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JENNA COURSE-CHOI BA Hons MSc

ADOLESCENTS' ENGAGEMENT WITH SOCIAL MEDIA

Section A: Social media use and adolescent wellbeing:
A narrative review of longitudinal studies employing a systematic search methodology

Word count: 7,991

Section B: How do adolescents negotiate social media? A grounded theory of the
psychosocial processes underpinning engagement with social media

Word count: 8,000

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University for the degree of Doctor of Clinical Psychology

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Summary of the MRP portfolio

Section A: Presents a narrative literature review using a systematic search methodology of longitudinal research on the impact of social media use on adolescent wellbeing. Wellbeing and social media are defined, and longitudinal studies with adolescent populations investigating the relationship between the two constructs are reviewed. Clinical recommendations include increasing awareness of specific behaviours on social media associated with harmful effects. Research implications include a need for validated exposure measures, greater attention to condition effects in future study designs, and qualitative and multivariate designs to complement extant quantitative studies.

Section B: Presents a study in which grounded theory methodology was employed to build a theory of how adolescents engage with and negotiate social media, developing a passive or more active approach to social media use over time. The theory hypothesises a cyclical process of weighing up the potential risks vs rewards to one's sense of self and status of posting on social media, experimenting, evaluating the feedback received, and recalibrating one's stance towards social media use accordingly. The model is linked to identity and social identity theories, and clinical and research implications are considered.

Contents

SECTION A

Abstract.....	2
Introduction.....	3
Definition of terms and context	3
Social media.....	3
Adolescence.....	4
Wellbeing.....	5
Adolescence, wellbeing and social media.	5
Cross-sectional research.....	8
Experimental and longitudinal research.....	8
Aim	9
Methodology.....	10
Inclusion criteria	10
Literature search.....	10
Review	11
How does frequency of SM use (FSMU) impact adolescent wellbeing?	19
Life satisfaction.....	19
Mental health.	19
Body-related concerns.	20
Social competence, loneliness and academic performance.	21
Summary.....	22
How does type of SM use impact adolescent wellbeing?.....	23
Active vs passive use.	23
Self-disclosing/-presenting, with amount of feedback received as a mediator.....	24
Disordered use.	26
Attractiveness-related use.	27
Summary.....	27
Are some individuals more vulnerable to harmful effects than others?	28
Gender.....	28
Discussion.....	29
How does FSMU use impact adolescent wellbeing?.....	29
How does type of SM use impact adolescent wellbeing?.....	30

Are some individuals more vulnerable to harmful effects than others?	32
Clinical implications: How can we limit negative effects of SM use?	32
Research implications: Critique and recommendations for future research	34
Design	34
Sample.....	34
Exposure measures.....	35
Attrition.....	36
Conditional effects.....	36
Effect sizes.....	37
Conclusion	37
References.....	39

SECTION B

Abstract.....	2
Introduction.....	3
Social media.....	3
Adolescent development and SM use	3
The extant literature	4
Rationale, aims and research questions	7
Method	7
Design overview	7
Stage 1.....	7
Stage 2.....	8
Methodology.....	8
Ethical considerations	9
Participants.....	9
Stage 1.....	9
Stage 2.....	9
Procedure	11
Recruitment.....	11
Data generation.....	11
Data analysis.....	11
Quality assurance methods	13
Results.....	13
Overview of the model.....	13

Core category.....	16
Category A. Staying in the loop.....	17
Category B. Evaluating safety of use.....	18
Category C. Staying hidden.....	22
Category D. Posting strategically.....	23
Category E. Evaluating feedback.....	24
Category F. Feeling good/acquiring status.....	25
Category G. Feeling rejected/exposed.....	25
Category H. Managing negative feelings.....	26
Discussion.....	28
Links with extant literature.....	28
Learning theory.....	28
Social enhancement theory.....	28
Self-presentation theory.....	29
Identity theory.....	29
Social identity theory.....	30
Clinical implications.....	30
Passive use.....	30
Gender and developmental differences.....	31
Status.....	31
Limitations and research recommendations.....	32
Conclusions.....	33
References.....	34

SECTION C

Appendix A. Section A CASP cohort study appraisal tool.....	2
Appendix B. Section A papers assessed by CASP criteria.....	3
Appendix C. Stage 1 interview schedule for individual/group interviews.....	16
Appendix D. Stage 2 interview schedules for individual/pair interviews.....	18
Appendix E. Ethical approval letters.....	22
Appendix F. Social media intensity scale.....	23
Appendix G. Parent and participant consent forms.....	24
Appendix H. Study information sheet.....	26
Appendix I. Diagram of concepts after Stage 1 coding and analysis.....	29
Appendix J. Early model development.....	30

Appendix K. Selected memos.....	31
Appendix L. Positioning statement.....	37
Appendix M. Abridged reflective research diary	38
Appendix N. A coded transcript	43
Appendix O. List of categories, subcategories and example codes.....	44
Appendix P. Summary of focussed codes after Stage 1 analysis	52
Appendix Q. End of study summary for participants	60
Appendix R. End of study summary for ethics panel	64
Appendix S. Author guidelines for journal submission.....	66

LIST OF TABLES AND FIGURES

Section A:

Table 1. Inclusion criteria for systematic search	10
Figure 1. Flow chart illustrating systematic literature search	12
Table 2. Key information listed by study	13

Section B:

Table 1. Stage 1 participant demographics and SM use	10
Table 2. Stage 2 participant demographics and SM use	10
Table 3. Description of the analytic process	12
Figure 1. Developing a relationship with SM that protects one's sense of self and/or enhances one's status – a model of adolescent engagement with SM	14
Table 4. Categories and sub-categories of a model of developing a relationship with SM	14

SECTION A: EFFECTS OF SOCIAL MEDIA ON ADOLESCENT WELLBEING

MAJOR RESEARCH PROJECT

JENNA COURSE-CHOI BA (Hons) MSc

Section A: Literature Review

Social media use and adolescent wellbeing: A narrative review of longitudinal studies
employing a systematic search methodology

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Abstract

The impact of social media use on adolescent wellbeing is a topic of popular concern. However, most research to date has been cross-sectional, limiting the inferences that can be drawn to correlational observations. The need for longitudinal research has been highlighted and studies have begun to emerge. The present narrative review aims to synthesise longitudinal research on social media and adolescent wellbeing. A systematic search of PsychINFO, Web of Science and Assia conducted in January 2019 identified 14 papers meeting inclusion criteria. The review produces a mixed picture, with some studies reporting positive effects, some negative, and some finding none. Gender is being treated as a moderator variable in some analysis, but again, findings are inconclusive. The research was limited by unvalidated, self-report exposure measures and a failure to consider conditional effects. Future studies should address these issues and employ qualitative methods to explore the complexities of SM engagement processes.

Keywords: Social media, adolescent, wellbeing, literature review.

Introduction

This review examines research investigating the impact social media (SM) use has on adolescent wellbeing, a topic of great concern for parents, politicians, educational and mental health professionals. In recent years, headline-grabbing studies have portrayed an alarming picture of depression, (“Depression in girls linked to higher use of social media” – Campbell, the Guardian, 2019) lower self-esteem (“Social media triggering plague of low self-esteem” - Harding, the Daily Mail, 2016) and increasing self-harm (“Self harm trebles among children and young adults post-social media” – Donnelly, the Telegraph, 2018) linked to SM. However, empirical evidence regarding SM’s impact on adolescent wellbeing is mixed. A 2014 systematic narrative review of online communication, SM and adolescent wellbeing described findings as “contradictory”, and hampered by “an absence of robust causal research” (Best, Manktelow, & Taylor, p. 27). Recent studies have posited numerous factors as mediators between SM use and mental health difficulties in adolescents, including poor sleep, self-esteem and body image (Kelly, Zilanawala, Booker & Sacker, 2018). However, most lack sound theoretical justification for their findings (Erfani & Abedin, 2018), and the preponderance of cross-sectional, survey-based study designs does not identify the direction of the relationship between SM use and wellbeing. This review aims to overcome some of these limitations by focusing on longitudinal research in the field.

Definition of terms and context

Social media.

In this review, the terms ‘social media sites’ and ‘social networking sites’ are used interchangeably. Kim, Jeong, & Lee (2010) consider an online platform to constitute SM if it “make[s] it possible for people to form online communities and share user-created content”

(p. 216). Communities may comprise friends known offline as well, acquaintances known online only, or those belonging to a special interest group. Content may include user profiles (containing information such as name and age), photos, videos, and activity updates, while the sharing of this content comprises activities such as posting or uploading, viewing, and commenting (publicly via each other's profiles, or privately via direct messages) or otherwise reacting to or feeding back on (e.g. "liking") the content. Another key characteristic of SM platforms is the display of social network connections: lists of "friends" or "followers" that create "a collection of user-created profiles which are linked together" (Robards & Bennett, 2011, p. 6).

Adolescents are prolific SM users. According to an OECD Wellbeing report (2017), 94.8% of British 15-year-olds used SM before or after school in 2015. The intensity of internet use in this age group is notable: a 2018 study found 45% of American teens surveyed describe themselves as online on a "near-constant basis" (Anderson & Jiang, Pew Research Center, 2018), while in the UK, 37.3% of 15-year-olds have been classed as "extreme internet users" (six or more hours of use a day; Frith, 2017). A recent survey found 40% of girls and 20% of boys in the UK used SM for more than three hours per day (Kelly, Zilanawala, Booker, & Sacker, 2018). The platform of choice is continually evolving: the proportion using Facebook as their primary SM profile fell from 52% in 2016 to 40% a year later, while the percentage identifying Snapchat as their main profile doubled to 32% (Ofcom, 2017).

Adolescence.

Adolescence has long been considered a period of "storm and stress" (Hall, 1904), a developmental stage comprising faster cognitive, physical, psychological and social growth than any other (Swanson, Edwards, & Spencer, 2010). Characterised as "the period between the onset of puberty and the achievement of relative self-sufficiency" (Blakemore & Mills, 2014, p. 288), theorists have hence argued it is a cultural construct (Arnett, 2012),

conceptualised through cultural, psychosocial and biological lenses (Curtis, 2015).

Accordingly, the experience of adolescence and markers of progression to adulthood vary across cultures and generations. Whilst the period of adolescence is subject to debate, this review defines it as any person between the ages of 10 to 19, in line with the World Health Organization (WHO).

Wellbeing.

Despite increasing research into wellbeing (e.g. Stratham & Chase, 2010), theories of this complex, abstract construct remain underdeveloped, leading one commentator to pronounce it “intangible, difficult to define and even harder to measure” (Thomas, 2009, p. 11). Dodge, Daly, Huyton and Sanders (2012) posit wellbeing comprises an equilibrium between psychological, social and physical resources and challenges. This definition encompasses psychological resources of self-esteem, mental health and life satisfaction, and acknowledges the importance of social support: generally, those with greater intimacy and higher quality relationships (Nezlek, 2000) and high levels of “relatedness” from social networks (DeNeve, 1999) have higher wellbeing. This review incorporates the psychosocial dimensions of wellbeing referenced by Dodge et al. (2012). In line with previous reviews (Best, Manktelow, & Taylor, 2014), this use of wellbeing as a broad umbrella term allows a range of studies to be included, in a field where limited research exists using adolescent populations.

Adolescence, wellbeing and social media.

Importance of peers. Adolescence has been described as “the period in life when peer influences are most intense” (Kandel, 1986, p. 204). A study by O’Brien and Bierman (1988) illustrated this: participants aged 10-13 considered peers to provide companionship and support, but did not judge peer acceptance to impact self-evaluation. By contrast, 13-17-year-

olds believed peer rejection suggested their lack of worth as an individual. This influence of peers on self-judgements wanes again in adulthood (Sebastian et al., 2010). Social acceptance becomes key during adolescence, influencing the majority of behaviours, with rejection causing heightened distress (Blakemore & Mills, 2014). SM, offering an instant, constant and highly visible forum for peers to provide opinions, and – literally – accept or reject friends, may foster an even greater peer influence on adolescents. Studies have begun to illustrate the novel ways this peer influence occurs on SM, with “quantifiable social endorsement” (e.g. number of likes for a photo) significantly affecting the way the photo was perceived, and adolescents more likely to like photos that receive more likes from peers (Sherman, Payton, Hernandez, Greenfield, & Dapretto, 2016).

Appearance. Rapid changes in physical appearance can create anxiety and foster comparison behaviours in adolescents, who are likely to compare themselves to sociocultural models of what is perceived to be aesthetic perfection (Coleman & Hendry, 1999). Body image has been described as “the most important component of adolescent girls’ self-esteem” (Levine & Smolak, 2002, p.77), while boys also express dissatisfaction with their weight and appearance (Cohane & Pope, 2001). SM, with its highly visual pre-dominance of photos and “selfies”, and the introduction of techniques such as photo-doctoring to present idealised images, has been associated with higher body image concerns (Marengo, Longobardi, Fabris, & Settanni, 2018) and upward social comparison behaviours (Wang, Wang, Gaskin, & Hawk, 2017), which may in turn lead to poorer wellbeing, particularly amongst individuals with low self-esteem (Buunk, Collins, Taylor, van Yperen, & Dakof, 1990).

Neurological developmental changes. The same hormones that instigate bodily changes also affect brain and behaviour. Changes in neurotransmitter systems accelerate, including the dopamine system, which affects the brain’s response to risk-taking behaviours, novelty and environmental rewards (Griffin, 2017). Combined with still incomplete

inhibitory brain systems, such changes can lead to heightened risk-taking, impulsive behaviour, and sensitivity to rewards. Such behaviours may have greater consequences on a SM platform, where photos and status updates may be quickly seen by large audiences and prove difficult to delete if regretted (Dowell, 2009). Inhibited self-regulation may also increase the risk of excessive or compulsive SM use (Wu, Cheung, Ku, & Hung, 2013).

Identity formation. According to Erikson's (1968) psychosocial development theory, adolescence comprises a period of identity formation and exploration, as the individual discovers who they are and what their place is in society. Self-presentation – selectively presenting facets of one's self to others – is a skill that is learned and, by integrating feedback received from these presentations and making adjustments, used to develop one's identities. On the one hand, SM presents opportunities to experiment, edit self-presentation, and elicit positive feedback, potentially increasing self-esteem (Valkenburg, Schouten, & Peter, 2005). On the other, proliferation of choice may make identity decision-making processes more distressing (Arnett, 2002), and SM's intensification of social comparison and feedback-seeking may have negative implications for adolescent self-esteem (Nesi & Prinstein, 2015). Others' selective self-presentation may create distorted perceptions of peers, fostering harmful upward comparisons, and if one's own edited self-presentation differs to one's actual sense of self, positive feedback received may reinforce identity confusion. Evidence suggests a positive association between adolescent self-esteem and online self-presentation when this self-presentation is congruent (Metzler & Scheithauer, 2015).

To summarise, on several fronts, facets of SM lend themselves well to intensifying typical adolescent processes, with potential implications for their wellbeing and mental health. Researchers have responded with a substantial amount of quantitative study into this topic.

Cross-sectional research

Most research regarding adolescent wellbeing and SM use comprises cross-sectional survey studies. These have reported a variety of associations between the two. A recent meta-analysis of associations between *problematic* Facebook use and adolescent wellbeing indicated such use is positively correlated with anxiety and depression (Marino, Gini, Vieno, & Spada, 2018). A more general systematic search and narrative review of online communication, SM and adolescent wellbeing (Best, Manktelow, & Taylor, 2014) looked at 43 papers, finding contradictory evidence:

The benefits of using online technologies were reported as increased self-esteem, perceived social support, increased social capital, safe identity experimentation and increased opportunity for self-disclosure. Harmful effects were reported as increased exposure to harm, social isolation, depression and cyber-bullying. The majority of studies reported either mixed or no effect(s) of online social technologies on adolescent wellbeing. (p. 27)

Both reviews noted as a limitation the predominance of cross-sectional designs, hampering the possibility of establishing the direction of associations.

Experimental and longitudinal research

In light of this, researchers have begun to employ alternative designs, including observational longitudinal and experimental studies. Each has strengths and weaknesses: although randomised control trials (RCTs) are considered the gold standard of research (Jones & Podolsky, 2015), researchers point out “experimental work in this domain is challenging because it is difficult to capture the fluctuating and varied content on social media in a controlled environment” (Fardouly & Vartanian, 2016, p. 2). Experimental studies tend to focus on short-term effects of exposure, with stimuli comprising, for example, 10 or

17 photos on an Instagram feed (Kleemans, Daalmans, Carbaat, & Aschutz, 2018; Weinstein, 2017, respectively), or one artificial SM profile (Vogel, Rose, Roberts, & Eckles, 2014). Although such designs provide “cleaner” results by isolating certain SM aspects, they also represent very brief exposures, compared to actual daily use, and do not replicate the real-world mix of SM feeds, which include photos of friends and peers as well as strangers. Experimental researchers acknowledge their findings “only scratch the surface” (Vogel et al., 2014, p. 219). For this reason, the current review is limited to longitudinal studies. Such research permits a realistic conceptualisation of adolescent SM use by employing observational approaches based on genuine use, arguably presenting findings more germane to adolescents’ actual engagement with SM. Although longitudinal studies cannot comment on causality to the same degree as experimental trials, by investigating the relationship between early exposure variables on later outcome measures, they do establish temporality, a minimum condition for inferring causality (Hill, 1965).

Aim

This narrative review uses a systematic search methodology to address the following questions: How does frequency of SM use (FSMU) impact adolescent wellbeing? How does type of SM use impact adolescent wellbeing? Are some individuals more susceptible to harmful effects than others? The review’s focus on the somewhat crude measure of FSMU is dictated by the literature, as this is the measure most studies utilise. The review synthesises and critiques the literature, with findings summarised at the end of each section.

Methodology

Inclusion criteria

This review identified longitudinal research investigating the relationship between SM use and wellbeing outcome measures in adolescent populations. Table 1 lists inclusion criteria.

Table 1

Inclusion Criteria for Systematic Search

Inclusion Criteria
Published in English
Published in or after 2006
Published in peer-reviewed journal
Participants aged between 10 and 19, or average age of up to 19 years old
Research based on the use of social media sites, as per the definition ^a
Research based on the concept of wellbeing, as per the definition
Longitudinal design
Non-specific population sample ^b

^a Studies focussing on general internet use/online communication and cyberbullying were excluded. ^b Studies focussing on a specific population or group, e.g. adolescents in the lesbian, gay, bisexual and transgender community, were excluded

Literature search

Searches of electronic databases PsycINFO, Medline, Web of Science and Assia were conducted on 7th January 2019. Initial internet searches and a previous review of adolescent wellbeing and SM use (Best, Manktelow, & Taylor, 2014) informed search terms. Key terms were combined with Boolean operators ‘OR’ and ‘AND’, and exploded subject headings were used. The date range was limited from January 1st 2006 to 7th January 2019, as 2006 is when Facebook use became widespread and SM developed facets of use that remain relevant today, such as activity updates. Search terms comprised:

(adolescen* OR teen* OR "young people" OR child* OR girl* OR boy* OR youth)

AND

("social media" OR "online social network*" OR "social networking site*" OR Facebook OR Instagram OR Snapchat OR Twitter)

AND

("wellbeing" OR "well-being OR "life satisfaction" OR "social support" OR "social capital"
OR "self-esteem" OR "self-efficacy" OR "mental health")

AND

(longitudinal OR prospective OR cohort)

Titles and abstracts were screened for relevancy. Reference sections of retrieved studies and previous review articles were also searched. Figure 1 illustrates the number of papers found at each stage of the search.

Review

The systematic search identified 14 prospective studies satisfying inclusion criteria, ranging substantially in scope and sample population. Information listed by study is presented in Table 2. Where studies included both cross-sectional and longitudinal aspects, only longitudinal elements were reviewed. The Critical Appraisal Skills Programme (CASP, 2018) quality appraisal framework for cohort studies was used to evaluate the research (Appendix A). See Appendix B for detailed tables assessing each paper according to CASP criteria. This review is structured thematically in line with the aims set out in the introduction, with research critiqued throughout. Theory is incorporated in the discussion.

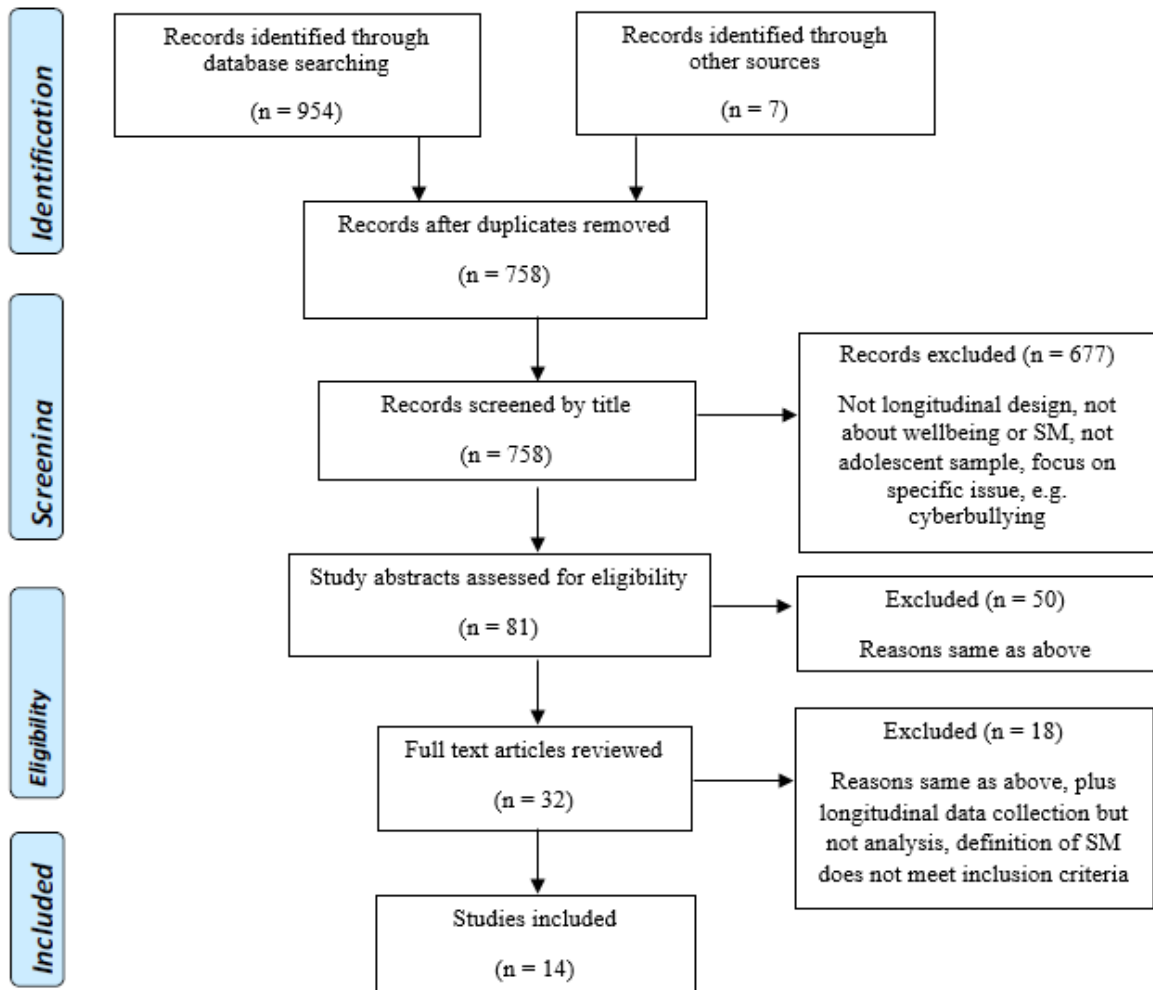


Figure 1. Flow chart illustrating systematic literature search.

