

**Wellbeing, Self-harm and Social Media:
A literature review, thematic analysis and reflective account**

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and Keele Universities for the jointly awarded degree of
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Part One: Literature Review

The impact of online social media use on wellbeing in adolescents and young people

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Thesis Summary

This thesis aims to provide further understanding of the way social media use impacts on wellbeing. Despite recent media reports on the role of social media in the lives of young people little headway has been made into researching this area to expand the knowledge of professionals involved in their care. Part one of the thesis is a literature review aimed at synthesising and updating current research into the impact of social media use on the wellbeing of adolescents and young people. Nine quantitative papers were critically appraised to reveal both positive and negative impacts on wellbeing. The review highlighted the need for quality qualitative research in this field and identified social media use as a key influence in adolescents self-harm. In accordance with the review findings, part two of the thesis is a thematic analysis of the self-harm content posted on the most popular social media sites in the UK (Facebook, Twitter, Instagram and Pinterest). Analysis identified six themes; Community, Reasons for self-harm, Social attitudes, Other people's reactions, Help and Negative view of self. The six themes had a number of clinical implications for professionals working with individuals who repetitively self-harm. Part three of this thesis is a reflective review, written in the first person. It identifies the impact of conducting this research on wellbeing, as well as reflecting on personal social media use throughout the thesis. Contrary to expectation this thesis found a significant positive voice for social media which is often judged harshly and negative assumptions are often made.

Footnote: APA referencing is used throughout to provide consistency for the reader, changes to meet the relevant journal guidelines will be made prior to submission.

Part One: Literature Review

The impact of online social media use on wellbeing in adolescents and young people

Target Journal: Plos One

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1.1. Abstract

The use of social media (SM) has grown rapidly and continues to do so as a popular form of communication. SM is most commonly used by young people and adolescents, most of who use it daily. The rates of depression and anxiety in adolescents have also increased rapidly in recent years with a number of individuals within this age group being at an increased risk of developing mental health problems due to a number of social and economic factors. Previous research has reached both positive and negative conclusions about the impact of SM use on adolescent's wellbeing. The aim of the current literature review is to synthesise and update current research relating to SM use and wellbeing in adolescents and young people, with the specific purpose of remaining relevant to the fast-paced growth of SM sites and their use. A systematic search strategy and selection criteria resulted in nine quantitative papers aimed at answering the question; does online SM use have an impact on adolescents and young people's wellbeing? Both positive and negative impacts on wellbeing were found (depending on the measure of SM use, definitions of SM use and conceptualisations of wellbeing). Positive impacts on wellbeing included both hedonic and eudaimonic conceptualisations of wellbeing; adolescents self-concept, social connectedness, reducing emotional difficulties, improving self-esteem and reducing depressed mood. Negative impacts on wellbeing focussed more on hedonic conceptualisations of wellbeing and included; increased distress, suicidal ideation, and decline in mood/affect and a decline in life satisfaction ratings. The overall quality of the research was poor. In conclusion further quality research is needed to explore the relationship between SM use and wellbeing. Specifically qualitative research is needed to add richness and depth to the current knowledge in this area.

1.2. Introduction

In recent years the link between adolescent wellbeing and online social media (SM) use has been documented, researched and reviewed (Pujazon-Zazik & Park, 2010; Manago, Taylor & Greenfield, 2012; Tzavela & Mavromati, 2013; Best, Manktelow & Taylor, 2014), with both positive and negative conclusions drawn.

In 2014, a systematic literature review by Best, Manktelow and Taylor (2014) reviewed published research studies between 1st January 2003 and 11th April 2013, thus covering a ten year period. Their aim was to review the research relating to the effects of social media technology on adolescent wellbeing, looking at both beneficial and harmful effects (Best et al., 2014). This current review aims to update and synthesise current research relating to social media use and wellbeing in adolescents and young people. Whilst two years may not initially be seen as a significant period of time, the fast-paced growth of social media use means it is pertinent for the academic knowledge base to remain current and relevant, especially when considering the potential psychological outcomes.

1.3. Context

1.3.1. Social Media

The use of SM and online communication has rapidly increased, and continues to do so. In 2012 there were 1.47 billion social network users around the world, which has been predicted to increase to 2.55 billion by 2017 (e-Marketer, 2013). Social networking sites are most commonly used by adolescents and young adults (Pew Research Centre, 2014). 92% of teenagers (13-17 years old) go online daily, 71% of which use more than one social networking site (Lenhart, 2015). 89% of young adults (18-29 years old) who use the internet access social networking sites (Pew Research Centre, 2015).

With a wide variety of SM sites and online communication methods used globally it is a competitive market. The most popular used SM sites (in the UK) are: Facebook, Twitter, LinkedIn, Pinterest and Instagram (Rose, 2014).

Facebook, launched in 2004, continues to be the most popular SM site for teens and adults (Lenhart, 2015; Pew Research Centre, 2014). SM sites are one of many forms of online communication, other forms of online communication include; internet messaging boards, blogs, email, instant messaging, enhanced messaging applications, video messaging and chat rooms. Enhanced messaging applications that are specifically designed for smartphone usage, such as WhatsApp and Snapchat, also use the internet to facilitate communication between individuals.

1.3.2. Wellbeing

Wellbeing is an abstract concept that can be linked to a number of different areas including psychology, physical health, finance, sociology and environment. It is important to firstly define wellbeing for the purpose of this literature review.

Theories which attempt to conceptualise well-being can be considered as existing under two philosophical principles; Hedonism versus Eudaimonism (Ryan & Deci, 2001). The hedonic view is that well-being relates to an individual's perception of happiness which includes pleasure versus displeasure and an individual's judgements about the good and bad aspects of their life (Ryan & Deci, 2001). Therefore the hedonic view of wellbeing, in its simplest definition appears to be motivated at increasing positive affect and reducing negative affect. The eudaimonic view, which can be traced back to views proposed by Aristotle, is that well-being is less about achieving the pleasures which an individual may desire and more about living in accordance with their personal beliefs and values (Ryan & Deci, 2001). Therefore, whereas the hedonic view of well-being appears to be goal-focused the eudaimonic view appears to be focused on the journey of achieving a virtuous life.

The leading hedonic conceptualisation of wellbeing is that of subjective well-being (Ryan & Deci, 2001). Diener (1994) proposed that, after conducting much research into the area, subjective wellbeing includes long-term levels of pleasant affect, lack of unpleasant affect and satisfaction with life. Assessing wellbeing by measuring an individual's negative emotional reactions or state provides an incomplete picture of wellbeing; in order to obtain a more accurate

representation an individual's positive emotional state and life satisfaction should also be assessed (Diener, 1994). Two scales proposed to measure subjective wellbeing, in accordance with Diener's hedonic conceptualisation are: The Satisfaction with Life Scales (Diener, Emmons, Larsen & Griffin, 1985) and The Scale of Positive and Negative Experience (Diener et al., 2009). Criticisms for a hedonic conceptualisation of wellbeing include the idea that the process of pursuit for pleasure and self-interest can in itself have a detrimental impact of the health and resources for individuals and communities (Fave, Massimini & Bassi, 2011).

Two of the main approaches to wellbeing, which embrace the eudaimonic conceptualisation of wellbeing, include the concept of Psychological Wellbeing and Self-determination theory (Ryan & Deci, 2001). Psychological wellbeing (Ryff, 1989) is a multi-dimensional approach to wellbeing based upon six constructs and assessed using the Ryff inventory (Ryff, 1989). The six constructs are: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life and personal growth. Self-acceptance is concerned with an individual's attitude towards the self. If an individual has high levels of self-acceptance they have a positive attitude towards themselves where they will be able to accept their multiple aspects (good and bad qualities). If an individual has low levels of self-acceptance they are dissatisfied with themselves; they may be distressed about their personal qualities and wish to be different (Ryff, 1989). If an individual scores highly in their positive relationships with others, they have warm, trusting and satisfying relationships. Within these relationships they can express empathy, affection, concern and intimacy. If an individual has difficulty with interpersonal relationships (relations with others) they will have fewer trusting relationships and may find it difficult to be open and warm. Additionally, interpersonal relationships may be perceived as isolating and frustrating (Ryff, 1989). Autonomy (as a construct) is based upon an individual's confidence in their own views and ideas even if they contradict those of others around them. To score highly in this area individuals are able to resist social pressures and evaluate themselves by their personal standards, whereas individuals who score low in this area conform and rely on other people judgements when making decisions (Ryff, 1989). Environmental mastery refers to an individual's ability to manage everyday life and external

activities. It includes the extent to which an individual can make use of the resources made available to them in order to seize opportunities that may arise (Ryff, 1989). Purpose in life is another of the proposed concepts of psychological wellbeing. Individuals who rate highly in this area have goals and a sense of direction. They have a set of beliefs that give life a purpose and see meaning in past and present life experiences. Individuals who do not rate highly in this area lack a sense of direction or meaning. They may have few life goals and struggle to see meaning in past experiences (Ryff, 1989). Personal growth as a concept scores an individual on whether they perceive themselves as continuing to develop or take up a position of disinterest or stagnation with their life (Ryff, 1989). Despite Ryff's (1989) conceptualisation for wellbeing being influential in this area, it has been criticised for taking an expert position towards wellbeing, as it does not allow individuals to tell researchers what they feel makes their life good (Ryan & Deci, 2001).

Self-determination theory (Ryan & Deci, 2000) proposes three basic psychological needs which are: autonomy, competence and relatedness. The theory suggests that these three basic needs need to be fulfilled to achieve: psychological growth, integrity and well-being in any specific context (Ryan & Deci, 2000). Self-determination theory (Ryan & Deci, 2000) continues to suggest that if any of these three basic needs are unsupported (within any context) this will have a negative impact on an individual's wellbeing. Self-determination theory was built upon a body of empirical evidence into wellbeing, of which the findings could be summarised under the three needs (autonomy, competence and relatedness). The theory is responsive to cultural differences as it proposes that the three basic needs do not need to be considered equal or valued (depending on the family, social or cultural group) but thwarting these needs will still result in negative psychological consequences for an individual, irrelevant to their cultural or social group (Ryan & Deci, 2000).

For the purpose of this review a multi-dimensional understanding of wellbeing will be considered that includes both hedonic and eudaimonic conceptualisations. This is not only to capture a range of empirical evidence from different psychological perspectives but also because evidence suggests that both hedonic and eudaimonic factors contribute to individuals reports of

wellbeing (Ryan & Deci, 2001). Therefore wellbeing will include the following conceptualisations: life satisfaction, affect (positive and negative), self-acceptance, positive relations with others (relatedness), autonomy, environmental mastery, purpose in life, personal growth and competency. The term wellbeing will be used throughout and includes both subjective and psychological wellbeing.

1.3.3. Adolescence and young people

The terms adolescent and young person have a degree of variability in the way which they are used and defined by different organisations. The United Nations Population Fund (2014) defines a young person as being aged between 10 – 24 years old, whilst the World Health Organisation (2016) defines adolescents and young people as 10 to 19 years old. Different health databases also conceptualise the term adolescent with some variability (Medline 13-18 years old, PsychInfo 13-17 years old, CINAHL Plus 13-18 years old and PsycArticles 13-17 years old). For the purpose of this review the definition provided by the United Nations Population Fund (2014) will be used as this is the most comprehensive, in terms of age range, and will therefore facilitate the inclusion of student population studies. With a current estimate of 1.8 Billion young people globally, the population of young people has reached its highest ever (United Nations Population Fund, 2014). Although it is recognised that many of these live in developing countries and may not have access to social media, it is still, nevertheless, a large proportion of the population that may have increased access to SM as technology continues to develop.

Statistics reviewed by Young Minds (2016) indicate that rates of depression and anxiety have increased in adolescents by 70% over the past 25 years, with one in four young people in the UK having experienced suicidal thoughts. Within this age group there are a number of vulnerable groups who are at increased risk of developing mental health problems (Young Minds, 2016). These are: young offenders, looked after children/young people, lesbian/gay/bisexual or transgender adolescents, young people from minority ethnic backgrounds, adolescents classified as having a disability, homeless youth, young people involved with gangs and unemployed young people.

1.4. Focused Literature Search and Review

1.4.1. Aim

The aim of this review is to update and synthesise the most current research relating to social media use and wellbeing in adolescents and young people from April 2013 to October 2015 in order to answer the question: Does online social media use have an impact on adolescents and young people's wellbeing?

1.4.2. Search strategy

A systematic approach was taken to review the literature which is relevant to the review's aims. The database host EBSCO was used in order to access the following health relevant databases:

- Academic Search Complete
- AMED – The Allied and Complementary Medicine Database
- MEDLINE
- PsycINFO
- SPORTDiscus with Full Text
- AgeLine
- CINAHL Plus with Full Text
- PsycARTICLES

The search included the search terms originally used by Best *et al.* (2014), plus additional terms to reflect the current changes in social media use/development (LinkedIn, Pinterest and Instagram). The following search terms were entered using the Boolean operator "OR" and were then combined using the Boolean operator "AND". The search field was restricted to terms appearing within the title or abstract of an article.

- Adolescen* OR Young People OR Child* OR Youth or Teen* OR Juvenile OR Young Person.

AND

- Social Media OR Online Friends OR Online Social Network OR Online Social Networking OR Online Communities OR Facebook

OR MSN OR Twitter OR Blog OR Chat Rooms OR MySpace OR Online Forum OR Net Generation OR Digital Natives OR Generation Z OR Cyberspace OR Cyberbullying OR Cyberbullying OR Social Networking Sites OR Web 2.0 OR LinkedIn OR Pinterest OR Instagram.

AND

- Wellbeing OR Well-being OR Social Support OR Perceived Social Support OR Mental Health OR Self-efficacy OR Life Satisfaction OR Self-Esteem OR Social Capital.

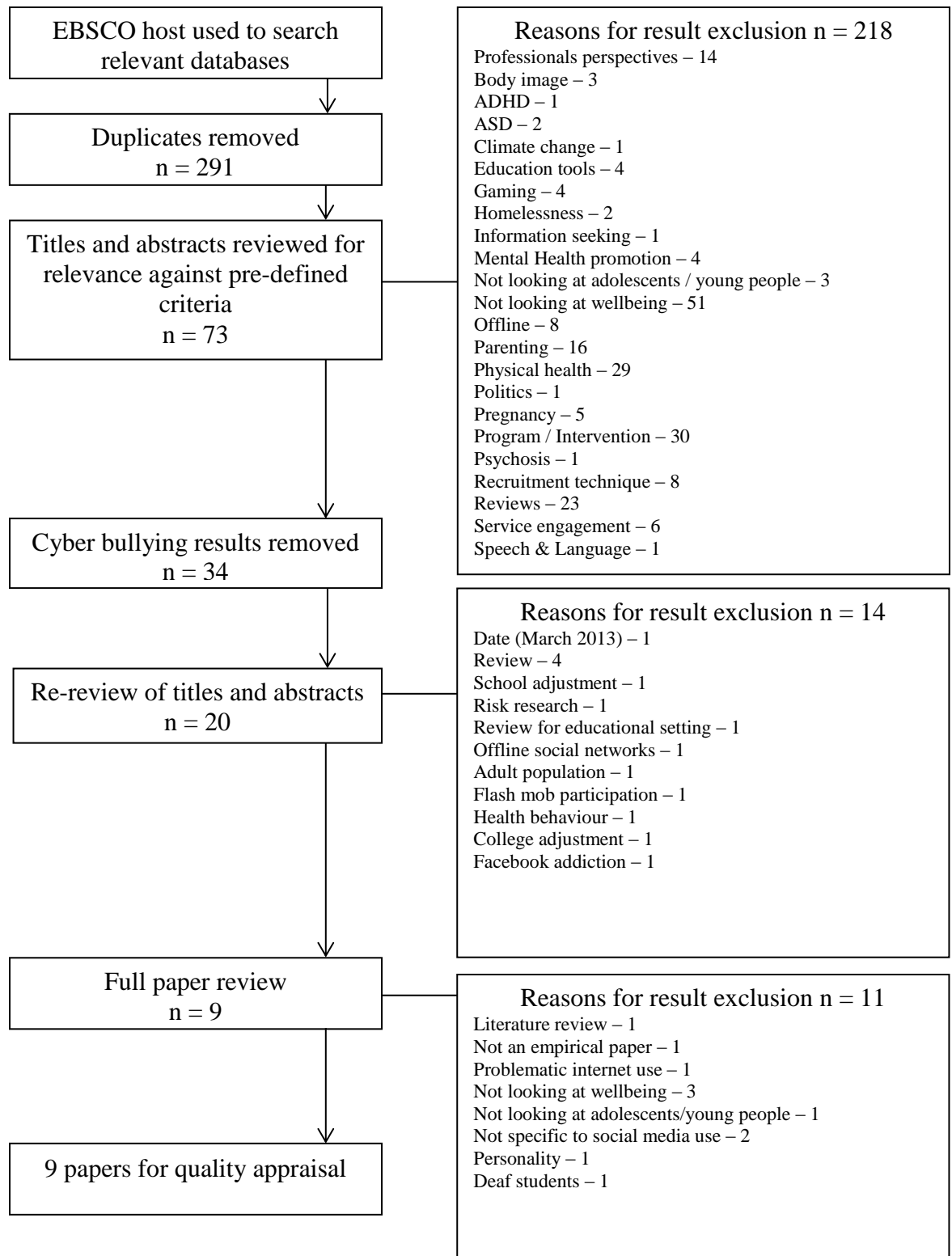
The initial search, conducted on 7th November 2015, limited by date (April 2013 to October 2015) yielded 399 results. Removing exact duplicates reduced this number to 291 results.

