significant others, it appeared to increase, rather than decrease, the negative impact of the cyberstalking ordeal. For example, when victims were not offered any form of protection or support from expected sources, this lack of support directly contributed to the escalation of negative impact. As social support may be an important mechanism to bolster resilience among victims of cyberstalking, it is important to increase general awareness about the nature and psychological impact of cyberstalking as many victims highlighted that it is common for friends, family members, colleagues, and employers to judge them or to trivialise and downplay their experiences.

In line with this suggestion, some victims believe that the way they were dealt with by professionals directly contributed to escalation of negative impact. In fact, some victims stated that if law enforcement personnel had taken effective action

at an earlier stage, then they would not have experienced mental distress. Further to this, law enforcers often exacerbated feelings of helplessness by making victims feel as though the system was on the perpetrator's side. Indeed, it is possible that negative experiences with law enforcement personnel add to victims' feelings of vulnerability as some victims felt further disempowered by this apparent lack of effective support. Many victims were also made to feel as though they were to blame and feelings of self-blame may confer vulnerability to negative outcomes.

Coping strategies drawn on by victims of cyberstalking in Study 4 were categorised as either restrictive behavioural approaches (e.g., avoiding and ignoring the perpetrator) or non-restrictive approaches (e.g., confrontational coping, support seeking, and cognitive reframing). With regard to the former, many victims modified their usual daily activities and restricted their use of social media in an attempt to avoid coming into contact with the perpetrator and becoming overwhelmed with difficult emotions. Although avoidant coping behaviours are often rewarded in the short term, this form of coping may exacerbate victims' restrictive behaviours and feelings of isolation. On the other hand, some victims reported adopting a coping strategy known as cognitive reframing. This coping strategy involves reframing the meaning of the experience and trying to understand the perpetrator's behaviour by basing it in a framework. As these victims were trying to find a way to construe the ordeal as filled with meaning, they did not accept victimhood or blame themselves for the ordeal. Victims who respond to cyberstalking by placing it in an understandable framework make the ordeal less about 'blaming' the self, and the ability to cognitively reframe thoughts may enable the re-establishment of some emotional control and lay the course to a more resilient path. However, the extent to which such representations reduced or exacerbated distress could not be extracted from the data.

To summarise, the findings presented in Chapter 6 demonstrate that cyberstalking presents a threat to people's mental health. These findings further contribute to the literature by illustrating the protective role of social support in the context of cyberstalking. This finding relates to both resilience and vulnerability as some victims suggested that a lack of social support led to the manifestation of mental health difficulties. Adaptive cognitive coping styles may lay the course to a more resilient path; however, less adaptive coping strategies appear to be a common response to cyberstalking victimisation. Hence, intervening before avoidance or

‘safety’ behaviours become ingrained and fostering adaptive cognitive coping strategies may enable victims to regain a sense of empowerment. In sum, this research furthers our understanding of the factors that underlie individual heterogeneity in response to cyberstalking victimisation.

7.3 Integrative summary

The work contained in this thesis explores the relationship between the online world and mental health. Specifically, the empirical chapters comprising part two of this thesis focused on the relationship between mental health and excessive social media usage. The findings revealed that psychological well-being was negatively associated with excessive usage, whereas depression was positively associated with excessive usage. Taken together, these findings suggest that young people with low well-being or poor mental health may be overusing social media in an attempt to alleviate their psychological distress or feelings of low well-being. Moreover, the empirical chapters comprising part three of this thesis focused on the relationship between cybervictimisation and mental health difficulties. The findings demonstrated that cyberbullying victimisation was positively associated with symptoms of depression and anxiety in adolescence, and according to victims’ narratives, the emotional impact of cyberstalking predominantly includes comorbid depression and anxiety. Experiencing cyberbullying or cyberstalking may result in symptoms of depression and anxiety due to the repetitive and pervasive nature of these forms of online victimisation.

With regard to vulnerability in the digital age, attachment anxiety was consistently found to confer vulnerability in the context of internet use. Specifically, the findings suggest that the inability to form and maintain rewarding interpersonal attachments in the context of a strong drive to do so may underpin overuse of social media. As young people characterised by attachment anxiety may find it easier to make social connections and relate to others online, this may also render them vulnerable to cyberbullying victimisation. Indeed, increased use of social media provides potential cyberbullies increased opportunities for contact and to fake personal interest and friendship. As online communication with strangers is related positively to cybervictimisation (Slovak & Singer, 2011), these individuals are at risk, and as these individuals appear to be overusing social media to enhance their

self-worth (e.g., need for positive social validation), receiving negative comments online may be particularly detrimental to their mental health.

The findings further suggest that attachment-related adverse childhood experiences may reduce young people's access to effective support leaving them alone to deal with psychological distress and, in turn, they may engage in specific online behaviours in an attempt to alleviate negative emotions. Thus, the findings within this thesis support the notion that some young people may be vulnerable to excessive social media use due to pre-existing mental health difficulties of developmental origins, and overuse of social media in an attempt to alleviate distress may therefore be a coping response. However, using the internet in this way may leave individuals vulnerable to cyberbullying victimisation, which may be experienced as damaging re-victimisation for those who have experienced adversities in their childhood.

Further to exploring risk factors underpinning internet usage and experiences, we also explored protective factors in the context of internet use. The findings presented in Chapters 5 and 6 revealed that social support is an important mechanism to bolster resilience among victims of cyberbullying and cyberstalking. In relation to adaptive coping styles, Chapter 5 revealed that the positive cognitive coping strategies of reappraisal and refocusing buffered adolescents from mental distress in the context of cyberbullying. Indeed, the ability to cognitively reappraise or refocus thoughts may enable adolescents to re-establish some emotional control by reframing the meaning of their cyberbullying experiences internally, and this may lead to enhanced psychological resilience. In line with this, Chapter 6 revealed that cognitive reframing or the ability to cognitively restructure thoughts may confer resilience to cyberstalking victimisation. Thus, empathically representing the stalker as a distressed person and internally framing their behaviour may form part of dealing with the cyberstalking ordeal effectively. Taken together, strengthening social support systems and developing positive coping styles may facilitate resilience in this context.

In sum, the present findings improve knowledge of the features of people's lives that confer vulnerability to, or protect against, negative outcomes associated with specific internet experiences. As this body of work improves knowledge of these factors, individualised prevention and intervention efforts specifically targeting people most at risk can be developed.

7.4 Strengths and contributions to knowledge

The collected body of work contained within this thesis has many strengths and makes a lasting contribution to knowledge in this growing area of inquiry. By undertaking a scoping exercise to explore why concerned or troubled young people turned to the online environment, the grounded nature of the questions asked by the empirical studies in this thesis is assured. By exploring why and in what context young people go online to begin with, and how their use of the online environment is connected with their everyday life, this pragmatic scope of the online evidence provides the grounded context for understanding the psychology underlying internet usage and engagement of vulnerable young people. As it established the role of disrupted attachment in the accounts of young people sampled, this brief scoping exercise strengthened the foundation for the quantitative work of Chapters 3 and 4.

This body of work connects up increasing concerns of society to the psychology and the individual differences that underpin them. This body of work further contributes to knowledge by consistently demonstrating the factors that confer protection in the face of online challenges. One of the key strengths of this thesis is that it looks across and integrates different areas relevant to people's use of the internet. Furthermore, its findings are consistent in demonstrating the fundamental psychological features that underpin challenges resulting from online activity.

The above conclusions are drawn using different methods selected to fit both the current state of the research base and the questions being posed. For example, quantitative methods were used to test alternative understandings of problematic social media use existing within an overarching theory (i.e., attachment theory) and to explore whether specific protective factors underpin mental distress in the context of cyberbullying. Qualitative methods were used in the final Chapter as previous cyberstalking research has been limited to the quantitative paradigm. Additionally, the above conclusions are drawn from reasonably large samples sizes as over 2,500 diverse participants took part in this research. The range of different samples collected is also a strength of the thesis. By including an adolescent school sample, a university student sample, a sample recruited from the wider community via social networks and a victim sample, the consistent psychological findings that are brought together here are more compelling.

7.5 Limitations of the research

Although this collected body of work makes a lasting contribution to knowledge in this growing area of inquiry, there are a number of methodological constraints that need to be acknowledged when interpreting the findings presented in this thesis. As a detailed discussion of the specific limitations associated with each study has been included in each Chapter, the principle shortcomings that the quantitative studies presented in this thesis share will be briefly discussed.

First, a methodological limitation of the quantitative studies in this thesis is the exclusive reliance on participants' self-reports to assess past and current experiences. Self-report measures are subject to a number of response biases such as social desirability bias and memory recall bias (Choi & Pak, 2005). More specifically, the use of retrospective accounts of childhood maltreatment in Chapter 4 is limited by the recall of participants. Also, as participants self-reported symptoms of common mental health difficulties in Chapters 4 and 5, some people may have under-reported these symptoms due to the stigmatising nature of mental health difficulties. However, the anonymous nature of the research was always assured and this, in itself, is likely to limit the extent to which disclosure will have been a significant enough issue to compromise the credibility of the data. Although it is possible that young people responded in socially desirable ways, the anonymity of the survey afforded by the online environment reduces the influence of social desirability (Kreuter, Presser, & Tourangeau, 2008). Nevertheless, the limitations of self-report methodologies should be considered when interpreting the quantitative findings presented in this thesis as the validity of the data is contingent on the accuracy of participants' self-reports. Future research could usefully consider using a multi-informant approach that would prevent shared method variance, or if attaining responses from multiple informants is not possible, the inclusion of a social desirability scale should be considered to determine the extent to which responses are influenced by impression management.

Another shortcoming of the quantitative studies included in this thesis is their cross-sectional nature. This type of design has been criticised for a number of reasons. Perhaps most importantly, the use of this design precludes understanding of the causal direction of the proposed mechanisms. With regard to Chapter 4, for example, it may be the case that excessive social media use leads to problems forming relationships and symptoms of depression. However, the key finding that

childhood maltreatment leads to problematic social media use as young adults could not happen in the reverse direction as the events are separated by life course. Thus, although childhood maltreatment is reasonably hypothesised to precede problematic social media use, the cross-sectional design utilised in Chapter 4 limits the conclusions that can be drawn. Indeed, it is impossible to definitively establish causal links as it is plausible that depression is a consequence of problematic social media use. Explanations for a decline in mental health following overuse of social media may be that excessive social media use increases people's risk of being cyberbullied due to mere exposure or feeling negative as a result of exposure to highly idealised representations of peers and subsequent social comparisons. Thus, pre-existing mental health problems may form part of the reason why young people overuse social media or, conversely, excessive use could contribute to poor mental health. In light of this, the direction of the mediator-dependent variable relationships presented in this thesis should be interpreted with caution, and although the findings are consistent with theory, replication of these findings using a longitudinal design is warranted.

Similarly, as the cross-sectional study reported in Chapter 5 can only provide an indication that cyberbullying victimisation is associated with mental health problems, the direction of influence requires additional enquiry. In addition, although the findings revealed that cyberbullying victims endorsed self-statements indicative of attachment anxiety more than non-victims, this may be a consequence of experiencing cyberbullying victimisation rather than a factor conferring vulnerability. The cross-sectional nature of Study 3 further limits the extent to which findings can be interpreted as evidence of protection conferred via social support, secure attachment, and positive cognitive coping styles. However, the reverse causal arguments suggesting that social support, secure attachment, and positive coping styles reduce the impact of mental health on cyberbullying seem much less theoretically plausible.