Table 2
Key Information Listed by Study

Study	Authors (year), location of study	Sample size, number of waves (time lag)	Sample age range, (mean), % female	Social media use measures	Wellbeing outcome measures	Type of analysis	Main findings
1	Booker et al. (2018), UK	9859 (pooled) Five-wave study (over five years)	10-15 years, ($M = NS$) 49% female	<i>Frequency of social media use</i> – 2 items: 1) “Do you belong to a social website such as Bebo, Facebook or MySpace?” and 2) “How many hours do you spend chatting or interacting with friends through a social website like that on a normal school day?” Responses for the latter question were scored on a 5-point scale ranging from “none” to “7 or more hours.”	<i>Wellbeing</i> - six questions covering different domains of life, i.e. friends, family, appearance, school, school work and life as a whole, were asked and scored on a 7-point Likert-type scale. <i>Negative aspects of wellbeing</i> – the Strengths and Difficulties Questionnaire (Goodman, 1997) comprising 25 items covering hyperactivity, emotional symptoms, conduct problems and peer relationship problems.	Parallel latent growth curve models. Modelled by age: models do not measure change over time within individuals, but rather change by age averaged across individuals.	Higher social media interaction at age 10 was associated with declines in well-being thereafter for females, but not for males.
2	van den Eijnden et al. (2018), The Netherlands	538 Three-wave study over 36 months	12-15 years, ($M = 12.9$) 51.1% female at T1	<i>FSMU</i> – 6 items (e.g. How many times a day do you check your social network sites?) using a 7-point response scale (0 = less than once a day/week, 7 = more than 40 times a day/week) <i>SM disorder symptoms</i> – the Social Media Disorder scale (van den Eijnden et al., 2016). Nine yes/no items (e.g. during the past year, have you regularly neglected other activities because you wanted to use social media?)	<i>Perceived social competence</i> – the 5-item Harter’s Self Perception Profile of Adolescents (Harter, 1988) <i>Life satisfaction</i> – the 5-item Satisfaction with Life Scale (SLS; Diener, Emmons, Larsen, & Griffin, 1985) plus two additional items (e.g. I am satisfied with my life). A 6-point scale (1 = totally agree, 6 = totally disagree)	Structural equation modelling	More frequent SM use improved perceived social competence after one year (T2-T3). More SMD symptoms predicted lower life satisfaction one year later (T1-T2 and T2-T3) Gender moderated the effect of SMD symptoms on life satisfaction: the negative effect was stronger for boys than for girls

3	Ferguson et al. (2013), USA	101 Two-wave study (six-month time lag)	10-17 years, ($M = 14.11$) 100% female	<i>FSMU</i> - 7 items assessing frequency with which they used various forms of SM, self-rated on a 5-point scale.	<i>Body image dissatisfaction</i> - Body Esteem Scale for Adolescents and Adults (Mendelson, Mendelson, & White, 2001); <i>Eating Attitudes Test</i> (Garner et al., 1982) <i>Life satisfaction</i> – SLS (Diener et al., 1985)	Hierarchical regressions	SM use did not predict negative outcomes. SM use did contribute to later peer competition, suggesting potential indirect effects on body-related outcomes. Peer competition was a moderately strong predictor of negative outcomes. Negative influences of social comparison may be focused on peers rather than SM use.
4	Frison et al. (2017), Belgium	671 Two-wave study (six-month time lag)	12-19 years, ($M = 14.96$) 61% female	<i>Frequency of 1) browsing, 2) posting and 3) liking on Instagram</i> - Using a 7-point Likert scale (1 = never, 7 = several times per day), participants were asked 1) How often do you look at photos posted by other Instagram users?; 2) How often do you post a photo on Instagram?; 3) How often do you like a photo on Instagram?	<i>Depressed mood</i> - The Center for Epidemiological Studies Depression Scale for Children (Weissman, Orvaschel, & Padian, 1980).	Structural equation modelling	Instagram browsing at T1 positively predicted adolescents' depressed mood at T2. Adolescents' depressed mood at T1 was related to increases in Instagram posting at T2. Relationships were similar across gender.
5	Hökby et al. (2016), Estonia, Italy, Spain, Sweden, UK, Lithuania	1544 Two-wave study (four-month time lag)	Range NS ($M = 15.8$) 56% female	<i>Frequency of Internet use</i> - A 7-point scale (1 = I spend very little or no time doing this; 7 = I spend very much time doing this) on 7 different activities when using the internet (of which one, "socialising", purportedly mapped onto SM use)	<i>Depression, anxiety and stress</i> - the Depression Anxiety Stress Scale (DASS-42; Lovibond & Lovibond, 1995).	Longitudinal hierarchical multiple regression analysis	Internet use that resulted in sleep loss and withdrawal measures were the only variables that predicted longitudinal change in mental health. However, "socialising" Internet use was not related to changes in either sleep loss or withdrawal.

6	Hummel et al. (2015), USA	185 Two-wave study (four-week time lag)	Range NS ($M = 18.73$) 78% female	<p><i>Feedback seeking on Facebook</i> - One item from the Maladaptive Facebook Questionnaire (Smith, Hames, & Joiner, 2013): “I sometimes write negative things about myself in status updates to see if others respond with negative comments about me”.</p> <p><i>Personal nature of posts</i> - status updates and comments were coded to create a score indicating tendency to reveal information about one’s personal life</p> <p><i>Valence of feedback</i> - all comments on status updates were analysed for negativity</p>	<p><i>Eating disorder thoughts and behaviours</i> - The Eating Disorder Examination Questionnaire (EDEQ-4; Fairburn & Beglin, 1994).</p>	Regression analyses	Individuals with a negative feedback-seeking style who received a high number of comments on Facebook were more likely to report disordered eating attitudes four weeks later. Those who received extremely negative comments in response to personal status updates were more likely to report disordered eating attitudes four weeks later.
7	Metzler et al., (2017), Germany	217 Two-wave study (12-month time lag)	14-17 years ($M = 16.7$) 68% female	<p><i>Number of Facebook friends</i></p> <p><i>Positive self-presentation</i> – a 5-item scale assessing extent to which participants selectively show positive aspects of themselves through profile pictures (1 = never, 5 = very often)</p> <p><i>Positive feedback</i> – a 5-item scale of frequency of likes received in response to profile pictures (1 = never, 5 = always)</p>	<p><i>Self-esteem</i> – one subscale of the Inventory of self-concept and self-confidence, an adaption of the Rosenberg (1965) self-esteem scale. Comprises eight items (e.g. “In my opinion, I’m OK”) using a 4-point scale (1 = disagree, 4 = agree)</p> <p><i>Initiation of online and offline relationships on Facebook</i> – two subscales of four items measuring social competence among adolescents using a 5-point scale (1 = very difficult, 5 = very easy)</p>	Longitudinal path analysis	<p>Contrary to expectation, T1 positive self-presentation was negatively related to T2 self-esteem via T1 positive feedback.</p> <p>As expected, T1 number of friends was related to a higher level of T2 self-esteem.</p>

8	Tiggemann et al. (2017), Australia	438 Two-wave study over 24 months	13-15 years ($M = 13.6$) 100% female	<i>Frequency of Facebook use</i> – participants were asked how much time they spent on Facebook, response scale not indicated <i>Number of friends</i> – a single question item	<i>Internalisation of beauty ideals</i> – three items from the Sociocultural Attitudes Toward Appearance Questionnaire (Heinberg, Thompson, & Stormer, 1995) <i>Body surveillance</i> – Objectified Body Consciousness Scale–Youth (Lindberg, Hyde, & McKinley, 2006) <i>Drive for thinness</i> – the Drive for Thinness Scale of the Eating Disorder Inventory (Garner, Olmsted, & Polivy, 1983)	Hierarchical multiple regression	The number of Facebook friends predicted an increase in internalisation of beauty and drive for thinness two years later. Internalisation and body surveillance also predicted increased number of friends. Time spent on Facebook did not predict any body image concerns.
9	Valkenburg et al. (2017), The Netherlands	852 Three-wave study over 27 months	10-15 years, ($M = 12.5$) 50.7% female at T1	<i>FSMU</i> – participants were asked how often they posted status updates, selfies, changed their profile picture, reacted to messages from others and posted messages on others’ profile pages (6-point scale) <i>Positive feedback</i> – four items about how often participants received positive reactions to messages/photos posted on SM, from close friends and acquaintances (4-point scale)	<i>Social self-esteem</i> – the social acceptance subscale of the Self-Perception Profile for Adolescents (Harter, 1988), comprising four items (e.g. I have a lot of friends) and a five-point scale (1 = completely not true, 5 = completely true)	Structural equation modeling	SM use did not increase social self-esteem from T1 to T2 or T2 to T3. Social v increased SM use over time both from T1 to T2 and T2 to T3. The longitudinal indirect effect of SM use on social self-esteem through positive feedback from 1) close friends and 2) acquaintances was not significant.
10	Vandenbosch et al. (2016), The Netherlands	1041 Three-wave study over 12 months	Range NS , ($M = 15.3$) 54.4% female	<i>FSMU</i> – an 8-point scale (1 = almost never, 8 = all day long) indicating how often participants visited SM sites <i>Attractiveness-related uses of SM use</i> – a four-item scale with statements such as “When I think a boy or girl is fun and attractive,	<i>Self-objectification</i> – an adapted version of the Self-Objectification Questionnaire (Noll & Fredrickson, 1998). Ratings of importance of 12 body attributes on a 10-point scale (1 = not at all important, 10 = very important)	Structural equation modelling	Mass media was associated with internalisation of appearance ideals, which in turn was related to tendency to monitor attractive peers on SM. Use of SM to monitor attractive peers stimulated self-objectification over time.

				I add the person as a friend on Facebook” rated on a 5-point scale (1 = I totally disagree, 5 = I totally agree)			However, FSMU played a limited role in the relationship between mass media and an objectified self-concept
11	De Vries et al. (2014), The Netherlands	604 Two-wave study, 18-month lag	11-18 years, ($M = 14.7$ at T1) 50.7% female	<i>FSMU</i> – single item with a four-point response scale: “How often did you visit Hyves.nl in the past 6 months?” (0 = never, 4 = always)	<i>Appearance investment</i> – the Appearance Orientation subscale of the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Cash, 1994), a 12-item scale measuring investment in physical appearance (e.g. It is important I always look good) with a 4-point response scale <i>Desire to undergo cosmetic surgery</i> – item asking whether participants would undergo cosmetic surgery if it were offered free of charge (4-point response scale)	Structural equation modelling	SM use positively predicted adolescents’ desire to undergo cosmetic surgery indirectly through increased appearance investment. These relationships were not moderated by gender.
12	De Vries et al. (2016), The Netherlands	604 Two-wave panel study, 18 month lag	11-18 years, ($M = 14.7$ at T1) 50.7% female	<i>FSMU</i> – single item with a four-point response scale: “How often did you visit Hyves.nl in the past 6 months?” (0 = never, 4 = always)	<i>Peer appearance-related feedback</i> – four items asking how often friends gave tips or criticisms about appearance, body, clothes, sexiness, or told them looking good is important (4-point response scale) <i>Body dissatisfaction</i> – the Body Areas Satisfaction subscale of the MBSRQ (Cash, 1994), asking participants how satisfied they are with eight different body attributes using a 4-point response scale	Structural equation modelling	SM use predicted increased body dissatisfaction and increased peer influence on body image in the form of receiving peer appearance-related feedback. Peer appearance-related feedback did not predict body dissatisfaction and thus did not mediate the effect of SM use on body dissatisfaction. Gender did not moderate the findings.

13	Wohn et al. (2014), USA	380 Two-wave study, (four-month lag)	Range NS, ($M = 17.75$), 70.1% female	<p><i>Time spent on Facebook</i> – 8-point scale (none-more than 4 hours)</p> <p><i>Compulsive Facebook use</i> – four 5-point scale items used in previous research, e.g. “I think of Facebook as a problem in my life”</p> <p><i>Habitual Facebook use</i> – six 5-point scale items from the Facebook Intensity Scale (Ellison et al., 2007).</p>	<p><i>Loneliness</i> – a four-item short version of the UCLA Loneliness Scale (Russell et al., 1980), e.g. “No one really knows me well”</p> <p><i>Student adjustment to college</i> – three subscales based on academic motivation, perceived academic performance, and social adjustment to college, e.g. “I am adjusting well to college”. Items rated on a 5-point scale (1 = strongly disagree, 5 = strongly agree)</p>	Structural equation modelling	No type of Facebook use was associated with social adjustment. Loneliness was indirectly associated with time spent on Facebook through number of Facebook friends, but Facebook use was not found to impact loneliness directly.
14	Yang et al. (2016), USA	218 Two-wave panel study (three-month time lag)	11-18 years, ($M = 18.1$ at T1) 64% female	<p><i>Time spent on Facebook</i> – measure NS</p> <p><i>Number of Facebook friends</i></p> <p><i>Dimensions of Facebook self-presentation</i> – A 4-item, 7-point scale designed to reflect amount of self-information disclosed, plus modified versions of the Revised Self-Disclosure Scale (Wheeless, 1976) tapping depth, positivity, authenticity, and intentionality.</p> <p><i>Audience supportive feedback</i> – A 5-item, 5-point scale measuring participants’ perception of how much support was received from audience’s feedback (e.g. The feedback mostly made me feel good)</p>	<p><i>Self-reflection</i> – the Engagement in Self-Reflection subscale from the Self-Reflection and Insight Scale (Grant, Franklin, & Langford, 2002). A 6-item, 6-point scale with items such as “I frequently examine my feelings”.</p> <p><i>Self-esteem</i> – 5 items of the 4-point Rosenberg Self-Esteem Scale (1965), where higher scores indicate higher global self-worth. (Sample item: “On the whole, I am satisfied with myself”)</p> <p><i>Self-concept clarity</i> – 9 items (e.g. In general, I have a clear sense of who I am and what I am) from the Self-Concept Clarity Scale (Campbell et al., 1996). A 5-point scale where higher scores reflect a clearer sense of self.</p>	Hierarchical multiple linear regression	Broad, deep, positive and authentic Facebook self-presentation was positively associated with perceived audience support, contributing to higher self-esteem concurrently but not longitudinally. Intentional Facebook self-presentation engaged participants in self-reflection, which was related to lower self-concept clarity concurrently but higher self-esteem longitudinally.

Note. NS = not specified; T1 = time 1; T2 = time 2; T3 = time 3

How does frequency of SM use (FSMU) impact adolescent wellbeing?

This section examines the papers by wellbeing outcome measure, synthesising results to explore the reported longitudinal impact FSMU has on adolescents.

Life satisfaction.

Ferguson et al. (2013) looked at the impact of FSMU on an outcome measure of general wellbeing. The study used the Satisfaction with Life Scale measure (SLS; Diener, Emmons, Larsen, & Griffin, 1985) - evidence supports its use among adolescents (Jovanovic, 2016). Researchers examined the influence of television, FSMU and peer competition on life satisfaction, in a sample of 237 females aged 10-17 over six months. Analysis indicated none of the variables predicted T2 life satisfaction. This study looked at girls only and used a non-random sampling approach, which may have skewed the sample, although it was ethnically representative of the local population. The large number of variables controlled for was a relative strength, including parenting styles, anxiety and depressive symptoms. There were also no group differences between those completing the study and those dropping out.

Mental health.

One study examined the impact of FSMU on aspects of mental health. Hökby et al. (2016) investigated the effects of different Web-based activities using three sub-scales of the Depression Anxiety Stress Scale (DASS-2; Lovibond & Lovibond, 1995). Data from 1,544 students was gathered across seven European countries in 2012-13. "Socialising" Internet activity (which the study asserts maps onto SM use) was not associated with changes in sleep loss or withdrawal, the only variables found to predict change in mental health. However, these results are limited by the measure of SM use. The study distinguished between seven Internet activities: socialising, gaming, school or work, gambling, news, pornography and targeted search. SM apps today incorporate several of the activities measured here, including

news and gaming. It appears no definition of the term was presented to participants to offer clarification.

Body-related concerns.

Five studies examined the impact of FSMU on adolescent body-related concerns. As well as wellbeing, Ferguson et al. (2013) looked at body image dissatisfaction and eating disorder symptoms in girls, using multi-item validated scales for both. Analysis found FSMU did not predict either outcome variable prospectively. However, a path analysis model found FSMU contributed to later peer competition, which was a moderate predictor of negative outcomes for both variables. This suggests a possible indirect effect on body-related outcomes. The authors conclude SM may be one arena in which peer competition is carried out.

Vandenbosch and Eggermont (2016) looked at whether FSMU predicted the internalisation of appearance ideals (IAI), self-objectification, and body surveillance. A sample of 1041 Belgian students were tracked over three waves with an interval of six months. All outcome measures demonstrated validity. Structural equation modelling indicated that, contrary to hypotheses, FSMU did not predict self-objectification and body surveillance over time. Inverse analysis showed IAI positively predicted FSMU over one year. Attrition analysis identified numerous differences between those participating at T1 only and those participating in all three waves. Those dropping out were more likely to be boys, from another country, with higher BMIs, lower internalisation of appearance ideals and lower body surveillance. These differences were not accounted for in the analysis.

Two studies by de Vries and colleagues (2014, 2016) looked at the impact of FSMU on a) appearance investment and desire for cosmetic surgery, and b) peer appearance-related feedback (PARF) and body dissatisfaction, respectively. The studies utilised the same sample of 604 Dutch adolescents. Structural equation modelling found FSMU positively predicted

appearance investment at T2, and indirectly impacted cosmetic surgery desire at T2 through appearance investment, as hypothesised. FSMU also positively predicted increased body dissatisfaction and increased PARF. However, the 95% confidence interval for the latter finding included 0.0, indicating this result may not have been statistically significant. The measure of PARF was also constructed specifically for this survey and may not have captured this variable completely. Participants rated how often their friends gave tips on getting a beautiful body or looking sexy, criticised their appearance, or told them it is important to look good. The measure did not capture positively-valenced feedback or “likes”, which may also influence body image. Perhaps consequently, there was a floor effect – the sample responded that on average they experienced the type of peer influence measured “never to sometimes”.

Tiggemann and Slater (2017) measured frequency of Facebook use, number of friends and three measures of body image concern (internalisation of beauty ideals, body surveillance and drive for thinness) on 438 girls aged 13-15 at two time points, 24 months apart. Hierarchical regression analyses found time spent on Facebook at T1 did not predict any subsequent body image concerns. However, initial number of friends predicted an increased drive for thinness and internalisation of ideals. Looking at reverse causation, no body image concern predicted later time spent on Facebook, but internalisation of ideals and body surveillance predicted the increase in number of friends.

Social competence, loneliness and academic performance.

Two studies examined effects of FSMU on social/academic aspects of wellbeing. Wohn and LaRose (2014) investigated loneliness, academic motivation and perceived academic performance. US university residents were assessed five months apart. Cross-lagged correlation analysis showed time spent on Facebook did not explain loneliness. There was also no direct association between time on Facebook and academic motivation, perceived academic performance, or social adjustment. The study concludes that, contrary to media

hype regarding the negative role of Facebook, the SM platform has negligible effects on college students. The study has numerous limitations, however. Control variables were not discussed and confidence intervals not stated. Generalisability of results is limited to first-year college students, and the recruitment strategy achieved a 49% response rate at T1 - differences between those responding and those not are unknown.

Finally, a study by van den Eijnden et al. (2018) looked at effects of FSMU on grade point average (GPA) and social competence with a younger sample of 12-15 year olds. Structural equation modelling found greater FSMU at T1 predicted a lower GPA at T2, but also improved perceived social competence after one year. Only 54.2% of the sample completed all three measurement occasions, but missing data were estimated. Although the model's comparative fit index (CFI; Bentler, 1990) score of 0.90 met Bentler's initial stated cut-off criterion of ≥ 0.90 indicating good fit, more recent studies suggest a value greater than 0.90 is needed to ensure miss-specified models are not accepted (Hu & Bentler, 1999).

Summary.

Some evidence supports the notion that some body image concerns (appearance investment, body dissatisfaction, and peer influence) are predicted by FSMU. However, these results all stemmed from the same self-selecting sample, regarding use of a Dutch SM site popular at the time of data collection (c. 2009). Findings should be replicated to clarify generalisability of results. Two studies, with Dutch and Australian samples, observed inverse effects: IAI was found to predict Facebook use in both. Body surveillance also predicted Facebook use in the Australian study, although its measure of Facebook use for this result was "number of friends", a debatable measure of Facebook use. Further research, across different SM platforms, is needed. Aside from these findings, reviewed studies found no evidence FSMU affects adolescent wellbeing. One reason for this is measuring overall FSMU only may disguise differential effects of different types of SM use.

How does type of SM use impact adolescent wellbeing?

This section examines studies which differentiated between different types of SM use, synthesising the results to examine impact on adolescent wellbeing by various categories of engagement with SM.

Active vs passive use.

Two studies distinguished between active and passive SM use. Frison and Eggermont (2017) looked at 671 adolescent Instagram users in Belgium over seven months. The study differentiated Instagram use into: “browsing”, “posting” and “liking” photos. Analysis indicated browsing at T1 positively predicted adolescents’ depressed mood at T2. This finding is consistent with previous cross-sectional (Yang, 2016) and experimental (Brown & Tiggeman, 2016) research implicating passive consumption of SM in depressive symptoms. The authors posit greater passive Instagram use may stimulate negative comparison behaviours, causing increased depressed mood. Unexpectedly, there was no association between posting/liking and later depressed mood. This contrasts with similar Facebook research (Fardouly & Vartanian, 2015). Analysis of opposite relationships found depressed mood at T1 related to increases in posting at T2, with adolescents perhaps posting as a way of managing their mood (Zillmann, 2000). An attrition rate of 65.6% is noted as a limitation, however missing data were estimated, mitigating potential bias in the model. The sample was 39% male, and data on ethnicity and SES were not gathered, so the sample’s generalisability is uncertain.

Valkenburg, Koutamanis, and Vossen (2017) did not explicitly set out to distinguish between active and passive use, but their SM use measure comprised five items all relating to posting photos/messages, capturing active use only. Their three-wave study found that, contrary to their hypothesis, adolescents’ initial SM use did not predict social self-esteem over the next two years, but initial social self-esteem levels did influence SM use

subsequently. The study's recruitment strategy was not specified, and demographics aside from age and gender not discussed, so the sample's representativeness is again uncertain.

Self-disclosing/-presenting, with amount of feedback received as a mediator.

Four studies examined whether feedback from friends/followers mediated the effects of active SM use on self-esteem or eating disordered concerns. Yang and Brown (2016) investigated the impact of self-presentation on Facebook on self-esteem and self-concept in youth transitioning to college. An adapted version of the Revised Self-Disclosure Scale (Wheless, 1976) captured the breadth, depth, positivity, authenticity and intentionality of Facebook presentation. Self-reflection and self-reported levels of audience-supportive feedback in response to the disclosures served as mediators in the model. Contrary to expectation, level of perceived supportive feedback did not predict T2 self-esteem or self-concept clarity. One indirect path was found: T1 intentionality positively related to T2 self-esteem via T1 self-reflection. This suggests intentional Facebook self-presentation prompted self-reflection in students, improving their self-esteem over time. These results are limited to college freshmen, and the study does not state how often students posted self-disclosing statements.

Metzler and Scheithauer (2017) examined longitudinal benefits of positive self-presentation via profile pictures on self-esteem. Like the previous study, self-reported positive feedback was included as a mediator in analysis. Again, contrary to expectation, T1 positive self-presentation was negatively related to T2 self-esteem via T1 positive feedback. Limiting the study's validity, online recruitment captured a non-representative convenience sample, and males were underrepresented (31.8%). Those participating in both waves also scored lower on positive self-presentation than those who dropped out, and this study's measure of self-presentation was limited to profile pictures, so status updates were not included. Both studies measured mediating variables at the same time as self-presentation

variables, limiting the studies' ability to comment on the directionality of the relationships. A model featuring predictors, mediators and outcomes measured at three different time points would elucidate this more conclusively.