1.4.3. Inclusion and Exclusion criteria

Peer-reviewed, empirical papers published between April 2013 and October 2015 were sought. The search was limited to papers written or translated into English which featured: social media use, adolescents/young people and wellbeing in the abstract and title. This led to a retrieval of 73 studies. The search was limited further to remove articles relating to cyber bullying (including cyber-harassment and cyber-victimisation). This was to represent non-criminal online activity and to emphasise the emergence of cyber bullying as a separate and specific field of research (Best *et al.*, 2014). This limited the results to 34 studies. A further 14 studies were excluded against the updated criteria (Peer-reviewed empirical papers published between April 2013 and October 2015 that feature social media use, adolescents/young people or wellbeing in the abstract or title; excluding cyber-bullying). Further exclusions included: research into physical health (as a conceptualisation of wellbeing), studies looking at problematic internet use (i.e. internet addiction) and school/college adjustment. A flow chart depicting the inclusion/exclusion process can be seen in Figure 1.0. 20 papers remained and were read in full, ten were excluded as they did not meet the inclusion/exclusion criteria (one was a literature review, one was not an empirical paper, one paper looked at problematic internet use, three papers did not research wellbeing as defined by the accepted description discussed in

the introduction, one was not focused on adolescents and or young people, two were not specific to social media use and one looked into the impact of personality on internet use) and a further one study was excluded as it included deaf participants only (with findings suggesting that deaf students use social media differently to hearing students [Blom, Marschark, Vervloed & Knoors, 2014]). This left a total of nine papers for quality appraisal and inclusion in the literature review.

Figure 1.0 Overview of search strategy and selection for relevance.



1.4.4. Quality Appraisal

The Downs and Black Quality Index (Downs & Black, 1998) was used as the quality appraisal tool for this review. The index includes 26 items covering five sub-scales (reporting, external validity, bias, confounding variables and power). It provides a total score out of a maximum of 32 and has been utilised for quality appraisal within health settings (Downs & Black, 1998). The Downs and Black Quality Index was chosen due to its validity ($r = 0.90$), reliability (internal consistency, Cronbach alpha > 0.69 ; test re-test reliability $r=0.69-0.90$) and overall strong methodological rating (National Collaborating Centre for Methods and Tools, 2008). Findings from the papers were synthesised in accordance with the current presented theoretical understanding of psychological wellbeing.

1.5. Results

1.5.1. Overview of results

Table 1.0 provides an overview of the quality scores for each of the final nine studies by subsection (using the Downs and Black Quality Index, 1998) and a summary of the final is shown in Table 1.1.

Table 1.0. Quality scores by subsection

Study (reference)	Downs and Black (1998) Quality Index Score (by subsection)					Total score
	Reporting	External validity	Internal validity -bias	Internal validity – confounding (selection bias)	Power	
Bloomfield, C.J. & Barber, B. (2014)	6/11	0/3	4/7	1/6	0/5	11/32
Boniell, M. & Barak, A. (2013)	6/11	0/3	6/7	2/6	0/5	14/32
Bourgeois, A., Bower, J. & Carroll, A. (2014)	7/11	1/3	4/7	2/6	0/5	14/32
Frison, E. & Eggermont, S. (2015)	5/11	1/3	5/7	2/6	0/5	13/32
Kross, E. <i>et al.</i> (2013)	6/11	0/3	4/7	2/6	0/5	12/32
Labregue, L.J. (2014)	6/11	0/3	4/7	1/6	0/5	11/32
Michilkayan, M., Dennis, J. & Subrahmanyam, K. (2015)	6/11	0/3	4/7	1/6	0/5	11/32
O'Connor, R.C., Rasmussen, S. & Hawton, K. (2014)	7/11	2/3	4/7	1/6	0/5	14/32
Sampasa-Kanyinga, H. & Lewis, R.F. (2015)	8/11	1/3	3/7	1/6	0/5	13/32

Table 1.1 Summary of final papers

Authors (reference)	Participant sample	Methodology & Statistical Analysis	Main Findings	Strengths & Limitations	Downs and Black (1998) Quality Index Score
Bloomfield, C.J. & Barber, B. (2014)	1,819 Australian high-school students aged between 13- 17 years old ($M = 14.6$). Mixed-gender (55% female)	Questionnaire (self-report). Statistical analysis included: independent samples t- test, Pearsons correlations, 2 by 2 ANOVAs.	1. Social network site (SNS) use may have negative aspects for female youth whilst being a positive leisure activity for male youth. 2. Frequency of SNS use is a positive predictor of social self- concept. 3. Investment in SNSs predicts lower self-esteem and higher depressed mood. 4. No significant differences	Strengths 1. Gender differences included as potential moderator. 2. Highlights difference between SNS use and investment in SNS. 3. Appropriate statistical analysis used. Limitations: 1. Causality cannot be established (cross-sectional design). 2. May be overlap between	11 / 32

			found for gender.	<p>measurements of frequency and investment in social networking site use.</p> <p>3. Further investigation of constructs that link social network sites and indicators of adjustment (self-esteem and higher depressed mood) is needed.</p>	
Boniell, M. & Barak, A. (2013)	161 Israeli high-school students aged 14-17 years old ($M = 15.5$ years). Mixed-gender (77% female)	Randomly controlled experimental conditions. Between subject design. MANOVA and post hoc pair-comparisons used for	<p>1. Blogging about social emotional difficulties showed pre to post improvement.</p> <p>2. Open (to response) bloggers showed the greatest improvement.</p> <p>3. Findings sustained at follow-up.</p>	<p>Strengths</p> <p>1. Attempts to establish causal link through group manipulation.</p> <p>2. Appropriate statistical analysis</p> <p>Limitations</p> <p>1. False setting / prescriptive blogging (external validity).</p> <p>2. Cross-sectional study (generalizability).</p> <p>3. Gender differences not taken into account / reported.</p>	14/32

		statistical analysis.			
Bourgeois, A., Bower, J. & Carroll, A. (2014)	1037 Australian, High-school students aged between 11-18 years old. Mixed-gender (49% female)	Survey (self-report). MANOVA and ANOVA used for statistical analysis.	<ol style="list-style-type: none"> 1. Frequent checking of Facebook associated with higher emotional difficulties. 2. Frequency of checking Facebook associated with increased scores for the three identified factors of social connectedness online; Fit in, Public self and Connected self. 3. Males and female adolescents use Facebook differently. 	<p>Strengths</p> <ol style="list-style-type: none"> 1. Gender differences identified and addressed. 2. Appropriate statistical analysis used. <p>Limitations</p> <ol style="list-style-type: none"> 1. Cross-sectional study. 2. Variance (self-report measures). 3. One SNS examined. 	14/32
Frison, E. & Eggermont, S. (2015)	910 Belgium, high-school students, <i>M</i> = 15.4 years old. Mixed-gender (51.9%	Survey (self-report). Structural equation modelling (AMOS) used	<ol style="list-style-type: none"> 1. Positive relationship between daily stress and support seeking through Facebook. 2. Social support seeking through Facebook increased depressed mood. 	<p>Strengths</p> <ol style="list-style-type: none"> 1. Gender differences considered and tested for significance. 2. Differentiates between perceived social support and seeking social support. 	13/32

	female)	for statistical analysis.	<p>3. Social support seeking on Facebook positively predicts adolescent's perception of emotional support.</p> <p>4. Perceived emotional support (through Facebook) reduces adolescent's depressed mood.</p> <p>5. Significant difference in daily stress predicting female depressed mood.</p>	<p>3. Considers direct and indirect effects on adolescents.</p> <p>4. Testing of proposed theoretical model.</p> <p>Limitations</p> <p>1. Cross-sectional study (generalizability).</p> <p>2. Variance (self-report measures).</p> <p>3. Limited to two types of daily stressors.</p> <p>4. Not a large effect size.</p>	
Kross, E. <i>et al.</i> (2013)	82 individuals recruited from Michigan, America. <i>M</i> = 19.5 years old. Mixed-gender (65% female).	Survey (self-report). Correlations used for statistical analysis.	<p>1. Facebook use predicts decline in two components of wellbeing (current affect and life satisfaction).</p> <p>2. Direct social interaction did not predict a decline in wellbeing.</p>	<p>Strengths</p> <p>1. Data collected at several time points over a period of time (14 days) which provides a more realistic representative result than a single time-point.</p> <p>Limitations</p> <p>1. Small effect size.</p>	12/32

				<p>2. Cross-sectional study (generalizability).</p> <p>3. Variance (self-report measures).</p> <p>4. Small sample size.</p> <p>5. Gender differences not considered.</p> <p>Ethical consideration – participants were paid for their involvement.</p>	
Labregue, L.J. (2014)	76 Filipino, undergraduate university nursing students aged 10-25 years old. Mixed-gender (82% female)	Questionnaire (self-report). Descriptive statistics (percentage and frequency) used alongside Pearsons	<p>1. Intensity of Facebook use not related to depression, anxiety and stress.</p> <p>2. Time spent on Facebook associated with increased depression and anxiety scores.</p>	<p>Strengths</p> <p>1. Explored two different measure of Facebook use (intensity and amount of time).</p> <p>2. Reported full statistical analysis outcomes.</p> <p>Limitations</p> <p>1. Generalizability of results.</p> <p>2. Use of correlation does not establish causality.</p>	11/32

		correlation for statistical analysis.		3. Weak statistical analysis methodology used. 4. Gender not considered as a contributing factor.	
Michilkyan, M., Dennis, J. & Subrahmanyam, K. (2015)	261 American University students $M = 21.9$ years old. Mixed-gender (75% female)	Questionnaire (self-report). MANOVA used for statistical analysis to develop a theoretical model. Model evaluated using RMESA.	1. People are more likely to present their real self than their ideal or false self online. 2. Participants with a more coherent sense of self reported presenting their real-self more. 3. Ideal self-presentation associated with lower identity state and lower wellbeing.	Strengths 1. Theoretical model presented and evaluated. 2. Gender differences considered, and small number of male participants presented for discussion around why gender differences were not found. Limitations 1. Variance (self-report measures). 2. Social desirability bias. 3. Cross-sectional study (generalizability).	11/32

O'Connor, R.C., Rasmussen, S. & Hawton, K. (2014)	3596 Secondary school students in Northern Ireland aged between 15- 16 years old (<i>M</i> = 15 years). Mixed- gender (48% female)	Questionnaire (self-report). A series of univariate and multivariate logistic regression analyses and chi-square tests used for statistical analysis.	1. 18% of adolescents who self-harm (15% of the female students, 26% of the male students) endorsed the internet or SNSs as influencing their self-harm.	Strengths 1. Gender differences considered. 2. Numerous factors influencing self-harm considered. 3. Appropriate statistical analysis. Limitations 1. Cross-sectional study 2. Variance (self-report measures).	14/32
Sampasa-Kanyinga, H. & Lewis, R.F. (2015)	753 Canadian school students (grades 7-12) <i>M</i> = 14.1 years old. Mixed-gender	Survey (self-report). Statistical analysis - Taylor series linearization methods	1. Students who wanted to talk to someone regarding a mental or emotional health problem were more likely to report using SNSs for 2 or more hours a day. 2. Individuals who used SNSs for more than 2 hours a day	Strengths 1. Appropriate statistical analysis used. 2. Analysis adjusted for Gender. Limitations 1. Causational link not established between mental	13/32

	(55% female)	were used to obtain unbiased point and variance estimates which were then compared using chi-square (categorical data) and adjusted Wald test (continuous data)	were more likely to rate their mental health as fair or poor, experience high levels of distress and express suicide ideation.	health and SNS. 2. Variance (self-report measures). 3. Cross-sectional study (generalizability).	
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1.5.2. Description and Critique of included papers

Bloomfield and Barber (2014) measured individuals' social networking site (SNS) use, frequency of SNS use and SNS investment and compared this against three indicators of adjustment (social self-concept, self-esteem and depressed mood). SNS use was captured using categorical data in response to a yes or no question about owning an online profile such as Facebook, Bebo or MySpace. Frequency of SNS use was assessed through the administration of a 7-point option scale ranging from 0 (never) to 6 (several times a day) and included questions such as: how often do you visit your social media page and how often do you use social media to make plans with your friends. Investment in SNS was defined by Bloomfield and Barber (2014) as a measure of how important SNS are to an individual, and should be considered as a separate measure of SNS use. The three indicators of adjustment were assessed using a 6-point Likert scale. Social self-concept was assessed by participants choosing how true a series of statements (such as "I am good at making friends") were about them, ranging from 1 (False, not like me) to 6 (True, this describes me well). Self-esteem was assessed using three questions in which individuals rated how often they feel good, satisfied or sure about themselves, with the Likert scale ranging from 1 (never) to 6 (daily). Depressed mood was assessed by asking individuals how often they: experienced changes to their appetite, feel difficulties are piling up, feel unhappy and feel there isn't anything to look forward to. Answers could range from 1 (never) to 6 (daily). All the three indicators of adjustment were found to have good reliability by the researchers (Cronbach's $\alpha = 0.75$ to 0.87). Results from the study found that frequency of SNS site use is a positive predictor of social self-concept and that investment in SNS use predicts lower self-esteem and increased depressed mood. The paper was clear in its description of the study aims, outcomes, interventions and findings but there were some unreported details such as; participant characteristics, potential confounding variables and information on follow-up/attrition rates. The paper also failed to highlight and address any adverse events or ethical considerations for the study. The statistical test used was appropriate to the methodological approach and research questions however results are hard to generalise outside of the study due to the study being cross-sectional in its design and due to an absence of detailed information on the entire population from which the participants were selected

and if the participant sample was representative. Whilst the paper identified differences in SNS use and SNS investment, it also highlighted the potential for overlap in the outcome measures used to assess these.

A study by Frison and Eggermont (2014) examined the relationship between support seeking on Facebook, perceived social support through Facebook, adolescent's depressed mood and daily stress. Daily stress was assessed through the use of a 5 point Likert questionnaire, ranging from 1 (not at all stressful) to 5 (very stressful) and included items relating to family and school stress. Social support seeking and perceived social support was also assessed using 5 point Likert scales in response to a number of items ranging from 1 (strongly disagree) to 5 (strongly agree). Adolescents depressed mood was assessed using 5 statements adapted from an existing depression scale for children on a 4 point Likert scale ranging from 1 (not at all) to 4 (a lot). Structural equation modelling (AMOS) was used to test hypothesized relationships with: the chi-square-squared-to-degrees-of-freedom ratio, the root mean square error of approximation and the comparative fit index used to assess the effectiveness or fit of the hypothesised model. Results from the study found that daily stress positively predicted social support seeking on facebook. When social support was sought and perceived this reduced depressed mood. When social support was sought but not perceived this increased depressed mood. This led Frison and Eggermont (2014) to propose a model explaining increased differences in the impact of social support seeking on increasing depressed mood in comparison to traditional face to face social support. This study takes a step further into understanding social media use by proposing and testing a model comparing online social support seeking behaviour and more tradition social support seeking. However, the effect size is relatively small and the findings were in response to only two sources of daily stress (family and school) which may not account for all adolescent daily stress which they seek support for. The study however, was well presented and clear with appropriate statistical analysis and methodology used. The additional statistical analysis for testing the proposed hypothetical model adds additional rigour to the outcomes of the study. However, there was a lack of detail provided on how participant selection was made and if the participants included in the study were representative of

the population from which they were sampled. The study also failed to highlight any ethical issues that may arise for participants who took part in the study.