Although other directions of causality cannot be completely ruled out, the inferences made concerning directions of causality in each study were based on a developmental trajectory and a firm theoretical basis justified by evidence in the literature. Longitudinal investigations would, however, improve the inference of causality.

Moreover, although we interpret the mediation analyses using the terms full- and partial mediation, Hayes (2013) has argued that these terms may not be particularly valuable. In relation to partial mediation, it is often thought that further investigations should be conducted in order to identify additional mediating factors; however, with regard to full mediation, there is often a misconception that there is no need to further explore other factors in the relationship between X and Y (Hayes, 2013). Although we interpret the mediation analyses using these terms in Chapter 4, we do not claim that insecure attachment and depressive symptoms are the only factors implicated in the pathway between childhood maltreatment and problematic social media use. It is thus important for readers to interpret these findings with caution.

Further to this, some of the study samples cannot be considered representative. For instance, individuals volunteered themselves into the studies presented in Chapters 3 and 4, which incurs a self-selection sample bias as people who choose to complete mental health surveys may be more prone to experiencing distress. As participants were self-selected, these findings cannot be generalised to the broad population. Additionally, as the gender ratio was skewed in Chapters 3 and 4, the relative abundance of female respondents restricts the extent to which the findings can be used to understand the experiences of young males. In addition to this, the sample in Chapter 4 was restricted to university students who are still viewed as relatively high achievers even though approximately 50% of young adults now register for higher education (University Central Admission Service, 2015). As these findings may not be generalisable to other groups of people (Henrich, Heine, & Norenzayan, 2010), future research in this area should use nationally representative samples.

It should be noted that although the scale used to capture problematic social media use is only concerned with social networking, participants may have conceptualised social media use in a different way than originally intended by the developers of the scale. For example, participants' conception of social media use may have included non-social networking activities that these platforms enable, such as gaming and gambling. Relatedly, social media sites and features were treated as one concept in studies 1 and 2. However, considering the diversity of social media use and that different platforms offer a host of different features, this may be an oversimplification. In fact, there may be differences between individual platforms,

and it should not be assumed that problematic use of Instagram is necessarily equivalent to problematic use of Twitter, for example. Future research could usefully focus on individual social media platforms, particularly those most popular among young people (i.e., Instagram and Snapchat), rather than broader problematic use.

Throughout the chapters, attachment style was measured using the Relationship Questionnaire (RQ). Although the RQ is routinely used to assess attachment styles and is reported to have adequate reliability and good discriminant and face validity (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010), it uses single-item questions to assess attachment style and so it seems likely that this measure is limited in how efficiently it can represent the complex construct of attachment. More specifically, as the RQ attachment styles are regions in a two-dimensional anxiety-avoidance space, the use of this measure may influence precision of measurement. Although this measure was selected due to space restrictions in each survey, future research should consider more nuanced measures of attachment, such as the Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998) which was specifically intended to measure attachment dimensions using many indicators to reduce random measurement error.

7.6 Implications and policy recommendations

Despite the limitations, a number of recommendations emerge from the present findings. Key implications and recommendations for family settings, educational settings, mental health services, and social media companies have been identified.

7.6.1 Implications and recommendations for family settings

7.6.1.1 Parenting programmes

A number of implications and recommendations arise from the present findings in relation to parental education and intervention programmes. In accordance with the transmission model of attachment styles (Van Ijzendoorn, 1995), a caregiver's internal working model drives their parenting behaviours, which, in turn, determines the quality of an infant's attachment. The present findings suggest that policies providing access to evidence-based programmes that promote optimal relationships between caregivers and children should be devised, and parenting interventions based on an understanding of attachment theory may be particularly useful. Such interventions have a number of goals including the provision of an environment

within which the child feels safe and secure, enabling the child to experience comfort and coregulation, and promoting the development of resilience and psychological resources within the child.

One example of an attachment-based parenting programme is the video-feedback intervention to promote positive parenting (VIPP; Juffer, Bakermans-Kranenburg, & Van Ijzendoorn, 2008). During this intervention, parental sensitivity is promoted by initially teaching parents to accurately interpret their child's behaviour, emotions, and expressions, and then by encouraging adequate reactions to these signals. In order to achieve this, VIPP uses the video feedback method where parental-child interactions are filmed, and then parents are supported to respond to their child's signals in a sensitive way through viewing video fragments. The importance of interventions such as VIPP becomes clear when considering the intergenerational transmission of attachment styles. As parental sensitivity is key to secure child-parent attachment relationships, interventions that are effective in improving sensitive parenting through video-feedback recording and reviewing should be made accessible and available in the community.

Further to this, Tuning into Kids (TIK; Havighurst, Wilson, Harley, & Prior, 2009) is a community-based parenting programme designed for parents of pre-schoolers. TIK is comprised of six sessions that target the responsiveness of parents to their child's emotions. More specifically, this programme encourages parenting practices that are consistent with an emotion coaching style. During the six-sessions, parents learn the five steps of emotion coaching: becoming aware of a child's emotions, viewing a child's emotional experiences as opportunities for intimacy and teaching, assisting a child in accurately describing their emotions, empathising and validating a child's emotion, and assisting a child with problem solving (Gottman, Katz, & Hooven, 1997). The concept of emotion coaching is similar to caregiver responsiveness in attachment theory (Cassidy, 1994). According to attachment theory, a caregiver's responsiveness to their child's emotional needs promotes a sense of 'felt security' (Cassidy, 1994), and this process fosters the development of internal working models that guide subsequent thoughts, feelings, and behaviours (Cassidy, 1994).

In addition to parent's responses to their child's emotions, the TIK programme also targets parent's responses to their own emotions. According to Gottman et al. (1997), every parent holds a unique 'meta-emotion philosophy'

shaped by their own family of origin emotional experiences which influences automatic responses to emotions. In an attempt to enable parents to be mindful of their automatic responses, the TIK programme assists them in understanding how their past family of origin experiences with emotions contribute to their current responses to emotions. Parents 'meta-emotion philosophy' also determines how they respond to their child's emotions as how a parent expresses and regulates their own emotions impacts upon their capacity to be available and responsive to their child's emotional needs. Thus, the TIK programme also assists parents in developing a 'meta-emotion philosophy' that accepts and values their child's emotions.

7.6.1.2 Open communication channels and family relationships

It is clear from this body of work and the broader body of research that parents and caregivers should cultivate and maintain an open communication channel with their children in order to encourage them to talk openly about any issues or problems that they encounter. Indeed, having an open communication channel would enable parents and carers to offer support and emotional security if their child was to encounter a negative online experience. Although the findings in Chapter 5 revealed that family support was the strongest bivariate predictor of reduced mental distress, this form of support did not appear to buffer adolescents from mental distress in the context of cyberbullying. It is possible that adolescents do not feel comfortable discussing the contents of the cyberbullying encounter with their parents as it may be embarrassing, morally reprehensible, or even illicit. Parents may also, in response, impose restrictions on internet use as a way of trying to limit the exposure. It is likely that young people hide cyberbullying incidents from their parents for fear of digital restrictions. This apprehension should be communicated to parents and they should be advised to talk openly with their children about their negative online experiences. Indeed, young people may feel more able to talk about their negative online experiences if they are not in fear of a digital restriction.

One way by which social connectedness may be strengthened within families is by spending quality time together. Family dinners, a dedicated time to talk, are outlets through which family support is expressed, and shared mealtimes may provide opportunities for young people to express problems and concerns as they arise. Frequent family dinners provide young people with regular family contact, which facilitates open communication with parents and siblings, and enables the

provision of parental guidance and support. Further to this, as a dedicated time away from devices may enable people to truly connect with those around them, shared mealtimes could be selected as a time where all devices are switched off.

7.6.2 Implications and recommendations for educational settings

7.6.2.1 Attachment aware schools

Although certain risk factors are present in settings outside of the school environment, such as inconsistent parenting, the school environment should be utilised to saturate young people's lives with protective factors. As the findings reported in Chapters 3 and 4 suggest that people characterised by attachment anxiety are more likely to experience problematic social media use, this information could inform prevention initiatives in educational settings. Indeed, the focus of any prevention initiative or intervention should be directed towards the underlying problems that prompt excessive usage, as surface interventions such as a forced reduction in social media use are unlikely to be successful in overcoming this behaviour (Kardefelt-Winther, 2017b). In line with the findings reported in Chapters 3 and 4, the findings reported in Chapter 5 revealed that cyberbullying victims endorsed self-statements indicative of attachment anxiety more than non-victims. Thus, any prevention or intervention focusing on attachment representations may also reduce the risk of becoming a victim of cyberbullying.

As schools have a role in constructively changing attachment representations, a humanistic alternative to the behaviourist paradigm currently embedded in UK education systems, namely the attachment aware schools framework (Parker, Rose, & Gilbert, 2016), should be considered for implementation in UK education systems. As schools are required to meet a spectrum of needs, the attachment aware schools framework operates within a pyramid of support, and this whole school approach is based on relational models and relational-based strategies (Parker et al., 2016). Children who fall into the top of the pyramid are those who have experienced severe trauma and/or neglect, and therefore require specialist support in the form of a referral to mental health services. Children with unmet attachment needs fall within the middle of the pyramid, and these children require targeted support such as additional tutor support on a 1-1 basis or nurture group provision. At the base of the triangle is the entire school community as all children require support for their mental health and well-being. According to this whole school approach, schools

should recognise children's different attachment styles, foster nurturing relationships to satisfy children's innate psychological needs (e.g., a sense of belonging), acknowledge the role of staff members as secondary attachment figures who can help children to reshape insecure attachment behaviours and support the development of secure attachment styles, and create nurturing infrastructures for children with emotional and behavioural difficulties (Parker et al., 2016).

The attachment aware schools framework advocates the use of emotion coaching in supporting children and young people's behaviour and emotions. Emotion coaching enables children and young people to understand their emotions as they experience them, whilst also helping them to understand why they occur and how to deal with them (Gottman et al., 1997). All behaviour is viewed as a form of communication; however, a key principle of this approach is that although all emotions are acceptable, not all behaviour is. This technique uses moments of heightened emotion and behaviour to teach a child or young person more appropriate behavioural responses. More specifically, emotion coaching involves recognising and labeling a child's emotions in order to promote emotional self-awareness within the child, and guidance is subsequently offered in terms of setting limits and problem solving. Thus, when faced with difficult behaviour, it is important for an adult to empathise with the child first in an attempt to calm them down. By engaging empathically, an adult is able to verbally acknowledge and validate a child's emotional state, thereby promoting a sense of security. Subsequent to this, limit setting and problem solving should take place to reduce negative externalising behaviour. By utilising emotion coaching, adults proactively teach children and young people social and emotional skills, and aid their ability to self-regulate their own emotions and behaviours. The goal of emotion coaching is therefore to improve young people's competencies to manage difficult feelings, and in doing so, it supports the adult-child relationship. As this approach focuses on fostering security, trust, and respect through nurturing relationships, emotion coaching is a way of enabling children and young people to feel supported, listened to, and understood. Nurturing and emotionally supportive relationships aid young people's ability to self-regulate their emotions and behaviour, whilst concurrently engendering prosocial behaviour which subsequently promotes social acceptance and friendship, fostering resilience.

As the present findings demonstrate that young people are turning to social media to satisfy psychological needs such as belongingness, it feels important for educational settings to develop and promote an academic climate marked by shared and palpable feelings of connectedness and belongingness. Indeed, the present findings are consistent with previous empirical findings that, when compared to moderate internet users, adolescents classified as extreme internet users were more likely to report feeling lonely and were less likely to report feeling a sense of belonging at school (OECD, 2017). Thus, the consideration of attachment theory for the relational dyad between teachers and the children in their care could usefully be extended to the wider school community as, secure attachment to a school, also referred to as ‘school bonding’, encompasses a sense of belonging (Bergin & Bergin, 2009). Indeed, feeling a sense of belonging may prevent young people from overusing social media to satisfy psychological needs such as belongingness.