Valkenburg, Koutamanis and Vossen (2017) investigated whether self-reported frequency of positive feedback from a) close friends, and b) acquaintances mediated the relationship between active SM use and social self-esteem. As mentioned (p. 24), the study failed to find a direct relationship between active SM use and self-esteem, but ran a cross-lagged model to test for an indirect relationship. This three-wave study was able to test SM use at T1 on social self-esteem at T3 via positive feedback at T2, overcoming the directional limitations of the previous two studies. Contrary to expectations, again, positive feedback did not explain the hypothesised relationship between SM use and self-esteem.

Finally, Hummel and Smith (2015) investigated the impact of negative Facebook feedback-seeking on disordered eating concerns. An undergraduate student sample self-reported how often they wrote negative things about themselves to see if others responded with negative comments ("feedback-seeking style"). Status updates over a month were rated by researchers on the level of "personal life" disclosed, to create a score indicating tendency to reveal personal information. Feedback left in response to status updates over the same period was also rated for negativity by linguistic software. Regression analysis indicated individuals with a negative feedback-seeking style who received a high number of comments were more likely to report eating constraint at T2, and those receiving highly negative comments in response to status updates were more likely to report greater shape, weight and eating concerns. The self-selecting, primarily female (78%) undergraduate sample limits the results' generalisability. This was the only reviewed study to feature independently-rated outcome measures, a strength of the design. However, it is unclear why raters did not attempt to corroborate the self-reported, single-item feedback-seeking style measure, as they had

access to participants' profiles for the study period. It is also unclear whether the software analysing the negativity of comments was able to distinguish between negatively-valenced comments of sympathy (e.g. "I hate that you had a bad day") and negative feedback.

Descriptive statistics for these variables were also not presented.

Disordered use.

Van den Eijnden et al. (2018) investigated the effects of *disordered* SM use on 12-15-year-olds over two years. SM disorder symptoms were measured by adapting diagnostic criteria from the internet gaming disorder scale (Lemmens, Valkenburgh, & Gentile, 2015), which includes measures of preoccupation, persistence, tolerance, withdrawal, escape, problems and conflict. For example, adolescents were asked, "during the past year, have you regularly neglected other activities because you wanted to use SM?". Structural equation modelling found higher social media disorder (SMD) symptoms at T1 predicted lower life satisfaction at T3. This negative effect was not observed for more frequent (but not "disordered") SM use. Aspects of the study limit its validity: students from lower educational levels were underrepresented, and SES data was not captured or controlled for. As discussed previously (p. 22), the model's CFI of 0.90 indicates a less than optimal fit.

Wohn and LaRose (2014) compared *compulsive* use – also known as "deficient self-regulation" (LaRose, Lin & Eastin, 2003) and reflecting lack of controllability (measured by items such as "I think of Facebook as a problem in my life") – and *habitual* use – described as automatic, without conscious knowledge of engagement (measured by items such as "Facebook is part of my everyday activity") – on Facebook in college freshmen. They found compulsive use of Facebook had a stronger negative relationship with academic motivation than habitual use, but that neither was directly associated with academic performance or social adjustment.

Attractiveness-related use.

Vandenbosch and Eggermont (2016) looked at whether “attractiveness-related uses” of SM mediated the relationship between the internalisation of appearance ideals (IAI) and self-objectification/body surveillance. A “monitoring attractive peers on SM” (MAP-SM) measure was developed, comprising four self-report items (e.g. “When I think a boy or a girl is good-looking after a first meeting, I search for their profile on Facebook”). Analysis found IAI at T1 related to MAP-SM at T2, which, in turn, predicted both self-objectification and body surveillance at T3. These findings suggest individuals who internalise appearance standards are more susceptible to self-objectification when using SM to monitor peers’ attractiveness. As previously mentioned, the study suffered from substantial attrition group differences, potentially skewing results. Additionally, the CFI of 0.90 does not meet the recommended threshold of values greater than 0.90 (Hu & Bentler, 1999).

Summary.

In contrast to studies examining mere FSMU, research distinguishing between types of SM usage observes more significant effects. The evidence suggests passive use is more detrimental than active use on depressed mood, and that disordered but not heavy use leads to lower life satisfaction over time. Using SM to monitor peers’ attractiveness negatively impacted self-objectification and body surveillance where general SM usage did not, while negative feedback-seeking styles were linked to greater eating restraint over time. Of the four studies examining effects of self-presentation on self-esteem via positive feedback, three observed no effect, and one observed a negative effect: adolescents’ positive self-presentation led to a higher frequency of positive feedback, which led to *lower* levels of self-esteem. This may be due to false positive self-presentation, rendering feedback invalidating to the authentic self. Interestingly, inverse analysis observed two more effects of wellbeing

measures on SM use, rather than vice versa: depressed mood predicted posting on Instagram, and self-esteem predicted higher later SM use.

Are some individuals more vulnerable to harmful effects than others?

A number of studies examined gender differences in their outcomes, as well as overall results. These aspects of the research are now synthesised.

Gender.

Booker et al. (2018) used data from the UK Household Longitudinal Study, drawing from a pooled sample of 9,859 10-15 year olds. The study used a bespoke measure of wellbeing and the Strengths and Difficulties Questionnaire (Goodman, 1997) to assess negative aspects of wellbeing, examining whether changes in active SM use were related to these two measures across ages, over five years. Their findings indicated SM use increased with age and wellbeing decreased with age for both males and females, but for females, higher SM use at age 10 was associated with worsening wellbeing with age. For males, no such cross-association was observed. This was a well-designed study with a nationally representative sample that controlled for potential confounding variables. Parent- and household- level covariates were included, such as marital status and household income. However, the study's measure of SM use referred to "a normal school day" only, so findings may have been underestimated. Additionally, unlike all other studies reviewed, analysis was modelled by age rather than over time within individuals. The nature of the questionnaire and study design meant it was not possible to examine changes over time within individuals.

Other studies also observed gender effects. Van den Eijnden et al.'s (2018) previously discussed model found gender moderated the negative effect of SMD symptoms on life satisfaction at both T2 and T3, with effects greater for boys than girls. SMD symptoms at T2 also predicted a GPA decrease at T3 for girls, but not boys. Metzler and Scheithauer's (2017)

findings indicated gender was a significant predictor of number of likes received, with girls receiving more likes for positive self-presentation on Facebook. Vandenbosch and Eggermont (2016) found FSMU at T2 did not affect boys' level of self-objectification at T3, but girls who visited SM more at T2 experienced higher levels of self-objectification at T3.

However, other studies found no gender differences. Frison and Eggermont's (2017) analysis found Instagram browsing predicted later depressed mood increases in both boys and girls. Studies by de Vries et al. (2014, 2016) found gender did not moderate their findings regarding effects of SM use on body dissatisfaction, appearance investment and desire for cosmetic surgery. SM use impacted the body image of both boys and girls, and higher FSMU in both genders led to greater appearance investment. Vandenbosch and Eggermont (2016) similarly found no gender differences in effects on body surveillance. Both boys and girls engaging in more "monitoring attractiveness of peers" on SM experienced increases in self-objectification and body surveillance.

Discussion

The review now discusses the questions in light of the evidence, drawing on extant theory. Clinical implications are explored in terms of how stakeholders can maximise the observed positive effects and minimise harmful effects of SM use. Finally, limitations of the current research are set out, alongside recommendations for future studies.

How does FSMU use impact adolescent wellbeing?

The papers reviewed provide limited robust evidence that FSMU in general impacts adolescent wellbeing. There is now some evidence for a causal relationship between SM use and body dissatisfaction in adolescents, with body-related concerns increasing as a result of greater FSMU. The tripartite influence model (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999) asserts mass media, peers and parents contribute to body image. SM may

therefore function as a sociocultural pathway of influence, either crossing over with influence from peers or mass media, or operating as an additional influence, or both. Initial research here did not find evidence that peer feedback moderated the relationship, but outcome measures better capturing the type and valence of feedback, as well as its meaning, are needed. Findings that FSMU increased peer competition, which then predicted negative outcomes on body-related concerns, suggest another potential mechanism.

Most studies found no direct effects, contrary to hypotheses and cross-sectional research, which have suggested a negative relationship between FSMU and wellbeing (e.g. O’Dea & Campbell, 2011; Pantic et al., 2012). However, these results accord with Best, Manketow and Taylor’s (2014) review, which found “the majority of included papers reported either mixed or no effects of social media on adolescent wellbeing” (p. 33). Crude measures of FSMU alone may not capture the complexity of SM’s impact and the nuances and variation in user experiences (see p. 38 for fuller discussion). Perhaps consequently, researchers are shifting from variables measuring FSMU to the effects of different types of SM use. Hökby et al.’s (2016) findings support this, suggesting problematic SM use cannot be equated to high-frequency SM use.

How does type of SM use impact adolescent wellbeing?

The evidence reviewed suggests passive use (i.e. browsing) as opposed to active use (e.g. liking/posting/commenting) is linked to greater depressed mood. This confirms previous cross-sectional (Yang, 2016) and experimental (Brown & Tiggemann, 2016) research, although these studies sampled college students, and may not generalise to younger adolescent populations. The observed effect may be due to negative comparison behaviours stimulated by browsing – research studying Facebook use has implicated such behaviours (Fardouly & Vartanian, 2015). Findings also suggest that, in response to depressed mood, adolescents may then increase their posting on Instagram as a strategy to boost their mood.

This finding is in line with Mood Management Theory (Zillmann, 2000), which suggests media are intentionally used for coping with moods. Further research could investigate potential patterns of specific SM use that vary over time, as these results suggest a dynamic process.

Unexpectedly, active use that includes self-presentation/self-disclosing aspects does not seem to have a positive effect on self-esteem via positive feedback received. In fact, it may have a negative impact. These findings contradicted hypotheses about causality based on previous cross-sectional research (Valkenburg, Peter, & Schouten, 2006; Yang & Bradford Brown, 2016) and experimental studies reporting that exposure to/editing of one's own Facebook profile enhances self-esteem (Gentile, Twenge, Freeman, & Campbell, 2012; Toma, 2013). One possible explanation presented by Metzler and Scheithauer (2017) is that the expression of ideal, rather than actual, selves on Facebook means positive feedback would not impact self-esteem, or would affect it negatively. This is supported by Yang and Brown (2016), who found adolescents scored relatively low on their measure of depth of self-presentation, and relatively high on positivity of self-presentation. Self-verification theory (Swann, Stein-Seroussi, & Gielser, 1992) offers a theoretical account of this notion, arguing receipt of positive feedback that conflicts with one's self-concept can have a negative effect. False self-presentation may also be viewed within emotional dissonance theory, in which turmoil results from conflict between a true and false self (Winnicott, 1960).

Disordered (as opposed to heavy) use is implicated in lower levels of life satisfaction, while compulsive Facebook use affected perceived academic performance. This suggests that, instead of looking at FSMU or even time spent on specific types of SM activity, researchers could benefit from investigating effects of SM use that result in loss of control, preoccupation, withdrawal symptoms, and coping strategies. Alternatively, future studies could seek to differentiate explicit and implicit motivations for using SM. These initial

findings support a model of deficient self-regulation (LaRose, Lin, & Eastin, 2003), or perhaps as yet *insufficient* self-regulation in developing teens, stemming from Bandura's (1991) self-regulation theory, in which deficient self-regulatory processes mean individuals fail to monitor, judge and adjust behaviour. Such research could also draw from more established literature on problematic internet gaming (e.g. Lemmens, Valkenburg, & Gentile, 2015). Gaming studies have repeatedly found a minority of players who spend excessive time gaming show various pathological behaviours, including withdrawal, preoccupation, loss of control and interpersonal conflicts (e.g. Gentile, 2009). Adolescents are at greater risk of pathological gaming than older adults (Griffiths, Davies, & Chappell, 2004), hence they are regarded as particularly susceptible to effects of disordered gaming on wellbeing.

Are some individuals more vulnerable to harmful effects than others?

The review finds mixed evidence as to whether boys and girls are impacted differently by SM use. Some findings indicated effects on wellbeing and self-objectification were worse for girls, while SMD symptoms impacted more on the life satisfaction of boys. Other papers reported both genders were equally affected on measures of depressed mood and body-related concerns, despite expecting worse effects amongst girls. This may reflect that adolescent boys experience similar appearance pressures to girls (Field, Sonnevile, & Crosby, 2014), and future studies should ensure males are adequately represented in samples.

Clinical implications: How can we limit negative effects of SM use?

The complexity of SM use means no set of universal guidelines will apply to adolescents as a whole. This is particularly the case for rules regarding "time spent on SM" that do not differentiate between activities. As Wohn and LaRose (2014) point out, "Four hours of SNS use a day may not be a problem for some, while an hour a day might be a problem for others" (p. 160). This is likely to irk politicians hoping to create clear guidelines

on maximum amounts of screen time for young people (Helm & Rawnsley, *The Observer*, 2018). However, it is an important point: the myriad ways in which individuals engage with SM demand more nuanced treatment.

No extant empirical research has focussed on adolescent clinical populations, who might be more susceptible to the adverse longitudinal effects of types of SM use emerging here. A qualitative study of adolescents diagnosed with depression found they described both positive and negative uses of SM (Radovic, Gmelin, Stein, & Miller, 2017), illustrating the complexity of the relationship between depression and SM use. Positive use included finding entertaining, humorous or creative content, or connecting with others. Negative use included oversharing or sharing risky behaviours, sharing negative updates, making negative self-to-other comparisons, and encountering triggering posts of upsetting material. Incorporating intention and patterns of use in quantitative studies may distinguish between types of SM use associated with psychological distress. Interestingly, during the study, the sample changed their SM use to incorporate more perceived positive uses and fewer negative uses.

Adolescents able to reflect on their patterns of SM use may therefore shift their usage to a more beneficial approach. This suggests points of potential clinical intervention when working with young people.

Regarding other vulnerable groups, adolescents at greater risk for developing body image problems may benefit from interventions targeting adverse effects. An intervention comprising eight media literacy classes was found to reduce the negative impact of exposure to beauty ideals in traditional mass media on body image (Wilksch & Wade, 2010). Similar programmes could be developed for SM.

In order to recognise specific behaviours or patterns as positive or negative, clinicians will need to keep abreast of the evolving evidence base. They will also benefit from insight into how various SM applications operate and the functions they offer. A lack of awareness

of what a “streak” on Snapchat is, and what it means, may limit the ability to recognise potentially harmful motivations or behaviour even when it is presented. Both parents and clinicians may benefit from up-to-date guides to SM (for example, the Internet Matters guide) that increase their confidence in broaching the topic with adolescents, both at home and within clinical practice.

Research implications: Critique and recommendations for future research

Design.

The longitudinal design of the reviewed studies is a valuable complement to cross-sectional analyses in the literature. Most studies here benefited from rigorous statistical testing of models, enabling them to control for confounding variables and previous levels of dependent variables. The establishment of temporality, by investigating the association between initial predictor variables on later outcome variables, also enabled tentative comment on the causal direction of relationships. This is particularly important given that the presumed direction (of SM use impacting wellbeing) was not supported by many of the results, and some findings indicated the opposite: measures of wellbeing may impact later SM use. Studies looking at mediating factors should utilise a three-wave survey to offer the same temporality and avoid assumptions of directionality. However, the rapidly-changing nature of SM poses a problem with regard to the over-time comparability of exposure measures. Researchers must balance the benefits of longer time-lag designs against these disadvantages.

Sample.

A number of the reviewed studies used non-representative convenience samples recruited via online platforms or via the community. Individuals inclined to participate may have had an interest in the topic which influenced their responses. Several also used undergraduate samples. Although the mean age of these samples was under 19, the studies’

findings may not extend to younger adolescent populations. Future studies could employ randomised recruitment methods to reduce sampling error and improve generalisability of results.

Exposure measures.

The near universal reliance on idiosyncratic self-report measures of type and FSMU is an undeniable weakness of the current studies. Reported behaviour may not represent actual behaviour, for either cognitive (e.g. forgetting), affective/motivational (e.g. social desirability biases; Edwards, 1957), or defensive (e.g. motivated forgetting; Weiner, 1968) reasons. Studies demonstrate individuals tend to overestimate the amount of feedback (Bernstein, Bakshy, Burke, & Karrer, 2013), and the potential for adolescents to skew results is particularly high given their desire to appear popular. Future studies should capture independent, more objective ratings of SM use. Tracking measures, judges' ratings or content analysis could uncover potential discrepancies between self- and other- rated measures and determine whether analyses utilising these different sources of data differ in their predictive power. Studies are moving beyond basic measures of FSMU and have started to measure typologies of use as exposure variables (e.g. Frison et al., 2017) and degree of investment in SM (e.g. McLean, Paxton, Wertheim & Masters, 2015). This is important, given that both this review and a recent meta-analysis (Liu & Baumeister, 2016) indicate different facets of SM use result in contradictory correlations with measures such as self-esteem. However, predictor variable measurement in such studies also remains limited by the use of single-item, unvalidated measures unlikely to have truly captured the variables under investigation.

The constant evolution of SM platforms and usage presents a significant challenge to the creation of validated, indexed scales, which should ideally not be platform-specific. However, given that poor reliability of exposure measures can markedly alter the relationship with outcome variables (Fern & Monroe, 1996), the use of more comprehensive, standardised

and validated measures is highly desirable. This would also facilitate replication and comparability of results.

Attrition.

Attrition rates across all studies were notable. This is often the case with longitudinal studies and cited as a major limitation of this design (Menard, 2008). It is also often observed in adolescent samples (e.g. Valkenburg & Peter, 2009). Where missing cases are not estimated, the reduced size of the final sample reduces statistical power in analyses.

Researchers should take this into account when recruiting. Furthermore, the actual strength of association in several studies here may have been under- or over-estimated as a result of group differences in those remaining and those dropping out. Future studies should endeavour to minimise attrition, examine for group differences and account for these in their analysis to improve the accuracy of results.

Conditional effects.

The majority of media effects theorists (e.g. McLeod, Kosicki, & McLeod, 2010) acknowledge the effects of media on outcomes are individual – different types of media use affect people in different ways. However, much research in the field continues to treat individual differences as noise as they try to demonstrate universal effects. In the reviewed studies, individual-difference variables such as age, education level and ethnicity tended to be controlled for rather than included as moderators in the analysis. Gender proved the exception, but other important variables, such as socioeconomic status, were not even captured. Personality traits should also be investigated. For example, individuals with lower self-esteem who exhibit increased self-monitoring appear to value “likes” more than those with greater self-esteem and fewer self-monitoring behaviours (Scissors, Burke, & Wengrovitz, 2016). The same positive feedback that makes one person feel good may not be

enough for another. As Valkenburg and Peter (2013) point out, “ignoring conditional media effects may easily lead to invalid conclusions about the magnitude of media effects on certain subgroups of individuals” (p. 203). Future studies should formulate clear hypotheses about individuals who may be particularly vulnerable to the effects of SM and investigate these individual differences. Research with clinical populations will be of particular value here, as pre-existing vulnerabilities may affect subsequent SM use and its impact.

Effect sizes.

Without exception, the reviewed studies reporting significant findings observed small effect sizes only. This is not unusual for media-effects research – (e.g. Ferguson & Kilburn, 2009) – and there is ongoing debate as to the theoretical and practical significance of these small effects. Valkenburg and Peter (2013) point to similarly small effects in other fields, including neuroscience, and argue they should not be dismissed as irrelevant. Improvement of media exposure measures and consideration of conditional effects, as recommended above, may increase effect sizes in future studies. However, the small effect sizes reported do suggest the predictor variables investigated did not account for a large amount of variance in effects of SM use. This makes sense, given the increasingly complex nature of engagement with SM.

Conclusion

Empirical methodologies have begun to identify important connections and mediating factors, and present a promising starting point for understanding the multifaceted relationship adolescents have with SM. However, empirical studies are epistemologically constrained by the type of questions they can address, and their answers do not speak to all aspects of developmental theory outlined in this paper’s introduction. For example, even the reviewed studies going beyond FSMU to study different types of SM use make their enquiries from a

behavioural standpoint, and do not attempt to capture the emotional connection or meaning imbued in these behaviours. Quantitative studies have also not focussed on the underlying motivations for SM activities, which may impact the effects of SM. Such motivations may be conscious or unconscious, with adolescents perhaps using SM to regulate a range of both positive and negative mood states, and to attempt to achieve numerous developmental goals (Erikson, 1968) via online peer acceptance and feedback. It is probable a multifaceted interplay of factors – emotional, cognitive, behavioural, trait-based, and circumstantial – is involved in SM effects and adolescent wellbeing. This is where qualitative studies may complement current empirical thinking, bringing to bear a lens that accommodates and captures more aspects of dynamic social and intra-psychic processes. Together, this research will help to elaborate on the complex relationship between young people’s use of SM and its effects on their well-being.

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Section B: Empirical paper

How do adolescents negotiate social media? A grounded theory of the psychosocial processes underpinning engagement with social media

Word count: 8,000

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Abstract

Social media plays an increasingly important role in the daily lives of adolescents. Yet evidence of its effects are mixed, and the field lacks underlying theory to guide more nuanced research. This study explored the psychosocial processes underpinning adolescent engagement with social media. Adolescents (n = 28) were interviewed regarding their experiences of social media, and interview transcripts were analysed using grounded theory methodology. The emergent theory describes a cyclical process of evaluating the risks vs rewards of social media use, experimenting, learning from experiences, and re-calibrating one's stance towards social media. Two styles of use, active and passive, became apparent, each maintained and defended by numerous strategies employed consciously and unconsciously, with the overarching goal of maintaining a sense of safety regarding their sense of self and status within their social hierarchy. This study depicts a complex, nuanced picture of adolescent engagement with SM, one that encompasses both positive and negative experiences. The model points to the importance of identity and social identity theories, and raises important questions about identity development in this evolving context.

Keywords: Social media, adolescence, qualitative methods, sense of self, status

Introduction

Social media

Social media (SM) platforms have become essential tools for adolescents to communicate, maintain friendships, keep up with current events, and explore burgeoning identities. Adolescent engagement with SM is near universal: in 2015, 94.8% of British 15-year olds used SM before or after school (OECD, 2017). For some, SM activity constitutes a substantial part of daily life: 40% of girls and 20% of boys surveyed in one study used SM for over three hours per day (Kelly, Zilanawala, Booker, & Sacker, 2018). Such developments are concerning to parents, politicians and mental health practitioners, who worry about the effects of this relatively recent phenomenon upon young people's mental health and wellbeing.

Adolescent development and SM use

Although posited effects of SM on wellbeing are not limited to adolescents, SM potentially intensifies aspects of adolescent development, with possible implications for mental health.

As “the period in life when peer influences are most intense” (Kandel, 1986, p. 204), adolescence is marked by a heightened importance of social acceptance, which impacts self-evaluation and self-worth in a way that it does not amongst pre-teens (O'Brien & Bierman, 1988) or adults (Sebastian et al., 2010). The desire to obtain acceptance influences adolescent behaviour, with rejection causing greater distress (Blakemore & Mills, 2014). SM, offering a public forum for peers to provide quantifiable social endorsement, may foster an even greater impact of peer evaluation on adolescent self-worth (Sherman, Payton, Hernandez, Greenfield, & Dapretto, 2016). Body image concerns both genders (Cohane & Pope, 2001; Levine & Smolak, 2002), and judgments of physical appearance are also readily obtained on SM, with

its predominance of photos and feedback. Research indicates SM use is associated with higher body image concerns (Marengo, Longobardi, Fabris, & Settanni, 2018) and upward social comparison behaviours (Wang, Wang, Gaskin, & Hawk, 2017), which may adversely impact mood (Weinstein, 2017).