Sampasa-Kanyinga and Lewis (2015) conducted a study that examined the relationship between the time adolescents spent on social networking sites and unmet needs for mental health support, poor mental health, psychological distress and suicidal ideation. Time spent on social networking sites was assessed through self-report measures asking participants to identify with one of the following options: less than 1 hour a day, about 1 hour a day, 2 hours a day, 3 – 4 hours a day, 5 – 6 hours a day, 7 or more hours a day, visit sites but not daily, use the internet but not social networking sites and do not use the internet. Researchers then categorised answers into three categories: infrequent or no use of social network sites (visit sites but not daily, use the internet but not social networking sites and do not use the internet), regular use (2 hours a day or less) and frequent use (more than 2 hours a day). Mental health was assessed with one question with the available answers: poor, fair, good, very good and excellent. Researchers combined the responses of poor and fair as indicating “poor mental health”. Unmet need for mental health support and suicidal ideation was assessed using yes or no questions. Psychological distress was assessed using the existing Kessler Psychological Distress Scale (K-10) which is a 10 item self-report questionnaire measuring anxiety and depression symptoms. Analysis was conducted using multinomial logistic regression and descriptive statistics. The study found that individuals who frequently used social networking sites (2 or more hours a day) were more likely to report unmet needs for mental health support in addition to poor self-rated mental health, higher psychological distress and suicidal ideation. Whilst the study examines several different measures of wellbeing (psychological distress, mental health, unmet needs and suicidal ideation) it fails to examine more complex and comprehensive social networking site use by looking at time spent online, rather than frequency, investment or purpose for use. The researchers also categorised responses together without sufficient evidence or rationale for this (2 hours or more as frequent use, grouping fair ratings of mental health as ‘poor mental health’) which may have significantly changed the outcomes for the analysis. The study, however, was clearly presented and described with actual statistical figures reported. Confounding variables within

the participant sample were also taken into account during the analysis of the data.

A study by Bourgeois, Bower and Carroll (2014) examined the effects of social networking sites on the emotional wellbeing of young people using a new measure (The Self in a Social Context, Virtual Connectedness subscale [SSC-VC]). Using a convenience sample to recruit, participants were asked to report how frequently they checked their Facebook page (less than once a day, once a day, two to three times a day, more than three times or as often as possible) and to fill in two self rated questionnaires. One questionnaire measured positive and negative psychological attributes (Strengths and Difficulties Questionnaire [SDQ]) the other measures the extent to which participants feel connected to others (SSC-VC). Both questionnaires used Likert scales for the responses. Factor analysis was used to determine the factor structure of the SSC-VC and Multivariate tests were conducted to analyse differences between the independent variables (frequency of checking Facebook and Gender) and the dependant variables (three factors of SSC-VC; Fit in, Connected Self, Public Self). Univariate tests were conducted to analyses the differences between the independent variables (frequency of checking Facebook and Gender) and scores for emotional symptoms (SDQ). Results identified three main factors of the SSC-VC (Fit in, Connected Self, Public Self) with a significant interaction between frequency of checking Facebook and the three factors (more frequent checking of Facebook was associated with increased scores for the three identified factors of social connectedness online). Frequent checking of Facebook was also significantly associated with increased ratings of emotional difficulties (as assessed by the SDQ). Results also found that Gender accounted for some difference in the scores but did not interact with how often participants checked Facebook. From these findings the researchers concluded that social network site use help to build social connectedness between young people. More frequent use of social networking sites can lead to increased feelings of social connectedness but also higher incidence of emotional symptoms, which they related to experiences such as bullying, harassment and exclusion. Overall the study, aims and outcomes, was presented and described clearly. The measures used were described in detail and the statistical analysis was clear and appropriate to the research aims. However, the study failed to

identify and address any ethical considerations that may have arisen and a lack of participant details or characteristics/demographics reported (other than gender and age). There was also an absence of information about whether the participants were representative of the wider population from which they were selected. This limits the generalisability of the findings and outcomes of the study.

Michikyan, Dennis and Subrahmanyam (2015) conducted a study examining how young people present themselves online and if this related to their psychological wellbeing. The study discusses three different self presentations online; the real self, the ideal self and the false self. Participants (data used from a larger study) completed self-report measures that assessed their identity state (as a developmental aspect of the self), their wellbeing (measuring self-esteem and depression scores) and how they presented themselves online (real self, ideal self or false self). Statistical analysis was conducted using descriptive statistics, means comparisons and multivariate analysis of variance. The study found that participants were most likely to report presenting their real self on Facebook and that individuals who presented their real self were most likely to have a more coherent sense of self (identity state). Participants with lower scores of wellbeing and identity state were most likely to present their ideal self online. However the correlations leading to these results (and any subsequent conclusions) were weak or modest at best. The results may also be subject to social desirability bias, where participants may have been reluctant to answer honestly about how they present themselves online. Whilst the study examined an interesting relationship between individuals wellbeing and presentation online (in comparison to frequency on online social networking or intensity of social network use) data collection methodology and statistical analysis led to weak, and therefore unreliable, outcomes. Overall the study was presented well and these weaknesses were identified in the written report, opening up an area of discussion for future research.

A study by Kross et al. (2013) examined the influence of Facebook use on subjective wellbeing in young people. Two components of wellbeing were assessed during the study; current affect and life satisfaction. Participants completed a number of questionnaires (Satisfaction With Life Questionnaire,

Beck Depression Inventory, Rosenberg Self-Esteem Scale and the Social Provision Scale) at the beginning of the study (baselines) and again at follow-up (two weeks later). Over the two week period, participants were surveyed daily (via text message) about their current affect, worry, feelings of loneliness, Facebook use (since the previous survey) and how much direct (face to face) social interaction they have had. Data regarding the relationship between Facebook use and affect was analysed using multilevel analysis, specifically looking at if Facebook use predicted affect. Data relating to Facebook use and life satisfaction was analysed using regression. The study found that Facebook use predicts a decline in both affect and life satisfaction over time whereas direct interaction did not. The study also found that the reverse relationship was not found i.e. affect did not predict Facebook use. Overall the study presented some interesting findings into two components of wellbeing and with data being collected over a number of different time-points the results provide a more realistic representation of participants self-rated affect. The statistical analysis was appropriate to the methodology and study aims as well as being presented in a transparent and clear format. The statistical analysis appears robust in supporting the subsequent interpretations made from the findings. The study, however, failed to provide detailed information on participant characteristics and whether the participant sample was representative of the wider population from which they were selected. The study also failed to highlight any adverse or ethical considerations that may arise from taking part in the study, which is particularly relevant as participants were paid for their participation and three participants dropped-out during the study. Replication of this study could be undertaken due to the level of information provided about the methodology but any conclusions drawn from the current study are limited in terms of their generalisability.

Boniell-Nissim and Barak (2013) conducted research examining the effects of online blogging on social-emotional difficulties in young people. Participants who were assessed as having social-emotional difficulties (as determined by the Index of Peer Relationships questionnaire) were randomly allocated to six groups; writing about their difficulties in blogs open to being read and responded too, writing about their difficulties in blogs open to being read but with responses disabled, free writing (not about difficulties) in blogs open to

being read and responded to, free writing (not about difficulties) in blogs open to being read with responses disabled, maintain personal diaries on their computer and a control group (no intervention). Outcome measures, administered pre and post intervention and again at follow-up (two months later), included; Rosenberg Self-Esteem Scale, Index of Peer Relationships, Interpersonal Activities Checklist and textual analysis of participants posts by four independent reviewers. Statistical analysis was conducted using a multivariate analysis of variance (MANOVA). Results from the study found that the two blogging groups who wrote about their difficulties (open and closed to responses) showed the greatest pre to post improvement across all three self-report measures and textual analysis by independent reviewers. The greatest improvement was observed in the group open to responses, and similarly the free writing group open to responses showed greater improvement than the free writing group closed to responses. From these findings the researchers concluded that it is not only the therapeutic impact of expressive writing that accounts for change but the public and shared nature on writing that is enabled through the use of blogs and the online community that accounts for this change. One of the main strengths of this study is the use of a control group to account and measure valid change across time and intervention. By allocating participants to a number of different groups they also address a number of different factors that may have confounded findings. Overall the study was clearly written with methodology detailed sufficiently for replication. The statistical analysis was appropriate to the methodology and research question, with actual results presented. However, there was a lack of participants' characteristics detailed (other than age and gender) which limits the generalisability of the results and also fails to recognise whether the participant sample was representative of the population. The study also fails to highlight any ethical considerations that may arise from the research.

A study by Labrague (2014) explored the impact of Facebook use on depression, anxiety and stress in adolescents. Participants were asked to fill in three self-report questionnaires: demographic information, Depression, Anxiety and Stress Scale and a Facebook use intensity scale. Intensity of Facebook use was determined by addressing three components of its use: how well Facebook was integrated into participant's lives, how actively they engaged with Facebook

activities and how emotionally connected participants felt to Facebook. Participants were also asked about how much time they spent on Facebook. Statistical analysis was conducted using Pearson's correlation. Results indicated that intensity of Facebook use was not correlated to self-reported ratings of depression, anxiety or stress. A significant positive relationship was found between time spent on Facebook and increased ratings of depression and anxiety but not stress. This led researchers to conclude that frequency of Facebook use, and not intensity of Facebook use, increases risk of adolescents developing negative emotional states. The study adds to the existing literature addressing the different ways in which people use social networking sites (i.e. frequency or intensity). It was also clear in its reporting, with the statistical analysis appropriate to the research aims and clear reporting of actual statistical figures for clarity and transparency. However, the use of correlation fails to determine a causal relationship which is not addressed as a limitation within the report and may undermine some of the broad conclusions made. The study also fails to indicate how this research may inform clinical practice or future research. Ethical considerations are not highlighted within the report.

As part of a wider observational study of adolescent self harm in Northern Ireland, O'Connor, Rasmussen and Hawton (2014) found that a significant proportion of adolescents who self-harmed (15-26%) reported that either the internet or social networking sites were factors in influencing their self-harm. This was higher than other forms of media (film, TV, books or magazines) and was second to having a friend who self-harmed. The study was clearly reported with the research aims, method and statistical analysis described in detail. The statistical analysis was appropriate to the methodology used with actual values reported for transparency of analysis. The study did fail to report if the participant sample was representative of the wider population but the large number of participants (3596) mediates somewhat against this.

1.5.3. Summary and Quality of included papers

All of the studies were poor in their quality with quality scores for the included studies ranging from 11 to 14 (out of 32). Eight out of the nine studies (89%) used surveying/questionnaires to collect data. Participants were adolescents / young people with the majority being students (school, college or university).

Studies were conducted across a range of nations/cultures. All of the final studies had mixed-gender samples, with female participants making up the majority of participants overall and all the studies were quantitative in their methodological approaches.

All of the final nine studies were cross-sectional and therefore they share limitations when considering the generalisability of results. The majority of the studies (89%) relied solely on self-reported measures, which, whilst capturing personal data, leads to limitations in validity and reliability.

1.5.4. Findings

All nine studies found that online social media use has an impact of adolescents and young people's wellbeing. Both positive and negative impacts on wellbeing were found, depending on how social media use was defined or measured and which conceptualisation of wellbeing was being considered. All of the nine studies were of poor quality when assessed using the Downs and Black Quality Index (Downs & Black, 1998), therefore any conclusions that can be drawn from these studies should be tentative and considered within the context in which the research was conducted.

1.5.5. Positive impact

Four out of the nine studies (Bloomfield & Barber, 2014; Frison & Eggermont, 2015; Boniel-Nissim & Barak, 2013; Bourgeois, Bower & Carroll, 2014) found that online social media use has a positive impact on the wellbeing of adolescents and young people. Frequency of social network site use has a positive impact on adolescent's social self-concept (Bloomfield & Barber, 2014) and social connectedness to others (Bourgeois, Bower & Carroll, 2014). The process of blogging about social-emotional difficulties improves individual's self-rated scores of emotional difficulties and improves self-esteem (Boniel-Nissim & Barak, 2013). In addition, perceiving emotional support provided through SNS reduces depressed mood in adolescents (Frison & Eggermont, 2015). Therefore frequency of SNS use, using SNS to blog about social-emotional difficulties or perceiving social support provided through SNS positively impacts on adolescents and young people's wellbeing, including both hedonic and eudaimonic conceptualisations.

1.5.6. Negative impact

Seven out of the nine studies (Sampasa-Kanyinga & Lewis, 2015; Michilkyan, Dennis, & Subrahmanyam, 2015; Bloomfield & Barber, 2014; Frison & Eggermont, 2015; Labregue, 2014; Kross, E. et al., 2013; O'Connor, Rasmussen & Hawton, 2014) found that online social media use has a negative impact on the wellbeing of adolescents and young people. The amount of time an individual has spent on SNS (duration) is positively associated with increased distress (Sampasa-Kanyinga & Lewis, 2015), suicidal ideation (Sampasa-Kanyinga & Lewis, 2015), declines in mood/affect (Labregue, 2014; Kross, E. et al., 2013) and a decline in life satisfaction ratings (Kross, E. et al., 2013). In addition to the amount of time an individual spends on SNS, investment in SNS and specific online behaviours are also associated with negative impacts on wellbeing. Increased levels of investment in SNS predict lower self-esteem and higher depressed mood in adolescents (Bloomfield & Barber, 2014). Seeking social support online (but not perceiving or receiving it) or portraying your ideal self online (rather than your real self) has a negative impact on wellbeing (Michilkyan, Dennis, & Subrahmanyam, 2015; Frison & Eggermont, 2015). SNS use has also been found to be a significant factor in influencing self-harming behaviours in school-aged adolescents (O'Connor, Rasmussen & Hawton, 2014). Therefore being invested in SNS and spending longer periods of time online negatively impacts on adolescents and young people's wellbeing, as does using SNS to seek social support or to portray an ideal self presentation. The negative impact on wellbeing appears to focus more on hedonic conceptualisations of wellbeing (affect and life satisfaction).

1.5.7. Gender differences

Despite all of the studies using mixed-gender samples, only three made reference to this in their analysis and discussions as a confounding variable. One study found that there were no significant differences for gender (Bloomfield & Barber, 2014) whereas two studies found evidence to suggest that males and females use SNS differently (Frison & Eggermont, 2015; Bourgeois, Bower & Carroll, 2014). From the studies included in the review there is not sufficient evidence to draw a clear conclusion about the impact

gender differences may have on the impact of online social media at this point, but it is an important factor to hold in mind for future research.

1.6. Summary and Conclusion

1.6.1. Conclusion

In conclusion, the evidence from this literature review suggests that online social media use does impact on adolescents and young people's wellbeing. It has both positive and negative impacts depending on how online social media use is measured, what it is being used for and how we conceptualise wellbeing. Frequency of online social media use, using social media to write publicly about social-emotional difficulties and perceiving social support through social media have positive impacts on wellbeing for adolescents and young people. However, increased duration of time spent on online social media sites, being heavily invested in social media sites, presenting an ideal self-image (in comparison to a true representation of the self) and seeking social support through social media all have a negative impact on wellbeing for adolescents and young people. In addition to this, online social media may have an influential factor leading to self-harm for adolescents. The link between social media, the internet and self-harm is supported by findings from Mitchell and Ybarra (2007). They found that adolescents who deliberately self-harmed were more likely to be engaged with high internet use, compared to adolescents who did not engage in self-harming behaviours. The definition of "high internet use" used by Mitchell and Ybarra (2007) shared similarities with those in the reviewed literature which resulted in a negative impacts on wellbeing, namely duration (hours per day) and investment (importance). The conclusions from this review are based upon research where the majority of participants are female and there is some evidence to suggest that gender may be a defining feature when considering how adolescents use social media sites.