7.6.2.2 Promoting well-being within educational settings

Educational settings should focus more on creating environments conducive to face-to-face interactions between peers. Rather than focusing primarily on the negative effects of internet use, the benefits of face-to-face contact and the support derived from such contact should be accentuated. It may be important for universities to build more flexible use social spaces in an attempt to encourage formal and informal interactions between students. Young people should also be encouraged to join structured after-school sports-based activities or societies whilst studying as such activities support interpersonal and social development, which, in turn, promote well-being. Indeed, regular participation in sports during childhood has been associated with lower levels of mental health difficulties among people with adverse childhood experiences (ACEs; Hughes, Ford, Davies, Homolova, & Bellis, 2018). More specifically, among those with four or more ACEs, the adjusted proportion reporting current mental health difficulties was 19% in those who regularly participated in childhood sports compared to 25% in those who did not (Hughes et al., 2018). Thus, schools should promote extra-curricular activities as sports-based pursuits impact on friendship opportunities, and can provide psychological focus and support for children growing up in difficult environments (Massey & Whitley, 2016).

As the findings in Chapter 3 bolster calls for a focus on enhancing well-being, an evidence-based approach to mental well-being, known as ‘the five ways to

well-being' (Aked & Thompson, 2011), could usefully be implemented in educational settings to empower young people to take action to improve their well-being as purposeful and meaningful offline activities may prevent young people from overusing social media to seek momentary pleasure. In addition, a specific psychotherapeutic strategy has been developed in clinical settings to enhance well-being, namely Well-being Therapy (Fava & Ruini, 2003), and this specific strategy has been modified and implemented in school settings. Based on Ryff's multidimensional model of psychological well-being (Ryff, 1989), the school-based protocol was designed to teach children and adolescents about the importance of well-being, and particular emphasis was afforded to dimensions of positive interpersonal relationships, purpose in life, and self-acceptance. In order to address the dimensions of interpersonal relationships and self-acceptance, young people are asked to identify positive characteristics of both themselves and their peers, and the importance of other people's opinions and how to improve friendships are considered during group discussions. In order to address the dimensions of autonomy and purpose in life, young people are asked to compose a personal horoscope detailing their academic ambitions, sporting pursuits, and social activities for the forthcoming year. This school-based protocol has demonstrated increases in psychological well-being (Ruini, Belaise, Brombin, Caffo, & Fava, 2006; Ruini et al., 2009), a finding that shows that psychological well-being is indeed malleable. Interventions such as this provide an avenue for young people to establish purpose and meaning in life, which may subsequently reduce the importance of social media to them.

7.6.2.3 Enhancing coping skills in educational settings

As the findings suggest that social media overuse may be a consequence of attempts to cope with difficult life situations and/or psychological distress, these findings highlight the importance of encouraging young people to use more adaptive coping styles. As the positive coping styles of reappraisal and refocusing were found to attenuate the relationship between cyberbullying victimisation and symptoms of depression and anxiety in adolescence, these findings further emphasise the importance of promoting positive coping skills in young people. 'Think Positively!' is a 12 module programme designed to enhance coping skills in adolescents within school settings (Frydenberg, 2010). Specifically, this programme assists adolescents

in understanding that certain coping strategies are more useful than others, and aims to facilitate the acquisition of positive thinking skills and the development of adaptive coping strategies. This may reduce overreliance on social media as a coping strategy and may also enable young people to cope with online challenges such as cyberbullying victimisation.

7.6.2.4 School interventions related to cyberbullying victimisation

The findings reported in Chapter 5 underscore the importance of interpersonal relationships, which appear to play fundamental roles in protecting adolescents against anxiety and depressive symptoms following cyberbullying victimisation. In light of this, schools could usefully aim to create an environment where peer relationships are valued and encouraged, and intervention efforts should focus on helping young people to develop and enhance meaningful ‘real world’ social relationships. For example, the creation and use of peer support programmes could be promoted in school settings. Generally, the findings emphasise the importance of the interpersonal environment as part of any intervention package aimed at reducing the deleterious effect of cyberbullying.

7.6.3 Implications and recommendations for mental health services

7.6.3.1 Attachment-aware and trauma-informed services

At the highest level of generality, as attachment insecurities were shown to confer vulnerability to mental health difficulties and problematic internet experiences, these findings bolster calls for attachment-aware mental health services. In particular, the findings demonstrate the importance of mental health professionals fostering positive relationships and being ‘attachment aware’ in terms of possessing knowledge concerning the relational dynamics associated with insecure attachment styles. Mental health professionals could also work alongside families in their communities in order to provide support and encouragement to parents whilst they modify their current parenting practices in an attempt to improve the parent-child relationship. More generally, mental health professionals need to empower all adults to tune into the children in their care and this should take place within the family environment, school settings, and youth clubs. In addition, as the present findings illustrate the association between childhood trauma and mental health problems, it is important for services to practice within a trauma-informed approach. Policies should therefore be

devised to ensure that all mental health professionals receive trauma-informed training.

An attachment-aware online service could usefully be developed that enables young people to interact anonymously with either a professional or a survivor of childhood trauma. This service would enable young people to access friendly, confidential advice via email or live chat with either a practitioner or a survivor of childhood trauma. The implementation of this service would aim to validate people's experiences and their struggles to cope, whilst concurrently encouraging self-care, and providing ideas and resources to promote alternative forms of coping. Upon accessing the service, a young person could be assigned a 'lived experience' mentor who they are able to interact with anonymously in order to seek support and experiential advice. The purpose of mentors with lived experience would be to form 'attachment-like' relationships with young people experiencing mental health difficulties of developmental origins. The value of this service would be the 'lived experience' mentoring that young people could receive as individuals with lived experience are able to offer a shared understanding and empathise in a real, meaningful way. In practice, however, an attachment aware online service maintained by survivors with lived experience of trauma may be difficult to implement as these individuals may not have secure attachment styles themselves and so could struggle to implement the approach.

7.6.3.2 Addressing problematic usage within an attachment-based framework

It is possible that a very small number of young people may present to services for help with problematic use. As the present findings demonstrate that young people's social media use is a reflection of their psychological needs, it can be argued that the focus of any intervention should be on the underlying problems that prompt excessive usage as surface interventions such as a forced reduction in social media use are unlikely to be successful in overcoming this behaviour.

As the findings presented in Chapters 3 and 4 suggest that negative beliefs about the self may be a critical factor in the context of social media overuse, it will be important for therapeutic work to strengthen positive beliefs and disconfirm negative beliefs about the self. Therapeutic work should facilitate the formation of security-based strategies of affect regulation, whilst targeting the secondary attachment strategies that characterise people high in attachment anxiety

(Mikulincer, Shaver, & Pereg, 2003). More specifically, therapeutic work could usefully target their fear of being alone, whilst also strengthening their self-regulatory skills (Mikulincer et al., 2003). Compassion-focused interventions (Gilbert, 2010) may be useful in enabling young people to foster a more compassionate position towards the self and others. Additionally, as childhood maltreatment may lead to problematic social media use directly, but also indirectly through its impact on attachment styles and mental health, cognitive and behavioural interventions with young people who have experienced maltreatment during their childhood should target low sense of belonging and beliefs surrounding the unavailability of tangible support. In sum, interventions pertaining to overuse of social media should focus on the underlying psychology of problematic usage.

7.6.3.3 Cognitive behavioural therapy following cybervictimisation

Although in the first instance, school pupils should be encouraged to discuss their negative online experiences with an anti-bullying champion at their school, champions should be in a position to make referrals to specialist support where victims can access psychological interventions if needed. Similarly, when victims of cyberstalking engage with law enforcement personnel to report their experiences, a referral to psychological therapy should also be made available when necessary. As victims of cyberstalking often become hypervigilant and develop a view of the world as unsafe and a view of the self as helpless and to blame, a course of cognitive behavioural therapy focusing on the victim's cognitions may be beneficial in order to restructure any morbid perceptions.

7.6.4 Implications and recommendations for social media companies

7.6.4.1 Mental health support and advice

As young people with poor mental health appear to be overusing social media platforms, social media companies such as Facebook and Twitter could share messages and advertisements on users' newsfeeds concerning mental health support and advice such as where to seek help for mental health problems or ways to improve well-being. Indeed, this online space could function as a preventive and educative tool in terms of reducing underlying issues. As summarised above, addressing the underlying issues associated with excessive use may reduce overreliance on social media.

7.6.4.2 Pop-up messaging

Interventions that make people more mindful about the way in which they are using social media may be effective. Presently, the most well-known time-tracking app that works in this way is called ‘Moment’. By tracking how much time a person spends on their device and how they spend their time whilst using their device, time-tracking apps generate daily reports comprising such information in an attempt to raise awareness of an individual’s smartphone use. Indeed, raising awareness of an individual’s smartphone use may work towards decreasing their use of social media as individuals are often unaware of the frequency and extent of their smartphone-enabled social media use. However, time-tracking apps only enable people to reflect on their usage patterns at the end of the day, rather than ‘in the moment’. It would therefore be beneficial for software designers to develop tools that enable people to recognise and acknowledge their digital behaviours ‘in the moment’.

One way in which software designers could help young people to regulate their use of social media ‘in the moment’ is by using pop-up messages. Pop-up messages that provide information about how a person’s use of social media compares to their peers may enable individuals to recognise when their use is proportionately higher than the average person in their age group. For example, if a pop-up message appeared informing a user that only 1% of his or her age group are currently using a particular social media platform (i.e., late at night or during the early hours of the morning), this may enable one to self-appraise and may potentially lead to a reduction in his or her use of that platform. Indeed, encouraging people to self-appraise in this way could potentially reduce young people’s reliance on social media. Pop-up messages could alternatively inform a user about the amount of time they have been using the platform for. Providing young people with usage insights may increase awareness surrounding the amount of time that they are spending on social media platforms.

7.6.4.3 Reporting incidents of cyberbullying and cyberstalking

As the findings in Chapter 5 revealed that social support from peers may be an important mechanism to bolster resilience among adolescent victims of cyberbullying, social media companies could implement and promote a ‘support and report’ scheme in an attempt to encourage peers to actively support victims of cyberbullying. In addition to sending victims a message of support, the scheme could

encourage peers to take on a more active role in reporting incidents of cyberbullying. As cyberbullying has largely been defined as a youth problem occurring almost exclusively via social media (Aboujaoude, Savage, Starcevic, & Salame, 2015; Best, Manktelow, & Taylor, 2014; Whittaker, & Kowalski, 2015), peers should be encouraged to report cyberbullying incidents to a trusted adult in their school and/or to the specific social media platform where an incident of cyberbullying has occurred. As traditional bullying and cyberbullying commonly co-occur (Waasdorp & Bradshaw, 2015), it is important for this scheme to encourage peers to report incidents to a trusted adult in their school as well as to specific social media companies.

Although cyberstalking often takes place beyond adolescence and into adulthood, the ‘support and report’ scheme could also be applied to this form of victimisation as the findings presented in Chapter 6 revealed that social support was particularly helpful in the context of cyberstalking. As social media platforms are commonly used as conduits for stalking (Fox, 2016), peers and/or significant others should be encouraged to report cyberstalking incidents to social media companies.