Neurological developments during adolescence may also interact with effects of SM. Changes in dopamine pathways lead to increased risk-taking and impulsivity, as well as sensitivity to novel experiences and environmental rewards (Griffin, 2017). Such behaviours may have greater implications on SM, where photos and status updates may be quickly seen by large audiences and prove difficult to delete if regretted (Dowell, 2009). Inhibited self-regulation may also increase the risk of excessive or compulsive SM use (Wu, Cheung, Ku, & Hung, 2013).

Finally, adolescence is a period of identity formation and exploration, as the individual discovers who they are, and their place in society (Erikson, 1968). SM presents opportunities to experiment, edit self-presentation, and elicit positive feedback, potentially increasing self-esteem (Valkenburg, Schouten, & Peter, 2005). However, SM's intensification of social comparison and feedback-seeking may also have negative implications for self-esteem (Nesi & Prinstein, 2015). The carefully curated online presentation of peers may lead to distorted perceptions of others, creating harmful upward comparisons that mediate between SM use and self-esteem (Vogel et al., 2014). Meanwhile, selective self-presentation to elicit positive peer feedback may provide only an illusory, temporary boost to self-esteem (Fullwood, James, & Chen-Wilson, 2016), as it may be the idealised, rather than authentic, self being validated (Harter, 2012).

The extant literature

Research increasingly indicates no blanket effects of SM use on adolescent wellbeing (for a review, see Best, Manktelow, & Taylor, 2014). Consequently, studies are shifting from

crude measures of frequency of use to different types of SM use. Findings indicate passive SM use (e.g. scrolling through feeds or looking at others' profiles) is more detrimental than active use (e.g. posting a status/photo or updating one's profile) on depressed mood (Brown & Tiggeman, 2016; Frison & Eggermont, 2017), possibly because passive use stimulates negative comparison behaviours (Chou & Edge, 2012; Steers, Wickham, & Acitelli, 2014).

Specific types of SM use may also account for varied results reported by studies investigating the relationship between SM use and adolescent self-esteem. Upward social comparison (Vogel et al., 2014) and using SM to monitor peers' attractiveness (Vandenbosch & Eggermont, 2016) are potential mediating factors. Interestingly, longitudinal studies examining the hypothesised positive effects of selective online self-presentation (i.e. showing oneself in a flattering light) on self-esteem via positive feedback have either observed no effects (Valkenburg, Koutamanis, & Vossen, 2017; Yang & Bradford Brown, 2016) or a negative effect: Metzler and Scheithauer (2017) found adolescents' positive self-presentation led to more positive feedback, which led to *lower* levels of self-esteem. The authors suggest positive self-presentation may elicit feedback that validates an idealised, or constructed, rather than authentic self.

Certain SM behaviours, then, may impact wellbeing, and research suggests the relationship is reciprocal. Longitudinal evidence indicates individuals with depressed mood engage in more active use of SM (Frison & Eggermont, 2017). Combining the above findings, research suggests a possible cycle in which adolescents with low mood who adopt selective self-presentation strategies, in an effort to gain positive feedback and boost self-esteem (Fullwood, James, & Chen-Wilson, 2016), may instead feel worse about themselves, as positive feedback fails to validate their real identity. This decreased self-esteem may result in greater active SM use to elicit further positive feedback. Such strategies, in addition to hampering secure positive identity development, may also enable the adolescent to avoid

awareness of, and hence fail to address, factors underpinning the low self-esteem in the first place (Harter, 2012).

Others may enter positive cycles of SM activity. For example, Valkenburg, Koutamanis, and Vossen (2017) found that, while SM use did not increase social self-esteem over time, adolescents' social self-esteem increased later SM use. The authors posit adolescents high in self-esteem may find it easy to communicate online and share information about themselves, enhancing the likelihood of receiving positive feedback, which (if it validates an authentic rather than idealised self) may boost self-esteem. This reciprocal relationship is accounted for by the rich-get-richer hypothesis (Kraut et al., 2002; Valkenburg & Peter, 2011), which suggests extroverted, confident adolescents are particularly likely to use SM.

The process of meaning-making in adolescent interactions on SM requires further investigation. Weinstein (2017) found teens who viewed others' profiles more critically were less susceptible to negative influences of SM browsing, as they presume they see "the tip of the iceberg of what somebody's life actually is" (p. 403). Conversely, those who interpreted others' profiles as more accurate reported higher levels of negative comparison. The meaning of "likes" and its link to psychological outcomes has also begun to be explored, albeit mostly in adult populations. Scissors, Burke, and Wengrovitz (2016) suggest "likes" are social cues signalling social appropriateness or acceptance. For adolescents, who are particularly influenced by peer feedback (Zimmer-Gembeck & Skinner, 2011), "likes" may represent quantitative social endorsement. Sherman, Payton, Hernandez, Greenfield, and Dapretto (2016) found the popularity of photos impacted the way they were perceived, with adolescents more likely to "like" a photo if it had garnered more "likes" from peers. Neuroimaging from this study suggests "adolescents perceive information online in a

qualitatively different way when they believe that this information is valued more highly by peers” (p. 1033), using the social cues of “likes” to learn how to navigate their social world.

Rationale, aims and research questions

The presumed negative impact of SM use on adolescents frequently dominates headlines. Yet the mixed evidence base suggests characterising SM use as either good or bad is simplistic. Adolescents use and interpret SM in different ways, and a more nuanced approach is required to better capture the dynamic processes and complexities of adolescent SM use. This study seeks to address this by using grounded theory (GT) methodology, a qualitative approach that lends itself to the exploration of complex and dynamic social processes (Uqruharta, 2013). The mechanisms by which SM use impacts individuals in different ways have yet to be fully understood, and the generation of a theory of engagement with SM will aid future research. A better understanding of the processes underlying adolescents’ SM use will help parents, teachers and health professionals to contextualise its impact at home, school and in the clinic.

The current study seeks to explore adolescents’ experiences of their SM use. Specific questions of interest include:

- What are the basic socio-psychological processes underpinning adolescents’ engagement with SM?
- How do adolescents negotiate the meaning of aspects of SM?

Method

Design overview

Stage 1. I used secondary data from a separate study (Ward, unpublished doctoral dissertation, submitted April, 2017) for the first of a two-stage process of analysis. Ward’s research comprised thematic analysis investigating the impact of SM on adolescents’

identities and wellbeing. Ward conducted individual and group interviews, with questions related to self-esteem, identity formation and emotional investment (Appendix C). I analysed a random selection of Ward's interviews for this study using constructivist GT methodology, to develop emerging categories.

Stage 2. I conducted further interviews, theoretically sampling participants. Two semi-structured interview schedules (Appendix D) focussed on expanding and clarifying Stage 1 emerging categories. Analysis of this primary data refined the model.

Methodology

GT, following procedures outlined by Charmaz (2006), was used to generate and analyse data. I considered this the most appropriate approach, as the research questions accord with one of the methodology's central concerns: developing an explanatory account of the negotiation of meaning through a reiterative process of interaction, action and interpretation (Urquhart, 2013). Additionally, GT enables researchers to capture the dynamic, temporal nature of social life, rather than a static impression. This is important, as SM and its uses evolve rapidly. By applying a GT paradigm to the relatively new world of SM, ideas may be developed that spark further research and hypotheses.

I adopted a constructivist epistemological stance, drawing on Charmaz (2006; 2014). This differs from the original conception of GT (Glaser & Strauss, 1967) in its explicit consideration of the researcher as an individual in the gathering and analysis of data. This approach was congruent with my beliefs that no observer is unbiased, and that individuals construct their social worlds through language in social interaction.

This research aims for the "generation" of *a* theory – a term first used by Henwood and Pigeon (1992) to distinguish the epistemological approach of constructivist GT from stances which might aim to "discover" *the* pre-existing, universal theory, able to explicate social phenomena outside of context, time and place. I aim to develop abstract constructs to

facilitate understanding of meanings and actions, recognising my subjectivity and assuming “emergent, multiple realities; indeterminacy; facts and values as inextricably linked; truth as provisional; and social life as processual” (Charmaz, 2014, p.231). This analysis, therefore, represents one explanatory account of many possible, reflecting the interaction between my self, biases and assumptions, and the data.

Ethical considerations

Ethical approval was granted by the Salomons Centre for Applied Psychology Ethics Panel (Appendix E). Participants of Ward’s study (2017) consented to their data being used in further research. When collecting primary data, consent was obtained from both participant and their legal guardian. Interviews were recorded using a dictaphone and transferred to a password-protected computer accessed only by the author. Anonymity was maintained by referring to participants as numbers on transcriptions and changing identifying information.

Participants

Stage 1. Ward (2017) gathered data from interviews with 15 white British adolescents aged 12-17 years from a secondary school in the south of England. Of a total of 23 individual/group interviews, 13 were randomly selected for initial analysis.

Stage 2. A further 13 participants were interviewed individually/in pairs, yielding a total of 10 interviews for Stage 2. This provided a total number of 23 interviews (28 participants) for the present study. Tables 1 and 2 contain participant demographic and SM use information at each stage. SM intensity scores comprise the mean of a self-rated six-item SM intensity scale (1 = lowest intensity of SM use, 5 = highest), adapted from Ellison, Steinfield and Lampe’s (2007) Facebook Intensity Scale (Appendix F). This aims to measure usage beyond frequency and duration, incorporating emotional connectedness to SM and their integration into individuals’ daily activities.

Table 1

Stage 1 participant demographics and SM use

Participant	Age	Gender	SM intensity score	Total SM friends/followers	Time spent on SM per day (minutes)
1	12	Female	3.2	301-400	30
2	12	Female	3	101-150	30
3	12	Female	3.8	>400	60
4	12	Female	3.7	101-150	60
5	12	Female	3.5	11-50	60
6	17	Male	3	151-200	60
7	17	Male	3.3	151-200	90
8	17	Male	3.3	151-200	300
9	14	Male	3.7	151-200	240
10	14	Male	2	51-100	30
11	14	Male	2.7	51-100	10
12	16	Female	4.2	>400	360
13	16	Female	4	>400	300
14	16	Female	4.3	>400	330
15	16	Female	4.3	>400	420

Table 2

Stage 2 participant demographics and SM use

Participant	Age	Gender	SM intensity score	Total SM friends/followers	Time spent on SM per day (minutes)
16	15	Female	4.7	501-750	60-120
17	15	Female	4.8	501-750	31-59
18	15	Female	4	501-750	31-59
19	15	Female	3.3	751-1000	120-180
20	15	Female	3.5	1000+	31-59
21	14	Female	4.2	501-750	31-59
22	14	Male	3	< 50	< 15
23	16	Male	4.7	501-750	120-180
24	16	Male	4.5	251-500	120-180
25	13	Male	3.3	1000+	60-120
26	15	Female	1.5	< 50	< 15
27	16	Male	3.5	751-1000	> 240
28	14	Female	4.2	251-500	60-120

Procedure

Recruitment. I theoretically sampled participants during Stage 2 of data collection, to explore gaps and strengthen connections in the emergent theory (Charmaz, 2006). I approached six schools, and a private girls' school in the southeast of England responded. I presented study information to a Year 10 assembly. Students with a SM account were eligible to participate. Interested students were given parental/participant consent forms and information sheets (Appendices G and H), and asked to complete the SM intensity scale. Six students who returned completed consent forms were contacted for interview, on the basis of their SM intensity scores, which were higher or comparable to Stage 1 participants. Seven further adolescents (unknown to me) were recruited via personal contacts. I theoretically sampled one female participant with a lower SM intensity score, and two males with higher scores.

Data generation. School interviews took place during students' lunch hours, on school grounds. Participants recruited through personal contacts were interviewed at a time and place convenient to them or over the phone. Interviews lasted between 21 and 52 minutes (mean = 31.5 minutes). In consultation with an experienced GT researcher, I created two short interview schedules (see Appendix D). Each targeted separate categories requiring elaboration and refinement after Stage 1 analysis, in line with the GT principle of theoretical sampling (Charmaz, 2006). The aim was to sufficiently fill emerging categories so theoretical propositions could be meaningfully derived. Dey's (1993) concept of theoretical *sufficiency*, rather than the classical GT notion of theoretical *saturation*, was considered a realistic aim, given the project's scope.

Data analysis. A range of GT principles and practices advocated by Charmaz (2006) and Urquhart (2013) were employed to sort and synthesise the data, and build levels of abstraction from emerging categories. Organisation and analysis of the data was facilitated

through use of the software package NVivo 11. See Table 3 for a detailed description of the analytic process across the project's stages.

Table 3

Description of the Analytic Process

Stage	GT practice	Description
1	Line-by-line coding	To become familiar with Stage 1 secondary data, interview recordings were listened to and transcripts read. The first eight interviews were coded line by line (Charmaz, 2006), to ensure the coder remained open to the data. Initial concepts were then grouped to create higher order categories.
	Focused coding	Focused coding of five further Stage 1 interviews explored the limitations and characteristics of these categories, and their relationships. Focused codes (Charmaz, 2006) were more selective and conceptual, drawing on the most significant or frequent codes that emerged from line-by-line analysis and aiming to explicate larger segments of data more completely.
	Diagramming	Focused coding led to a tentative diagram of Stage 1 concepts illustrating several tensions in the data (Appendix I).
2	Theoretical sampling	These tensions became the focus of theoretical sampling at Stage 2, which sought to explore how adolescents manage their competing desires and needs.
	Focused coding	Analysis of Stage 2 interviews tested how incisively the categories and processes of the Stage 1 model reflected the experiences of these adolescents, with a search for exceptions not accommodated by the existing model. These new data were then compared to Stage 1 data and used to further delineate category properties and parameters and clarify relationships.
	Diagramming /theoretical coding	Initial categories reflected a variety of processes and it was difficult to conceptualise how they related to one another. Diagramming key categories helped develop this thinking and fostered valuable discussion with my supervisor, producing new ideas that could be tested by going back to the data. Theoretical codes (Glaser, 1978) described possible relationships between categories, using evidence from transcripts. Appendix J shows the model's evolution over time.
	Finalising the theory	Categories, subcategories and theoretical codes were further explored and refined by revisiting transcripts from both stages. Theoretical memos and raw data were compared and concepts

		refined in an iterative process until the cyclical model described in the results section was developed.
At all stages	Constant comparison	Constant comparison (Glaser & Strauss, 1967) was employed throughout in an iterative process, comparing statements and incidents within and across interviews from both stages, memos and categories.
	Memo writing	Memos were used to develop concepts and elevate them to a more conceptual level (Appendix K). Informed by Charmaz's (2006) guidance, memos were used to ask questions about the data, such as: What process is at issue here? What are the consequences of this process? Under which conditions does it develop? Focusing on these questions spurred development of ideas about the data and patterns within.

Quality assurance methods

Established guidelines for qualitative research were followed (Elliott, Fischer & Rennie, 1999). In recognition of my subjectivity, a bracketing interview was conducted prior to data analysis (Creswell & Miller, 2000; Tufford & Newman, 2010). Appendix L presents a positioning statement developed from this interview. A reflective diary was kept throughout data generation and coding (Appendix M). Regarding analysis, open codes were grounded in examples (for an example coded transcript, see Appendix N). Codes and category development were discussed with April Ward, who collected Stage 1 data, a PhD grounded theorist, and the study supervisor. Memos, diagrams and documentations of the coding process helped to ensure an open account of category development (Appendices K, J, O and P).

Results

Overview of the model

Figure 1 presents a cyclical model, with repeated feedback loops comprising continuous evaluation of the risk vs benefits of posting, and resultant calibration of

behaviours. Over time, adolescents adopt a more passive or active approach to SM use.

Categories and sub-categories are described in Table 4.

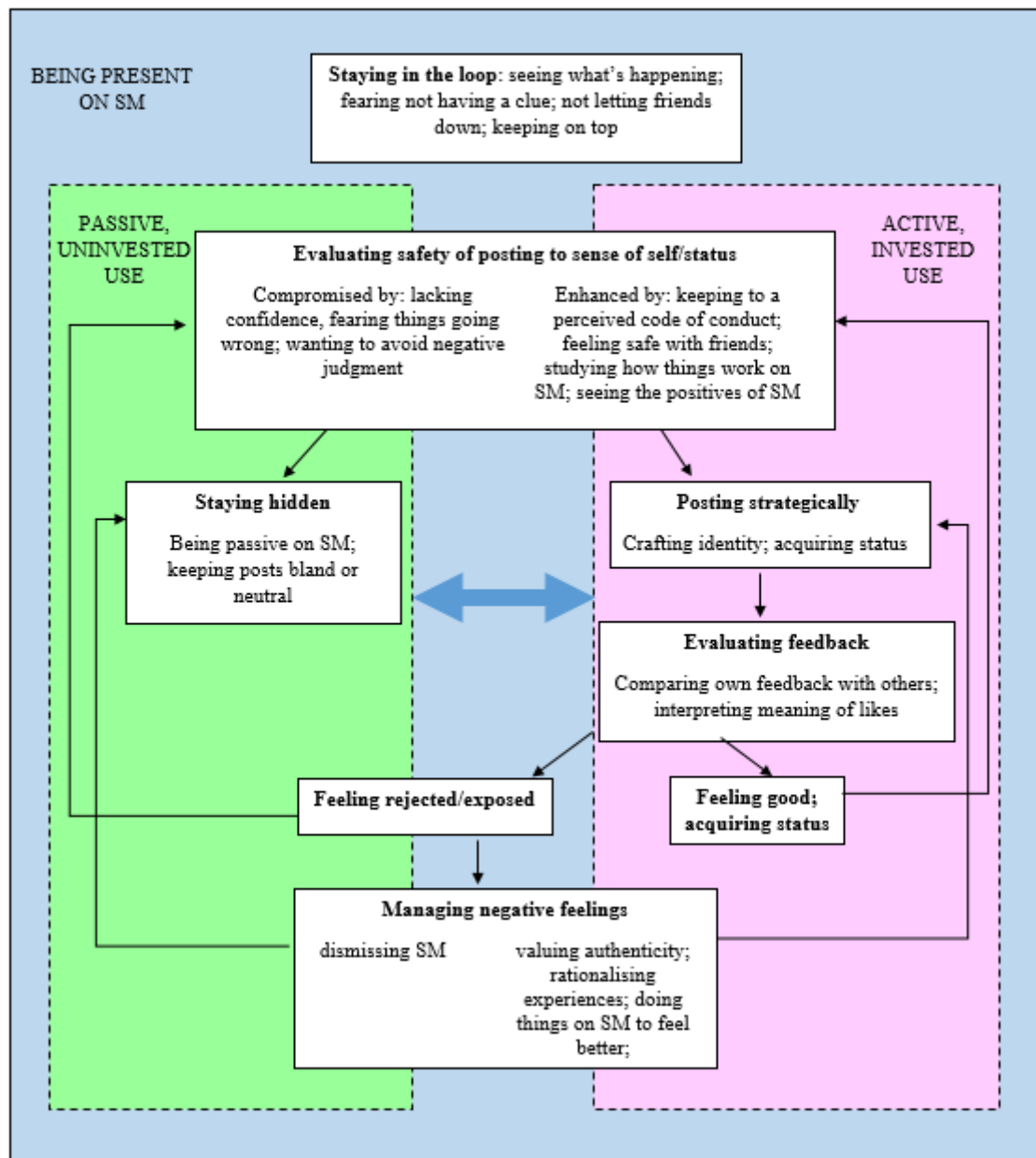


Figure 1. Developing a relationship with SM that protects one’s sense of self and/or enhances one’s status – a model of adolescent engagement with SM.

Table 4

Categories and Sub-Categories of a Model of Developing a Relationship with SM.

Categories	Category description	Sub-categories
A. Staying in the loop	An overarching reason for being present on SM; a	<ol style="list-style-type: none"> 1. Seeing what’s happening 2. Fearing not having a clue

	mandatory, base-level relationship with SM, regardless of how active or passive individuals are online. Checking one's SM feed was regarded as crucial for Sub-categories 1-4.	<ol style="list-style-type: none"> 3. Not letting friends down 4. Keeping on top
B. Evaluating safety of use	Comprises a number of compromising (Sub-categories 5-7) and enhancing (Sub-categories 8-11) factors that influence a decision whether or not to be an active SM user. "Safety" here does not connote adolescents' safety from physical harm, but a more abstract concept of maintaining their sense of self and status, and protecting these from online threats to their identity and reputation.	<p><i>Compromising factors:</i></p> <ol style="list-style-type: none"> 5. Lacking confidence 6. Fearing things going wrong 7. Wanting to avoid negative judgment <hr/> <p><i>Enhancing factors:</i></p> <ol style="list-style-type: none"> 8. Keeping to a perceived code of conduct 9. Feeling safe with friends 10. Studying how things work on SM 11. Seeing the positives of SM 12. Being passive on SM 13. Keeping posts bland or neutral 14. Posting to acquire status 15. Posting to craft identity 16. Comparing own feedback to others' 17. Interpreting meaning of likes
C. Staying hidden	If factors compromising safety outweigh those enhancing it, adolescents will stay hidden , protecting themselves from potential negative judgement.	
D. Posting strategically	If enhancing factors outweigh compromising factors and it feels "safe enough", adolescents will strategically post on SM.	
E. Evaluating feedback	Following a post, a process of evaluating feedback may produce beneficial results – Category F – that strengthen the perception of safety of using SM and increase the likelihood of further strategic posts. Alternatively, evaluation of feedback may lead to Category G after receiving perceived negative	

	feedback, reducing the perception of safety on SM.	
F. Feeling good/acquiring status	The potential rewards of posting on SM. Receiving these rewards reinforces further posting and feelings of safety on SM.	18. Feeling good/acquiring status
G. Feeling rejected/exposed	The potential risks of posting on SM. Experiencing these encourages participants to stay hidden in future.	19. Feeling rejected/exposed
H. Managing negative feelings	Category G feelings may be managed via the use of strategies (sub-categories 21-23) that enable further strategic posting , despite the negative experience. Or management of negative feelings may involve dismissing SM , which leads to staying hidden in future.	20. Dismissing SM 21. Valuing authenticity 22. Rationalising experiences 23. Doing things on SM to feel better

Core category

The core category that emerged from the data was “developing a relationship with SM that protects one’s sense of self and/or enhances one’s status”. This section describes how other categories relate to this and how it accounts for substantial variations in SM use.

Some adolescents avoid active use of SM (staying hidden) because factors compromising “safe” SM use appear to outweigh those enhancing it and, when they do post, their interpretation of received feedback leaves them feeling rejected or exposed. To foster feelings of safety as passive, incidental SM users, they develop a dismissive attitude towards SM, and identify as valuing real-life experiences over those portrayed on SM. Others actively invest in SM because they judge the safety of posting (in terms of leaving their sense of self and/or status at the very least intact, and at best elevated) is enhanced more than compromised, their interpretation of feedback generally resulting in feelings of appreciation

or popularity. Such feelings further strengthen factors enhancing safety by increasing their motivation to study how things work and to keep to the code of conduct. When they do experience negative feelings, their strategies to manage include rationalising their experience of SM, or taking action, by deleting the disappointing post. This enables them to try again with another strategic post.

Category A. Staying in the loop

“If you go offline, you feel really out of the loop” (P12).

This category encompasses the act of checking SM to find out about, and feedback on (via “likes” and comments), other people’s posts/updates. Checking one’s feed in this way was an important part of SM use for all participants, so they could **see what’s happening**. There was a sense of comfort or reassurance gained from this: *“just sort of knowing what’s going on in the world, and seeing whether someone’s done something or whatever. Just knowing there are things happening and what’s happening” (P9)*. For some, this was the main function of SM, helping participants feel more aware of what was going on, and safely connected with minimal risk to self.