1.6.2 Limitations

There are several limitations with the literature review which should be addressed and taken into consideration when making conclusions from the findings. Firstly, all of the final studies scored relatively poor in terms of their quality scores (ranging from 10 to 14); all scoring less than 50% (out of 32).

This may be predominately because there were no randomised controlled trials in the final studies, which tend to score more highly on quality score scales.

All of the studies were also cross-sectional in their design. Therefore, any findings need further research in order for us to generalise results beyond the populations in which the studies were conducted. A large majority of the studies (89%) also relied heavily on self-report measures and factors such as bias and desirability should be considered when drawing conclusions from the findings.

In addition to these limitations, all of the studies were quantitative in design, this not only limits the richness of the data that has been collected but also indicates the lack of variety in the type of research that may be being conducted in this field, highlighting a need for more qualitative research methods.

1.6.3 Clinical Implications

The clinical importance of understanding the impact of social media on adolescents and young people was highlighted in recent media coverage regarding the death of Tallulah Wilson (Davey, 2014a). Prior to her suicide she posted to her social media sites and a review of the evidence provided by professionals involved suggested that nobody had sufficient understanding of how the internet is used by adolescents (Davey, 2014b). In addition, research highlighted in this review suggests that social media use is associated with increased distress (Sampasa-Kanyinga & Lewis, 2015) and reduced affect (Labregue, 2014; Kross, E. et al, 2013) in adolescents. Managing feelings of distress and affect regulation was identified as the most frequent (93%) reasons for self-harm in a systematic review by Edmondson, Brennan and House (2015). Therefore, the information provided in this review has clinical implications in assisting professionals working with adolescents and young people to consider the costs and benefits that their social media usage may have on their wellbeing. This is not limited to the direct impact of social media use on wellbeing and includes the wider indirect impact such as the potential influential factor the social media use may have in self-harming behaviour, which we know increases the risk of suicide by between 50 to 100 fold (National Institute for Health and Care Excellence [NICE], 2011).

1.6.4. Further Research

Through recognising how quickly the internet and online social media evolves it is important to continue to add to this area of research and frequently review existing research to ensure that current academic understanding of this area remains up to date and relevant. This is also of importance when considering the clinical implications of social media use on adolescent and young people's wellbeing. In addition to this, three areas for further research became apparent whilst conducting this review. The first is further research into the role of gender as a moderator or factor in the impact of social media use. The second is the need for qualitative research into the impact of social media use on wellbeing in adolescents and young people, due to the dominance on quantitative research in this field, despite wellbeing being an (arguably) individual experience. The third is further research into social media sites as an influencing factor for self-harm. This is of particular importance when you consider the clinical implications of self-harm for individuals.

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Part Two: Empirical Paper

Themes of self-harm on online social networking sites: implications for Clinical practice

Target Journal: Cyberpsychology, Behavior, and Social Networking (after edits)

Word Count (excluding references and appendices: 7,683

2.1. Abstract

Self-harm is defined as “self-poisoning or self-injury irrespective of the apparent purpose of the act”. Self-harm is prevalent in 0.5% of the general population but it is most common in young people, specifically females. Self-harm is a complex, individual experience with both high personal and clinical consequences. There may be several reasons or influences why individuals engage in self-harming behaviours, compounded by a number of distal and proximal risk factors. Research has identified social media and the internet as a key influence for self-harm. Social media use, specifically relating to self-harm content, was also identified by a coroner’s inquest into the death of Tallulah Wilson in 2012. The present study aims to identify the themes arising from the self-harm information posted on social networking sites and to consider the clinical implications. Self-harm content posted to the popular UK social media sites; Facebook, Twitter, Instagram and Pinterest was collated and analysed using Thematic Analysis. Six themes were found; Community, Reasons for self-harm, Social attitudes, Other people’s reactions, Help and Negative view of self. These themes are discussed in relation to existing literature and their Clinical implications. Limitations of the present study include; being restricted to publicly available information and already being outdated due to the fast-paced changes that occur online.

2.2. Introduction

In 2012, Tallulah Wilson committed suicide and the inquest into her death found that prior to her death she had posted self-harm images on social networking site Tumblr (Davey, 2014a). Coroner Mary Hassel, who conducted the inquest, wrote to Jeremy Hunt, Health Secretary saying: "...no person who gave evidence felt they had a good enough understanding of the evolving way that the internet is being used by young people, most particularly in terms of the online life that is quite separate from the rest of life" (Davey, 2014b) This suggested that although a number of professionals were involved with Tallulah's care, understanding of the role the internet and social media played was limited.

2.2.1. Self-Harm

Self-harm is defined by National Institute for Health and Care Excellence (NICE), (2004) as; "self-poisoning or self-injury irrespective of the apparent purpose of the act". This definition excludes harm from substance misuse, accidental harm or starvation arising from anorexia nervosa. Whilst, it can be argued that eating disorders are a form of self-harm (National Self Harm Network [NSHN], n.d) it is important to recognise that self-harm varies for each individual (NICE, 2004). For the purpose of this study the definition of self-harm proposed by NICE guidelines (NICE, 2004) will be used and will therefore exclude; substance misuse, accidental harm and eating disorders.

In the general population (ages 8 years and up) the annual prevalence of self-harm is approximately 0.5% but is most common in young people (NICE, 2011). Self-harm appears to be more common in females (10%) than males (3%) and is associated with a wide range of psychiatric diagnoses (NICE, 2011). More recent research suggests that the number of young people admitted to hospital as a direct result of self-harm is increasing (Campbell, 2016). Self-harm is a clinically relevant issue with NICE guidelines suggesting that self-harm increases the risk of death by suicide by between 50 to 100 fold, when compared to the normal population (NICE, 2011). It is also relevant when considering the allocation of health resources with the majority of people who self-harm accessing primary and secondary care services including; hospital care, mental health services, emergency services and GP's (NICE, 2011).

Current policy (NICE, 2011) suggests that interventions with individuals who self-harm should include; a comprehensive biopsychosocial assessment, risk assessment, significant others (family, carers or others), assessment of associated mental health problems, and regular care planning. Any intervention (including assessment) should be person-centred, paying particular attention to the individual reasons why someone might self-harm (NICE, 2011). Pharmacological interventions for self-harm are not recommended (NICE, 2011) with the recommended treatment being psychological intervention specially aimed at reducing self-harm. This could include; cognitive-behavioural, psychodynamic or problem-solving approaches. Psychological, pharmacological and psychosocial interventions are recommended for treating any associated mental health problem (NICE, 2011).

2.2.2. Risk factors for self-harm

A study by Mars et al. (2014), used a UK population-based birth cohort to identify risk factors leading to self-harm. An important distinction was made between two types of self-harm: self harm with suicidal intent and non-suicidal self-injury (Mars et al., 2014). A number of factors increased the risk of both forms of self-harm (self harm with suicidal intent and non-suicidal self-injury), these were; gender (females three times more likely to report self-harm), childhood sexual abuse, heavy drinking, cannabis use and impulsivity (Mars et al, 2014). Risk factors for self-harm with suicidal intent included; socioeconomic position (lower social class and income), cruelty to children within the household, paternal self-harm and parent suicide attempts (Mars et al., 2014). Risk factors for non-suicidal self-injury included higher I.Q and higher levels of maternal education.

In addition to research into the distal risk factors of self-harm, Arkins (2012) conducted research into the proximal risk factors for self-harm. Findings from the research suggested that in the 24 hours prior to self-harm incidents, presenting at accident and emergency departments across Ireland, risk factors included; recent interpersonal conflict (75% of respondents), recent risk-taking behaviours and substance use (alcohol misuse and/or illicit drug use).

A systematic literature review by Larkin, Blasi & Arensman (2014) aimed to synthesise existing research (using longitudinal designs) investigating the risk factors associated with repetitive self-harm. Current existing research proposes a number of risk factors that are associated with repetitive self-harm, these include; previous episodes of self-harm, history of psychiatric treatment, hopelessness, specific mental health diagnoses (schizophrenia and personality disorder), substance abuse/dependence and living alone.

2.2.3. Reasons why individuals self-harm

Despite guidelines (NICE, 2004; NICE, 2011) highlighting the importance for understanding and assessing the individual reasons underpinning self-harming behaviour, research into this area of study continues (Edmondson, Brennan & House, 2015).

A systematic review (Edmondson, Brennan & House, 2015) of literature relating to individuals first-hand accounts of self-harm identified a number of themes that explained individuals reasons for self-harm. Some individuals were unable to provide reasons into why they self-harmed (15-20%) whilst others provided multiple reasons for the behaviour (Edmondson, Brennan & House, 2015). The themes that were identified included; managing distress/affect regulation (93%), exerting interpersonal influence (87%), punishment (63%), dissociation (48%), sensation seeking (20%), averting suicide (15%), maintaining or exploring boundaries (8%) or expressing and coping with sexuality (6%), (Edmondson, Brennan & House, 2015). Two additional themes were proposed by Edmondson, Brennan & House (2015), which were; self-harm as a positive experience and self-harm as defining the self.

One factor which was highlighted as a key influence for adolescent self-harm was the internet/social media (O'Connor, Rasmussen & Hawton, 2014). Either the internet or social media sites were endorsed as an influential factor for their self harm by 18% of adolescents (15% of females, 26% of males).

2.2.4. Reasons why individuals cease self-harm

Cessation of self-harming behaviour is a complicated process which may include: having a reason for stopping the self-harming behaviour, having

strategies to help overcome the self-harming behaviour and overcoming barriers that may prevent cessation of the self-harming behaviour (Gelinas & Wright, 2013) all of which may be individualised.

A study by Gelinas and Wright (2013) used a sample of undergraduate students with a previous history of at least one incident of deliberate self-harm, who no longer engaged in deliberate self-harming behaviours (N=54, Mean age = 21 years old, 85.2% female). Qualitative analysis revealed a number of themes which related to: reasons (6) for stopping self-harm, strategies (5) for stopping self-harm and barriers (4) to stopping self-harming behaviour (Gelinas & Wright, 2013). The six themes for reasons for stopping self-harm (in order of frequency) are: realisation of self-harm stupidity (25%), distress due to scarring and negative attention from others (18%), interpersonal reasons e.g. desire to be a better parent (15.9%), receiving help (14.8%), desire to be well (13.6%) and development of alternative strategies (12.5%), (Gelinas & Wright, 2013). The five themes belonging to strategies for stopping self-harm are: positive coping behaviours e.g. distraction techniques (28.6%), seeking formal/professional help (25.7%), negative coping strategies i.e. substituting self-harm for another unhelpful strategy such as drinking alcohol (17.1%), seeking social support from friends/family (17.1%) and self-talk (11.5%), (Gelinas & Wright, 2013). The four themes for barriers that prevent cessation of self-harm behaviours are: mental illness or distress, with the most common response being feeling depressed (34.4%), interpersonal issues e.g. peer-pressure and fighting within the family (28.1%), the functionality of self-harm behaviours including its ease and addictive nature (25.0%) and finally experiencing stress (12.5%), (Gelinas & Wright, 2013).

Similar to Gelinas and Wright (2013), a study by Whitlock, Prussien and Pietrusza (2015), which compared students who currently self-harm and those who historically self-harmed, also found social support (formal and informal) to be an important factor in the cessation of self-harming behaviour. In addition, they also attributed cessation to an ability to regulate emotion and self-awareness (Whitlock, Prussien & Pietrusza, 2015).

Therefore cessation of self-harming behaviours appears to be a complex process which includes; personal reasons, learning strategies and overcoming barriers. Within this internal (distress, self-awareness and emotional regulation) and relational factors (interpersonal reasons, seeking formal/informal help and social support) have an important role. In particular, social interactions can have both a positive and negative impact on the cessation of self-harming behaviours; some individuals identifying social support as a helpful factor, others identifying interpersonal issues (such as peer pressure) as a barrier to stopping self-harming.

2.2.5. Social media

The internet has a vast number of uses in modern day society. These include (but are not limited too); sending/receiving emails, searching for information, seek support, send instant messages, uploading and downloading pictures/images/videos, online discussions/chat rooms and reading blogs (Infoplease, 2017). Social media, via the internet, continues to grow as a popular form of communication, increasing from 1.47 Billion users in 2012 to an estimated 2.55 Billion in 2017 (e-Marketer, 2013). In the UK the most popular social media sites are; Facebook, Twitter, LinkedIn, Pinterest and Instagram (Rose, 2014). In recent years (since 2003) Tumblr has had documented difficulties in expanding its user base and is not considered to be a current contender in popularity in the UK (Wasserman, 2016).

The impact of online social media on individual wellbeing continues to be an important area of research with both positive and negative aspects identified (Pujazon-Zazik & Park, 2010; Manago, Taylor & Greenfield, 2012; Tzavela & Mavromati, 2013; Best, Manktelow & Taylor, 2014). Positive aspects include: facilitating the development of social networks (Manago, Taylor & Greenfield, 2012), developing and experimenting with one's own identity (Tzavela & Mavromati, 2013), improving self-esteem (Best, Manktelow & Taylor, 2014) and providing a sense of belonging for individuals (Best, Manktelow & Taylor, 2014). The negative aspects include: increased risk of depression (Best, Manktelow & Taylor, 2014), cyber bullying (Best, Manktelow & Taylor, 2014; Pujazon-Zazik & Park, 2010), online risk taking behaviours (Pujazon-Zazik & Park, 2010),

exposure to sexual predators (Pujazon-Zazik & Park, 2010) and excessive or addictive usage (Tzavela & Mavromati, 2013).

From this literature we can conclude that self-harm, is a complex and individualised experience which has both high personal and clinical consequences. There may be a number of distal and proximal factors which increase the likelihood that an individual begins to self-harm, and may continue to do so. An individual may have multiple reasons for engaging in self-injurious behaviours, if they can recall them, and may view self-harm as a positive behavioural response to internal distress. Similarly individuals may have multiple reasons for the cessation of self-injurious behaviours which may include: individual reasons, developing strategies and overcoming a variety of barriers. One of the key influences highlighted in adolescent self-harm is the role of the internet and social media (O'Connor, Rasmussen & Hawton, 2014). Due to the increasing popularity of social media this is an important influence to consider with research relating to self-harm.

2.3. Rationale

Currently there is a lack of research into self-harm content on social networking sites when omitting research specific to eating disorders (Bardone-Cone & Cass, 2006; Jett, LaPorte & Wanchisn, 2010; Ransom, La Guardia, Woody & Boyd, 2010). The coroner's report by Mary Hassle (Davey, 2014b) highlighted a gap in professional's understanding of how clients use the internet. These factors, combined with the recent media interest in this area and the potential implications for individuals accessing self-harm content creates an increased need for this phenomenon to be understood. By examining self-harm postings on social networking sites it is possible to improve knowledge and further understanding when working with individuals who may be viewing this information.

2.4. Aims

The research study has two main aims; to identify the themes arising from the self-harm information posted on social networking sites and to consider what

implications these themes will have for clinical practice when working with individuals who self-harm.

2.5. Ethical issues

There are three main ethical considerations when estimating the perceived costs and benefits of conducting this research.

The first ethical consideration is the potential risk that viewing distressing online posts may have on the researcher. This potential risk is managed and mediated through regular clinical supervision (with a qualified Clinical Psychologist) and the use of peer support, through regular reflective group attendance (facilitated by a qualified Clinical Psychologist).

The second ethical consideration is if information is discovered which suggests immediate or significant harm to an individual or member of the public during the data collection stage of the project. Research guidance reflects on the importance of maintaining respect and avoiding the disruptions of the existing social structures within social media (BPS, 2013). However, it clearly states that this does not replace (and is subordinate to) the existing Code of Ethics and Conduct (BPS, 2009). Therefore information which is clinically deemed as indicating immediate risk or harm will be escalated to alert the website and social media providers about concerns through the appropriate routes available to all members of the public. An example of this would be the 'report this' button on 'Facebook'. Immediate harm would include if an individual disclosed imminent plans or if injurious behaviour implied immediate medical attention would be needed but has not been sought.