Further to this, the qualitative findings presented in Chapter 6 revealed that many victims of cyberstalking did not receive a response from social media companies after reporting the ordeal. Given the emotional sequelae of cyberstalking, social media companies should take this form of victimisation more seriously and take immediate action once an incident has been reported.

7.6.5 Implications and recommendations for law enforcement

7.6.5.1 A victim-led training package

The findings presented in Chapter 6 highlight that the support and protection available to victims of cyberstalking is inadequate. For example, some victims felt as though they were not taken seriously, whilst others reported that the police were dismissive of their ordeal if it did not involve physical violence. Thus, it is clear from the findings that victims have to deal with a number of additional stressors; first as a direct consequence of their stalker’s pursuit followed by ineffectual support. To minimise feelings of revictimisation, an increased understanding of the complex nature of cyberstalking is clearly warranted amongst police officers.

To this end, a victim-led training package should be delivered to law enforcement personnel in order to increase understanding of both the complex nature

of cyberstalking and the severe psychological impact of this form of victimisation. Delivered by victims or ‘survivors’ of cyberstalking, this training package would aim to raise awareness of what behaviours constitute cyberstalking in order to produce a consistent approach to identifying and tackling this crime. As the serious nature of cyberstalking is often minimised, it is imperative to train police officers to recognise what cyberstalking is, whilst highlighting the importance of treating cyberstalking behaviours seriously from first responder. All cyberstalking incidents should be thoroughly investigated with appropriate support, and as it is common for law enforcement personnel to make victims feel as though they are to blame, this victim-led training package should address victim-blaming beliefs. The prioritisation of physical over psychological health should also be addressed as this may result from a lack of understanding regarding the intrusive pattern of behaviours that constitute cyberstalking and a failure to recognise the severe psychological impact.

Given their lived experience, victims are in a position to develop authentic educational resources to assist police officers in developing a deeper understanding of cyberstalking and the emotional impact of this relentless pursuit. Victims’ experiences are important in understanding the online environment in which stalking commonly occurs, and victims may be able to identify gaps in practice that might not otherwise be identified. For example, it was common for victims to be questioned by a number of different officers and victims expressed frustration due to the lack of consistency in their dealings with the police. ‘Survivors’ of cyberstalking are therefore in a position to suggest that the number of officers interacting with victims of this crime should be limited in order to enhance consistency and continuity. Involving victims in the production of educational materials such as audio-visual materials, films, and booklets may be both empowering and cathartic as developing educational resources would involve providing a safe space for victims to talk candidly about their experience of cyberstalking with others who have had similar experiences.

As it is apparent that some police officers do not show empathy when dealing with victims of cyberstalking, a victim-led training package may help improve police responses to victims. Overall, a victim-led training package has the potential to facilitate a change in the way that police officers respond to victims of cyberstalking as utilising victims’ voices in educational material enables the impact and reach to be far greater.

7.6.5.2 'Talking cyberstalking': An awareness campaign

The findings reported in Chapter 6 further demonstrate that increasing general awareness is vital in combatting cyberstalking and the negative emotional consequences. In light of this, police forces could initiate and launch a campaign to raise public awareness of cyberstalking. The campaign could focus on the different methods that perpetrators draw on when harassing victims via online channels, the severe psychological impact of this crime, and the importance of social support from significant others. As social media platforms are commonly used as conduits for stalking (Fox, 2016), this campaign could be launched via social media platforms such as Facebook, Twitter, and Snapchat, as well as via advertisements on television channels, radio stations, and news outlets.

7.6.6 Summary of the key recommendations

This thesis highlights recommendations for family settings, educational settings, and mental health services in relation to the importance of nurturing childhoods. In particular, the present findings demonstrate that it is necessary to devise policies to give access to evidence-based programmes that promote optimal relationships between caregivers and children. As schools have a role in constructively changing attachment representations, a shift from the behaviourist paradigm currently implemented in UK education systems to a humanistic alternative, namely attachment aware schools, may enhance population mental health (Parker et al., 2016). At the highest level of generality, the findings bolster calls for attachment-aware mental health services, and mental health professionals assisting parents in talking, listening, and displaying warmth to their child. Providing the same support for the parents who they themselves may not have experienced caring early-life relationships may also be effective in improving population mental health.

In recent years, the Welsh Government has put into place certain policies that focus on the importance of safe and nurturing childhoods. Taking Wales forward 2016-21 (Welsh Government, 2016) acknowledges the importance of supporting families and parents to reduce adverse childhood experiences. Building on this policy, Prosperity for all: the National strategy (Welsh Government, 2017) emphasises the importance of early years as the foundation of lifelong well-being, and highlights the role of ACE-aware public services in Wales in supporting the prevention of ACEs and the development of resilience in children and young people

as a national priority. Alongside the Well-being of Future Generations (Wales) Act 2015 (Welsh Government, 2015), these policies recognise the importance of an integrated approach where all public services are working together to support life course well-being and prosperity. Within the integrated approach, parents should be empowered to nurture their children, professionals should have knowledge to support parents and families, and services for those suffering the consequences of childhood adversity should be accessible across the life course. This is a best practice initiative and these policies can be thought about specifically in relation to diminishing the ill-effects of social media use by preventing overuse of these platforms and the likelihood of becoming a victim of cyberbullying. In this, the present research supports well-being policy recommendations that should, in time, decrease the ill-effects of online lifestyles on future young people.

7.7 Future research

Given the association between excessive social media use and mental health difficulties evidenced within the thesis, further research exploring the directionality of this association employing longitudinal designs or methods such as experience sampling would be valuable in moving understanding forward. Indeed, the work contained in this thesis cannot capture whether mental health difficulties underpin excessive social media usage or whether overusing social media leads to mental health difficulties. Given the current media attention focusing on the relationship between social media and mental health, longitudinal research exploring the long-term psychological outcomes of excessive social media use is warranted.

In particular, future research could utilise experience sampling method (ESM), a momentary self-assessment technique that captures the frequency, intensity, and patterning of mental processes and behaviours in the course of daily life (Csikszentmihalyi & Larson, 1987). Such a method could scrutinise experiential aspects of problematic use of social media by exploring urges, extent of immersion, and track attempts at distraction or other absorbing activities. In comparison to other longitudinal methods, ESM employs a more intensive assessment schedule involving multiple assessments per day, which enables a more fine-grained examination of natural social media usage and psychological states. Future research should therefore consider utilising this method to further explore the association between mental health and different social media platforms. It could also more closely explore

behavioural and affective antecedents of cyberbullying experiences, while also exploring more closely the feelings it induces. Alternatively, future research could use behavioural tracking data. Social media platforms collect usage data automatically, and examples of this data include the amount of time a user spends on the platform, the activities they perform whilst navigating the platform, and who they engage with. Future research could therefore utilise this behavioural tracking data to identify markers of excessive use. Further to this, particular online experiences, such as excessive social media use and cyberbullying victimisation, should be included in birth cohort studies as these issues are clearly timely, relevant, and likely to endure for some time to come.

Further understanding of how people experience excessive use of social media calls for qualitative investigations with a focus on lived experience. A specific focus of future investigations should be placed on what support may be helpful in preventing or curtailing overuse of these platforms from self-identified excessive users' perspectives. If a young person has successfully reduced the time they spend on social media, they may have developed particular strategies to help them resist the 'stickiness' of these platforms, and garnering such information may be useful in order to aid the design of prevention and intervention programmes. Qualitative research with people who seek treatment for problematic use of social media would also be beneficial in moving understanding forward. Indeed, clinical patient-focused research is needed as most research in this area, including the work contained in this thesis, has been conducted with largely healthy populations who do not meet the clinical cut-off scores for mental health problems.

7.8 Conclusions

This thesis aimed to explore the interplay between the online world and mental health, with a particular focus on identifying features of people's lives that confer vulnerability or resilience in the context of internet use. The work contained in this thesis has contributed significantly to our understanding of the relationship between mental health and internet usage, as well as risk and protective factors. As this thesis improves knowledge of these factors, individualised prevention and intervention efforts specifically targeting people most at risk can be developed. The work therefore makes an important contribution to the literature and the following conclusions can be drawn from the findings.

Developmental factors related to mental distress were found to confer heightened vulnerability in the context of internet use. Specifically, attachment anxiety was consistently found to play a role in vulnerability across Chapters 3, 4, and 5 in this thesis, and it is possible that this developmental risk factor underpins the psychosocial factors also found to confer vulnerability in the context of social media use. Together, the findings presented in Chapters 3 and 4 reveal that attachment theory provides a useful framework for conceptualising the influence of interpersonal relationships on excessive social media use, whilst the findings presented in Chapter 5 move understanding forward by illustrating that attachment anxiety confers vulnerability to cyberbullying victimisation in adolescence. In addition, the thesis highlights childhood maltreatment as a previously unconsidered developmental risk factor that may underpin apparent overuse of social media. The findings presented in this thesis also provide insight into potential mechanisms by suggesting that the relationship between childhood maltreatment and problematic social media use was mediated by attachment insecurities and depressive symptoms. Indeed, attachment-related adverse childhood experiences may reduce young people's access to effective support and this leaves them alone to deal with psychological distress and/or low well-being. In turn, young people may engage in specific online behaviours in an attempt to alleviate their psychological distress and escape from their past experiences of maltreatment. However, using social media excessively as a means to cope may leave individuals vulnerable to cyberbullying victimisation, which may be experienced as damaging re-victimisation for those who have experienced adversities in their childhood.

This thesis supports previous research by demonstrating that both childhood maltreatment and attachment insecurities underpin mental health difficulties, but contributes further to existing knowledge by showing that these developmental risk factors also confer vulnerability to internet experiences that are particularly relevant to young people. As childhood maltreatment may lead to problematic social media use directly, but also indirectly through its impact on attachment styles and mental health, interventions should specifically target the parent-child relationship. Further to this, cognitive and behavioural interventions with young people who have experienced maltreatment during their childhood should target low sense of belonging and beliefs surrounding the unavailability of tangible support.

The research contained in this thesis also contributes to our understanding of the psychological and cognitive factors whereby adolescents' psychological adjustment is protected against the adverse effects of cyberbullying victimisation. Secure attachment, positive coping styles, and higher levels of perceived social support from peers attenuated the positive relationship between cyberbullying victimisation and symptoms of depression and anxiety. This research therefore enhances our understanding of the factors that underlie individual heterogeneity in response to cyberbullying victimisation as the findings illustrate the protective role of secure attachment styles, positive coping styles, and perceived peer support against symptoms of depression and anxiety due to cyberbullying. The importance of parenting on cyberbullying victimisation should be acknowledged, and although peer relations should be the target of intervention programmes within school settings, the findings highlight the importance of including families in cyberbullying prevention programmes.

Similarly, victims of cyberstalking who received social support from friends believed that this form of support conferred protection against the manifestation of mental distress. However, when some cyberstalking victims sought help from significant others, service/website providers, or police officers, it appears to have increased the negative impact of the cyberstalking ordeal. The findings suggest that it is important to increase general awareness about the nature and psychological impact of cyberstalking. Furthermore, the ability to cognitively restructure thoughts may enable resilience as being able to empathically represent the stalker as a distressed person may form part of dealing with the ordeal effectively. However, many victims frequently engaged in avoidance behaviours in an attempt to avoid feelings of distress and/or coming into contact with the stalker. Thus, interventions should assist victims in fostering adaptive cognitive coping styles, whilst concomitantly reducing their reliance on avoidance behaviours.