This category was so important to participants because of the serious, feared offline implications of **not having a clue**. Without SM, one participant described feeling, *“Lost. Like they could be talking about something and you wouldn’t have a clue. And you could say something and whatever’s going on, it could mean something really bad, so then you get like shouted at” (P11)*. SM, then, was used as a resource for identifying appropriate behaviour offline: *“You don’t know what to do without it” (P10)*.

Another significant motivating factor for checking one’s feed was **not letting friends down**. Individuals who post photos/statuses expect support from friends (see sub-category 9). Staying in the loop allowed participants to maintain friendships by meeting expectations of

providing prompt positive feedback. Participants felt pressure to do so: *“This is why I have everyone on post notification, just so I know who's posted”* (P15). The consequences of not fulfilling SM obligations were significant, impacting offline friendships: *“If it gets to like a week [without SM] and you realise that, oh, yeah, you've missed something, then it would affect, maybe, the friendship that you have”* (P23). Pressure to maintain “streaks” (messages exchanged between friends on consecutive days) on Snapchat was also evident: *“It would be awful. I'd lose my streaks, people would get really angry with me”* (P20).

Because of the perceived need to **keep on top of** unfolding events and friendships, many participants felt compelled to maintain a near constant presence on SM: *“you can easily spend the day on it”* (P13). Participants described SM as a defining part of life: *“It's part of being a teen”* (P12), one that felt essential, not optional: *“I need to make sure that I do like and comment on my friends' posts, or people that I'm trying to get closer to and stuff. Like, you have to be on it, in that sense”* (P20). Even those with no desire to maintain a SM presence in other ways felt offline friendships would be unsustainable without an SM account. *“I really had to jump on the bandwagon or I was going to get left behind”* (P26).

Category B. Evaluating safety of use

“With SM it just takes one tiny thing for it to all go horribly. We are all desperate for that little thing not to go wrong” (P1).

Beyond using SM to stay in the loop, participants were faced with a choice as to how visible/active to be on SM, in terms of divulging personal information and posting photos/statuses about themselves and their friends. A process of **evaluating the safety of posting to their sense of self/status** determined whether they would do so, with some factors *compromising* their sense of safety, and others *enhancing* it and increasing the likelihood of posting.

Interviewees expressing a **lack of confidence** tended to post less. This link was directly identified by some: *“I’m not a confident person, so putting myself out there was never something I was really willing to do”* (P26). Outgoing adolescents were thought to be more active: *“The people that post more are usually more, like, sociable in real life”* (P27). Some saw little point in posting unless one had many friends: *“I’m not in the very popular group, so not many people would take notice anyway”* (P2). Participants also indicated posts should be exciting or impressive (relating to Category D), and that if they could not meet these criteria they should not post: *“My life’s not that interesting, I don’t like go places all the time or anything”* (P11).

Just as participants described staying in the loop to avoid trouble, **fearing things going wrong** was a significant concern when considering whether to post. This was related to the idea of receiving negative feedback, more explicitly addressed in the next sub-category. Participants felt the risks of sharing on SM were greater than offline, due to the degree of exposure – *“it’s open. A lot of people see it”* (P9) – and ease of giving feedback from a distance – *“some people would say things on SM they wouldn’t say to someone’s face”* (P10). The risk of things going wrong depended on the type of post, with more personal posts considered more exposing, and the type of followers, with friends known in real life considered safer: *“I do remember someone posting a mirror selfie in a bikini and I was thinking, ‘I hope you know everybody that you’re following, because otherwise you’re in for a bad time’”* (P1). Lack of control once a post was online seemed to lie behind adolescents’ fears: *“Anything could happen if you post a picture of yourself. There definitely is a fear that it wouldn’t go well”* (P26). This category represents a significant cause of anxiety for those torn between wanting the advantages of more active SM use (Category F) and fearing possible negative effects.

The desire to **avoid negative judgment** limited what interviewees were willing to share online: *“I don’t want people to judge me on what I do”* (P2). An overall picture emerged in which it was extremely difficult to tread a fine line that avoided negative judgement for various types of posts, particularly amongst girls:

P16: That happens quite a lot, people will be like, “Did you see that picture of whoever?” And then they’re like, “Yeah, she looked a bit slutty”.

P17: Or if you post something innocent, then you’re called childish. There’s no really healthy medium, you’re either being too over-the-top or too kind of under... Trying to be too young.

Fear of negative judgement was also a barrier to using SM to craft one’s identity (Category D): *“Old friends that have gone from being, I dunno, one type of girl, to suddenly posting these types of things, and us going, ‘Oh, this is not the girl we used to know’”* (P21). In the end, some decided the risks and effort were not worth it: *“It’s quite a lot of stress but you always feel like you don’t know what to post, or, ‘What if this person thinks this?’ So it’s like I don’t know if I want to post anything”* (P19).

Against these compromises to their perceived sense of safety when posting, interviewees also described considerable resources that helped them overcome their fears and thus risk posting on SM. Chief amongst these was **keeping to a perceived code of conduct**, a set of informal, socially-created rules that helped them navigate SM. The key aspect of this code meant participants universally expected friends to provide positive feedback on posts: *“If it’s like a close friend, I think it’s just a given that you like the photos”* (P27). Expectation of friends’ feedback was often explicit: *“One of our friends, she will literally say, ‘I posted on Instagram, go and like and comment’”* (P17). Imitating others’ actions helped participants adhere to the code and avoid negative judgement: *“Everyone else was doing it, so I just decided to...it felt like the right thing to do”* (P10). Some described role models whose behaviour could be imitated: *“I kind of follow my sister...if she maybe posts a photo, I might*

think it would be good to post a photo” (P24). Taking cues from others also extended to asking friends directly about what to post.

Being surrounded by people following this code was one way participants **felt safe with friends**. Carefully choosing followers, therefore, enabled some participants to have confidence they would not receive negative feedback: *“They're all people that I know and I don't know anyone rude enough to comment like, ‘This is ugly’”* (P13). On SM accounts with fewer (closer) followers, participants felt freer to post without as much careful curation: *“You're not insecure about what picture. You just post it anyway because you know people don't judge it”* (P18).

Another way participants increased the safety of posting was **studying how SM works**. Doing so helped them grasp the code of conduct and how to maximise positive feedback. Participants learned certain posts would procure more feedback: *“If I post a sunset, I will not get as many likes as if I put myself in a bikini. That's just the way it is”* (P20). They described studying feedback and comparing results to friends’; over time, learning to tailor their posts to their audience: *“I'm thinking who is going to see this, what kind of people?”* (P23). This included using apps in different ways, depending on privacy settings and the permanency of posts: *“[On Snapchat] people will post pictures of their animals and their family, and it's just not as showy as Instagram, because it disappears after 24-hours”* (P16). Participants also described the connection between offline and online popularity, and how this impacted feedback received: *“People like the A crowd...just them posting a picture saying ‘bored’ will get noticed loads, and people will be like, ‘Do you want to go do something?’ Whereas if I just posted a picture saying ‘bored’ people would be like, ‘Whatever, she's just doing it for attention’”* (P1).

The final factor enhancing safety to post on SM involved **participants seeing the positives**. Participants enjoyed the control they had over their posts, the ability to recraft their

image and update identities: *“I had posts dating to two years ago...it didn't show an accurate representation of what I am like now, so I just got rid of them”* (P21). They also spoke about SM developing friendships, enhancing communication and enabling the sharing of interests.

Category C. Staying hidden

“They can't form an opinion [on me] because they have nothing to form an opinion on” (P7).

If participants felt it was too “unsafe” to post on SM, they opted not to share personal information and expose themselves to potential negative judgement. Participants in this category posted only occasionally, if at all.

Being passive on SM involved a sense of opting out of the competition. It meant participants were liberated from the stress of deciding what to post: *“I think it's just, like, not having to worry about what anyone's going to think about it, just living your life and not needing that validation from people”* (P17), and could avoid potential disappointment regarding lack of feedback, or conflict in relation to posts received.

Participants who did post occasionally remained hidden by **keeping posts neutral or bland**, enabling them to avoid controversy: *“the thing about being neutral is that you don't get anyone that's like... Cos you can get quite radical people, you don't get anyone who doesn't like what you say”* (P7). Posts lacked personal content: *“I don't post anything, unless it's like ‘happy birthday’ or ‘happy Mother's Day’”* (P2). In this way, participants avoided negative judgement on a personal level, but also avoided the judgement they might have attracted if they hadn't posted: *“If you don't post on Mother's Day it's like you don't care about your mum”* (P2).

Category D. Posting strategically

“It’s good to show the good side, maybe the times you are happy, or if you took a selfie at your good angle” (P23).

If participants felt factors enhancing safety outweighed those compromising it, they adopted a more active stance towards SM use. Participants would carefully choose a photo/status they believed would create a positive self-image or improve their social standing, and post it, aiming to receive as much positive feedback as possible.

One important goal was **crafting an identity**. This involved posting photos/statuses to convey a sense of themselves as funny, interesting, nice, or fun. Participants knew photos could communicate aspects of their identity: *“Posting a picture on the beach might be trying to say to people, ‘Look at me, I’m always on the beach, I’m such an exotic person, I’m having such a good time’” (P1)*. The possibility of using SM to curate an identity occurred to participants over time: *“As you grow older, you post different stuff. When you are younger, it is fun and games, but when you’re older... it creates a picture of your personality” (P10)*.

The second aspect of posting strategically involved **acquiring (or maximising) status**. These posts were more focussed on maximising feedback, to garner popularity: *“they don’t want to post something because they genuinely like it, it’s because they think that picture will get them the most likes” (P19)*. Posting a photo with a popular person could make it seem like *“you’re best friends” (P12)*, increasing one’s status. Such photos were an important way to cultivate friendships, *“showing appreciation to a wider circle of people - ‘this person did this for me and we had a lot of fun’” (P7)*. Participants spoke of a *“need to stay relevant” (P1)*, to impress others by appearing cool, attractive and popular, but also a need to maintain their SM presence to simply demonstrate their continued existence offline. This presented as a fundamental need, at times, a desperation to be seen and validated by peers: *“I’m still here, I’m not dead, I’m still here and still popular, I’m still making snaps, you*

can still follow me.”(P1).

Category E. Evaluating feedback

“Some people will look at those 70 likes and say, ‘Oh, people don't like me as much as my friends’” (P17).

The evaluation of feedback received after a post affected the impact that feedback had. Participants described **comparing quantity of feedback**, both within their own posts and between their posts and others’. Evaluations were relative to norms for each participant:

“If you normally get 65 likes and then you only 11 you're feeling really bad about yourself...when you normally get five and then you get 11 you're on top of the world” (P4).

Changing norms meant increasing numbers of likes were needed for participants to feel a post had done well: *“I used to only get about 60 mainly, and that used to be quite a lot, but now if I get 80 I'm like, ‘Ooh, it's still not quite as much as I would usually get’” (P13).*

Interpreting likes also contributed to participants’ evaluation. They described a complex landscape in which multiple meanings could be construed: *“It doesn't actually mean you like the picture. It means you like the person. Or you don't like the person, you want their approval” (P16).* Likes could represent an attempt to strengthen a relationship, conveying: *“I would like to get to know you more” (P23).* A recurring theme was likes as recognition or acknowledgement of visibility – that the poster had been seen, which meant they existed and were important enough to warrant a show of respect with a like or comment. *“It's about being known...the likes are a symbol” (P20).* Likes and comments formed a currency by which less popular adolescents could attempt *“to be part of the in group” (P8).* Participants described an explicit hierarchy of popularity, in which likes communicated messages about status. *“A very relevant person will not like an irrelevant person's posts, because it is all about levels” (P20).* Through this lens, a like from someone says nothing about what they

think of the actual post – “*they just liked it because...she's popular, I must like her photo*” (P5) – but much about their perceived social standing.

Category F. Feeling good/acquiring status

“Every time it pings, it just gives you an extra little boost of happiness” (P1).

If feedback met or exceeded expectations, participants were rewarded by **feeling good and/or acquiring status**. Receiving likes made participants feel appreciated, and that they belonged in the group. *“I feel good about myself, like people actually care”* (P15).

Discrepant views were expressed between the evaluations participants made when interpreting likes, and subsequent feelings of happiness. Intellectually, participants often asserted likes were meaningless or did not necessarily convey a like of the person posting. However, emotionally, these likes still produced positive feelings: *“I was really happy with [those likes], that was probably my favourite time”* (P1). Such positive experiences reinforced the sense of safety to post again: *“It feels good and it will make them do it more”* (P28). Status-related posts boosted reputation, and rewards were less associated with feelings of happiness. Instead, participants described hard work paying off: *“It takes up a lot of their time, thinking about reaching that goal”* (P17). Quantity of likes was important, but so too was who liked the post. A photo of a participant with the right person *“shows you are friends with other relevant people. And it shows you're a somebody”* (P20).

Category G. Feeling rejected/exposed

“You feel sucky, it's like no one cares about you” (P3).

If feedback was disappointing, this left participants **feeling rejected/exposed**: *“You want likes and it is a bit embarrassing if you don't get them”* (P28). Participants described feeling out of step with their peers: *“It might show the things we like, other people don't like so much”* (P24). To alleviate these feelings, participants deleted disappointing posts

(Subcategory 24). A negative experience also made them less likely to post again: *“It knocks your confidence a bit, you're like, ‘Why would I want to post again?’”* (P12). In this way, feeling rejected led to a decreased sense of safety when considering future posts, increasing the likelihood participants would choose to stay hidden. *“It made me take a step back, and I don't put as many things on my story now”* (P2).

Category H. Managing negative feelings

In response to feeling rejected/exposed, participants could adopt several strategies to manage their feelings. These strategies helped to determine the participants' future stance towards SM and whether they would continue to post strategically or stay more hidden in future.

Dismissing SM led to the development of a passive SM presence. Participants described SM as too much bother – *“It is too much work to put into something that means so little”* (P17) and showed disdain towards adolescents who used SM more actively. *“We are quite condescending. We look down on people who, rather than talking to each other, sit there and text each other”* (P16). From this perspective, “popular” individuals were not envied – *“actually, in their groups, they don't like each other. And no one else other than them actually likes them”* (P17) – and participants conveyed a sense of superiority to regular posters: *“Because I'm happier in my life I don't really care about the likes”* (P13). Lack of investment in SM allowed participants to avoid the negative impact of feedback: *“I'm...usually fairly disconnected from social media, so I wouldn't feel betrayed or unliked or anything”* (P22).

A defensive strategy protecting against negative feelings after participants posted (allowing them to post again in future) was **valuing authenticity**. This involved adolescents ascribing their actions on SM solely to their own likes and desires, rather than to please others. *“It doesn't really matter, if it's meaningful to you, you just post it”* (P10). Again, this

approach was connected to a lack of investment in SM: *“Because I'm fairly kind of casual in my relationship with social media, I try to stay kind of true to me”* (P22), and also carried a sense of superiority over those striving for popularity: *“You look at someone's social media and you think, ‘Oh, they're just doing all of that for likes’”* (P14). Posting for themselves allowed participants to minimise the importance of feedback, a safety mechanism explicitly identified: *“Especially if some people don't respond well, it's good that you are doing it for you and not others”* (P23). Valuing authenticity was at odds with gaining positive feedback: *“There are a few people who do post things that are true to themselves and authentic...but then those are not as liked as other pictures”* (P19). One participant described frustration she could not be both authentic and popular: *“I want to fill it with interesting stuff, but no one really cares”* (P1).

Another strategy allowing participants to feel safe on SM was **rationalising experiences**. This included having an awareness that others' posts on SM did not show the whole story: *“Nobody posts a bad picture of themselves. That's how I see it. People are always going to post the highlights of their life”* (P26). This enabled participants to manage feelings of jealousy when looking at others' photos: *“Someone might look really happy and rich, but inside they might be really miserable and upset because they have a really bad life and they're just putting money in front of it”* (P1).

Finally, participants **took action on SM** in order to feel better. The main behaviour described in this category was deleting posts that did not receive sufficient feedback: *“I normally get 40-50, but if I get below 35 then I will probably delete it”* (P26). Some participants seemed to internalise the reaction from others and subsequently adopt a view of their post matching the feedback received:

P2: There were only a few likes on that one.

Interviewer: And how did that make you feel?

P2: Very bad, but I think I deleted that one cos I didn't like it anyway.

Other behaviours designed to boost confidence involved leaving friend requests pending and keeping unopened messages to maintain a sense of being in demand: *“Even if I know I don't know you, I still just don't delete it, because I'm like, ‘Look, I'm wanted’”* (P13).

Discussion

This study, using robust qualitative methodology, attempted to build a theory of how adolescents navigate SM in a way that maintains their sense of safety regarding their sense of self and status. The findings offer a model which captures the engagement processes of using SM, and strategies used as adolescents develop their relationship with SM.

Links with extant literature

Learning theory. The cyclical nature of the model presented encapsulates a process in which adolescents assess the risks and rewards SM offers, calibrate their behaviours and attitudes towards SM, learn from their experiences, and readjust their stance accordingly. This process reflects well-known learning theories, including Bandura's (1977) social learning theory, and Skinner's (1938) theory of operant conditioning.

Social enhancement theory. The present study supports the social enhancement hypothesis (“the rich get richer”) put forward by Kraut et al. (2002) accounting for the relationship between social anxiety and online communication. It suggests adolescents who are already socially competent offline are more likely to utilise and benefit from SM. Posting strategically required a certain level of confidence, associated with popularity, that the desired positive feedback would be received. Only those with this confidence could access the rewards of posting on SM.

Self-presentation theory. This study highlights the dilemma adolescents face regarding self-presentation style. On the one hand, the editable, asynchronous nature of SM affords opportunities to curate a desirable or ideal self. However, SM users cannot create an image totally removed from their offline selves, as most of their SM followers are offline friends known “in real life”. Extant theory regarding online impression management suggests two possible self-presentation styles: positive, socially-desirable self-presentation (Zhao, Grasmuck, & Martin, 2008), and more rounded, honest self-presentation (Gibbs, Ellison, & Heino, 2006). These two styles feature in the present study, mapping onto notions of “seeking status” and “valuing authenticity” respectively, and the conflict between them is highlighted. Participants found they could not be authentic if they wanted to gain status/popularity. Mostly, desire for popularity outweighed desire for authenticity, the latter emerging more as a defensive mechanism in response to popularity being perceived as unattainable.

Identity theory. Increased contexts for identity experimentation are a posited benefit of online communication (Shapiro & Margolin, 2014). However, opportunities for reinvention described by participants here were restricted by the previously discussed crossover between on- and off-line lives. Expectations that friends’ online identity be recognisable and congruent with offline behaviour have been observed previously (Davis, 2014). It therefore appears SM today offers limited opportunities to experiment. Indeed, attempts to connect to a singular audience with a post may “flatten” multiple identities (boyd, 2008). The process of strategically posting to craft a socially-desired identity and acquire status that emerged from this project suggests a progressively mutable and externally-driven development of self. Identity development may increasingly be shaped by large yet shallow networks, emphasising popularity. In this context, audience acceptance/endorsement becomes critical to the legitimacy of self-presentations (Donath, 2008). Pressure to present a polished self on SM in early adolescence may encourage premature identity foreclosure, with

adolescents forgoing the exploration of alternative identities and roles (Gardner & Davis, 2013). Manago (2014) also suggests the cognitive demands of processing and filtering the vast amounts of social information presented on SM “perhaps overwhelm younger teens before they have established a coherent and stable sense of self capable of selectively regulating the bombardment of stimuli” (Manago, 2014, p. 8). The present study extends this idea, identifying myriad factors that must be considered before posting or feeding back online. The opportunity to reflect on beliefs, values and goals is an important component of Erikson’s psychosocial moratorium. Without space and time to do this, adolescents may experience fragmentation and instability (Erikson, 1968).

Social identity theory. Participants were highly conscious of a hierarchy on SM, associated with popularity. This hierarchy was a significant contributing factor to participants’ developing relationship with SM. Tajfel and Turner’s (1979) social identity theory, pertaining to a person’s sense of identity based on their group membership(s), is highly relevant. A sense of belonging to the social world is particularly important during adolescence (Blakemore & Mills, 2014) – this was echoed in participants’ allusions to the idea that if they were not visible online, they did not exist. A division between active and passive SM users emerged, with an “in group”, popular and frequent posters on SM, and an “out group” of passive users. Participants enhanced the status of their group to boost their self-image, with the in-group referring to passive users as “peasants” and the out-group describing frequent users as “self-absorbed”.

Clinical implications

Passive use. Passive SM use can lead to negative upward social comparison with peers whose self-presentation is usually socially desirable, eliciting envy (Lee, Park, & Shablack, 2015), and potentially increasing social anxiety (Shaw et al., 2015) or depression

(Feinstein et al., 2013). The current study makes explicit the links between active SM use and rewards of feeling good/acquiring status, showing these rewards are unattainable for those whose SM usage is restricted to “social surveillance” (Joinson, 2008). Yet the model also illustrates the perceived necessity of maintaining a SM presence: checking one’s feed is essential to maintain friendships and avoid embarrassment. Passive adolescent users are therefore trapped: they cannot access rewards of posting, and are vulnerable to the detrimental effects of looking. Parents and clinicians who are aware of this can discuss styles of SM use with adolescents. Research indicates adolescents change their SM use in response to new information/awareness regarding benefits and harms of specific SM behaviours (Radovic, Gmelin, Stein, & Miller, 2017). Targeted interventions for individuals experiencing more negative comparisons (e.g. viewing a prime before logging on that reminds adolescents about the positively skewed presentations of others) may also help practically (Weinstein, 2017).

Gender and developmental differences. The current study identifies sophisticated social rules of engagement, in which knowing how to navigate the “game” of SM helps to negotiate and improve one’s standing in the social hierarchy, as well as ensure the “safety” of SM, through reliance on a tacit social code of conduct. As girls often possess more social skills than boys (Benenson, 1996; Gresham & Elliott, 1990), they may use SM more actively, while boys opting to stay hidden may be vulnerable to effects of passive use. Similarly, younger adolescents may be more vulnerable to the risks of SM, as they have not yet had the opportunity to learn how to navigate it and develop defensive strategies.

Status. Koski, Xie, and Olson’s (2015) review of social hierarchies observes, “One’s relative status has profound effects on attention, memory, and social interactions, as well as health and wellness. These effects can be particularly pernicious in children and adolescents...teenagers may be particularly sensitive to social status information” (p. 527).

The current study highlights the concerted time and effort adolescents put into engineering popularity and status online, and how this impacts their offline standing. Again, familiarity with the theory posited here may equip parents and clinicians with an understanding of the challenges adolescents face regarding social standing on SM. A dismissive, passive attitude to SM may be viewed as positive by adults concerned about its harmful effects, but such dismissiveness may constitute a defensive strategy to ward off feelings of inferiority/rejection, rather than an authentic stance. Confiscation of phones and periods where SM is banned may not always be in adolescents' best interests, given the existential crises and friendship fallout that can occur as a result of prolonged online absence.

Limitations and research recommendations

Although this study attempts to present a rich explication of the processes involved in developing a relationship with SM, questions remain. Future research could clarify how the various coping strategies defending against negative feelings identified here interact with more stable factors such as personality traits or attachment status, as well as mental health issues such as social anxiety or depression.

The mutable, audience-pleasing iteration of identity development emerging from the data raises intriguing questions. Is this type of identity development similar to historical patterns of identity exploration, previously achieved offline, and simply intensified, or qualitatively different? What will it mean for the coherence and sense of self of these adolescents when they reach their 20s and 30s? Longitudinal research could offer insight into these issues.

The participant sample was restricted due to the in-depth nature of the analysis and practical constraints of recruitment. Over half the participants were recruited from two schools, the resulting sample lacking ethnic and socioeconomic diversity. The self-selecting sample also meant the potentially more negative experiences of adolescents who did not want

to participate were omitted. The current work offers a tentative theory; developing this further will require attention to diversity across many dimensions.