The third ethical consideration is that the publicly available information that will be included in the research will be potentially used in a different way in which the individual who posted it intended. Due to limitations with the methodology used to collect the data this can not be fully resolved. However, in order to mediate somewhat against this, publicly available information will be used as the individual has given consent for this information to be viewed without further permission and it is in the public domain. This would be consistent with

information found through other public mediums such as the newspaper, radio or television. It is worth noting that individuals may not fully understand the extent to which their posts are public (BPS, 2013). By not linking information directly to individuals will provide some level of anonymity.

Ethical approval for this research was granted by Staffordshire Univeristy, evidence of which is located in Appendix 1.

2.6. Method

2.6.1. Design

This is an online qualitative observational study, with data being collected from publicly available media which has been observed on online social media networking sites.

2.6.2. Setting and Materials

The research took place in a setting which allowed unrestricted access to the internet. Materials included the use of a password protected computer and an encrypted memory stick to store data in its raw form.

2.6.3. Participants

Information was collated from a range of individuals who currently use publicly available social media sites. In order to ensure anonymity, and as no specific consent was sought, no identifiable information (including demographic information) was collected, stored or analysed.

Due to the nature of the research study, it excludes the views of people who do not have access to a computer, or those who choose not to post publicly to the sites included. Information was restricted to the UK's most popular social media sites. It also excludes the views of people observing or reading the information but who are not actively posting online.

2.6.4. Data collection

Generating search terms – The popular social media metadata tagging technique (#hashtag) was used to generate a list of search terms for input into

the top five social media sites (Facebook, Twitter, LinkedIn, Pinterest and Instagram). Using Instagram to generate the search terms the initial phrase “Self-Harm” was entered into the social media site. All associated ‘hashtags’ (words and phrases) from the first post were collated and entered into the social media site. This was repeated for each ‘hashtag’ until saturation (of words and phrases) was reached. An example of this process is depicted in Figure 2.0. Saturation occurred after 37 Instagram posts which included 191 search terms/phrases. It is noteworthy that one post can include a number of associated labels and tags which is dependent on the author. From these 191 labels, 85 were excluded for not being relevant to the research topic, and 5 were added (which did not appear in the initial generation stage but were deemed relevant from literature covered during the introduction. A flow chart outlining this process is present in figure 2.1. This resulted in 111 terms or phrases for the data collection (Appendix 2).

Figure 2.0. Flow chart giving an example of the process used to collate research search terms

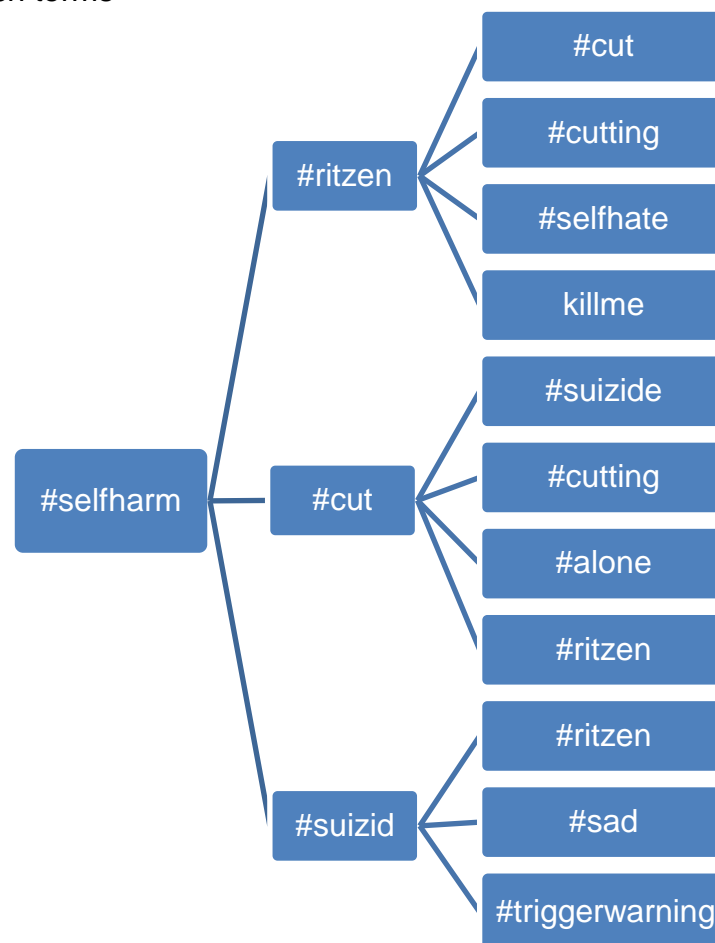
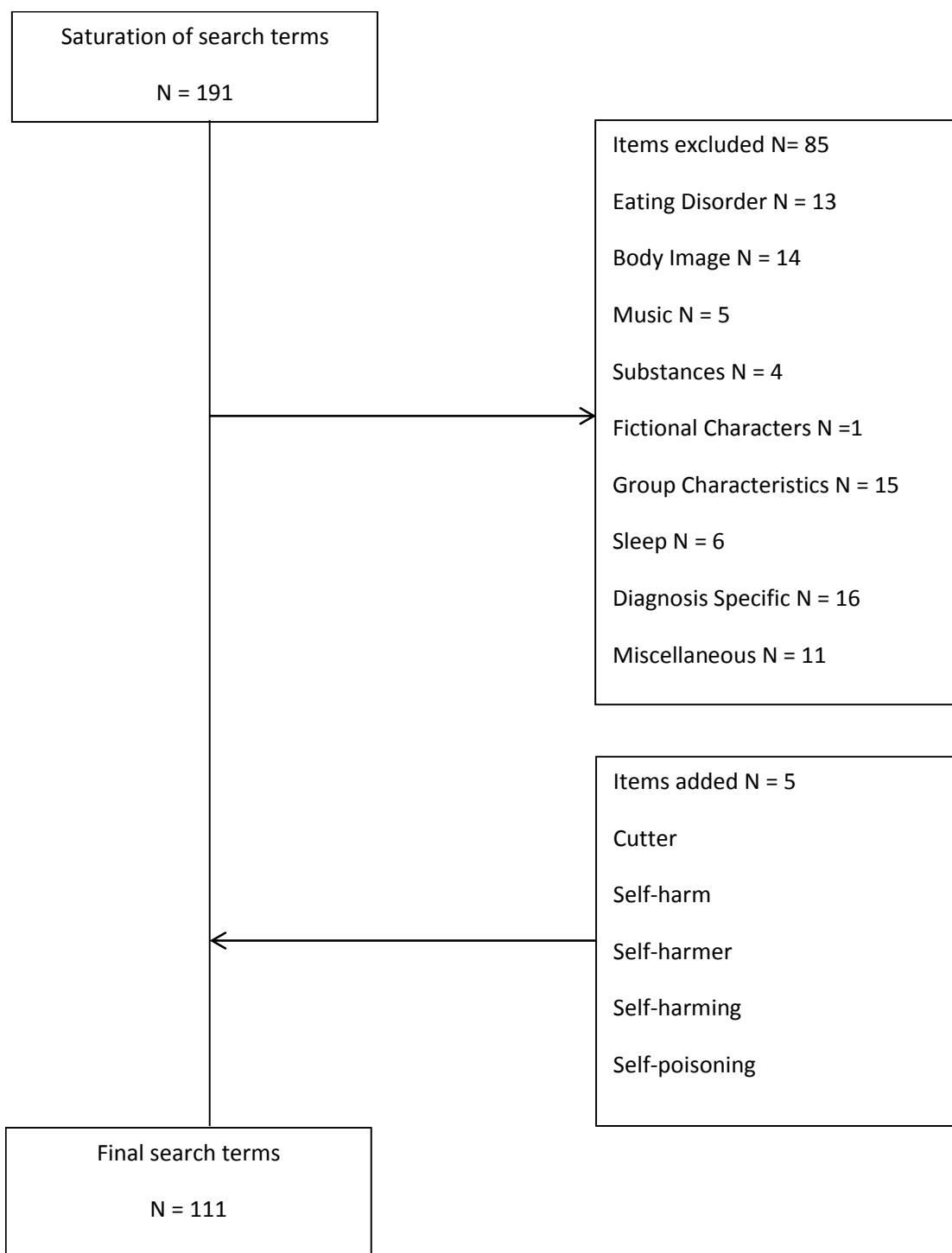


Figure 2.1 Exclusion and inclusion of search terms, final numbers.



2.6.5. Pilot test

Because this method of data collection had not been carried out before and to test the effectiveness and consistency of the proposed method of data collection a pilot test was conducted inputting ten randomly selected search terms (from the final list of 111 terms) into Facebook, Twitter, LinkedIn, Pinterest and Instagram. Data was not collected during this stage, which was aimed at highlighting potential data collection issues. A computer randomiser provided the search terms ('barely breathing', teenager, recovery, 'black love', love, razorblade, 'trigger warning', 'I'm broken', 'fuck off' and restrict). A table of the issues rising from the pilot test is depicted in Table 2.0. In response to the issues raised in the pilot test the following decisions were made:

- Search terms will be entered into the social media site in a variety of formats to capture the most data possible which relates to that term; with a hashtag, without a hashtag, as a single word entry e.g. "Imbroken" and as a phrase entry "Im broken" (if the search term is constructed of two or more words).
- Only data from public posts will be collected and stored for analysis (see ethical considerations section above).
- The 'Top' five posts will be used across all the social media platforms, even if the search defaults to other ways of filtering results such as by date, to ensure consistency across the sites and as research suggests that this is the number of 'hits' the average individual will view before searching another term (Petrescu, 2014). For Pinterest this will include the first five rows of results due to the way results are displayed on a desktop (in rows of five).
- Any responses or re-tweets (Twitter only) will be included as a separate entry, if it is by a separate user. This captures a different individual's view, when compared to the original post, even if this view is an agreement with a post which has been captured previously.
- Only English posts will be included, if photos appear with descriptions/titles not in English these will not be included to avoid potential misinterpretation or misrepresentation of the post.
- LinkedIn will no longer be used for data collection as its design does not allow data collection that would answer the research question (individual rather than collective view).

Table 2.0. Table showing issues raised during pilot test.

Social Media Site	Issue raised from Pilot Test
Facebook	Search term brings up an individual's profile.
	Search term brings up a closed group.
	Non-English posts.
	Using a hashtag (#) before the search term brings up different results from the search term being entered alone.
	Posts can be filtered in different ways e.g 'Top posts', recency, photos, videos, pages, location, groups, apps or events.
Pinterest	Entering search terms with or without spaces provides different results e.g "Imbroken" versus "I'm broken".
	Results appear in rows of five images (when using a desktop).
Twitter	Using a hashtag (#) before the search term brings up different results from the search term being entered alone.
	Posts can be filtered in different ways e.g. top verses recent.
	Search term can bring up public replies to an original post.
	Search term brings up an individual's account.
Instagram	Search terms default to having a hashtag.
	Posts can be filtered in different ways e.g. top verses recent.
	Non-English posts.
LinkedIn	Search terms bring up individuals view or shared item.

2.6.6. Entering the search terms (collecting the data for the research project)

The 111 search terms (generated through the popular metadata tagging technique on Instagram) were entered into the UK's most popular social media website (Facebook). Each individual search term (e.g. Imbroken), as a phrase if the search term was made up of multiple words (e.g. "Im broken") and with a hashtag (e.g. #Imbroken) . Data was collated from the top five public posts if it related to self-harm, any associated comments made public on the posts was also collated. From 111 search terms, 19 provided results relating to self-harm (Appendix 3). These search terms were then used to input into Twitter, Instagram and Pinterest following the above procedure.

2.6.7. Data analysis

Thematic analysis (Braun & Clarke, 2006) was used to analyse the data. The method for qualitative thematic analysis follows a set of six phases, to be used as a guideline as part of a recursive process (Braun & Clarke, 2006). The six phases are:

Phase One – Becoming familiar with the data. A feature of this phase of the data analysis was the repeated and active reading of the data, which includes searching for patterns and keeping notes for coding ideas (example provided in Appendix 4). At this point some data extracts were removed from further analysis for not relating to the research question (e.g. referencing suicide but not self-harm) or for not being English language based posts. One of the data extracts was a flipagram book (video made up of a series of still images), each of the images was captured so it could be coded.

Phase Two – Generating initial codes. This stage involved paying equal attention to all individual sets of data and generating codes based on features of that piece of data. All the data collected was coded during this phase with some data extracts eliciting multiple codes (example provided in Appendix 5). Codes generated are not merely descriptors but also interpretations and inferences made from the data extract (based upon familiarity with the data, knowledge obtained from literature and clinical experience).

Phase Three – Searching for themes. This stage involved focusing the analysis at the broader theme level. This included over-arching themes and subthemes within the data analysis (example provided in Appendix 6). This stage involved frequently returning to the data extracts to observe if they were accurately represented by the themes and codes they had been assigned to.

Phase Four - Reviewing themes. This stage involved frequently returning to the data extracts to observe if they were accurately represented by the themes and codes they had been assigned to. It also included examining weaker themes to determine if the data extracts supported the presence of that theme or if it could be combined with another existing theme or sub-theme without losing accurate meaning or interpretation. At this point some of the weaker themes were combined, with one weaker theme (Negative view of self) remaining due to its pertinence to the research question. During this phase the thematic map (Appendix 7), data and codes were also reviewed by a research supervisor as a secondary measure of the theme's clarity and distinction and coherence of the data within a theme.

Phase Five - Defining and naming themes. Once a process of review had been completed the final thematic map (Appendix 8) was produced. This stage involved refining and defining each of the themes to produce a clear understanding of what each theme is and what it is not.

Phase Six – Producing the report. This stage involved writing a detailed description of each of the themes using data extracts as evidence to support the theme and provide salience to its meaning.

2.7. Results/Findings

The qualitative analysis of the data resulted in six main themes. Subthemes were present in four out of the six themes. The six themes of self-harm content on social media sites are; Community, Reasons for self-harm, Social attitudes, Other people's reactions, Help and Negative view of self. A seventh theme of Media Style was discarded as this referred to describing the format of the actual post rather than providing any further insight or understanding.

2.7.1. Theme One - Community

A sense of affinity, understanding and sharing between people who currently or previously self-harm was represented. It suggests an online presence of togetherness and joining of people who have something in common. It is constructed from sub-themes of connectedness and physical evidence of self-harm. It is not an exchange of tips, advice or support, just being together. A common code within this theme was 'not alone'. A small part of this theme also related to individuals who were reaching out to others because they recognised feeling lonely or isolated.

Connectedness can be understood as a meeting of minds. Online posters would reach out to others with "you are not alone" and "I love you. If you need a friend, message me." Individuals would also reach out when they felt alone "self-harm...made me feel so lonely". Or join together in fighting against self-harm "together, we will win this fight", "don't let them (thoughts of self harm) win". This theme had a large element of self-disclosure "I self harm so often, its an anxiety thing that caused it ...", "sorry I didn't post yesterday I was self-harming" which would lead to others disclosing about their own current self-harm, "I do it all the time" or previous self-harm "I used to be a self harmer", "I used to self harm for years and years". In a similar way to individuals self-disclosure using written prose, 'physical evidence of self-harm' achieved this through images of recent/healed self harm on the body or photos suggestive of self harm. All of the images of self-harm involved cutting, mostly to the arms or thighs. Some of the images showed scars or cuts that were healing, with others showing fresh wounds with blood visible. Some images were more suggestive of self-harm and these included a hand holding razorblades and blood stained tissues. Two of the images depicted self-harm which had required medical treatment, bandages and staples. The posts of these images visually disclosed self-harm, they did not seek support, providing reasons for self-harm or talk about attitudes towards self-harm. The descriptions that accompanied the images included "lifesucks", "just scars" and "self-harm".