Taken together, the findings of the work contained in this thesis provide a significant contribution to the area. In particular, research exploring the role of attachment in the context of internet use is limited, yet this work has important implications for policy, practice, and prevention. It is well established that people who are insecurely attached or those who have experienced childhood maltreatment are more likely to develop mental health problems, yet prior to this work being conducted, little was known about the developmental underpinnings of internet

experiences that are particularly relevant to young people, namely excessive social media use and cybervictimisation. While insecure attachment, specifically attachment anxiety, confers vulnerability in the context of internet use, attachment security is a resilience resource that sustains mental health, even during times of trauma experienced in the context of internet use. In order to ensure that young people do not overuse social media or become a victim of cyberbullying, policies that promote optimal child-caregiver relationships should be devised. Implementing initiatives that focus on fostering parental warmth, parenting skills, and positive parent-child interactions may be effective in counteracting the negative consequences of attachment insecurities in the digital age. Of equal importance, the present findings bolster calls for schools to become attachment-aware and to enhance young people's coping skills.

To conclude, this body of research has significantly contributed to our understanding of the relationship between the online world and mental health, and has identified specific risk and protective factors. The research presented here moves understanding forward by connecting up increasing concerns of society to the psychology that underpins them, and further contributes to our understanding of the factors whereby people's psychological adjustment is protected against the adverse effects of negative online experiences. In so doing, it supports well-being policy recommendations that should, in time, decrease the ill-effects of online lifestyles on future young people.

7.9 References

- Aboujaoude, E., Savage, M. W., Starcevic, V., & Salame, W. O. (2015). Cyberbullying: Review of an old problem gone viral. *Journal of Adolescent Health, 57*(1), 10-18. doi:10.1016/j.jadohealth.2015.04.011
- Aked, J., & Thompson, S. (2011). *Five ways to wellbeing: New applications, new ways of thinking*. London: New Economics Foundation.
- Bergin, C., & Bergin, D. (2009). Attachment in the classroom. *Educational Psychology Review, 21*(2), 141-170. doi:10.1007/s10648-009-9104-0
- Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and adolescent wellbeing: A systematic narrative review. *Children and Youth Services Review, 41*, 27-36. doi:10.1016/j.childyouth.2014.03.001
- Bifulco, A., & Thomas, G. (2012). *Understanding adult attachment in family relationships: Research, assessment and intervention*. London: Routledge.
- Brennan, K., Clark, C., & Shaver, P. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. Simpson & W. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford Press.
- Cassidy, J. (1994). Emotion regulation: Influences of attachment relationships. *Monographs of the Society for Research in Child Development, 59*(2-3), 228-249.
- Choi, B. C. K., & Pak, A. W. P. (2005). A catalog of biases in questionnaires. *Preventing Chronic Disease, 2*(1), 1-13.
- Csikszentmihalyi, M., & Larson, R. (1987). Validity and reliability of the experience-sampling method. *Journal of Nervous and Mental Disease, 175*(9), 526-536. doi:10.1097/00005053-198709000-00004
- Fava, G. A., & Ruini, C. (2003). Development and characteristics of a well-being enhancing psychotherapeutic strategy: Well-being therapy. *Journal of Behavior Therapy and Experimental Psychiatry, 34*(1), 45-63. doi:10.1016/S0005-7916(03)00019-3
- Fox, J. (2016). The dark side of social networking sites in romantic relationships. In B. K. Wiederhold, G. Riva, & P. Cipresso (Eds.), *The psychology of social networking: Personal experience in online communities* (pp. 78-89). Berlin: De Gruyter Open.
- Frydenberg, E. (2010). *Think positively! A course for developing coping skills in adolescence*. London: Continuum International Publishing Group.
- Gilbert, P. (2010). *The compassionate mind*. London: Constable and Robinson.
- Gottman, J. M., Katz, L. F., & Hooven, C. (1997). *Meta-emotion: How families communicate emotionally*. Mahway, NJ: Lawrence Erlbaum Associates.
- Havighurst, S. S., Wilson, K. R., Harley, A. E., & Prior, M. R. (2009). Tuning in to kids: An emotion-focused parenting program - initial findings from a community trial. *Journal of Community Psychology, 37*(8), 1008-1023. doi:10.1002/jcop.20345
- Hayes, A. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. London: Guilford Press.
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences, 33*(2-3), 61-83. doi:10.1017/S0140525X0999152X
- Hughes, K., Ford, K., Davies, A. R., Homolova, L., & Bellis, M. A. (2018). *Sources of resilience and their moderating relationships with harms from adverse*

- childhood experiences*. Retrieved from [http://www.wales.nhs.uk/sitesplus/documents/888/ACE & Resilience Report \(Eng_final2\).pdf](http://www.wales.nhs.uk/sitesplus/documents/888/ACE%20&%20Resilience%20Report%20(Eng_final2).pdf)
- Juffer, F., Bakermans-Kranenburg, M. J., & Van Ijzendoorn, M. H. (2008). *Promoting positive parenting: An attachment-based intervention*. New York: Taylor and Francis Group.
- Kardefelt-Winther, D. (2014). A conceptual and methodological critique of internet addiction research: Towards a model of compensatory internet use. *Computers in Human Behavior, 31*(1), 351-354. doi:10.1016/j.chb.2013.10.059
- Kardefelt-Winther, D. (2017a). Conceptualizing internet use disorders: Addiction or coping process? *Psychiatry and Clinical Neurosciences, 71*(7), 459-466. doi:10.1111/pcn.12413
- Kardefelt-Winther, D. (2017b). *How does the time children spend using digital technology impact their mental well-being, social relationships and physical activity? An evidence-focused literature review*. Italy: UNICEF.
- Kokkinos, C. M. (2013). Bullying and victimization in early adolescence: Associations with attachment style and perceived parenting. *Journal of School Violence, 12*(2), 174-192. doi:10.1080/15388220.2013.766134
- Kokkinos, C. M., Voulgaridou, I. P., Koukoutsis, N. D., & Markos, A. (2016). Peer victimization and depression in Greek preadolescents: Personality and attachment as moderators. *Personal Relationships, 23*(2), 280-295. doi:10.1111/pere.12126
- Kreuter, F., Presser, S., & Tourangeau, R. (2008). Social desirability bias in CATI, IVR, and web surveys: The effects of mode and question sensitivity. *The Public Opinion Quarterly, 72*(5), 847-865. doi:10.1093/poq/nfn063
- Massey, W. V., & Whitley, M. A. (2016). The role of sport for youth amidst trauma and chaos. *Qualitative Research in Sport, Exercise and Health, 8*(5), 487-504. doi:10.1080/2159676X.2016.1204351
- Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion, 27*(2), 77-102. doi:10.1023/A:1024515519160
- OECD. (2017). *PISA 2015 results (Volume III): Students' wellbeing*. Retrieved from <https://www.oecd.org/pisa/PISA-2015-Results-Students-Well-being-Volume-III-Overview.pdf>
- Parker, R., Rose, J., & Gilbert, L. (2016). Attachment aware schools: An alternative to behaviourism in supporting children's behaviour? In H. Lees & N. Noddings (Eds.), *The Palgrave International handbook of alternative education* (pp. 441-463). London: Palgrave Macmillan.
- Ravitz, P., Maunder, R., Hunter, J., Sthankiya, B., & Lancee, W. (2010). Adult attachment measures: A 25-year review. *Journal of Psychosomatic Research, 69*(4), 419-432. doi:10.1016/j.jpsychores.2009.08.006
- Ruini, C., Belaise, C., Brombin, C., Caffo, E., & Fava, G. A. (2006). Well-being therapy in school settings: A pilot study. *Psychotherapy and Psychosomatics, 75*(6), 331-336. doi:10.1159/000095438
- Ruini, C., Ottolini, F., Tomba, E., Belaise, C., Albieri, E., Visani, D., . . . Fava, G. A. (2009). School intervention for promoting psychological well-being in adolescence. *Journal of Behavior Therapy and Experimental Psychiatry, 40*(4), 522-532. doi:10.1016/j.jbtep.2009.07.002

- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081. doi:10.1037/0022-3514.57.6.1069
- Sampasa-Kanyinga, H., & Hamilton, H. A. (2015). Use of social networking sites and risk of cyberbullying victimization: A population-level study of adolescents. *Cyberpsychology, Behavior, and Social Networking*, 18(12), 704-710. doi:10.1089/cyber.2015.0145
- Slovak, K., & Singer, J. B. (2011). School social workers' perceptions of cyberbullying. *Children & Schools*, 33(1), 5-16. doi:10.1093/cs/33.1.5
- University Central Admission Service (2015). End of cycle report 2015: UCASE analysis and research. Retrieved from <https://www.ucas.com/sites/default/files/eoc-report-2015-v2.pdf>
- Van Ijzendoorn, M. H. (1995). *Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the adult attachment interview*. United States: American Psychological Association.
- Waasdorp, T. E., & Bradshaw, C. P. (2015). The overlap between cyberbullying and traditional bullying. *Journal of Adolescent Health*, 56, 483-488. doi:10.1016/j.jadohealth.2014.12.002
- Welsh Government (2015). Well-being of future generations act. Retrieved from <http://gov.wales/topics/people-and-communities/people/future-generations-act/?lang=en>
- Welsh Government (2016). Taking Wales Forward 2016-2021. Retrieved from <http://gov.wales/docs/strategies/160920-taking-wales-forward-en.pdf>
- Welsh Government (2017). Prosperity for all: The national strategy. Retrieved from <http://gov.wales/about/programme-for-government/?lang=en>
- Whittaker, E., & Kowalski, R. M. (2015). Cyberbullying via social media. *Journal of School Violence*, 14(1), 11-29. doi:10.1080/15388220.2014.949377

Appendices

Appendix 1: Guidance on seeking institutional research ethics review for the collection and use of data obtained from the public domain

Appendix 1.1 Original correspondence (December 2014)

From: Worsley, Joanne [jworsley]
Sent: 10 December 2014 11:05
To: Ethics
Subject: RE: Contacting schools prior to obtaining ethical approval

Hi Matthew,

Sorry for the second question but for another one of my studies I plan to analyse data that I will extract from the public domain (google search engine) – is this study exempt from ethical review?

Best,
Joanne

From: Ethics <ethics@liverpool.ac.uk>
Subject: RE: Contacting schools prior to obtaining ethical approval
Date: 10 December 2014 at 16:40:00 GMT
To: "Worsley, Joanne [jworsley]" <jworsley@liverpool.ac.uk>

Hi Joanne,

I've just spoken with the Chair, and there are a couple of tricky issues to bear in mind when contacting schools prior to ethical approval being obtained. It can be helpful to talk to schools about whether in principle they would support the research – however, they may offer suggestions on the best procedures for recruiting children from their school. This could then create difficulties if the ethics committee advises against those suggested methods. So: it's okay to contact the schools to see if they will support the research before ethical approval is obtained, as long as there is no recruitment/data collection, and provided that the schools understand that things may change.

On the second question – you're absolutely right: if the data is available in the public domain, this does not require ethical approval.

I hope this helps, just let me know if you want to discuss anything further.

Kind regards,

Matthew

Matthew Billington
Research Integrity and Governance Officer

Appendix 1.2 Follow-up correspondence (May 2018)

From: "Shaw, Adam [abshaw]" <Adam.Shaw@liverpool.ac.uk>

Subject: **Research Ethics and publicly available data**

Date: 17 May 2018 at 10:30:58 BST

To: "Worsley, Joanne [jworsley]" <jworsley@liverpool.ac.uk>

Cc: "Billington, Matthew [mjbill2]" <mjbill2@liverpool.ac.uk>

Hi Joanne

Thank you for your time yesterday and for bringing your concerns to our attention. I have discussed the issue with Matthew and I've outlined a summary of our discussions below. At this point I haven't raised the query with Jo Harrold, but if you would like some added reassurance we can discuss it with her when we meet with Jo next week.