The study emphasised adolescents' reflections and observations of their own experiences. While this adds important nuance, adolescents may not be fully cognisant of how SM affects their emotions, or how their previous experiences contribute to interpretations of events. Harmful effects of SM are often difficult to identify, because these apps are socially sanctioned, enjoying near universal use (Manago, 2014). Participants may also have been reluctant to disclose vulnerability to an unknown interviewer. Experimental studies using standardised outcomes will therefore continue to complement developing knowledge of adolescents' relationships with SM.

Conclusions

This study is the first to use GT methodology to theorise how adolescents develop a relationship to SM that maintains their sense of safety regarding their emerging sense of self, and their status amongst peers. The resulting model illustrates a cyclical process in which adolescents continuously appraise the risks vs benefits of posting online, try things out, evaluate what works for them, and recalibrate their position. It highlights the hard work adolescents put into maintaining an intact sense of self, and emphasises the complexity underlying each decision to act on SM. It identifies the potential rewards and risks inherent in SM interactions, and begins to unpick the strategies adolescents use to manage difficult experiences and to increase the likelihood of future positive experiences. A sophisticated network of resources supports those more active on SM, mitigating risks of rejection and exposure. Those adopting a more passive approach, meanwhile, develop a dismissive attitude, enabling them to maintain a sense of security in the face of an ever-present teen popularity contest.

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Jenna Course-Choi MSc

Section C: Appendices of supporting material

A thesis submitted in partial fulfilment of the requirements of Canterbury Christ Church
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Salomons Canterbury Christ Church University

Appendix A. Section A CASP cohort study appraisal tool

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Appendix B. Section A papers assessed by CASP criteria

Casp checklist – studies 1-7		Booker et al., 2018	Ferguson et al., 2013	Frison et al., 2017	Hökby et al., 2016	Hummel et al., 2015	Metzler et al., 2017	Tiggemann et al., 2017
A: Are the results of the trial valid?	<p>Did the study address a clearly focused issue, in terms of</p> <ul style="list-style-type: none"> - Population studied - Study trying to detect beneficial or harmful effect - Outcomes considered 	<p>Yes</p> <p>Population studied, effects sought and outcomes clearly stated</p>	<p>Yes</p> <p>Population studied, effects sought and outcomes clearly stated</p>	<p>Yes</p> <p>Population studied, effects sought and outcomes clearly stated</p>	<p>Yes</p> <p>Population studied, effects sought and outcomes clearly stated</p>	<p>Yes</p> <p>Population studied, effects sought and outcomes clearly stated</p>	<p>Yes</p> <p>Population studied, effects sought and outcomes clearly stated</p>	<p>Yes</p> <p>Population studied, effects sought and outcomes clearly stated</p>
	<p>Was the cohort recruited in an acceptable way?</p> <ul style="list-style-type: none"> - Was the cohort representative of the population? - Was there something special about the cohort? - Was everyone included who should have been? 	<p>Yes</p> <p>Data derived from a nationally representative panel study</p> <p>Stratified, clustered sampling scheme used</p>	<p>Unsure</p> <p>Non-random approach via snowball sampling in the local and university community.” Sample was ethnically representative of the local population. SES not and BMI not discussed.</p>	<p>No</p> <p>Study does not explain whether all students at participating schools took part, or explore the representativeness of the sample. Data on SES and ethnicity not gathered. 39% were male.</p>	<p>Unsure</p> <p>Self-selecting sample across seven European countries. Representativeness of the sample not discussed. 56% were female.</p>	<p>No</p> <p>Self-selecting sample of undergraduate students in return for course credits. Primarily female (78%) and Caucasian (73.2%) sample. Representativeness not discussed.</p>	<p>Unsure</p> <p>Online questionnaire was distributed via a German SM site and adolescent Facebook groups. Sample was 68.2% female. Ethnicity/SES data not captured.</p>	<p>Unsure</p> <p>Participants recruited from 18 schools across South Australia. Demographics not provided, representativeness not discussed.</p>

Was the exposure accurately measured to minimise bias?	Self-report of SM frequency subject to bias	Self-report of SM frequency subject to bias	Self-report of SM frequency subject to bias	Self-report of SM frequency subject to bias	Self-report of Facebook feedback seeking subject to bias, and single-item measure only.	Self-report of SM presentation and feedback subject to bias.	Self-report of Facebook use subject to bias.
<ul style="list-style-type: none"> - Did they use subjective or objective measurements? - Did the measurements truly reflect what you want them to? 	<p>Participants asked about SM interaction “on a normal school day” only - findings may be underestimated</p> <p>No questions on patterns of or reasons for SM interactions – typologies and patterns of use have been associated with wellbeing</p> <p>Active SM use measured only, which is useful as differences between effects of active and passive SM have been observed in the literature</p>	<p>Assessed via 7 items on a 5-point scale. Scale points not specified.</p> <p>Different types of SM use (e.g. active/passive) not distinguished</p>	<p>Assessed via 3 items on a 7-point scale (1 = never, 7 = several times a day). Potential ceiling effect as participants may have checked more than several times a day.</p> <p>Type of Instagram use (browsing/posting/liking) was distinguished.</p>	<p>Participants were asked to rate how much time they spent on 7 different Internet activities, of which one, “socialising”, was purported to map onto SM use. However, crossover exists between several of these categories in SM use today – e.g. people can also participate in “gaming” and “newsreading” on SM platforms.</p>	<p>Unclear why not also measured by raters who were looking at status updates anyway.</p> <p>Status update coding was checked for interrater reliability and found to be “good”. Descriptive statistics for status updates not provided.</p> <p>Negativity of comments analysed by software, minimising researcher bias. Not clear if negatively valenced comments of sympathy (e.g. “I hate that happened to you”) were judged as negative. Descriptive stats for numbers of comments not provided.</p>	<p>Measure captured positive self-presentation via profile pictures only, not via status updates.</p> <p>Positive feedback measured by frequency of likes, not amount.</p> <p>Number of Facebook friends was objective but also self-reported.</p>	<p>Number of Facebook friends was objective but also self-reported.</p>

<p>Was the outcome accurately measured to minimise bias?</p> <ul style="list-style-type: none"> - Did they use subjective or objective measurements? - Did the measurements truly reflect what you want them to? 	<p>Partly</p> <p>Well-being measure not validated, coefficient alpha was reported</p> <p>Strengths and Difficulties Questionnaire is a validated instrument</p>	<p>Partly</p> <p>Validated scales were used to measure most outcome measures, but not life satisfaction. Coefficient alphas were reported.</p>	<p>Yes</p> <p>20-item scale, psychometrically sound, coefficient alpha reported.</p>	<p>Yes</p> <p>Three sub-scales of the Depression, Anxiety and Stress Scales-42 (Lovibond & Lovibond, 1995), with sound psychometric properties.</p>	<p>Yes</p> <p>Eating disorder thoughts and behaviours measured using a questionnaire with good reliability and validity.</p>	<p>Yes</p> <p>Self-esteem measure adapted from a validated scale (Rosenberg, 1965). Reliability and internal consistency of bespoke measures was reported.</p>	<p>Yes</p> <p>All scales had demonstrated reliability and validity</p>
<p>Have the authors identified all important confounding factors? Have they taken account of the confounding factors in the design and/or analysis?</p> <ul style="list-style-type: none"> - Consider factors such as age, gender, social class - Look for restriction in design and techniques to correct, control or adjust for confounding factors 	<p>Yes</p> <p>“Control variables were chosen based on the literature and previous analyses... Parent- and household-level covariates [marital status, household income] were included in this analysis. Covariates were included in the models as time-varying or time-invariant, as appropriate.” Models estimated separately by gender</p>	<p>Yes</p> <p>Age, anxiety, depressive symptoms, parenting styles, perceptions of parental affection and verbal abuse were accounted for. SES of participants was not considered. Study comprised female participants only</p>	<p>Partly</p> <p>Control variables of gender and age were identified. SES not considered</p>	<p>Yes</p> <p>“Gender, age and experimental condition were included as control variables in the first model.” Time spent on the internet, activity ratings and consequences were added subsequently. SES not considered</p>	<p>Partly</p> <p>“Regression analyses controlled for demographic variables and T1 disordered eating values” – demographic variables reported in study included gender and ethnicity. SES not considered. Sample was an undergraduate cohort, so age range likely to be small, though not reported</p>	<p>Partly</p> <p>Gender and age were considered. T1 self-esteem, initiation of offline relationships, prior values and positive feedback were controlled for. SES not considered</p>	<p>Unsure</p> <p>Confounding factors not discussed</p>

	Was the follow up of the subjects complete/long enough?	Yes	Yes	Partly	No	Partly	Partly	Partly
		A five-wave study over five-years	Six-month follow-up period	Six-month follow-up period	Four-month follow up	Four-week follow up allows limited time for effects to reveal themselves	12-month follow up	24-month follow up
	- Have the effects had long enough to reveal themselves?	Differences between those available at FU and not available not discussed, but analysis modelled by age rather than over time within individuals	Those participating at T2 did not differ demographically from those who did not participate. T1 outcome measures were also assessed using <i>t</i> test analyses – no differences were found between drop outs/non-drop outs groups, suggesting no selective differences.	“Differences were explored between those who filled out one questionnaire and those who filled out both questionnaires”. Analyses found adolescents who participated at both time points scored lower on Instagram posting time and depressed mood. All participants were included, with missing data estimated.	The study notes “there was a notable drop-out rate”...with 467 (20.42%) pupils discontinuing between T1 and T2, and 244 (13.42%) between T2 and T3. No differences were explored between those available for FU and those not available.	There were 8 participants who only provided data at T1, leaving 185 in the final sample. “There were no differences between completers and non-completers on any of the T1 variables”.	Differences between those available at FU and those lost to FU were examined: those participating in both waves scored significantly lower on positive self-presentation and on initiation of online relationships.	Attrition rates not reported but drop-outs ascribed largely to girls moving schools or being absent on the day of follow-up. No differences were explored between those available for FU and those not available.
	- Persons lost to FU may have different outcomes to those available at FU							
	- Was there anything special about the outcome of people leaving?							
B: What are the results? *	What are the results?	“For females, increased interaction on SM at age 10 was associated with greater increases in SDQ with age”. Path coefficient = 0.10, indicating a small effect. “There were no significant	Using regression, SM use did not predict body dissatisfaction or prospective eating disorder symptoms. Using path analysis, a model in which SM contributed to later peer competition improved the	Using SEM, Instagram browsing (but not posting/liking) at T1 positively predicted adolescents’ depressed mood at T2. Depressed mood at T1 positively predicted posting at T2, but not browsing or	Using hierarchical multiple regression analysis, “socialising” Internet activity was not associated with changes in sleep loss or withdrawal, the only variables found to predict	Regression analyses revealed individuals with a feedback-seeking style on Facebook who received a high number of comments were more likely to report eating restraint at T2. Individuals who received negative	Using SEM, T1 number of friends was positively associated with T2 self-esteem. T1 positive self-presentation was negatively related to T2 self-esteem via T1 positive feedback. The	The number of Facebook friends predicted an increase in internalisation of beauty and drive for thinness two years later. Internalisation and body

		associations for the slope of SM interaction regressed on the well-being intercept”	goodness of fit compared to the basic no interaction model, with a good fit to the data ($X^2 = 5.2$), path coefficient 0.16.	liking. The model showed a good fit of the data (CFI = 0.96).	change in mental health.	comments on personally revealing status updates were more likely to report shape concerns at T2.	model fit the data well ($X^2 = 5.3$).	surveillance also predicted increased number of friends.
How precise are the results?	95% CI	NS	NS	95% CI	NS	Beta and SE data not reported.	Beta and SE data reported.	NS
- What are the confidence limits?								
Do you believe the results?	Small effect observed only, but confounding variables controlled for.	Small effect observed only, but validated outcome measures and accounting for confounding variables strengthen the findings.	Small effects observed only.	Single-item measures used to assess types of Instagram use, with possible ceiling effects.	The study’s categorisation of Internet activities is problematic, as SM sites are used for more than “socialising”. High attrition rate and lack of exploration of differences between those leaving the study and those remaining also limit reliability.	Negative feedback-seeking style was measured by single self-reported item only. Researchers had access to participants’ status updates, so unclear why they did not corroborate self-reports. Number of status updates and comments not reported – may have varied widely between participants.	Small effects observed only. Positive feedback single-item measure did not capture quantity of feedback, which may be important.	Small effects observed only. No confounding variables controlled for.
- A big effect is hard to ignore	Participants asked about SM interaction “on a normal school day” only - findings may be underestimated	The implication that social media is an arena in which peer competition is carried out makes sense.	Findings may be underestimated as those who dropped out posted more on Instagram and felt more depressed.					
- Could it be due to bias, chance, confounding?								
- Are design/methods sufficiently flawed to make results unreliable?								
C: Will the results help locally?	Can the results be applied to the local population?	Yes	Unsure	Unsure	Yes	No	Unsure	Unsure
	- Consider whether participants were sufficiently different from the	Nationally representative sample	Snowball sampling = non-random recruitment. Data on SES not	Dataset from 15 high schools in Belgium.	Large dataset across seven European countries, although	Undergraduates only.	68.2% female	Data set from multiple schools across South Australia, but

population to cause concern	49% female 74% White British adolescents	gathered. Female participants only.	Unclear whether this was a self-selecting sample or how representative it was. Data on SES and ethnicity not gathered. 39% were male.	representativeness not discussed. 56% were female.	Primarily female (78%) and Caucasian (73.2%). Representativeness not discussed.	SES and ethnicity not discussed. “Non-representative convenience sample” noted as a limitation, but sample similarity to other representative studies is outlined.	representativeness not discussed. Female participants only.
Do the results of this study fit with other available evidence?	This is one of the first studies to show stark differences between social media interaction and wellbeing between males and females, as many studies do not stratify by gender or test for gender interactions. However, gender differences are noted in several of the studies included in this review.	Research into impact of media on body dissatisfaction has produced mixed results. Results support evidence suggesting SM itself has neither a positive nor negative impact, but may intensify other social processes that do have effects.	Previous cross-sectional and experimental research has linked passive SM use to depressive symptoms. Previous Facebook research found an association between depressed mood and SM posting, corroborating this study’s results. No gender differences were observed, in line with both De Vries’ (2014, 1016) studies.	Research into impact of SM on mental health has been mixed, so these results, which do not implicate “socialising” Internet use in adverse mental health, add to the debate.	Previous research has suggested an interest in negative feedback contributes to greater body dissatisfaction and that maladaptive Facebook usage predicts greater eating pathology.	Cross-sectional research found an association between positive feedback and greater self-esteem not found here, but Yang et al.’s (2016) longitudinal study also did not observe this relationship.	Correlational research has associated Facebook use with body image concerns.

<p>What are the implications of this study for practice?</p>	<p>As SM interaction increases with age during adolescence, it is “important to educate adolescents, specifically females, and their parents on the consequences of high levels of use at younger ages on their future wellbeing”.</p>	<p>This research indicates peer competition, rather than SM or mass media effects, is most salient in regard to body dissatisfaction issues in teenage girls. However, SM may offer a new arena for peer competition.</p>	<p>The study concludes adolescents have a higher chance of developing depressed mood when they browse Instagram more often, and a higher chance of posting more when they have greater depressed mood. It argues users should be made aware of the harmful impact of passive consumption of SM content.</p>	<p>The study emphasises the importance of differentiating different types of Internet use, as impact of various activity on mental health differs, depending on the negative consequences produced. It argues interventions to reduce harmful internet use should target sleep loss and withdrawal, as these are factors best predict changes in mental health.</p>	<p>The study argues its results suggest Facebook usage may be an important target of intervention for individuals at-risk for eating disorders, as those who engage in negative social interactions on the platform are more likely to increase disordered eating concerns.</p>	<p>The study’s findings on the whole suggest positive consequences of adolescent Facebook use: initiation of online relationships positively impacts initiation of offline relationships, and number of friends is positively associated with self-esteem over time.</p>	<p>The study suggests individuals to limit their involvement with Facebook or other SM sites. Media literacy programs should include specific consideration of SM sites as there is evidence suggesting these combat negative body image.</p>
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Note. SES = socio-economic status; BMI = body mass index; SEM = structural equation modelling; SMD = social media disorder; T1 = time one; T2 = time two; FU = follow up

Casp checklist - studies 8-14

Valkenburg et al., 2017

van den Eijden et al., 2018

Vandenbosch et al., 2016

De Vries et al., 2014

De Vries et al., 2016

Wohn et al., 2014

Yang et al., 2016

A: Are the results of the trial valid?	Did the study address a clearly focused issue, in terms of	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	<ul style="list-style-type: none"> - Population studied - Study trying to detect beneficial or harmful effect - Outcomes considered 	Population studied, effects sought and outcomes clearly stated	Population studied, effects sought and outcomes clearly stated	Population studied, effects sought and outcomes clearly stated	Population studied, effects sought and outcomes clearly stated	Population studied, effects sought and outcomes clearly stated	Population studied, effects sought and outcomes clearly stated	Population studied, effects sought and outcomes clearly stated
	Was the cohort recruited in an acceptable way?	Unsure	Yes	Yes	Yes	Yes	Unsure	Unsure
	<ul style="list-style-type: none"> - Was the cohort representative of the population? - Was there something special about the cohort? - Was everyone included who should have been? 	“Families were recruited in urban and rural regions across The Netherlands”. Recruitment procedure not specified, demographics aside from age and gender not discussed. 50.7% female at T1.	Data derived from an ongoing longitudinal university study. Students in 7 th and 8 th grades at two schools were recruited. 51.1% female, 96.5% Dutch ethnic background. Students from lower education levels underrepresented. SES data not captured.	Recruitment from 12 schools across Belgium. “Different schooling levels and ages were selected” – selection criteria NS. All students present during the researchers’ visits participated. 56.6% male, 95% Belgium born. SES not discussed.	Secondary analysis of a longitudinal study. Self-selecting sample. Gender was proportionally representative, with 50.7% female. “However, adolescents attending higher levels of education and with Netherlands-born parents were overrepresented”.	Secondary analysis of a longitudinal study. Self-selecting sample. Gender was proportionally representative, with 50.7% female. “However, adolescents attending higher levels of education and with Netherlands-born parents were overrepresented”.	Incoming residents at a US university “selected to be broadly representative of the student population” were recruited online, 49% response rate. 70.1% female, 81.2% Caucasian. SES not discussed.	Facebook users recruited only. Recruitment via emails sent to a random portion of incoming freshmen at a Midwestern US university. “Sex and ethnic distributions of the sample were close to those of the freshman cohort” – 55% female, 74% white. SES not discussed.

<p>Was the exposure accurately measured to minimise bias?</p> <ul style="list-style-type: none"> - Did they use subjective or objective measurements? - Did the measurements truly reflect what you want them to? 	<p>Self-report of SM use frequency subject to bias. Five questions differentiated between various SM activities (e.g. posting messages, pictures, reacting to messages from others).</p> <p>Frequency of positive feedback from friends and acquaintances also self-reported.</p>	<p>Self-report of SM use frequency subject to bias. Six items used, with a definition of SM provided for reference. Four items related to SM sites, but two related to instant messaging via smartphone.</p> <p>SMD symptoms measured via the SMD scale. Validity not discussed.</p>	<p>Self-report of SM use frequency subject to bias. A single-item measure (1 = never, 8 = all day long) was used.</p> <p>Attractiveness-related uses of SM measured with a four-item scale. The scale was piloted and internal reliability demonstrated.</p>	<p>Self-report of SM use frequency subject to bias. A single-item measure (0 = never, 4 = always) was used relating to the dominant social network at the time.</p>	<p>Self-report of SM use frequency subject to bias. A single-item measure (0 = never, 4 = always) was used relating to the dominant social network at the time.</p>	<p>Compulsive SM use and habitual SM use self-reported and subject to bias. However, multiple items used per measure, and intensity items aligned closely with validated measure of habit.</p>	<p>Self-report of SM frequency and number of friends subject to bias. Most participants spent “less than two hours” on Facebook daily, but what was the rating scale? And how often did they post?</p> <p>A 4-item, 7-point scale measured amount of self-information being disclosed. A version of the Revised Self-Disclosure Scale was also used. Validity of measures was addressed and judged acceptable.</p>
<p>Was the outcome accurately measured to minimise bias?</p> <ul style="list-style-type: none"> - Did they use subjective or objective measurements? 	<p>Unsure</p> <p>Validity of social self-esteem measure not discussed.</p>	<p>Unsure</p> <p>Validity of perceived social competence and life satisfaction measures not discussed.</p>	<p>Yes</p> <p>Validity of measures of self-objectification, internalisation of appearance ideals, and body</p>	<p>Yes</p> <p>Validity of appearance investment measure is reported.</p>	<p>Unsure</p> <p>Validity of peer appearance-related feedback (PARF) and body dissatisfaction measures not discussed. PARF</p>	<p>Unsure</p> <p>Validity of loneliness measure and adjustment to college not discussed.</p>	<p>Yes</p> <p>Scale validity is discussed and was tested.</p>

- Did the measurements truly reflect what you want them to?			surveillance is reported.			mean = 0.59 is quite low (e.g. close to “never”) – floor effects?	
Have the authors identified all important confounding factors? Have they taken account of the confounding factors in the design and/or analysis?	Mostly	Mostly	Mostly	Mostly	Mostly	Mostly	Mostly
- Consider factors such as age, gender, social class	Gender, SM use and social self-esteem were controlled for previous levels of these outcomes. Age/SES not considered.	“The outcome variable at the previous measurement was included as a control variable, as well as level of education and gender”	“We controlled for the baseline values of country of origin, age, gender and BMI” as well as the previous level of each criterion variable. SES not considered.	“Previous levels of the focal variables were included in the models”. Gender was tested as a moderator. SES and age not considered.	“All analyses included previous levels of the variables of interest. In this way, we controlled for past behaviour.” All analyses also control for gender, given expected gender differences.	Unclear	Self-esteem and self-concept clarity at T1 served as control variables for T2 self-outcomes. Gender and ethnicity were also treated as control variables.
- Look for techniques to correct, control or adjust for confounding factors							
Was the follow up of the subjects complete/long enough?	Yes	Yes	No	Yes	Yes	Unsure	4-month follow up, two waves
- Have the effects had long enough to reveal themselves?	Two-year follow-up period, three waves	Two-year follow-up period, three waves	Six-month follow-up period, three waves	15-month follow-up period, two waves	15-month follow-up period, two waves	5-month follow up, two waves	Retention rate of 62%. Attrition was not found to be related to age, gender or ethnicity. Self-concept clarity was higher among staying participants. Data was found to be missing completely at
- Persons lost to FU may have different outcomes to those available at FU	Attrition rate was 17.5% T1-T2 and 10.0% T2-T3. Drop outs at T2 used SM less often and received less positive feedback from acquaintances. Drop outs at T3 received less positive feedback	All participants were included, with missing data estimated. Only 54.1% of the sample completed all three measurement occasions, so	Differences were explored between those who dropped out after T1 and those remaining at T3. Those completing T1 only were more likely to be males, from another country,	Study reports a retention rate of 54.2%. Respondents who did not complete at T2 were four months older on average, no other group differences found.	Study reports a retention rate of 54.2%. Respondents who did not complete at T2 were four months older on average, no other group differences found.	Attrition rate unclear. 1639 students completed at T1 and 1616 completed at T2 but only 391 completed both. Group differences not discussed.	
- Was there anything special about the							

	outcome of people leaving?	from friends and acquaintances.	missing data were substantial.	have higher BMI, and score lower on internalisation of appearance ideals and body surveillance.				random. Why did number of friends not increase over the four months after starting at a new university?
B: What are the results? *	What are the results? - Have they reported the rate or proportion between exposed/unexposed? - How strong is the association between exposure and outcome?	A cross-lagged model found SM use did not increase social self-esteem T1-T2 or T2-T3. Social self-esteem increased SM use over both time points. Positive feedback from friends at T2 related to social self-esteem at T3. Models achieved acceptable fit.	SEM found a small negative effect of SM use on school performance, and a small positive effect on perceived social competence. Higher SMD symptoms at T1 predicted lower life satisfaction at T3 – this effect was stronger for boys than girls. The model fit was satisfactory (CFI = .90).	Using SEM, internalisation of appearance ideals at T1 did not predict use of SM at T2, but did at T3. Also related to monitoring of attractive peers on SM, which in turn predicted self-objectification and body surveillance at T3. Use of SM at T2 did not affect boys' level of self-objectification at T3, but did affect girls'. Models achieved "adequate" fit.	SEM showed T1 SM use predicted appearance investment at T2. The hypothesized indirect effect of SM use at T1 on cosmetic surgery desire (T2) through appearance investment (T2) was significant. The model achieved an adequate fit (CFI = .99).	SEM found FSMU positively predicted body dissatisfaction and peer appearance-related feedback, in line with the hypothesis. Body dissatisfaction/peer appearance-related feedback at T1 did not predict SM use at T2. No indirect effects were found. The model fit the data well (X2 = 15.76)	SEM found Facebook use was not associated with social adjustment. Loneliness was indirectly associated with time spent on Facebook through number of Facebook friends, but Facebook use does not impact loneliness directly. Good model fits (CFI = .99)	Hierarchical regression found T1 perceived supportive feedback was surprisingly not related to T2 self-esteem or self-concept clarity. T1 self-reflection was positively associated with T2 self-esteem but not T2 self-concept clarity. T1 intentionality related to T2 self-esteem via T1 self-reflection. The models fit the data well.
	How precise are the results? - What are the confidence limits?	95% CI	95% CI	95% CI, SE reported	95% CI, SE reported	95% CI, SE reported. However, CI for SM use (T1) predicting peer appearance-related feedback (T2) included 0.	CI and SE not reported	95% CI, SE reported