2.7.2. Theme Two - Reasons for self-harm

A range of personal and interpersonal reasons why individuals online said they self-harmed. It includes both reasons why and reasons why not. Data coded

into this theme was often as part of public discussions in response to articles or posts made by organisations. It is not definitive or an exhaustive list of all the reasons why individuals may self-harm, when considering literature on the topic, but it is a significant theme within the self-harm content found on social media sites.

Reasons why individuals self-harm were either interpersonal “I don’t know why she (partner) is doing this (arguing with me) what the hell”, personal or speculative. Personal reasons often talked about self-harm as a coping strategy. “I was in so much pain, it was a form of release and anger. Rather than exploding on those around me, I did it to me, the person I blamed”. “I used to bite myself when I was angered and silenced at a very young age”. “I have done it as well for years to cope with abuse”. “It was the only way I could rid myself of the excruciating emotional pain I felt deep inside”. Other data within this theme was speculating about the reasons why individuals may self-harm. “People have done it and still do to release stress”. “Most people who do it feel invisible, they just want to feel something”. “It is because others mistreat them, control them to the point of frustration and a rut they can’t get out of because the people that abuse them brainwash their minds”. Reason why not all stated that self-harm was not for attention. Either through directly saying this “its not done for attention”, “its not for attention!” or by talking about how keeping their self-harm secret was evidence that it was not done for attention. Secrecy included hiding self-harm from others; “I hid my scars for years”, “No one knew. Not even my parents”, “such a big secret in the past”, to pretending that there is not a current issue “they all think I stopped self-harming”, “I’m fine”, “I’m ok”.

2.7.3. Theme Three - Social Attitudes

This theme focused on how self harm is discussed and represented at a wider societal level. Social attitudes towards self harm included a range of data extracts focussing on society, context and cultural opinions. The data extracts relating to this theme all came from posts or comments on posts made by articles published online by news pages or national organisations. It included individuals raising awareness of the stigma surrounding self-harm; “I’m fine to tell people I’ve experienced depression and an eating disorder. But telling people about self-harm and BPD terrifies me”, “we know that lots of stigma will

mean people are less likely to ask for help, and less likely to get it", and discussions about societal issues; "Unfortunately we still seem stuck into pushing attainment on young people and children instead of focussing upon helping them develop and understand themselves", "Hardly surprising considering the utter mess of a society young people have to contend with". It also included discussions around assumptions that are often made about self-harm, particularly in relation to age; "...we need those 30 and over to open up and show it isn't only younger women and girls who self-harm" and in response to the above comment; "I started self-harming two years ago at the age of 57".

2.7.4. Theme Four - Other People's Reactions

How other people react, speak or respond to a disclosure about self-harm. It includes individual's personal experiences of people's reactions to their self-harm or recovery (positive and negative) as well as cyberbullying.

Positive personal experiences were often praising recovery "so so so proud angel", "so proud of you all my love", "congrats, you got this", "keep up the good fight". Some positive experiences highlighted the role of supportive friends and family, "love these dudes. Thanks for helping me manage my ritualistic self poisoning", "my parents are too cute celebrating how far I've come each year". Or expressed affection and encouragement "stay strong kid you'll get through it again. I know its hard". The positive attitudes expressed by individuals did not appear to be limited to individuals who knew the identity of the original poster "I don't know you but congratulations".

Negative personal experiences tended to focus on being or feeling misunderstood, judged or not believed. "Yeah it's true as fuck people judge me all the time." "It's like they don't believe something is actually up with me when there is". "People notice your scars but don't say anything. That is one of the worst things in the world". "Betty and Archie are friends for years yet he never noticed Betty self harming while Veronica noticed after like 5 minutes ...".

The cyberbullying content online was explicit and obvious in its nature, making up a small portion of the data. "Use a fucking chainsaw next time. Do it right or

don't do it at all, attention whore...no one cares". "Just kill yourselves! Pathetic cry babies". "Cue My Chemical Romance playlist".

2.7.5. Theme Five - Help

Comprised of individuals seeking help, individuals and organisations offering help and recovery stories to motivate, inspire and facilitate change. This theme included; research into self-harm (recruitment and dissemination), marketing of self-help information and articles, and online support groups/forums. Whilst giving advice and suggesting interventions forms elements of this theme, it does not include any follow-up or outcome based content.

Individuals seeking help often did so in relation to cessation of self-harm "how do we accept that we do deserve help, we do deserve to be happy, we deserve full stop?" or in relation to fear of relapse "I'm puking, crying and have gotten so close to self-harming for the first time in a month", "a few hours to go to make it to one month clean of self-harm and I'm struggling. Images and thoughts. I can't keep them out of my head". Offering help ranged from individuals signposting others to organisations "...if you are struggling with self harm, there's an awesome website called recover your life", "Next time you wanna call or email Samaritans...", "mybrokenpalace.com is free, anonymous and 24/7." to offering support directly "You need to talk to someone? You think that this world does not belong, or that you not fit here? Contact me via Inbox or Whatsapp on", "if you ever need someone to talk to about depression, we are here! It is good to sometimes just let it out to someone, anyone.", "message if you want". Individuals also offered help in the format of advice "my go to distraction was a hot bath with candles and meditation music and essential oils", "have a list of coping techniques that work for you e.g. walk, workout, be creative, journal anything that works for you." or sharing tips that they had found; "came across this on twitter, good tip for those who self-harm or struggle with impulse behaviours", "alternatives for self-harm, when someone suggests self-harm I will show this to them", "before you self-harm please take a look. Stay safe and take care of yourself!". Help was also provided from organisations and ranged from service promotion; "Our women's self-injury helpline CASS is now open Monday evenings from 7-9pm", "TESS live webchat will be running this evening from

7pm” to dissemination of resources “Our resource hub: lots of info & tools”, “how to deal with your child’s self-harm...”.

Recovery stories featured within this theme, often individuals shared their own experiences; “proud of myself for making it to one year harm free!! Not really much more to say.”, “..I’m almost THREE years self harm free and I’m not ashamed to talk about it anymore.”, “...about how I’m TWO AND A HALF YEARS CLEAN of self harm and I’ve never been more proud of myself” with the intention of helping others “I hope I can encourage at least one person to open up”. Recovery stories also inspired and encouraged others; “your bravery will certainly help to inspire others. Lets keep talking!”, “...u r helping so many others by doing this. Respect!”, “your courage and strength is inspiring”.

2.7.6. Theme Six - Negative view of self

Small in size but pertinent in its content, this theme relates to individuals talking about themselves in a negative way, describing how they are deserving of self-harm “its ok, I deserve it” and how others are better off without them “they’ll be better off without me”. It does not include how others may feel about them or how others may feel about them describing themselves in a negative way. It includes the description of keeping pain inside as a preference to letting it out; “I’ve been fighting. Who against? Myself...”, “I keep it all inside because I’d rather the pain destroy me, than everyone else”, “I can hurt myself, but I cant hurt you”.

2.8. Discussion

Contrary to expectation, not all of the self-harm content online was negative in its nature. Individuals were able to form a sense of community and connectedness using social media and ask for and offer help. Social media sites also provided individuals with an outlet to share personal stories of recovery to and to discuss reasons for their own self-harm. Only a small amount of the data appeared negative in its nature and this fell into the theme ‘negative view of self’ and the sub-theme ‘cyber bullying’. However, it would be irresponsible to dismiss the negative content in terms of its importance as a

result of its size due to the potentially overwhelming emotional impact it could have on its audience.

The findings from this research paper shares similarities with previous literature on social media use. The theme of community (affinity, togetherness and connectedness) appears to support findings that social media use can facilitate the developments of social networks (Manago, Taylor & Greenfield, 2012) and provide a sense of belonging for individuals (Best, Manktelow & Taylor, 2014). The theme of help (seeking and offering help) could also be perceived as an example of the development of social networks, due to the exchange of information to support, inspire and encourage others. Both this research paper and findings by Best, Manktelow and Taylor (2014) found content relating to cyber bullying indicating that this is not limited to self-harm content online. The small but pertinent theme 'negative view of self' also shares elements of similarity with Best, Manktelow and Taylors (2014) findings that social media use can increase an individual's risk of depression, however it is important to remain cautious about making causational relationships, from the results of this study it is not possible to determine if individuals post online because of feelings of depression, if they experience feelings of depression because they post online or if self-harm content online forms part of a cycle between emotions and behaviour.

2.8.1. Clinical Implications

When considering the Clinical implications of the findings it is important to return to the literature on self-harm. A systematic literature review by Larkin, Blasi and Arensman (2014) found that hopelessness and living alone were risk factors for repetitive self-harm. The theme 'Negative view of self' had elements of the data which could be interpreted as indicating hopelessness "Its ok, I deserve it (cuts to skin)", "they'd be better off without me", "I don't want to be the girl who ... I am that girl and I fucking hate it". The theme of 'Community' includes data extracts from individuals who were experiencing feelings of loneliness and were reaching out to others. Therefore, some of the self-harm content posted on social media sites may be a risk factor for increasing an individual's repetitive self-harm and should be considered by professionals during risk assessments. From this research it is not possible to determine if posting content relating to

Hopelessness and Loneliness directly increases an individual's risk of repetitive self-harm. It is also not possible to determine if viewing content relating to Hopelessness and Loneliness posted by others increases an individual's risk of repetitive self-harm. However, there is sufficient evidence from this research that social media use should be considered by professionals when working with individuals who self-harm and clinical judgement should be used regarding the potential impact from this.

Considering the literature on cessation of self-harm individuals reported; receiving help (Gelinas & Wright, 2013), development of alternative strategies (Gelinas & Wright, 2013), seeking support from friends/family (Gelinas & Wright, 2013) and social support (Whitlock, Prussien & Pietrusza, 2015), as factors contributing to their recovery. The theme 'Help' (including asking for help, offering help and recovery stories) encompasses; receiving help, development of alternative strategies and seeking support; whilst the theme 'Community' addresses social support. This implies that some of the self-harm content found on social media sites could be described as material which may help or aid cessation of self-harming behaviours. This is pertinent for professionals to consider when working with individuals towards cessation of self-harm and during risk assessments when identifying possible preventative strategies.

Clinical Psychologists working with individuals who self-harm, not only need to assess if self-harm content is being viewed or posted online but they should also consider the wider context in which this might be taking place. Could an individual's online life be meeting a number of needs that aren't currently being met offline? E.g. community and help seeking. If needs are being met online, are they being met to a sufficient standard for the individual to aid recovery? Considering Maslow's (1943) motivational theory of human needs, Love and Belonging are identified as psychological needs that individuals (who are lacking in this area) strive to fill. Love and Belonging is described as; friendship, family, intimacy and a sense of connection (Maslow, 1943). This is similar to the theme description for Community, arising from self-harm content posted online. It is therefore, feasible to assume that social media is a modern way of individuals meeting basic human psychological needs theorised in the 1940's.

In order to work effectively with individuals who self-harm and engage in online activities relating to self-harm, it is important to use supervision and reflective practice (Health and Care Professions Council, 2015) to examine any personal biases toward social media. It is important to consider the evidence of social media use for individuals, in addition to assessing the different ways an individual may be using social media and the outcomes specific to them. It is also important to identify limitations in personal understanding of social media or the internet (Health and Care Professions Council, 2015) to ensure safe working practice, and not be tempted to make presumption based on personal use, commonly held social views or views based on non-evidence based news articles.

Finally it calls to question if Mental Health Services should be utilising social media sites more as a method for providing information, intervention and support.

2.8.2. Limitations

Whilst this paper focusses on the actual content of posted information there are several factors it does not address; such as questions about who is using social media sites in relation to self-harm or how they are using them. It is also important to consider the limitations of this research carefully when interpreting the findings. The qualitative findings may not support societal views or expectations as it failed to infiltrate a potentially hidden world online. Due to the ethical considerations and approval, only publicly available information was collated. This omitted information; posted to closed groups, shared in private messages or posted by individuals to be viewed by 'friends' only. The research is also limited to self-harm content on social media sites (specifically; Facebook, Twitter, Instagram and Pinterest), content posted to other social media sites e.g. Tumblr or Ask.fm or posted online outside of social media sites e.g. forums, blogs, webpages, may not yield the same results.

It is possible that these findings are representative of the self-harm content posted on social media sites yet we, as a society, choose to believe the alternative that content is negative in its nature and/or impact. Working in Clinical settings may have set up a bias to 'expect' negative content, one which

may be reinforced by the workplace, media and systems in which we operate. In this respect, Mary Hassle may have not understood the true extent of her words when she said "...no person who gave evidence felt they had a good enough understanding of the evolving way that the internet is being used by young people".

2.8.3. Future Research

This paper contributes to a body of research beginning to understand the role of social media sites and the internet on individual's wellbeing. Specifically, it provides a starting point for research into self harm and social media. Further research from this point could take a number of different directions; 1. To investigate self-harm content posted deeper within social media sites. 2. To assess self-harm content posted on less popular social media sites. 3. To examine how individuals who view self-harm content on social media sites use it. 4. To understand why individual choose to post self-harm content on social media sites.

In order to obtain richer more representative research into self-harm content online it is important to firstly determine how individuals who post self-harm content online are using the internet. Whilst, to date, there is no research suggesting that individuals use the internet in different ways there is equally no research to suggest the internet is used in the same way either. Data extracts from this research found that some individuals purposefully hid their self-harm from others. This may be a factor that also transcends from offline to online life. Individuals who post self-harm content online may use social media sites differently or post elsewhere in the internet. It is therefore vital to establish a greater understanding in how the internet is being used before gaining a richer understanding of what is being posted.

Once the 'how' and 'what' have been determined, research into this area can take a stance of curiosity and begin to examine 'why'. It is at this point research can build upon a firm foundation of understanding, practicalities and rigorous methodology to develop an understanding of why individuals post self-harm content online. Both quantitative and qualitative methodologies are needed to

establish robust, rigorous, reliable, rich and representative research into the relationship between self-harm and the internet.

2.8.4. Concluding Note

Whilst one of the considerations for research is replication of the methodology and findings it is important to note the speed in which changes occur online. Whilst this research project was being undertaken and written for dissemination the search terms used have already changed. An example of this is the use of #selfharmmm on Instagram which now yields less (or no) results than #selfharm. The latter search phrase did not appear during the development of search terms for this project but it is already being used. Given the experiences of this area the most common assumption for this change is to avoid detection or removal/blocking on content from the social media sites administrators. This should be considered by researchers wishing to develop this field of knowledge.

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Part Three: Reflective Review

View my profile: reflecting on the thesis journey

Word count (excluding references and appendices): 1,520

3.1. Introduction

This reflective review is to be read in addition to the literature review titled 'The impact of online social media use on wellbeing in adolescents and young people' and the empirical paper titled 'Themes of self-harm on online social networking sites: implications for clinical practice'. It is a reflexive account and will have three main sections; my social media profile, reflecting on the research process and personal learning. Reflections on ethics, findings and outcomes from the research are addressed in the previous paper.

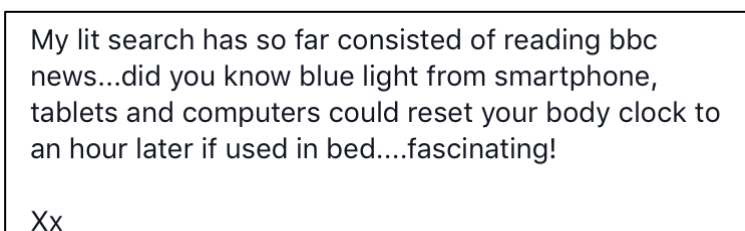
3.2. Reflections

3.2.1. My Social Media Profile

As an active member on social media my profile acts in a similar way to a personal journal, documenting; successes, obstacles and key moments.

The first post made on social media documenting my thesis journey is depicted in figure 3.0. It was at this point I came across a news article about the death of Tallulah Wilson (Davey, 2014) that became the inspiration for my thesis and research into this area. "What is more clinically relevant than contributing towards literature which may, potentially, prevent future harm to others?", I thought to myself. Not only did the topic interest me and feel relevant to my current placement (Child and Adolescent Mental Health Services) it also highlighted a gap in mental health professionals understanding of social media use with adolescents.

Figure 3.0. Facebook post made to university cohort group in May 2014.