- As the ESRC Framework for Research Ethics points out - data that are available in the public domain are not considered personal data. And as such, any data obtained from publicly available sources would not fall under the University's Policy on Research Ethics as it would not meet the criteria for "human participants, personal data, or human tissue".
- Institutional research ethics review was therefore not required for the collection and use of the data which was obtained from the public domain.
- However, there are still some ethical considerations that may arise even with the use of data that is available in the public domain, particularly if the data might be described as 'sensitive' or has been derived from a group who may be disadvantaged when it comes to understanding the implications of posting data in the public domain (for example, young children).
- It may therefore be useful for you and your Supervisor(s) to demonstrate that you have critically examined such factors, and given consideration as to: whether the identity of the participants needed protecting; whether the participants may have had an expectation of privacy despite posting the data in the public domain; whether any potential harm could befall the participants from the use of the data in this way etc.

I hope this clears up the situation, but please let me know if you have any further queries

Thanks

Adam

Adam Shaw

Research Ethics and Integrity Officer

Appendix 2: Approval email (Study 1)

Dear Joanne

I am pleased to inform you that IPHS Research Ethics Committee has approved your application for ethical approval. Details and conditions of the approval can be found below.

Ref: IPHS-1516-SMc-161- Worsley

PI / Supervisor: Joanne Worsley

Title: Attachment style, psychological well-being, and Internet use

First Reviewer: J Wheatcroft

Second Reviewer: S Wareing

Date of Approval: 01.02.16

The application was APPROVED subject to the following conditions:

Conditions

- 1 All serious adverse events must be reported to the Sub-Committee within 24 hours of their occurrence, via the Research Governance Officer (ethics@liv.ac.uk).
- 2 This approval applies for the duration of the research. If it is proposed to extend the duration of the study as specified in the application form, IPHS REC should be notified as follows. If it is proposed to make an amendment to the research, you should notify IPHS REC by following the Notice of Amendment procedure outlined at <http://www.liv.ac.uk/researchethics/amendment%20procedure%209-08.doc>.
- 3 If the named PI / Supervisor leaves the employment of the University during the course of this approval, the approval will lapse. Therefore please contact the Institute's Research Ethics Office at iphsrc@liverpool.ac.uk in order to notify them of a change in PI / Supervisor.

Best Wishes
Sarah McEvoy

Appendix 3: Approval email (Study 2)

Dear Richard

I am pleased to inform you that IPHS Research Ethics Committee has approved your application for ethical approval. Details and conditions of the approval can be found below.

Ref: IPHS-1516-SMC-192

PI / Supervisor: Richard Bentall

Title: Stress and psychological wellbeing in domestic and international students

First Reviewer: B Ambridge

Second Reviewer: J Pine

Date of Approval: 16/02/16

The application was APPROVED subject to the following conditions:

Conditions

- 1 All serious adverse events must be reported to the Sub-Committee within 24 hours of their occurrence, via the Research Governance Officer (ethics@liv.ac.uk).
- 2 This approval applies for the duration of the research. If it is proposed to extend the duration of the study as specified in the application form, IPHS REC should be notified as follows. If it is proposed to make an amendment to the research, you should notify IPHS REC by following the Notice of Amendment procedure outlined at <http://www.liv.ac.uk/researchethics/amendment%20procedure%209-08.doc>.
- 3 If the named PI / Supervisor leaves the employment of the University during the course of this approval, the approval will lapse. Therefore please contact the Institute's Research Ethics Office at iphsrc@liverpool.ac.uk in order to notify them of a change in PI / Supervisor.

Best Wishes

Appendix 4: Approval email (Study 3)

Dear all,

I am pleased to inform you that your study has been approved. Details and conditions of the approval can be found below.

Ethics reference number: RETH001020

Committee name: Research Ethics Sub-committee for Non-Invasive Procedures

Review type: Full committee review

Title of study: Understanding the impact of cyberbullying on young people's wellbeing

Principal Investigator: Professor Rhiannon Corcoran

Co-Applicant: Dr Jacqueline Wheatcroft

Student Investigator: Miss Joanne Worsley

Department: Psychology

First reviewer: Ms Louise Hardwick

Approval date: 03/05/16

Approximate end date: 30/09/16

The application was APPROVED subject to the following conditions:

Conditions

All serious adverse events must be reported to the Subcommittee within 24 hours of their occurrence, via the Research Integrity and Governance Officer (ethics@liverpool.ac.uk).

This approval applies for the duration of the research. If it is proposed to extend the duration of the study as specified in the application form, the Subcommittee should be notified via the Research Integrity and Governance Officer (ethics@liverpool.ac.uk).

If it is proposed to make an amendment to the research, you should notify the Committee by following the Notice of Amendment procedure. If the named PI / Supervisor leaves the employment of the University during the course of this approval, the approval will lapse. Therefore please contact the Research Integrity and Governance Officer at ethics@liverpool.ac.uk in order to notify them of a change in PI / Supervisor.

Kind regards,

Mantalena

Appendix 5: Approval email (Study 4)

Dear Jacqueline

I am pleased to inform you that IPHS Research Ethics Committee has approved your application for ethical approval. Details and conditions of the approval can be found below.

Ref: IPHS-1415-117

PI / Supervisor: Jacqueline Wheatcroft

Title: Analysis of cyber-stalking victims voices

First Reviewer: Rebecca Lawson

Second Reviewer: Fernand Gobet

Date of Approval: 21.1.15

The application was APPROVED subject to the following conditions:

Conditions

- 1 All serious adverse events must be reported to the Sub-Committee within 24 hours of their occurrence, via the Research Governance Officer (ethics@liv.ac.uk).
- 2 This approval applies for the duration of the research. If it is proposed to extend the duration of the study as specified in the application form, IPHS REC should be notified as follows. If it is proposed to make an amendment to the research, you should notify IPHS REC by following the Notice of Amendment procedure outlined at <http://www.liv.ac.uk/researchethics/amendment%20procedure%209-08.doc>.
- 3 If the named PI / Supervisor leaves the employment of the University during the course of this approval, the approval will lapse. Therefore please contact the Institute's Research Ethics Office at iphsec@liverpool.ac.uk in order to notify them of a change in PI / Supervisor.

Best Wishes

Liz Brignal

Secretary, IPHS Research Ethics Committee

Email: iphsec@liv.ac.uk

<http://www.liv.ac.uk/psychology-health-and-society/>

Appendix 6: Participant information sheet (Study 1)



Participant Information Sheet

Attachment style, mental health, and social media use

You are being invited to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being completed and what it will involve. Please take time to read the following information carefully and feel free to ask if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends and family if you wish. We would like to stress that you do not have to take part in this research and you should only agree to take part if you want to.

Thank you for reading this.

Purpose of this study

This research is about understanding what factors contribute to whether or not people experience excessive use of social media. In this study we hope to better understand what factors may lead to excessive social media use and protect individuals from problematic use.

Do I have to take part?

No. You do not have to take part in this study - it is completely up to you. Taking part involves thinking about your emotions, which could be mildly distressing. If you do decide to take part you will be able to keep this information sheet and a copy of the consent form. However, you can change your mind and withdraw from the study at any time without giving a reason. If you choose to withdraw, you will be directed to a debrief form and asked to check a box if you want your data to be deleted and not used in the study. A decision to withdraw will not affect you in any way.

What will happen if I take part?

If you want to take part, the next page will ask you to complete an online consent form. This is to check that you are happy to participate. The instructions will then ask you to complete a short online survey. We estimate that this should take between 15 and 20 minutes to complete. Once you have completed the survey, you will have finished the study – there will be no further questionnaires or any other kind of follow-up in the future.

This study is voluntary and anonymous which means that no names or identifying details will be linked to your answers.

Are there any benefits from participation?

There are no specific benefits from taking part. However, you will be supplying information that will help us to further understand the factors that make a person vulnerable to problematic Internet use.

Are there any risks in taking part?

We do not anticipate any direct risks to you if you take part.

What if I am unhappy, or there is a problem?

If you are unhappy you are free to withdraw at any point during the survey by clicking the "exit survey" button that will be present at the top of every page on the survey. If you do feel distressed, there is a list of organisations provided below and on a follow-up sheet. You can contact any of the organisations should you wish to discuss any issues raised by the survey.

If you are unhappy, or if there is a problem or would like more information, please let Joanne Worsley know by contacting: +44-151-794-1477 or jworsley@liverpool.ac.uk and we will try to help.

What if I want advice about an issue?

We are not qualified to offer advice ourselves, but if you are concerned about an issue related to the survey we advise you to seek information and advice from one of the following organisations/webpages:

University of Liverpool Mental Health Advisory Service

This service offers mental health support to students at the University of Liverpool. Students will be offered an opportunity to discuss their mental health needs, in relation to the context of their involvement with the University. The service aims to meet students' needs on an individual basis. Support can include a one-off session, self-help support, signposting to relevant services, a brief targeting intervention, or longer-term support.

Phone: 0151 794 2320

Email: mhas@liverpool.ac.uk

Website:

<https://www.liverpool.ac.uk/studentsupport/mentalhealthadvisoryservice/>

Address: Student Services Centre, Ground Floor, 150 Mount Pleasant, Liverpool, L69 3GD

University of Liverpool Counselling Services

The university counselling service is here to help you address personal or emotional problems that get in the way of realising your full academic and personal potential. The service offers free and confidential advice to both students and staff, and there are drop-in times Monday to Friday. Please be aware the Counselling Service is not an emergency service.

Phone: 0151 794 3304 (internal 43304)

Email: counserv@liverpool.ac.uk

Website: <http://www.liv.ac.uk/studentsupport/counselling/>

Address: 14 Oxford Street, Liverpool, L69 7WX

NHS

<http://www.nhs.uk/Livewell/addiction/Pages/addictionwhatisit.aspx>

Samaritans

To speak someone anonymously about any kind of addiction, you can call the Samaritans. This is a charity that provides confidential support for people experiencing feelings of distress or despair.

Phone: 08457 90 90 90 (24 hour helpline)

Email: jo@samaritans.org

Website: <http://www.samaritans.org/>

Will my participation be kept confidential?

Yes it will. Your responses are anonymous so we will never be able to tell who said what. No one will know your identity or which responses are yours. All information collected for this research project will be kept securely on a University of Liverpool password-protected computer.

Who can I contact if I have further questions?

If you have any questions please contact Joanne Worsley on +44-151-794-1477 (jworsley@liverpool.ac.uk).

Thank you for taking the time to read this. You should keep this information sheet for future reference.

Appendix 7: Participant consent form (Study 1)



Participant Consent Form

Attachment style, mental health, and social media use

Researcher(s): Miss Joanne Worsley

1. I have read and understood the information sheet dated January 2018 for the above study. I have had the opportunity to consider the information and ask questions about the study.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. Also, should I not wish to answer any particular question or questions, I don't have to.
3. I understand that, under the Data Protection Act, I can ask for access to the information I provide and I can also request the destruction of that information if I wish. However, I understand that it will not be possible to remove my answers from the study once they have been submitted as they have been anonymised.
4. I can confirm that English is my first language.
5. I agree to take part in the above study.

Appendix 8: Participant debrief sheet (Study 1)



Participant Debrief Sheet

Attachment style, mental health and social media use

We would like to thank you for completing our research. Your participation is appreciated and valued. What follows is a brief summary of the purpose of the study being undertaken.