	<p>Do you believe the results?</p> <ul style="list-style-type: none"> - A big effect is hard to ignore - Could it be due to bias, chance, confounding? - Are design/methods sufficiently flawed to make results unreliable? 	<p>Small effects observed only, though social SE is said to be a stable outcome, so study argues small effects should be considered meaningful. However validity of the social SE measure was not discussed, and reliance on self-report measures subject to bias.</p>	<p>Small effects observed only, model fit indices satisfactory but not excellent, reliance of self-report measures subject to bias and validity of outcome measures not discussed. But controlled for previous levels of dependent variables as well as demographic characteristics.</p>	<p>Small effects observed only. Considerable attrition rate and self-report measures limit conclusions. Model fit indices adequate but not excellent. But most important confounding variables controlled for.</p>	<p>Small effects observed only. SM use and desire to undergo cosmetic surgery single-item measures only. Considerable attrition rate.</p>	<p>Excellent/good fit indices of models achieved, but CI for one result included 0. Measure of feedback did not distinguish between types of feedback and type of feedback measured was received never to sometimes by the sample. SM use single item self-report measure only.</p>	<p>Good model fit. Small effects observed only. Control variables not discussed. Attrition rate unclear.</p>	<p>Small effects observed only. Self-report measures subject to bias. Sample limited to university freshmen, may not apply to younger adolescents. Mediators measured at same time as predictors so comment on directionality is limited.</p>
<p>C: Will the results help locally?</p>	<p>Can the results be applied to the local population?</p> <ul style="list-style-type: none"> - Consider whether participants were sufficiently different from the population to cause concern 	<p>Cultural differences may limit findings to Dutch population – not discussed in limitations. SES and ethnicity data not reported, recruitment procedure vague.</p>	<p>Study acknowledges students from lower education levels were underrepresented in the sample. Cultural differences may limit findings to Dutch population.</p>	<p>Cultural differences may limit findings to Belgian population. Not discussed in limitations.</p>	<p>Study acknowledges cultural differences may limit findings to Dutch population. Adolescents with higher education levels also overrepresented.</p>	<p>Study acknowledges cultural differences may limit findings to Dutch population. Vast majority of sample had low-normal BMI and on average were more satisfied than dissatisfied with their body – may not apply to other countries.</p>	<p>Study acknowledges generalisability is limited to a single college campus and first-year students. Cultural differences may limit findings to US population. Representativeness of sample not discussed.</p>	<p>Study acknowledges limited to university freshmen at a major residential university – “it would be most appropriate to interpret the results within this context”</p>

Do the results of this study fit with other available evidence?	This study provided the first longitudinal results on the relationship between SM use and SSE. Contrary to previous concurrent studies, analysis found no longitudinal evidence that SM use increased SSE.	One of the first longitudinal studies investigating outcomes of engaged (“heavy”) and disordered SM use. Other research has found positive effects of SM use in maintaining friendships. Three interaction effects with gender were found.	The first study to support a relationship between use of sexualising mass media and use of SM over time. Some gender differences as well as similarities observed.	Finding that SM use predicted desire to undergo cosmetic surgery supported by following study. Relationships between variables not moderated by gender. Previous studies have also suggested use of SM results in appearance investment.	Finding that SM use predicted body dissatisfaction is in line with previous study. Appearance-related feedback from peers did not mediate this effect, however, in contrast to theory. Relationships between variables not moderated by gender.	Findings that SM use did not contribute to social adjustment supported elsewhere.	Similar to Metzler (2017), no effect was found for perceived support on self-esteem.
<p>What are the implications of this study for practice?</p> <ul style="list-style-type: none"> - One observational study rarely provides sufficient robust evidence to recommend changes to clinical practice - Recommendations from observational studies are always stronger when supported by other evidence 	This research indicates it is not SM use per se that leads to positive or negative effects on SE, but the specific ways in which SM is used and by whom. Parents and educators can therefore enhance the positive effects and combat the negative ones.	The findings support the idea that symptoms of disordered SM use, as measured by the SMD scale, are harmful in a way that engaged/heavy SM is not. The authors advocate that disordered use of SM should be regarded as a behavioural addiction.	Again, findings point to the type of SM use as an important differentiator. Frequency of overall SM use played a limited role in the relationship between use of mass media and an objectified self-concept, but using SM to monitor attractive peers stimulated self-objectification and body surveillance.	Before formulating guidelines about SM use and body image issues, study calls for research identifying a) which SM activities elicit appearance investment, b) under which conditions these effects as most likely, c) which processes mediate these effects, and d) which adolescents are particularly vulnerable.	Study suggests adolescents reporting higher levels of body dissatisfaction may benefit from interventions to decrease negative impact of SM use on body image. Study highlights that boys as well as girls could benefit from this. Again, more research is needed regarding which SM activities impact body image.	“Contrary to popular media hype surrounding the negative role of Facebook...the effect of Facebook is miniscule”.	Findings show the sample became less guarded in online self-presentation by the end of the first semester, and that this invited more supportive feedback from the audience. However, this is not associated with higher self-esteem longitudinally.

Appendix C. Stage 1 interview schedule for individual/group interviews

<p>Warm up questions</p>	<p>How long have you been friends? Which social media sites do you use? How much do you use them and what for? What are your favourite sites? What do you like/ not like about these sites? Who posts the most out of all of you? What do you share on social media? In what form (pictures, blogs, statuses etc)?</p>	<p>'Thank for doing so well in the other tasks', explain that this section is about their individual views.</p>
<p>Self- Esteem Questions/</p>	<p>Do you ever feel jealous about what others put on social media? What do you do when you feel jealous?</p> <p>Do you ever feel like people are having more fun/ have better friendships than you do? What do you do?</p> <p>How would you feel and what would you do if no one commented/ liked your posts? Or if you got negative feedback?</p>	<p>What made you post...(looking at social media profile)? What were you imagining people would think of you when you posted that?</p> <p>How do you feel if you get positive/ negative comments on what you post? What do you do?</p> <p>How do you feel if you don't get any likes/ comments on what you post? What do you do?</p> <p>I see you have (number of likes/comments), how did that make you feel?</p> <p>Do you feel happy with the way you come across on social media? Are there times when you haven't? What did you do?</p>

<p>Adolescent Developmental theory</p>	<p>If I never met you, would your social media profile give me a good idea of who you are and what you're like? Are you different in offline life? If yes, what's the difference And why is online self different from offline self?</p> <p>What do you want people to think of you as a group when they look at your profiles?</p> <p>What sorts of things do you all post/share online? (if they don't post)</p>	<p>What does your profile say about you? Is there anything you don't want on there?</p> <p>What do you want people to think of you when they look at your profile?</p> <p>Do you post different things on different sites? Why? Which profile do you like the most?</p> <p>Have you deleted anything from your profile recently? Why?</p>
	<p>What stops you posting photos/statuses?</p>	<p>Is how you present online the same or different from how you are offline? (add specific?) if different, why's that? How do you manage that?</p>
<p>Emotional investment Questions</p>	<p>How would you all feel if you weren't able to use any social media, say for a week?</p> <p>Do you feel disconnected as friends if you haven't logged onto social media? Or do you connect in other ways?</p> <p>Do you share most of your day to day activity through social media? What do you choose to share?</p>	<p>Is using social media part of your everyday routine?</p> <p>How do you feel if you haven't been able to go online for a while?</p> <p>Any upsides to this or only negatives?</p> <p>follow-ups to this question..... Do you have your phone in your bedroom at night?</p> <p>If yes, do you leave your phone on through the night or switch it off? Do you check it in the night etc? Do you check it in the night?</p>

Appendix D. Stage 2 interview schedules for individual/pair interviews

Interview schedule A

Thanks for coming in to speak with me. Today, we are going to talk about you and your experiences of using social media. It should take about 30 minutes. If there's anything that you don't want to speak about, or if you want to have a break or stop our session, that's OK - just let me know. Our discussion will be confidential, so everything we talk about will be kept private. I would only break that rule if I were worried about your safety, or someone else's safety. If I felt it was necessary for me to do this, I would talk this through with you first and explain what I needed to do before I spoke to anyone else.

1) So, to start with, I just want to find out a bit about how you use social media.

Possible prompts

- *Which social media apps do you use?*
- *What do you use them for? Or how do you use them?*
- *When do you go on them?*
- *Roughly how much time do you spend on them?*

2) Can you tell me what you think it means when you get likes or comments in response to a post?

Possible prompts

- *Why do you think the number of likes varies for different posts?*
- *Why do you think the number of likes varies for different people?*
- *Can a "like" mean different things at different times? If so, can you explain that to me?*
- *I've heard teenagers say it's not just about the post itself when someone posts something, it's more to do with the poster. So if two people post very similar pictures, they might get different feedback, depending on who they are. What do you think of this idea?*

3) How do you feel when you get an average amount of likes or comments for a post?

- *What about when you get more than you expected?*
- *Or less than you expected?*
- *How do you know how many likes to expect?*
- *What makes it easier to cope with any negative feelings about a post?*

4) I've heard that it's really important to be authentic/true to yourself online, and teens often say they are showing their real selves online. What do you think?

- *Would you say you are "authentic" on SM? What does that mean to you?*
- *What aspects of social media feel true and authentic to you?*

5) I've also heard it can be important to be popular/to feel like you belong on SM. What do you think about that?

- *Why do you think it's important for some people to be liked/popular? Does this apply to you?*
- *Who does it apply to?*
- *I've heard people say "Oh, she's just doing it for likes". What do you think about that?*

6) What happens when you want to be true to your feelings/self but this might mean you aren't seen as part of the group and popular?

- *How do teenagers balance wanting likes and wanting to be themselves? For example, you might get lots of likes for a certain kind of selfie, but you don't really feel it's "you". What do you do?*
- *What's more important to you?*

- *When does activity on social media feel more geared towards popularity/fitting in, rather than “being real”?*

7) I get the sense that sometimes teenagers think social media only show half of the story – people use filters, they tend to show things in a positive light. What do you think?

- *Is this what you tend to do? What about your friends?*
- *What’s the reason people do this?*

8) Some teens I’ve spoken to have said because they know SM doesn’t show the whole story, they don’t take it very seriously - they know it doesn’t really mean so-and-so has an amazing life all the time. What do you think about this?

- *Is this something you might think about some people’s posts? What makes you more likely to think this?*

9) So on the one hand, you know SM doesn’t show the whole story shouldn’t be taken as “the truth”. But on the other hand, I’ve heard deep down it can mean a lot to some teenagers when they get lots of likes for a post (relate to question 3) - that feels real and important. How do you manage those two things?

Possible prompts

- *When are teenagers more likely to not take SM seriously, or believe it’s not telling the whole story?*
- *When are teenagers more likely to feel like social media is important and authentic?*
- *It seems like when other people get loads of likes, one way to not feel down about that is to say “well, that’s not real, she spent hours taking that photo,” but when people get likes themselves, they take those likes as real and feel genuinely good about them. What do you think about this?*

10) What advice would you give to a young person just starting out on social media?

Possible prompts

- *Can you describe what you’ve learned about using social media?*
- *How do you manage the challenges of social media?*

11) Is there anything else you’d like me to know about your experience of social media?

Possible prompts

- *Anything you think it’s important for me to understand?*
- *Anything you thought I would ask about that I haven’t?*

Thank you so much for your time. What are you going to do after this interview?

Interview schedule B

Thanks for coming in to speak with me. Today, we are going to talk about you and your experiences of using social media. It should take about 30 minutes. If there's anything that you don't want to speak about, or if you want to have a break or stop our session, that's OK - just let me know. Our discussion will be confidential, so everything we talk about will be kept private. I would only break that rule if I were worried about your safety, or someone else's safety. If I felt it was necessary for me to do this, I would talk this through with you first and explain what I needed to do before I spoke to anyone else.

1) So, to start with, I just want to find out a bit about how you use social media.

Possible prompts

- *Which social media apps do you use?*
- *What do you use them for? Or how do you use them?*
- *When do you go on them?*
- *Roughly how much time do you spend on them?*

2) Can you tell me how you decide what you post something on social media?

Possible prompts

- *What do you think about in the run-up to posting? What goes through your mind?*
- *What makes you likely to post something?*
- *What do you feel or think in the moments after you post something?*
- *What do you think others think when you post a) a picture with friends, or b) a selfie?*
- *What do you think others are trying to get across when they post a picture? What do they want people to know about them?*

3) I've heard from some teenagers that sometimes it feels safer to post less on social media, to "stay hidden". What do you think about that?

Possible prompts

- *Why do you think some teenagers are less active on SM than others?*
- *Could you describe what kind of people you think post rarely?*
- *What are the risks in posting on SM?*

4) I also get the sense that some teenagers like to be really visible, post lots of selfies, and maybe it makes them feel liked and popular. What do you think about that?

Possible prompts

- *What makes someone more likely to post a lot on SM?*
- *What are the good things about posting on SM a lot?*

5) How do you think teenagers manage the risks of posting online – the trouble/mean comments/feelings of disappointment - whilst also wanting to be seen and be liked?

Possible prompts

- *How do you decide whether it's worth posting something?*

6) It seems like there is a sort of code of conduct amongst friends on social media – rules for how to behave and what is expected – for example, best friends have to like your post quickly. Can you explain/describe any of these rules?

Possible prompts

- *How did you come to understand that this was how things are done on social media?*
- *I have heard there are strong expectations for teens to like their friends' posts – what happens if they don't? What other expectations are there that you know about?*

7) Imagine you suddenly didn't have access to social media, and couldn't let your friends know you were going to be offline for a while. Can you tell me what would happen?

Possible prompts

- *I have heard that checking social media is an important way for teenagers to “stay in the loop” and know what’s going on. Can you describe how it might affect friendships if you weren’t able to get online?*
- *What if a friend messaged you and you couldn’t get online, and couldn’t tell them?*
- *I get a sense that for some teenagers, it’s not really an option to not post. Almost like if you’re not posting, you’re not there. What do you think about this idea?*

8) What advice would you give to a young person just starting out on social media?

Possible prompts

- *Can you describe what you’ve learned about using social media?*
- *How do you manage the challenges of social media?*

9) Is there anything else you'd like me to know about your experience of social media?

Possible prompts

- *Anything you think it’s important for me to understand?*
- *Anything you thought I would ask about that I haven’t?*

Thank you so much for your time. What are you going to do after this interview?

Appendix E. Ethical approval letters

This has been removed from the electronic copy.

Appendix F. Social media intensity scale

This has been removed from the electronic copy.

Appendix G. Parent and participant consent forms

CONSENT FORM *(for parent/carer/guardian)*

Title of project: How do teenagers experience social media?

Name of researcher: Jenna Course-Choi

Participant identification number for this study:

Please initial each box

1. I confirm I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand my child's participation is voluntary and that they are free to withdraw at any time without giving any reason, without their rights being affected. If my child withdraws from the study, I understand you will use the data collected up to the point at which they withdraw.

3. I agree for their interview to be digitally recorded, and understand that the recording will be stored securely.

4. I agree that anonymous quotes from their interview may be used in published reports of the study findings.

5. I agree for my child to take part in the above study.

Name of parent/guardian _____

Date _____

Signature _____

Name of participant _____

Date _____

Signature _____

Name of person taking consent _____

Date _____

Signature _____

CONSENT FORM *(for young person)*

Title of project: How do teenagers experience social media?

Name of researcher: Jenna Course-Choi

Participant identification number for this study:

Please initial each box

1. I confirm I have read and understand the information sheet for the above study. I have had the opportunity to think about the information, ask questions and I am happy with the answers.

2. I understand my involvement is voluntary and that I am free to drop out at any time without giving any reason, without my rights being affected. If I withdraw from the study, I understand you will use the data collected up to the point at which I withdraw.

3. I agree to be digitally recorded and understand that the recording will be stored securely.

4. I agree that anonymous quotes from my interview may be used in published reports of the study findings.

5. I agree to take part in the above study.

Name of young person _____

Date _____

Signature _____

Name of person taking consent _____

Date _____

Signature _____

Appendix H. Study information sheet



How do young people experience social media?

Information Sheet – Part 1



Hi! My name is Jenna, and I'm a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite you to take part in a research study about teenagers and social media. Before you decide whether you'd like to participate, it's important you understand why the research is being done and what it would involve for you.

Have a look at the information below and see what you think. Feel free to talk to others about whether to take part in the study.

What's the point?

This study will help us understand more about how young people use social media, and how it affects the way they feel about themselves and their friendships.

Why have I been invited to take part?

You use social media and you are in the age group we are interested in.

Do I have to take part?

No, it's entirely up to you. If you do agree to take part, I will ask you to sign a form saying you understand what the study is about and you are happy to take part. You are free to pull out of the study at any time, and you don't have to give me a reason if you don't want to.

What will happen to me if I take part?

I will meet with you to ask you some questions about how you use social media and how it makes you feel. I will ask you to show me some recent posts on your social media account(s), so we can talk about them. Our meeting will last up to half an hour. I will make a digital audio recording of our discussion, and transcribe it so that I can study it. This transcription will be anonymised, so it will not contain any names or other identifying information. My supervisors and I will be the only ones who have access to the recording and the written transcription.

Where will we meet?

I will come and meet you somewhere that is convenient for you, such as your school.

What will I have to do?

Have a chat with me for 20-30 minutes about how you use social media, and be willing to reflect on this experience.

What are the possible disadvantages and risks of taking part?

Sometimes people may talk about personal things they might find upsetting or embarrassing.

What are the possible benefits of taking part?

I cannot promise the study will help you directly, but the information I get from this study will help us to understand more about the effects social media have on young people and how they feel about themselves and others.

Who is supervising this study?

I am being supervised for this study by Dr Linda Hammond, Principal Lecturer at the Salomons Centre for Applied Psychology, and Dr Sadie Williams, Clinical Psychologist at South London and Maudsley NHS Foundation Trust. Their contact details are provided in Part 2.

What if there is a problem?

Any complaint about your participation in the study or any possible harm you might suffer will be addressed. More information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. We will follow ethical and legal practice and all information about you will be kept confidential. Details about this are included in Part 2.

End of Part 1

If the information in Part 1 has interested you and you think you might like to take part, please read the additional information in Part 2 before making your decision.

Part 2 gives you more detailed information about the study and what we will ask you to do if you'd like to take part.

How do young people experience social media?

Information Sheet – Part 2

What happens if I sign up, but later don't want to carry on with the study?

If you decide you want to pull out of the study part way through, we would like to use the data collected up to the point at which you decide to withdraw. However, if you don't want us to use any of your data, all of it will be destroyed.

What if there is a problem?

If taking part in the study has upset you in anyway and you would like to talk to someone, you are able to talk to the study supervisor Linda Hammond (contact details at the bottom of the sheet).

Complaints

If you have a concern about anything in the study, ask to speak to me and I will do my best to answer your questions. If you remain unhappy and wish to make a complaint, you can contact my Research Director, Professor Paul Camic, at Canterbury Christ Church, on 01227 927114.

Will my taking part in this study be kept private?

The recording of our meeting, and its transcription, will be kept on a password-protected device that only my supervisors and I will listen to/read. Any information I have about you will have your name removed so you cannot be recognised. The anonymised information you give will be used for this research study, and may be used in future studies, but we will ask for approval from official research bodies before doing this. Your information will be kept for a maximum of 10 years after the study has finished - after this time it will be destroyed. Your information is kept private unless you tell me information that means I am worried about your safety, or someone else's safety. In this case, I will have to inform a parent, guardian, or other adult responsible for your care, but I will talk to you about this before I do so.

What will happen to the results of the research study?

You will be asked if you would like to hear about the results of the study, and, if so, how you would like the information to be given to you (e.g. written summary, phone call). The results may also be printed in a psychology journal for other professionals to read. Your personal details will not be included in the report, but I will ask your permission to include anonymous quotes.

Who is organising and funding the research?

Canterbury Christ Church University.

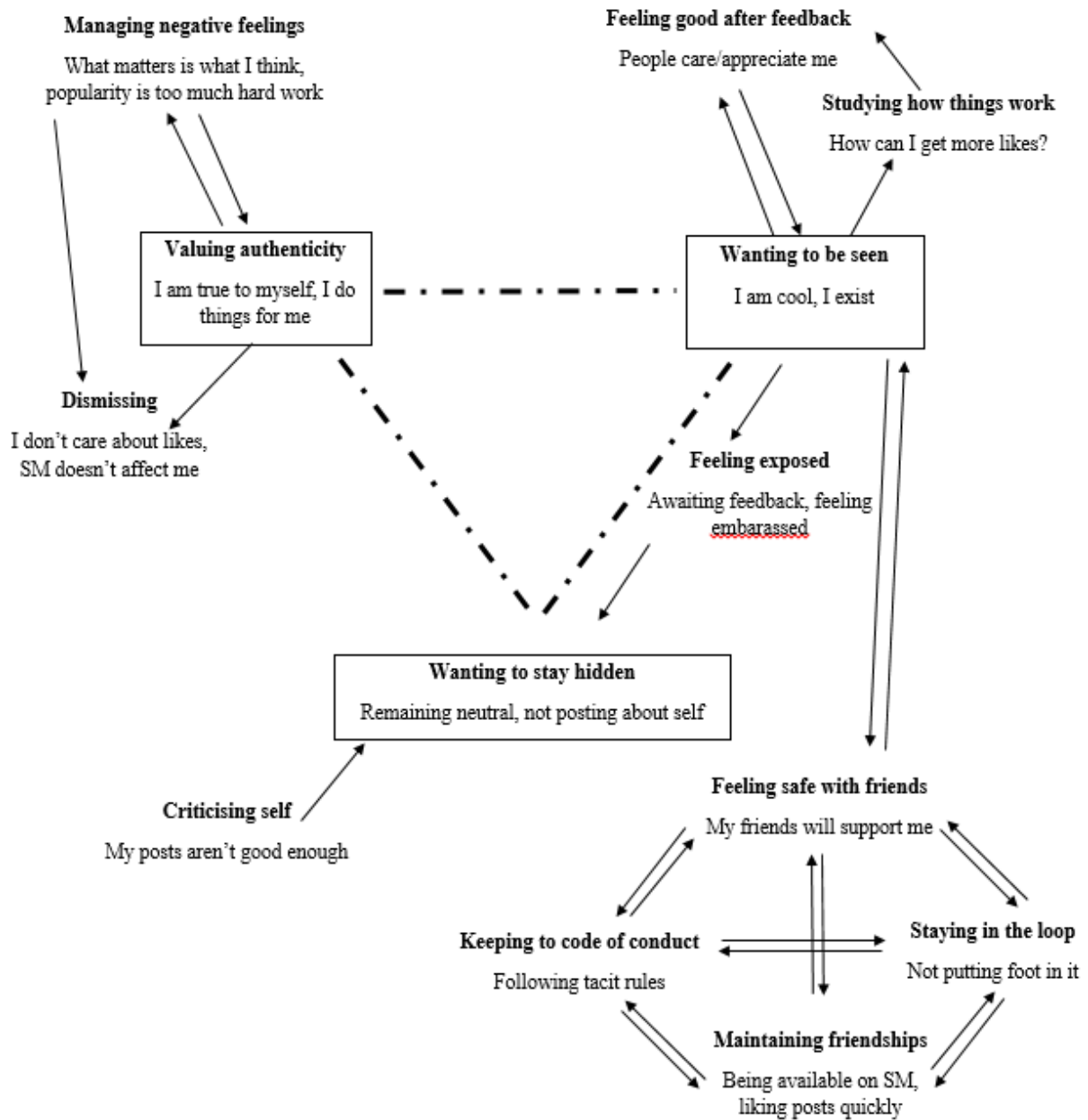
Who has reviewed the study?