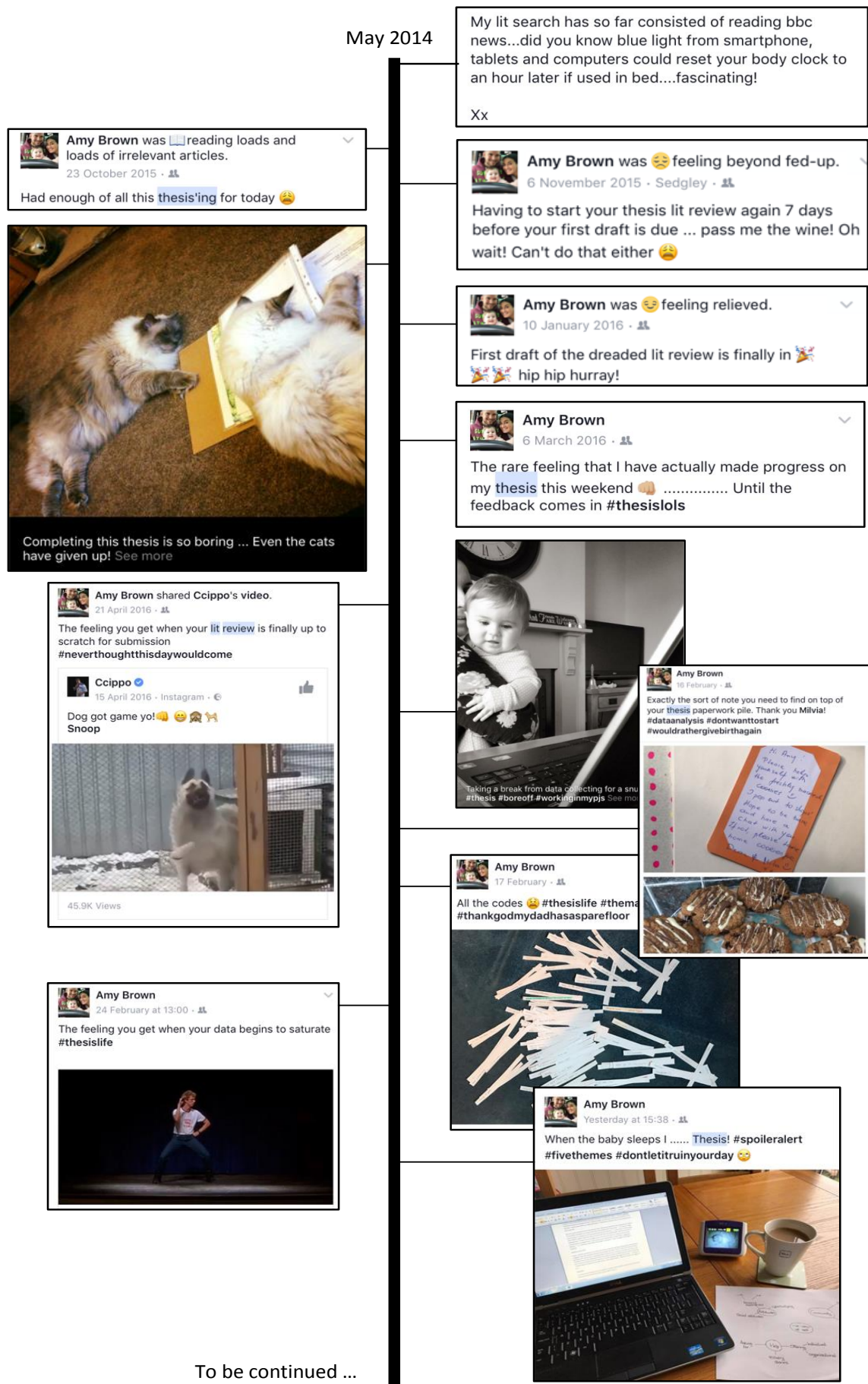
My lit search has so far consisted of reading bbc news...did you know blue light from smartphone, tablets and computers could reset your body clock to an hour later if used in bed....fascinating!

Xx

A timeline of my social media posts is shown in figure 3.1. From the content you can see a mix of highs (completions and reaching saturation of the data), lows (having to start my Literature Review over again) and posts about general mood

during thesis related stages. Interestingly when compiling the timeline of my posts I felt a certain disconnect between these and my feelings about the research. Whilst I can certainly identify with all of the posts here, and remember the emotions that accompanied the posts, my current feelings are not as negative as this timeline may depict. This may be simply because I am nearing the end of the journey and therefore those difficult times are representative of a moment that passed. However, it may be an example of how our online lives do not perfectly depict or match the realities in which we live. A certain element of my posts would be to entertain and humour the targeted readers (my friends). I was also aware of the struggles others had with their research and did not want to present a reality completely contrasted to theirs which may have led to further feels of despair. Reflecting upon this I realised it was a mixture of the two. This reinforces the literature and commonly held view that our online lives can be very separate from reality, whatever the reason for this may be, for me on a personal level.

Figure 3.1. Timeline of social media posts



3.2.2. Reflecting on the research process

One of my most salient reflections throughout this process is the impact the data collection stage had on my mood. The process of collecting my data was relatively straight forward (once developed) and it generally occurred with limited issues along the way. However, I did note that during this time my mood did dip, often feeling flat with accompanied physiological sensations of lethargy. It would have been easy to dismiss this as being down to multiple factors; having a young baby, not being in a work frame of mind on maternity leave or the general social slump following the Christmas season. Despite all these factors ringing true there was still something specific about the data collection that had such a pronounced impact on my mood. It was at this point I remembered undergraduate teaching about the emotional impact of reading a list of negative words (compared for positive or neutral words) had on individuals. As part of the data collection process I was repeatedly typing in words or phrases with negative semantic connotations into social media sites, e.g. 'I hate myself', 'I'm broken', 'barely breathing'. Reflecting back over the past days during this stage of my thesis, I had noted a tendency to shift more towards; remaining in my pyjamas to collect my data, not leaving the house on those days and eating more high-sugar snacks. I was beginning to feel and behave in a way often associated with hopelessness.

Reflecting on my mood provided me with a richer understanding about the impact of self-harm content online that is not directly linked to the findings of the research. Findings from the data analysis were not what I expected (based on my own views, societies views and media coverage on social media sites). Some of the data gave rise to a sense of community, support and a platform to discuss recovery. This could, understandably, be interpreted as positive content. I was exposed to this. This is the content I was viewing regularly. Yet it did not prevent the feelings of hopelessness. Therefore it is feasible to assume that although the content itself may not be negative, that does not prevent an individual from negative feelings often associated with low mood. It is not a simple causational relationship between content being viewed and the emotional state of its audience. There is a complex relationship between social media use and mood, specifically an individual may still experience a negative impact on their mood from social media use even if the content itself is not

categorised as negative. This could be as a result of preceding emotive states or factors associated with the process of searching for material online or unknown factors that still need researching. The process of sitting at a computer for hours at a time typing in words associated with self-harm can have an impact on an individual's emotional state, or it may enhance any existing feelings of depression, isolation, low mood or low self-esteem. With hopelessness being listed as a risk factor for repetitive self-harm in the literature (Larkin, Blasi & Arensman, 2014) this personal reflection should not be dismissed or taken lightly. This led me to consider if this had such a profound impact on me as an individual with no clinical history of depression or self-harming behaviours, what may the impact be on individuals who are experiencing difficulties in this area. This is not to present myself as different, exempt or in any way 'superior', but an increased awareness that this (as a process) has an impact, despite the position you feel you may hold.

3.2.3. Personal learning

As an individual who has previously favoured quantitative research and who operated from a more positivist epistemological stance I chose qualitative research to challenge myself to try something new and different. I was also aware that in the current NHS climate, with tightening demands on services and (sometimes) defensive practice, quantitative research is often favoured due to its alliance with the medical model and the preference it may lead to figures, outcomes and economical perspectives. Qualitative research, when done well, can be time consuming, and when I am qualified and positioned within clinical practice I may not be readily provided with the opportunity to conduct qualitative research to this level. This contributed to my decision.

Throughout my research I noted myself using typically 'quantitative' language, describing data frequencies and the urge to describe themes in terms of their size, which I equated to importance or a greater extent to depict 'the truth'. However, upon realising that my 'smallest' theme, in size, felt the most salient, in its content and clinical importance, my bias was brought into question. At this point I began to shift more towards focusing on the emotive nature of the data and the process of moving more towards Interpretivism began. As this happened I began to feel more confident in my interpretations of the data and

the decisions I was making in my analysis. I felt more immersed in the process which led to increased familiarity and enthusiasm. This shift in my epistemological stance occurred towards the end of my research journey, but once this had happened I noted that I felt, generally, more positive towards my research and held it with more importance than just merely an academic stance. I feel like now I finally understand what other people were saying when they described my research as interesting, because I became interested...not in numbers, frequencies or in statistics, but actually interested by the data in front of me.

3.3. Conclusion

My own use of social media during this time has been to document a significant aspect on my life, as a form of escapism to unwind during this time and a way to stay connected with others who are/have been in similar stages. Yes, social media (as a distraction) has probably lengthened the time it has taken me to complete my thesis due to its easily accessible presence, but this research project would not have been possible without it. For all my thesis related posts, nothing has had as many likes as a picture of a baby and a very large cat (Figure 3.2)!

Figure 3.2. Image of Mila and Beau.



3.4. References

Davey, E. (2014, February 19). Internet safety plea over death of Tallulah Wilson. Retrieved from <http://www.bbc.co.uk/news/uk-england-london-26181998>

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Appendix 1: Staffordshire University Ethical Approval



Faculty of Health Sciences

ETHICAL APPROVAL FEEDBACK

Researcher name:	Amy Brown
Title of Study:	Themes of self-harm on internet forums and social media
Award Pathway:	Doctorate in Clinical Psychology (PhD)
Status of approval:	Approved

Action now needed:

Your project proposal has been approved by the Faculty's Ethics Panel and you may commence the implementation phase of your study. You should note that any divergence from the approved procedures and research method will invalidate any insurance and liability cover from the University. You should, therefore, notify the Panel of any significant divergence from this approved proposal.

You should arrange to meet with your supervisor for support during the process of completing your study and writing your dissertation.

When your study is complete, please send the ethics committee an end of study report. A template can be found on the ethics BlackBoard site.

Comments for your consideration:

The proposed project is interesting, well-thought out and very well-designed. We have no ethical concerns about the project as the student has provided a satisfactory explanation of all potential issues that might arise as result.

There are a couple of issues we would like you to consider (you do not need to respond to the committee):

- 1) Consent: It would be sensible to read the site rules that the moderator will have posted – some sites explicitly forbid research.
- 2) The implications for clinical practice as a result of the study should be made with cautiousness as the self-harm information posted on these public social media sites are just a fraction of all the self-harm cases in the general population. The population that tends to post on these sites might differ from the general population in terms of mental health state and other various characteristics.

We wish you well with your research.

A handwritten signature in black ink, appearing to read "Karen Rodham".

Signed: Professor Karen Rodham
Chair of the Faculty of Health Sciences Ethics Panel

Date: 2nd July 2015

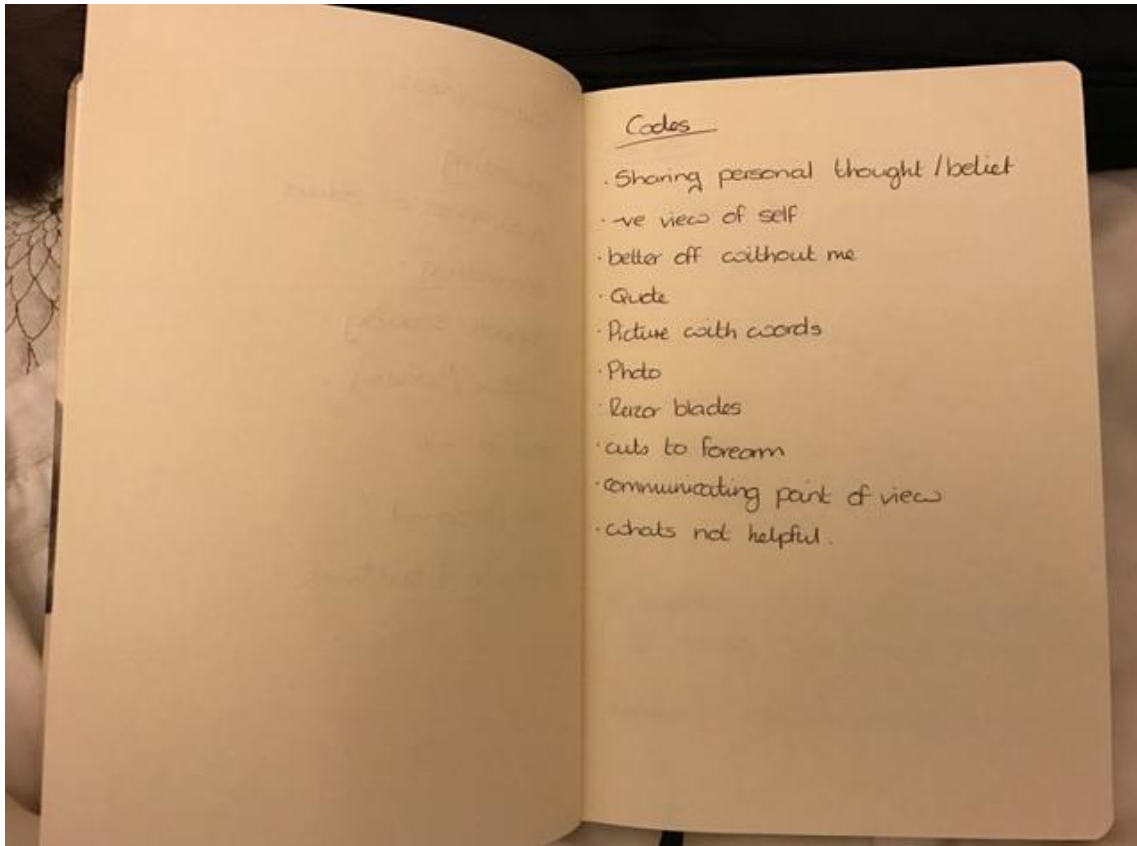
Appendix 2: 111 Search terms inputted into Facebook

Alone	Imbroken	Societykills
Alt	imfine	Stressed
Alternative	Imissbeinghappy	Struggle
Autolesionismo	Imokay	Sucideteens
Awkward	Insecure	Suicidal
Barelybreathing	Killme	Suicidalthoughts
blacklove	Killmenow	Suicide
Bloodysecret123	Letmecut	Suicidegirls
Breathe	Life	Suizid
Broken	Lifesucks	suizide
Cantcopeanymore	Lonely	Takemenow
Clean	Loner	Taken
Crazy	Looser	Teenager
Cry	Love	Tiredoftrying
crying	Mia	Trigger
Cut	Nofriends	Triggerwarning
Cut4cut	Notgoodenough	Useless
Cutterr	Nothing	Worthless
cutters	Pain	cutter
Cutting	Pathetic	self-harm
Dark	Razorblade	self-harmer
Dead	Razors	self-harming
death	Readytogiveup	self-poisoning
Die	Recovering	
Disappointment	Recovery	
Dyinginside	Relapse	
Emotionallydrained	Restrict	
Fail	Ritzen	
Fuckedup	Sad	
Fuckmylife	Sadness	
Fuckoff	Sado	
gone	Sadteens	
Hate	Sadteenswithhappyfaces	
Hateme	Scar	
Hatemylife	Scared	
Hatemyself	Scars	
Heartbroken	Screwup	
Help	Secret_society123	
Helpme	Secretaccount	
Hopeless	Secretsociety123	
Httpsadpictures	Selfharmmm	
Hurt	Selfhate	
Hurting	Selfinjury	
Ihatemyself	Sensitive	

**Appendix 3: 19 search terms which resulted in self-harm content that were
inputted into Twitter, Instagram and Pinterest**

Autolesionismo
Barelybreathing
Bloodysecret123
Cutting
Hatemylife
Hatemyself
Imbroken
Ritzen
Secret_society123
Secretsociety123
Selfharmmm
Selfinjury
Suizid
suizide
triggerwarning
self-harm
self-harmer
self-harming
self-poisoning