Problematic Internet use is recognised as a significant problem, particularly as it is associated with negative effects. Social networking site (SNS) addiction has been proposed to capture problems associated to the increase in use of social networking sites in recent years.

This research is about understanding what factors contribute to whether or not people experience problematic use. In this study we hope to better understand what factors may lead to problematic Internet use and protect individuals from problematic Internet use.

If you would like to learn more about the study please do contact us using the following email address: jworsley@liv.ac.uk.

Lastly, we are not qualified to offer advice ourselves, but if you are concerned about an issue related to the survey we advise you to seek information and advice from one of the following organisations/webpages:

University of Liverpool Mental Health Advisory Service

This service offers mental health support to students at the University of Liverpool. Students will be offered an opportunity to discuss their mental health needs, in relation to the context of their involvement with the University. The service aims to meet students' needs on an individual basis. Support can include a one-off session, self-help support, signposting to relevant services, a brief targeting intervention, or longer-term support.

Phone: 0151 794 2320

Email: mhas@liverpool.ac.uk

Website: <https://www.liverpool.ac.uk/studentsupport/mentalhealthadvisoryservice/>

Address: Student Services Centre, Ground Floor, 150 Mount Pleasant, Liverpool, L69 3GD

University of Liverpool Counselling Services

The university counselling service is here to help you address personal or emotional problems that get in the way of realising your full academic and personal potential. The service offers free and confidential advice to both students and staff, and there are drop-in times Monday to Friday. Please be aware the Counselling Service is not an emergency service.

Phone: 0151 794 3304 (internal 43304)

Email: counserv@liverpool.ac.uk

Website: <http://www.liv.ac.uk/studentsupport/counselling/>

Address: 14 Oxford Street, Liverpool, L69 7WX

NHS

<http://www.nhs.uk/Livewell/addiction/Pages/addictionwhatisit.aspx>

Samaritans

To speak someone anonymously about any kind of addiction, you can call the Samaritans. This is a charity that provides confidential support for people experiencing feelings of distress or despair.

Phone: 08457 90 90 90 (24 hour helpline)

Email: jo@samaritans.org

Website: <http://www.samaritans.org/>

If you have chosen to withdraw, and you do **NOT** wish for your data to be included in the current study please tick this box:

Appendix 9: Participant information sheet (Study 2)

World Mental Health Day Student Survey Participant Information Sheet

Thank you for your interest in taking part in this research. This information sheet is to explain why the research is being conducted and what your participation will involve. Please take time to read the following information carefully and feel free to ask us if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends and relatives if you wish. We would like to stress that you do not have to take part if you do not wish to.

This study is looking at the effects of stress on the wellbeing of a student population. Any university student is eligible to take part in the study – both home and international. To take part, indicate your consent by clicking ‘yes’ after the four questions below, and then you will be taken to the online questionnaires. These questionnaires will ask you about your life stressors, emotions and social lifestyle factors. This should take about 20 minutes to complete.

Taking part involves thinking about your stressors and emotions, which could be mildly distressing. For some questions, there is an option to respond ‘prefer not to say’. If you experience any distress you can stop at any point and we encourage you to inform the researcher or the supervisor (contact details below). If you wish you may also contact the university counselling service (www.liv.ac.uk/studentsupport/counselling/) or your GP (further information about local services is provided at the end).

Ethics and confidentiality considerations

Your participation will also be entirely confidential, with the information only being accessible to the researcher and supervisor and your data stored anonymously under an ID code so you are not identifiable. However, if you wish to be entered into a prize draw for a £100 AMAZON Voucher, or if you agree to let us contact you later in the year for a follow-up survey, there will be an option to disclose your email address at the end. This research is covered by the University’s research insurance scheme.

The results of the research will be used to inform the development of better mental health care for Liverpool University students. We may publish our findings but if we do, nobody who takes part will give be identifiable. Participation is entirely voluntary and you may withdraw at any time without having to give a reason, and without detriment to you. If you withdraw after the study has begun we will destroy any data already collected. Under the Data Protection Act, you have the right to access your data upon request. However, these options will not apply if you have not left your contact details.

Contact Details

If you would like further information on this study or have any questions, please do not hesitate to contact the researcher or supervisor.

Professor Rhiannon Corcoran: Rhiannon.Corcoran@liverpool.ac.uk

Professor Richard Bentall: Richard.Bentall@liverpool.ac.uk

Dr Jason McIntyre (Researcher): j.mcintyre@liverpool.ac.uk

Joanne Worsley (Student researcher): jworsley@liverpool.ac.uk

Institute of Psychology, Health & Society, University of Liverpool, Waterhouse Block B, Liverpool, L69 3GL

Thank you for taking the time to read this information sheet.

Appendix 10: Participant consent form (Study 2)



Participant Consent Form

1. I confirm that I have read and have understood the above information about this study.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, simply by leaving this website.
3. I understand that, under the Data Protection Act, I can ask for access to the information I provide and that I can also request the destruction of that information if I wish. (These options will only apply if you provide an email address, which is an option at the end of the survey).
4. I agree to take part in the above study.

Yes to all of the above

Appendix 11: Participant debrief sheet (Study 2)

Participant Debrief Sheet

Student well-being survey

We would like to thank you for completing our research. Your participation is appreciated and valued. What follows is a brief summary of the purpose of the study being undertaken.

University transition is a crucial period in a young person's life and is associated with many challenges including independent living, financial difficulties, loss of established social networks, and academic pressure. These stressors may have a consequence for this vulnerable population in terms of reduced mental well-being. Therefore, it is important to examine the protective resources (such as secure attachments, social support, high self-esteem, and sociability) that can help university students maintain resilience. Challenges associated with this crucial period may even be more salient for students who have been confronted with adverse life events such as childhood maltreatment. In this study, we hope to better understand what factors may lead to mental distress and protect individuals from experiencing mental distress whilst at university.

If you'd like to learn more about the study please do contact us using the following email addresses:

Professor Rhiannon Corcoran (Supervisor): Rhiannon.Corcoran@liverpool.ac.uk

Professor Richard Bentall: Richard.Bentall@liverpool.ac.uk

Dr Jason McIntyre (Researcher): j.mcintyre@liverpool.ac.uk

Joanne Worsley (Researcher): Joanne.Worsley@liverpool.ac.uk

If you do experience stress or any or any other issues arise from completing the online survey you should seek information and advice from one of the following organisations:

University of Liverpool Counselling Services

The university counselling service is here to help you address personal and emotional problems that get in the way of realising your full academic and personal potential. The service offers free and confidential advice to both students and staff, and there are drop-in times Monday to Friday. Please be aware the Counselling Service is not an emergency service.

Phone: 0151 794 3304 (internal 43304)

Email: counserv@liverpool.ac.uk

Website: <http://www.liv.ac.uk/studentsupport/counselling/>

Address: 14 Oxford Street, Liverpool, L69 7WX

University of Liverpool Mental Health Advisory Service

This service offers mental health support to students at the University of Liverpool. Students will be offered an opportunity to discuss their mental health needs, in relation to the context of their involvement with the University. The service aims to meet students' needs on an individual basis. Support can include a one-off session, self-help support, signposting to relevant services, a brief targeting intervention, or longer-term support.

Phone: 0151 794 2320

Email: mhas@liverpool.ac.uk

Website: <https://www.liverpool.ac.uk/studentsupport/mentalhealthadvisoryservice/>

Address: Student Services Centre, Ground Floor, 150 Mount Pleasant, Liverpool, L69 3GD

Samaritans

To speak to someone anonymously about any kind of addiction, you can call the Samaritans. This is a charity that provides confidential support for people experiencing feelings of distress or despair.

Phone: 08457 90 90 90 (24 hour helpline)

Email: jo@samaritans.org

Website: <http://www.samaritans.org/>

Nightline

telephone counselling service (open 8 pm to 8 am): 0151 795 8100

SAFE Place Liverpool

(help for males and females who have suffered a sexual assault, open 24hrs/day): 0151 295 3550

www.safeplacemerseyside.org.uk

RASA

(counselling and support for victims of sexual support): 0151 707 4313

rasa@rasamerseyside.org

Appendix 12: Participant information sheet (Study 3)



Understanding the impact of cyberbullying on young people's well-being

You are being invited to take part in an online research study. Before you decide whether you would like to take part or not, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends and family. We would like to stress that you do not have to take part in this research and you should only agree to take part if you want to.

Thank you for reading this.

What is this study for?

This study is about cyberbullying. Cyberbullying is when someone repeatedly makes fun of another person online or repeatedly picks on another person through text/instant message or email or when someone posts something online about another person that they don't like.

The purpose of this study is to understand the effects of this kind of experience on young people. We want to be able to understand what things might protect young people from the harmful effects of cyberbullying. We think that things like having supportive relationships, how you explain things, how sociable you are and how you cope with things in general will be important in determining how we respond to cyberbullying.

Do I have to take part?

No. You do not have to take part in this study - it is completely up to you. If you do decide to take part you will be able to keep this information sheet and a copy of the consent form. However, you can change your mind and leave the study at any time without giving a reason. If you choose to leave the study, you will be directed to a debrief form. A decision to leave the study will not affect you in any way.

What will happen if I take part?

During one of your school lessons you will be asked to fill out a short online survey that we have prepared to explore cyberbullying. A student researcher and one of your teachers will be present whilst you complete the online survey. During the survey, you will be asked whether or not you have experienced cyberbullying, and a number of other questions about your thoughts, feelings and behaviours. This survey will take approximately 20-30 minutes to complete. Once you have completed the survey, you will have finished the study – there will be no further questions.

This study is voluntary and anonymous which means that no names or identifying details will be linked to your answers.

Are there any risks in taking part?

We do not anticipate any direct risks to you if you take part but if you have experienced cyber-bullying in the past, you might be reminded of it and this could make you feel bad for a short time. There will also be questions about your emotions and mood. However, you are free to leave the study at any time should you become upset. We will provide you with information to access additional support, such as ChildLine and the Samaritans. If any of the questions raise concerns you are advised to contact your GP for support, and/or discuss them with someone you trust.

Are there any benefits from participation?

There are no specific benefits from taking part. However, by taking part you will be supplying information that will help us to understand better the effects of cyberbullying.

What if I am unhappy, or there is a problem?

If you are unhappy you can leave the study at any point by clicking the “*I am not happy to continue*” button that will be present at the bottom of every page on the survey. Pressing this button will automatically direct you to the debriefing page and support contacts. You have the right to stop answering the survey questions at any point, without needing to give any explanation. If you do feel distressed, you will be directed to your school counselling service. Or you can contact any of the organisations listed on the debriefing page should you wish to discuss any issues raised by the survey with a counsellor outside of your school environment. Unfortunately, once you have completed the survey, it will not be possible to ask for your data to be removed as we will have no way of identifying which set of answers are yours.

If you are unhappy, or if there is a problem or would like more information, please let us know by contacting either me (Joanne) on +44-151-794-2962 or my supervisor (Rhiannon) on +44-151-795-5365 and we will try to help.

What if I want advice about a cyberbullying issue?

We are not qualified to offer advice ourselves, but if you are concerned about an issue related to cyberbullying we advise you to seek information and advice from one of the following organisations:

ChildLine

ChildLine is a confidential service for children and young people up to the age of 19. ChildLine provides confidential telephone counselling service for any child with a problem. It comforts, advises and protects.

Freephone: 0800 1111 (24 hours)

Website: <https://www.childline.org.uk>

Cybersmile

Cybersmile offers support to individuals who have experienced cyberbullying or digital harassment.

Website: <https://www.cybersmile.org/what-we-do/total-access-support>

Email: help@cybersmile.org

Get Connected

Get Connected is a confidential helpline service for young people under 25 who need help, but do not know where to turn.

Freephone: 0808 808 4994 (7 days a week 11am-11pm)

Website: www.getconnected.org.uk

Samaritans

The Samaritans provide confidential support for a range of circumstances that influence well-being.

Phone: 08457 90 90 90 (24 hour helpline)

Email: jo@samaritans.org

Website: <http://www.samaritans.org/>

Will my participation be kept confidential?

Yes it will. Your responses are anonymous so we will never be able to tell who said what. All information collected for this research project will be kept securely on a University of Liverpool password protected computer.

Who can I contact if I have further questions?

If you have any questions then please contact the principal investigator, Professor Rhiannon Corcoran on +44-151-795-5365 or Rhiannon.Corcoran@liverpool.ac.uk

Thank you for taking the time to read this. You should keep this information sheet for future reference.

Appendix 13: Parent information sheet (Study 3)



Parent Information Sheet

Understanding the impact of cyberbullying on young people's wellbeing.

Your child is being invited to take part in a research study. Before you decide whether to allow your child to participate, it is important that you understand why the research is being conducted and what it will involve. Please take time to read the following information carefully and feel free to ask us if you would like more information or if there is anything that you do not understand. We would like to stress that you do not have to agree to your child taking part in this research and if you do not what them to you should return the reply slip saying so to the school.

Purpose of this study

This study is investigating cyberbullying. Cyberbullying is when someone repeatedly makes fun of another person online or repeatedly picks on another person through email or text message or when someone posts something online about another person that they don't like.

The purpose of this study is to understand the effects of this kind of experience on young people. We want to be able to understand what things might protect young people from harmful effects of cyberbullying. We think that things like having supportive relationships, how young people explain things, how sociable young people are and how they cope with things in general will be important in determining how they respond to cyberbullying.

Does my child have to take part?

You are under no obligation to agree to let your child take part in this study; it is completely your choice. If you do decide to give your permission for your child to take part you will be able to retain this information sheet, and your child will also be able to retain their information sheet and a copy of the consent form. If your child does take part in the current study, then he or she is free to withdraw at any time without giving a reason.

However, if you do not wish for your child to take part in the current study, please return the reply slip on the following page to Maricourt High School by [insert date/month/year]. If you have not returned the reply slip by the date above then we will assume that you are happy for your child to participate in the current study and that you have provided consent for your child to partake in the current study.

What will happen if my child takes part?

During one of their school lessons your child will be asked to fill out an online survey where they will be asked a series of questions about their experiences of cyberbullying, and other questions about their thoughts, feelings, and behaviours. This survey will take approximately 20-30 minutes to complete.

Please note that this study is both voluntary and anonymous which means that no names or identifiers will be linked to your child's responses.

Are there any risks in taking part?

We do not anticipate any direct risks to your child if they take part in the current study although they may be reminded of previous experiences of cyberbullying if they have had them and this could make them feel a little unhappy for a while.

Are there any benefits from participation?

By doing this research your child will be helping to identify potential factors that protect against the effects of cyberbullying. Also, the findings may inform the development of cyberbullying prevention and intervention programmes.

What if my child is unhappy, or there is a problem?

Although no distress is anticipated when completing this survey, your child will be asked briefly about their past experiences of cyberbullying. If your child is unhappy they are free to withdraw at any point during the survey by selecting “no” in response to the tick box question ‘are you happy to continue’ button that will be present at the bottom of every page. If your child does feel distressed, they will be directed to the school counselling service or alternatively a list of voluntary organisations are included on both their information sheet and also on their debrief form should they wish to discuss the issue anonymously outside of their school environment.

If you are unhappy, or if there is a problem, please feel free to let us know by contacting either me (Joanne) on +44-151-794-2962 or my supervisor (Rhiannon Corcoran) on +44-151-795-5365 and we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Governance Officer at ethics@liv.ac.uk. When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

What if my child wants advice about a cyberbullying issue?

We are not qualified to offer advice ourselves, but if you are concerned about an issue related to cyberbullying or your child is experiencing mental distress we advise you to seek information and advice from the following organisation:

YoungMinds

YoungMinds is a confidential service for any adult worried about the emotional problems, behaviour or mental health of a child or young person up to the age of 25.

Phone: 0808 802 5544

Website: <http://www.youngminds.org.uk/>

Will my child’s participation be kept confidential?

Data is collected and stored using a participant number. The electronic data will be stored in password-protected files on University of Liverpool computers. Following completion of the study, we anticipate that the findings will be published in a scientific journal. However, your child’s responses will not be identifiable from the results.

Who can I contact if I have further questions?

If you have any questions then please contact the principal investigator:

Professor Rhiannon Corcoran

Institute of Psychology, Health and Society, University of Liverpool, L69 7ZA.

+44-151-795-5365

Rhiannon.Corcoran@liverpool.ac.uk

✂ -----



Understanding the impact of cyberbullying on young people’s wellbeing.

Reply Slip

I confirm that I have read and have understood the information sheet dated February 2016 for the above study. I have had the opportunity to consider the information, ask questions. However, I do not give my permission for _____ to take part in the above study.

Name Date Signature

Appendix 14: Participant consent form (Study 3)



Participant Consent Form

Understanding the impact of cyberbullying on young people's wellbeing

Researcher(s): Professor Rhiannon Corcoran & Miss Joanne Worsley

**Please
initial box**

5. I have read and understood the information sheet dated February 2016 for the above study. I have had the opportunity to consider the information and ask questions about the study.
6. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. Also, should I not wish to answer any particular question or questions, I don't have to.
7. I understand that, under the Data Protection Act, I can ask for access to the information I provide and I can also request the destruction of that information if I wish. However, as this study is anonymous we will not be able to identify your answers after you have submitted them to us.
8. I agree to take part in the above study.

_____	_____	_____
Participant Name	Date	Signature
_____	_____	_____
Name of Person taking consent	Date	Signature
_____	_____	_____
Researcher	Date	Signature

The contact details of the Principal Investigator are:

Professor Rhiannon Corcoran

Institute of Psychology, Health and Society, University of Liverpool, L69 7ZA.

Work Telephone: 0151 795 5365

Work Email: Rhiannon.Corcoran@liverpool.ac.uk

Appendix 15: Participant debrief sheet (Study 3)



Participant Debrief Sheet

Understanding the impact of cyberbullying on young people's wellbeing

We would like to thank you for completing our research. Your participation is appreciated and valued. What follows is a brief summary of the purpose of the study being undertaken.

Bullying is recognised as a significant problem affecting adolescents, particularly as it is a frequent cause of mental health problems. Recently, electronic means have been used to harass people and this form of bullying is known as cyberbullying. Cyberbullying is when someone repeatedly makes fun of another person online or repeatedly picks on another person through text message or email or when someone posts something online about another person that they don't like.

So far, research on cyberbullying has not looked at the role that certain factors might play in protecting people from feeling bad after experiencing cyberbullying. One recent study has reported that good family communication can help protect young people from the harms of cyberbullying. Therefore, it is important to identify additional things that can protect young people from the harms of cyberbullying.

If you'd like to learn more about the study please do contact us using the following email address: jworsley@liv.ac.uk

Lastly, if you have been affected by any of the issues raised in the survey you should speak to your school counsellor immediately and/or contact one of the organisations below to speak to a counsellor anonymously:

ChildLine

ChildLine is a confidential service for children and young people up to the age of 19. ChildLine provides confidential telephone counselling service for any child with a problem. It comforts, advises and protects.

Freephone: 0800 1111 (24 hours)

Website: <https://www.childline.org.uk>

Cybersmile

Cybersmile offers support to individuals who have experienced cyberbullying or digital harassment.

Website: <https://www.cybersmile.org/what-we-do/total-access-support>

Email: help@cybersmile.org

Get Connected

Get Connected is a confidential helpline service for young people under 25 who need help, but do not know where to turn.

Freephone: 0808 808 4994 (7 days a week 11am-11pm)

Website: www.getconnected.org.uk

Samaritans

The Samaritans provide confidential support for a range of circumstances that influence well-being.

Phone: 08457 90 90 90 (24 hour helpline)

Email: jo@samaritans.org

Website: <http://www.samaritans.org/>

Appendix 16: Head teacher information sheet



Head teacher Information Sheet

Understanding the impact of cyberbullying on young people's wellbeing.

Your school pupils are being invited to take part in a research study. Before you decide whether to allow your pupils to participate, it is important that you understand why the research is being conducted and what it will involve. Please take time to read the following information carefully and feel free to ask us if you would like more information or if there is anything that you do not understand. We would like to stress that you do not have to agree to allow your pupils to take part in this research.

Purpose of this study

This study is investigating cyberbullying. Cyberbullying is when someone repeatedly makes fun of another person online or repeatedly picks on another person through email or text message or when someone posts something online about another person that they don't like.

The purpose of this study is to understand the effects of this kind of experience on young people. We want to be able to understand what things might protect young people from harmful effects of cyberbullying. We think that things like having supportive relationships, how young people explain things, how sociable young people are and how they cope with things in general will be important in determining how they respond to cyberbullying.

Do my pupils have to take part?

You are under no obligation to agree to let your pupils take part in this study; it is completely your choice. If you do decide to give your permission for your pupils to take part you will be able to retain this information sheet. If your pupils do take part in the current study, then they are free to withdraw at any time without giving a reason.

What will happen if my pupils take part?

Your pupils will be asked to fill out an online survey which includes questions about their thoughts, feelings and behaviours and they will be asked to state whether or not they have experienced cyberbullying. This survey will take approximately 20-30 minutes to complete.

Please note that this study is both voluntary and anonymous which means that no names or identifiers will be linked to your pupils' responses.

Are there any risks in taking part?

We do not anticipate any direct risks to your pupils if they take part in the current study although they may be reminded of previous experiences of cyberbullying if they have had them and this could make them feel a little unhappy for a while.

Are there any benefits from participation?

By completing this research your pupils will be helping to identify potential factors that protect against the negative effects of cyberbullying. Also, the findings may inform the development of cyberbullying prevention and intervention programmes.

What if my pupils are unhappy, or there is a problem?

Although no distress is anticipated when completing this survey, your pupils will be asked briefly about their past experiences of cyberbullying. If a pupil is unhappy they are free to withdraw at any point during the survey by selecting "no" in response to the tick box question '*are you happy to continue*' button that will be present at the bottom of every page. If one of your pupils does feel distressed, they will be directed to your school counselling service and

a list of voluntary organisations are included on both their participant information sheet and their debrief form should they wish to discuss the issue anonymously outside of their school environment.

If you are unhappy, or if there is a problem, please feel free to let us know by contacting either me (Joanne) on +44-151-794-2962 or my supervisor (Rhiannon Corcoran) on +44-151-795-5365 and we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Governance Officer at ethics@liv.ac.uk. When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

Will my pupils' participation be kept confidential?

Data is collected and stored using a participant number. The electronic data will be stored in password-protected files on University of Liverpool computers. Following completion of the study, we anticipate that the findings will be published in a scientific journal. However, your pupils' responses will not be identifiable from the results.

Who can I contact if I have further questions?

If you have any questions then please contact the principal investigator:
Professor Rhiannon Corcoran
Institute of Psychology, Health and Society, University of Liverpool, L69 7ZA.
+44-151-795-5365

Rhiannon.Corcoran@liverpool.ac.uk