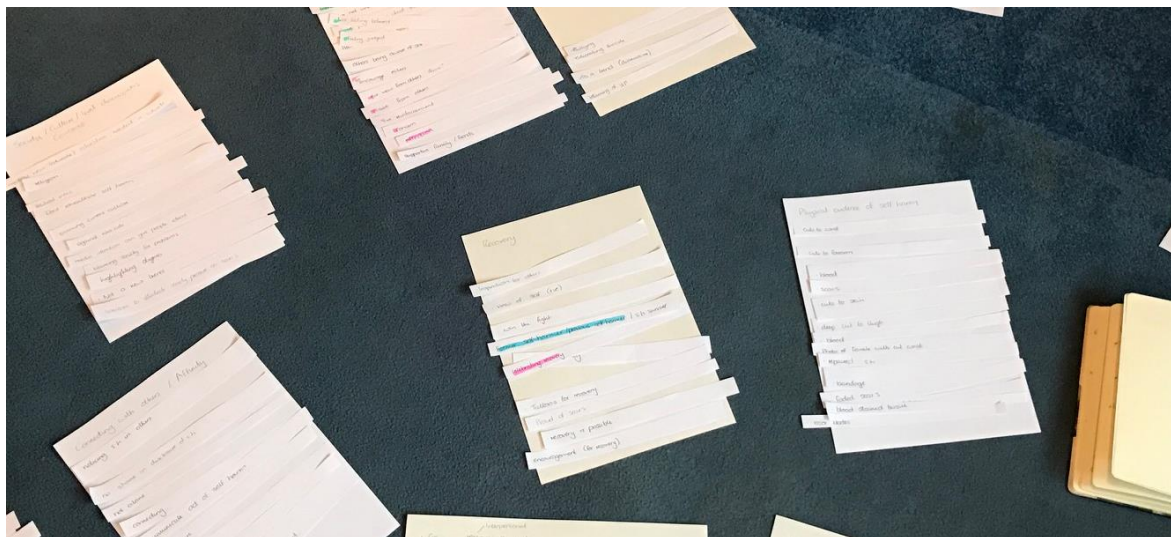
Appendix 4: Picture showing list of codes generated during Phase Two



Appendix 5: Example of data extracts with multiple codes

Data Extract	Coded for
It's not done for attention. I hid my scars for years. It's just as it sounds, to cause harm. I was in so much pain, it was a form of release and anger. Rather than exploding on those around me, I did it to the person I blamed. Myself. It's not trendy. It's not cool. I got mocked for my scars because I obviously 'did it for attention', when those scars were hidden for years. It's not trendy that your mother sees it, and kicks you out.	Reasons for self-harm Not for attention Hurt self not others Self-harm as coping strategy Self-harm hidden from others
So much time is spent around negative feelings towards self and we often feel more comfortable around it, criticism, bad judgements towards self and setting goals we cannot achieve in order that our negativity towards self is validated. How do we accept that we deserve help?	Negative view of self Reflection Seeking support
Then I will find someone to tattoo over my scars...not to hide them, just as a reminder to not cut again...why would I wasn't to ruin such beautiful art in my skin?	Tattoo Alternative to self-harm Recovery journey Strategy for cessation

Appendix 6: Picture showing process of searching for themes
(phrase three) and an example of one theme with the associated codes
(for legibility)



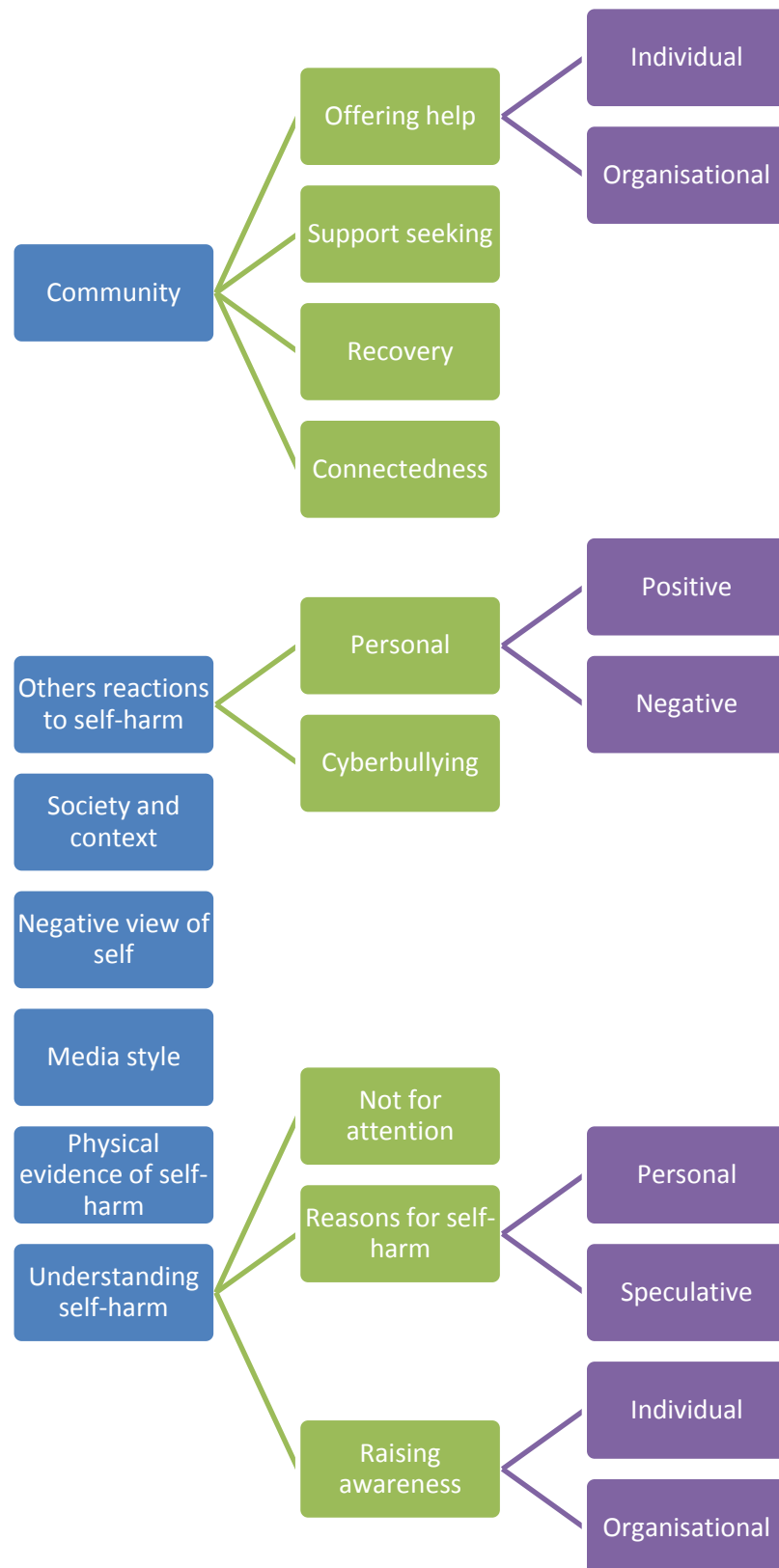
Theme

Recovery

Associated codes

Former self-harmer
 Self-harm survivor
 Encouragement (for recovery)
 Inspiration for others
 Celebrating recovery
 Win the fight
 Recovery journey
 Tattoos for recovery
 Proud of scars
 Recovery is possible

Appendix 7: Initial map of themes before reviewing (phrase four)



Appendix 8: Final map of themes and subthemes arising from the analysis of the data



Appendix 9: Author Guidelines for Plos One

Style and Format

File format	<p>Manuscript files can be in the following formats: DOC, DOCX, RTF, or PDF. Microsoft Word documents should not be locked or protected.</p> <p>LaTeX manuscripts must be submitted as PDFs. Read the LaTeX guidelines.</p>
Length	<p>Manuscripts can be any length. There are no restrictions on word count, number of figures, or amount of supporting information.</p> <p>We encourage you to present and discuss your findings concisely.</p>
Font	<p>Use a standard font size and any standard font, except for Symbol font.</p>
Headings	<p>Limit manuscript sections and sub-sections to 3 heading levels. Make sure heading levels are clearly indicated in the manuscript text.</p>
Layout	<p>Manuscript text should be double-spaced.</p> <p>Do not format text in multiple columns.</p>
Page and line numbers	<p>Include page numbers and line numbers in the manuscript file.</p>
Footnotes	<p>Footnotes are not permitted. If your manuscript contains footnotes, move the information into the main text or the reference list, depending on the content.</p>
Language	<p>Manuscripts must be submitted in English.</p> <p>You may submit translations of the manuscript or abstract as supporting information. Read the supporting information guidelines.</p>
Abbreviations	<p>Define abbreviations upon first appearance in the text.</p> <p>Do not use non-standard abbreviations unless they appear at least three times in the text.</p> <p>Keep abbreviations to a minimum.</p>

Reference style

PLOS uses “Vancouver” style, as outlined in the ICMJE sample references.

See reference formatting examples and additional instructions below.

Equations

We recommend using MathType for display and inline equations, as it will provide the most reliable outcome. If this is not possible, Equation Editor is acceptable.

Avoid using MathType or Equation Editor to insert single variables (e.g., “ $a^2 + b^2 = c^2$ ”), Greek or other symbols (e.g., β , Δ , or ' [prime]), or mathematical operators (e.g., \times , \geq , or \pm) in running text. Wherever possible, insert single symbols as normal text with the correct Unicode (hex) values.

Do not use MathType or Equation Editor for only a portion of an equation. Rather, ensure that the entire equation is included. Avoid “hybrid” inline or display equations, in which part is text and part is MathType, or part is MathType and part is Equation Editor.

Nomenclature

Use correct and established nomenclature wherever possible.

<i>Units of measurement</i>	Use SI units. If you do not use these exclusively, provide the SI value in parentheses after each value. Read more about SI units.
<i>Drugs</i>	Provide the Recommended International Non-Proprietary Name (rINN).
<i>Species names</i>	Write in italics (e.g., <i>Homo sapiens</i>). Write out in full the genus and species, both in the title of the manuscript and at the first mention of an organism in a paper. After first mention, the first letter of the genus name followed by the full species name may be used (e.g., <i>H. sapiens</i>).
<i>Genes, mutations, genotypes, and alleles</i>	Write in italics. Use the recommended name by consulting the appropriate genetic nomenclature database (e.g., HUGO for human genes). It is sometimes advisable to indicate the synonyms for the gene the first time it appears in the text. Gene prefixes such as those used for oncogenes or cellular localization should be shown in roman typeface (e.g., v-fes, c-MYC).

Copyediting manuscripts

Prior to submission, authors who believe their manuscripts would benefit from professional editing are encouraged to use language-editing and copyediting services. Obtaining this service is the responsibility of the author, and should be done before initial submission. These services can be found on the web using search terms like “scientific editing service” or “manuscript editing service.”

Submissions are not copyedited before publication.

Submissions that do not meet the [PLOS ONE](#) publication criterion for language standards may be rejected

Appendix 10: Author Guidelines for Cyberpsychology, Behavior and Social Networking

STATEMENT OF PURPOSE AND POLICY

The Journal will accept original manuscripts which contain material that has not been reported elsewhere, except in the form of an abstract of not more than 400 words. Prior abstract presentations should be described in a footnote to the title. Submissions should be accompanied by a letter requesting evaluation for publication. Manuscripts must be submitted online using the following url:

<http://mc.manuscriptcentral.com/cyberpsych>

Please read ALL instructions to authors before submitting.

PREPARATION OF MANUSCRIPT Guidelines on Length

Original research articles should be a maximum of 3000 words excluding the references and tables. Reviews should be a maximum of 4000 words excluding the references and tables. Rapid Communications should be a maximum of 2000 words.

Prepare manuscripts **double spaced** in Microsoft Word. Leave ample margins on both sides, top and bottom.

Please remove ALL author identifiers from the manuscript. Upload a separate title page as a Cover Page which includes the full title, the author's names and affiliations, the source of a work or study (if any), and a running title of about 45 characters. Please indicate the **name, address, phone number, fax number, and email address** of the author to whom correspondence should be addressed. The title page in the article should only include the full title and a running title of about 45 characters.

The second page should consist of an abstract of not more than 250 words, which should be self-explanatory without reference to the text. One possible format could be: **abstract, introduction, materials and methods, results, discussion, acknowledgments, and references.**

Number pages consecutively. Consult an issue of the Journal for the exact format.

Manuscript keywords (search terms): On the title page of the manuscript, include a minimum of three (3), maximum of six (6), search terms that will aid in the discoverability of the article in indexing services and search engines. These terms may or may not be different from the terms you selected for the peer review process and areas of expertise. You will be asked to retype these search terms in the submission form when uploading your manuscript. These keywords will be included in the published article. If the search terms entered do not match the manuscript, the manuscript will serve as the default.

Keywords (Areas of Expertise)

To facilitate the peer review process, select 4-6 keywords from the drop-down list of pre-selected terms when submitting your manuscript. These keywords will assist in the selection of skilled reviewers in the field for the purposes of peer review.

Letters to the Editor(s):

Letters to the Editor(s) are welcomed, but with a 500 word limit and no more than one (1) table OR figure, and with a maximum of four (4) references.

Important

Please upload individual files of all manuscript material—do **NOT** upload a single PDF file containing all text, figure, and table files of your paper. Once all individual files are uploaded on to Manuscript Central, the system will automatically create a single PDF proof for you and the peer-review process.

Disclosure Statement

Immediately following the *Acknowledgments* section, include a section entitled Author Disclosure Statement. This text must be part of your actual manuscript file. In this portion of the paper, authors must disclose any commercial associations that might create a conflict of interest in connection with submitted manuscripts. This statement should include appropriate information for EACH author, thereby representing that competing financial interests of all authors have been appropriately disclosed according to the

policy of the Journal. It is important that all conflicts of interest, whether they are actual or potential, be disclosed. This information will remain confidential while the paper is being reviewed and will not influence the editorial decision.

Please see the Uniform Requirements for Manuscripts Submitted to Biomedical Journals at <http://www.icmje.org/index.html#conflicts> for further guidance.

If no conflicts exist, the authors must state "No competing financial interests exist."

TABLES AND ILLUSTRATIONS

Each table and figure should be prepared in separate files. Do not include tables or figures as part of the main text file. Each table should be prepared in a separate file in Microsoft Word. Use Arabic numerals to number tables. Remember each table must stand alone-i.e., contain all necessary information in the caption, and the table itself must be understood independently of the text. Details of experimental conditions should be included in the table footnotes. Information that appears in the text should not be repeated in tables, and tables should not contain data that can be given in the text in one or two sentences.

Figures/images should be presented according to these guidelines:

- Do not include any illustrations as part of your text file.
- Do not prepare any figures in Word as they are not workable.
- Line illustrations must be submitted at 1200 DPI.
- Halftones and color photos should be submitted at 300 DPI.
- Please submit only **TIFF or EPS files**.
- **Color art must be saved as CYMK not RGB or INDEX.** If RGB files are submitted, the files will be converted to CYMK, and some slight color variation may occur.
- **Do NOT submit PowerPoint or Excel files.** Adobe is the software of choice.

Please name your artwork files with the submitting authors name i.e. SmithFig1.tif, SmithTable2.tif etc. Label figures and tables inside the files in addition to naming the file with the figure or table numbers. **Authors who**

do not follow these guidelines may have their submission returned to them without being reviewed.

You will be given directions on how to correct any files which do not pass.

ADDITIONAL INFORMATION ABOUT ART FILES

Converting Word or Excel files: Perhaps the best and easiest way to convert Word or Excel files into a format which is suitable for print is to scan them using the below guidelines:

- All files should be scanned at 100% size.
- 300 dpi
- Final color mode: cmyk
- save file as: .tif or .eps

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Books:

Lezak MD. (1995) *Neuropsychological assessment*. New York: Oxford University Press.

Book Chapters:

Ruoff KL.(1995) Streptococcus. In: Murray PR, Baron EJ, eds. *Manual of clinical microbiology*. Washington, D.C.: ASM Press, pp. 299-307.

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