All university research is submitted to an independent group of people (a research ethics committee) so that they can ensure the safety of everyone taking part. The university research committee has reviewed this study and they have given me permission to go ahead with the study.

Further information and contact details

If you would like advice about whether to participate, or have any concerns about the study, please contact Linda Hammond (linda.hammond@canterbury.ac.uk) or Sadie Williams (sadie.williams@slam.nhs.uk). If you would like to speak to me and find out more about the study, you can email me at j.course-choi1056@canterbury.ac.uk

Appendix I. Diagram of concepts after Stage 1 coding and analysis



Appendix K. Selected memos

A selection of memos are presented here to demonstrate the evolution of my thinking throughout the process of coding and analysis. Earlier memos are case-based (using questions developed from Charmaz (2006) to guide my thoughts), focussing on general ideas or points of interest that occurred to me during analysis, while later memos attempt to develop the properties of and relationships between categories.

24/09/17 Case-based memo – Stage 1, 16-year-old girls, no interviewer

What did you learn from the interview?

How much of what they say emphasises the importance of other people's judgement and views and their impact on somebody's sense of self. How they feel about themselves, whether they are liked and popular, whether they feel cared for. All brought down to concrete terms: do you get the likes or not. Also, how aware girls are of all the different processes going on when deciding to post or interpreting the feedback they get. They don't seem to have to think about their responses, they have already thought about these ideas. Likes and streaks are really important to friendships:

I asked my friend to do my streaks when I went on holiday, she lost them all except for mine with her, and then we lost it anyway, and I was like, "How could you lose my streaks?"

What are your impressions of the participants' experiences?

My supervisor was gobsmacked by how strategic and technical they are in their dealings and operating on social media. They are getting into nuanced understandings of followers, likes, distinctions between the two. I suppose I'm less surprised because I've thought about a lot of these things as well in my own SM use. Is it better to have more likes or followers? They judge the quality of the followers, and think about how to maximise likes with the content and timing of their posts.

Authenticity is important, but they start to grapple with where to draw the line at the end of the interview. Is posting a photo a long time after it was taken bad? Photoshopping is criticised, but what about posing in a way that makes you look better? Again, I wasn't that surprised by this, because think about these things when using SM too. A lot of the thought processes were familiar to me.

What are people doing?

The girls are reflecting on what it means to get likes, expressing confusion and offering explanations for why some get more likes than others. They are not ashamed to show in-depth knowledge of their own history of likes, remembering which photos received the most. They do place a lot of value on the content of their SM feeds as reflecting a desired or ideal life. It's about image management:

That's why I leave it, and then I've got this picture of O on there, it just looks good on my Instagram.

It's like you're best friends.

They voice the sense of exposure that comes from posting, particularly when it's just a picture of you. They talk about strategies to maximise their likes. They talk about implicit rules that perhaps not everyone shares:

The thing that bothers me is when not everyone from our friendship group has liked a picture, cos I'm like, "But you're my friend! You've got my back!"

There is a real hierarchy applied to these rules – for best friends, x means y, for lesser friends, there is a different response. And the same hierarchy is used as a lens through which actions are interpreted – if x does this, that's OK, but if y does, it's not.

With you, I'll like it as soon as it comes up, but if it's like O or E I'll wait until a few people have liked it first, because I hate being one of the first likes. It's OK with you, but with other people, like if I was the first person to like S, I'd be like, "Oh, my God."

What do their actions/statements take for granted?

They seem to be open about being hurt when they don't get expected likes, and it seems acceptable to admit to spending time and effort working out how to get the best results. This is very different from the boys, who do not admit to caring. This is the case even though one member of the group is apparently less invested:

I have accepted I don't get as many likes, and I just don't care, I'll get an amount I'm happy with.

The assumed importance of SM does get challenged by this “rebel”:

Because I'm happier in my life I don't really care about the likes.

And this does prompt one of the other girls to minimise the importance for herself:

I don't really check what likes I've got, it's just nice when...

At other times though, the rebel, telling a different story, gets ignored. The others continue the conversation around her comments. It could be good to try and theoretically sample some participants who feel similarly to this rebel about SM.

What isn't said?

Although the girls may have thought about these things by themselves, it does seem like they don't have discussions about them often. As a result, this interview prompts one girl to feel anxious about what others might think of her, based on what has been said:

I'm now really conscious of what I've sent to you on Instagram, because other people are logged in.

They are having to learn the rules of how to behave on SM tacitly, by looking at how others behave and almost studying how things are done. It therefore follows that the more someone uses SM and invests in SM, the more they may get out of it, because they will know how to maximise the rewards and minimise the risks.

What doesn't get spoken in this interview is that likes aren't about the post, likes are about the person. The girls grapple with differences in likes, but this idea doesn't get mentioned.

The thing is, me and L took that photo, and there were a few, so I posted one and she posted another and I compared it, and I got 80 or something and she got 100 and something, so I was like, "What am I doing wrong?"

What connections can you make?

Comparison comes up again and again throughout the interview:

I remember I posted a photo the same time as C, and our photos were right there, and you didn't like mine but you liked C's!

This relates to what I said above about how the girls are learning what works and what doesn't work by using SM. Comparison is a crucial technique for learning how to maximise likes. Although if they come to the conclusion that it doesn't matter what they post so much as how popular they are offline, then their best means of getting more likes becomes gaining more status offline.

What process is at issue here?

Something about negotiating how much you are willing to invest, to play the game, and how much you balance that with "not caring" or "not trying as hard as others", and where you lie on that spectrum likely depends on how many likes you get. The more you get, the more benefit you get from being on SM, so you invest meaning in it. If you don't get as many, you develop strategies to accept that, by defining yourself as someone who doesn't need it as much or doesn't try as much as others. So there is a cycle, I like this photo, I want others to see it, and they like it too, I'll keep posting – this works in reverse as well – I like it, I want others to see it, they don't like it, I don't post.

There is also a process of managing the anxiety this topic provokes. One comment about feeling knocked, and then one girl tries to boost her self-esteem, talking about a popular selfie. They get in touch with the anxiety and more negative feelings, and they flee from that into something more positive. A defensive move to get back to the positive.

12/11/17 Case-based memo – Stage 1, 12 year old girls, no interviewer

What did you learn from the interview?

12-year-old girls do not work well unsupervised! Interview was chaotic and there were only a few bits that were relevant. But one important point was that questions that seemed simple on paper actually had many different levels for the girls to consider:

How do teenagers feel about themselves when they get lots of likes and shares/favourites/retweets?

So is this if you're someone who gets no likes, or you always get loads of likes? Well, if it's on all your pictures, you'd be used to it and you'd be like, "yeah," but if it was some your pictures you'd be happy.

If you normally get 65 likes and then you only 11 you're feeling really bad about yourself. Except when you normally get five and then you get 11 you're on top of the world.

So everyone has a typical number of likes that is normal for them, and feeling good or bad depends on how the number of likes for a post relates to this norm – if it's fewer than normal then it doesn't matter if it's 200, that's still "bad" for that person. **It's all relative** and it's the interpretation of the feedback that decides whether it is positive or not. This is the kind of nuance that quantitative studies perhaps struggle to capture.

There are also **contradictions** in this interview. For example, at one point, the girls suggest likes represent a statement about the person who has posted: if they like your post, you feel good *..because loads of people like you*, and if they don't, *you feel sucky, it's like no one cares about you*. But this contradicts with later in the same interview, when April asks whether the people who like these photos care about the person: *Probably not, they just liked it because, "Oh my god, she's my friend, she's popular, I must like her photo," and maybe the unpopular ones would think, "Maybe if I like her photo she'll like me back", but they're like, "No, you peasant"*. So here likes are an obligation and a social currency rather than a representation of care or positive regard. Do they mean different things at different times, or can they mean all of this at once?

What are your impressions of the participants' experiences?

I got very little sense of their genuine experiences, there was a lot of laughter and bickering off topic. The group format may not be the best for eliciting frank responses, although they play off each other and it is fruitful when they disagree with each other. I did learn that these girls don't consider themselves "popular". Importantly, there is a range of reactions and my theory may not be able to account for them all:

Some would feel, "I don't care," and some would feel, "I'm not very popular," and some are like, "it's the end of the world".

What connections can you make to other analysis?

As with the 16-year-olds, they seem to know SM isn't realistic and that things look better than they are – and yet they still equate likes to meaning much more than a tap on your phone.

So I could be in bed all day doing nothing but on my Instagram, I looked like I'm having a whale of a time on holiday.

What process is at issue here?

These girls are more "having a laugh" than the 16-year-olds. The interview feels like a game to them. I wonder if SM also feels like a bit of a game at this age.

11/02/18 Conceptual memo – Stage 2, explicit vs implicit meanings

There is a lot of meaning that is not conveyed in the actual dialogue during these interviews. For instance, "dismissing SM" is a huge category now, and if I took that at face value then I would be thinking that SM genuinely wasn't important to a lot of teens. But there are clues that this is not the case – the way many participants know exact figures for likes on their photos and remember posts that have done particularly well.

They are so quick to minimise their distress, it's really not OK for some of them to show they do care and they are upset by things that don't go well on SM.

And how does that make you feel, that someone else has loads more than you?

At first I felt a bit sad, but now I just think, "meh". I don't go on it a lot, because I don't get Internet unless I'm on the other side of the house

This participant admits to feeling a "bit sad" but then indicates she doesn't really care, and ascribes her low SM use to a practical reason – not being able to get on the internet – rather than having anything to do with negative feelings. This may mean the interviews create a positively skewed picture that doesn't tell the whole story, unless I am able to capture implicit meanings underlying what they say.

Charmaz p. 54 writes that if your codes define another view of a process, action or belief than your respondents hold, note that. Your observations and ideas do matter. Do not dismiss your own ideas if they do not mirror the data. Your ideas may rest on covert meanings and actions that have not entirely surfaced yet. Such intuitions form another set of ideas to check.

07/06/18 Conceptual memo – Stage 2, positive spin and safety

I have found more examples of what I started to think about above – the positive spin that gets applied to difficult situations on SM.

And how did that make you feel?

Very bad, but I think I deleted that one cos I didn't like it anyway.

This participant is very quick to reframe actions as own decision rather than being affected by judgement of others. Here is another example where they have turned a negative experience into a positive one:

Have you ever had any bad experiences on social media or anything that's made you feel low? Or sad?

Um... Yeah, like, for example, I put something on my story a while ago, like year eight or something, with my friend and we were joking around and playing this game, and some other person put on their story kind of shading us and being like, "No one does that any more," when we were doing that. And it was like, "Uh, there's no need for that, but OK". And it made me take a step back, and I don't put as many things on my story now, I guess kind of because of that, but also I just realised I don't really need to. So it's not negative, really, cos it has made me aware I don't need to post everything, which is quite good, cos you shouldn't really post everything that you do - no one needs to see that. So at the time it was quite negative, but now it's like it doesn't matter anymore.

I keep coming back to the idea of safety – these cognitive tricks enable the teens to feel safe and to "save face" almost. "X happened, but it's OK because Y..." It's not cool (or safe) to be vulnerable so they have to make everything OK and square it in their heads.

19/09/18 Conceptual memo – Stage 2, quantification of likes

I like when people look at my Instagram and think, "She has lots of friends."

So number of friends quantifies popularity. Number of likes quantifies...respect? Loyalty? Affiliation? It feels like the number of likes is more important than the photo itself. They're not talking about how great a post was, they're talking about how many likes things get. And if people are popular, it doesn't seem to matter what the post is, they will get more likes than the same post by someone else. So the likes are not really about the post, the likes are about the person. In which case, perhaps what they confer is status. I think that makes sense, I know people online who will consistently get hundreds of likes.

31/01/19 Conceptual memo – Stage 2, defences

Because I'm happier in my life I don't really care about the likes.

A real sense of superiority over those who do care about the likes. But which comes first, did they never care about the likes? Or does someone not get many likes, so then they don't care about them because they're not going to be able to get them anyway? It feels like there are some factors that mean someone is never going to really put themselves out there on SM – if someone is more introverted or lacking confidence, maybe more self-conscious and fearful of negative judgement. And then if people do try it and they perceive the response as negative, and they are not going to try again, then they adopt this dismissive approach to SM where they don't need it, it's for people who need external validation – so, interestingly, asserting that it's those who use SM who may be lacking self-esteem. I don't know if the literature bears this out though, with studies indicating higher self-esteem leads to more SM use rather than less.

14/02/19 Conceptual memo – status and interpreting likes

Reading Charmaz talking about suffering as a moral status, there is an element of status inherent in the social media behaviours and conversations of the interviews. Charmaz writes, "A moral status confers relative human worth and, thus, measures deserved value or devaluation" (Memo, p. 77). In the case of social media, such value or devaluation is quantified and concretised in the number of likes one receives.

People who receive many likes are spoken of with awe and wonder. They have elevated status. What erodes this status? A sense that it isn't authentic, that someone is doing things "for likes", or spending "too much" time taking the perfect selfie. The status becomes contested. Those who receive fewer likes justify the disparity by disparaging those who receive more as "trying very hard". People develop stories to explain their relative status in a way that is acceptable to them – "I have lots of random followers". This status system also presents opportunities to play the role of the rebellious outsider. Someone "above" social media, who doesn't "need" it as others too. This is a great way for them to maintain their sense of safety in a risky online world.

Appendix L. Positioning statement

Reflexivity

My own stance on the research topic was actively reflected upon during a bracketing interview. I am a 33-year-old female second year trainee. My adolescent development took place alongside or just after many of the key developments in online communication. SMS messages appeared when I was 12, while Facebook became widely used in my final year of university. I therefore learned to navigate these new platforms along with everyone else, and as the apps themselves developed. This was therefore at a much slower pace than today's teens have to adapt. It was also at a later age than many young people now, when I had more emotional and cognitive resources to draw upon. I have seen friends respond to SM in different ways – some using it compulsively and having to quit altogether if they became unhappy with their usage; others able to dip in and out without issue. However, none of my generation had to grapple with today's SM behemoths during our formative teenage years. I embarked on this project with a keen interest in how today's adolescents negotiate this online world. Over the course of the bracketing interview, I realised I consider myself someone able to use SM in a "healthy" way, and held a belief that SM is not inherently bad. I was aware of societal discourses about SM which characterised it as having damaging effects on teens and society as a whole, and considered these overly simplistic. Following my critical review of the literature regarding longitudinal effects of SM on teenage wellbeing, my adherence to this belief was perhaps strengthened. The literature review was undertaken after the initial stage of analysis (drawing on secondary data) was complete.

Appendix M. Abridged reflective research diary

12.08.17	<p>April has given me her data – the interviews and transcripts. I feel so lucky to have this store of data all ready to analyse. However, I'm also aware of the challenges this could entail – I will have to familiarise myself with the data, by listening to the transcripts. And it might be frustrating if April hasn't asked a question that I would have been interested to explore. But looking around at other trainees, I feel "ahead of the game" a bit. Now I just have to work out how to code... I am intimidated by Charmaz's line-by-line coding, although I can see how it ensures the eventual theory is grounded in the data and that this type of coding is less susceptible to researcher bias and assumption.</p>
31.08.17	<p>Line-by-line coding is so hard! I'm constantly doubting the suitability of my codes and struggling to capture the data concisely without losing its richness. A meeting with my supervisor has helped me reflect that I'm quite structured in my general approach to work, and like to be organised, with a clear plan. The complexity and ambiguity of GT analysis is therefore proving anxiety-provoking. I have no idea how I'm going to end up with an abstract theory and just have to trust in the process. My supervisor also coded a three-page extract of one of my interviews, and we compared our codes, which was helpful. Hers were more grounded in the data, capturing more of each line, whereas I was possibly trying to be more abstract than is helpful at this initial stage. This meant she came up with more codes, where I was repeating some where participants seemed to be saying similar things. I really will end up with hundreds of codes at this rate, but the funnelling into larger categories comes later, and this way I can be confident the categories really stem from the data. I felt a bit dispirited, as it felt like I had been doing it "wrong" and it was frustrating to have to re-code what I've already done, but this was a very useful exercise.</p>
15.11.17	<p>One challenge of the design of this study is that nobody else is anywhere near to coding their data, as most people haven't collected it yet. I feel fortunate, but also lonely. It's been reassuring to remember my constructivist stance acknowledges that there is no one "right" way to code and that inevitably my codes will reflect my stance as a researcher to some extent, and that's OK. My supervisor also advised me to be less strict about line-by-line coding. If the participant really isn't saying much, I shouldn't feel I have to come up with a code for it. Charmaz and Strauss and Corbin do all emphasise the importance of flexibility and fluidity. I also read a friend's GT dissertation and he wrote that he had a bit of an epiphany when he realised that it was through discussion, memoing and diagramming that his model began to take shape. Mechanistic coding itself won't automatically become something more abstract – I will have to spend time on activities that foster thinking about the data.</p>

19.02.18	<p>I am finding memo-ing helpful. Although I have still incorporated some structure by using questions Charmaz offers as a guide! But it is helping me to tease out some of the challenges and tensions in the data. I am struggling a bit with how to decide whether to code content, or process, or both. A lot of the time the interviewees say SM doesn't matter, or they don't care, I don't believe them. I think it's a defence. Am I putting too much of my own interpretation on what they are saying? I need to document instances supporting my interpretation. I might need to include a question that elicits more around this when I conduct my own interviews. I'm really not thinking about psychological theory at the moment, just sticking with the data.</p>
18.06.18	<p>I've conducted a bracketing interview with my supervisor. I regret not doing this earlier, although I'm reassured that one of the advantages of line-by-line coding is it leaves relatively little room for assumptions to creep in. It was definitely good to do the interview before I start focussed coding, as this is where codes become more selective and conceptual. A lot of what emerged in the interview I had already discussed with course mates and my partner, in terms of my attitude towards SM, but it was interesting to see my supervisor's reaction to some of what I said. As someone who doesn't use SM, she is unfamiliar with a lot of the thought processes involved in deciding what to post and how to interpret feedback, whereas when I hear participants talking about these things, I can relate. This means I really have to be careful not to project my own assumptions onto the data.</p>
21.07.18	<p>I'm quite overwhelmed by the number of codes I now have – about 500. I'm very ready to begin focussed coding and funnelling codes into larger categories. We had a GT workshop at uni with a guest expert on the methodology. It was really helpful and reassuring. I asked her about my dilemma of coding process vs content. As always with GT, the answer was vague and inconclusive, but I am getting used to that now, and better at following my intuition. Other trainees who haven't started coding yet were aghast at how many codes I have, so I felt relieved to have that initial coding behind me. Now that I'm comparing data and codes and trying out various groupings, I can see some of my codes need re-thinking, but this is all part of the constant comparative process.</p>
10.10.18	<p>I'm ready to theoretically sample now, I think. I could keep going with April's data, but because her questions are the same, a lot of the same codes are coming up. I have diagrammed emerging categories so far and it's made clear that there are a lot of tensions and contradictions in the data. For instance, it looks like there are competing goals of wanting to be authentic on SM, but also wanting to be popular. Then there is also tension between wanting to be seen and wanting to stay hidden. Exploring these tensions will be the focus of my interviews. It was quite exciting to draw the diagram, I had no idea what it was</p>

	<p>going to look like when I started but actually it all seemed to fit together in an interesting way. I also sent my focussed codes so far (with description of their parameters and tentative relationships to other codes) to the GT expert, who has kindly agreed to offer consultation on parts of my project. She said the code descriptions and diagram make sense, which is a good starting point! I also had a meeting with my second supervisor which brought up some interesting theories. She related my triangular diagram to Karpman's drama triangle, a social model of human interaction. Karpman's triangle relates to conflict between people, whereas I guess my triangle describes intra-psychic conflict. It will be really interesting to see in the follow up interviews whether adolescents feel this sense of conflict is relevant to them.</p>
11.01.19	<p>I've spent the last couple of months focussing on Part A. It's been hard to juggle. Now returning to Part B, the interview schedules have required more thought than I expected. The GT consultant suggested short interviews focussed on a certain topic, so that a particular aspect can be isolated and explored in more depth. I think it's a good idea. For example, I have questions around the aspect of "feeling good after positive feedback", a focused code that contradicts with "dismissing the importance of likes". It feels like there is tension around that code. So I have tried to develop questions that might help me unpack that further, to get a sense of whether that code is a theme with a degree of duality to it, or a standalone statement. The consultant also suggested I break the interview schedule down into codes so I really know what codes/tensions each question is targeting and can build in opportunities to go down different paths, depending on the answers. I need to break down quite complex ideas though and make sure I have asked enough initial questions to prep the interviewee so that they understand the dilemma/tension I eventually ask them about. Discussing this with a course mate and my supervisor has helped me to simplify the questions so that hopefully they will make sense to a 15-year-old.</p>
31.01.19	<p>I am really enjoying interviewing. I have spoken to six girls so far and their answers have been very illuminating. I needn't have worried quite so much about the complexity of my questions, as the girls have taken to the questioning really well and given me rich answers. It's becoming apparent that they don't shift between wanting to "be seen" and "be hidden" or "be cool" and "be authentic" as much as I initially thought. Instead, they occupy a more permanent place on these spectrums, depending on how well they do on SM and how good it makes them feel. It's starting to feel more like I have a model around the factors that contribute to adolescents either using SM actively, posting lots, or using it passively, posting rarely and mostly just looking at what other people put up. One girl in particular was very</p>

	<p>honest about managing her image on SM and using it to ascend to “tier A” in terms of popularity. She was bordering on becoming an Instagram influencer. There was no attempt to claim authenticity. The hierarchy implicit in not only posting but also feeding back was quite astonishing, and scary, but her experience is an outlier in my data so I’m not sure how much will be captured in the eventual model. It’s occurred to me that no matter what their style of SM use is, all the interviewees so far have seemed quite satisfied with their relationship with SM. If they do well, then it’s important to them and they manage to continue to do well by employing various strategies, like relying on friends to like posts and learning what posts work well. If they don’t do so well, they step back from it and adopt a superior stance. Either way, everyone seems OK. But am I being influenced by my bias of not seeing SM as a negative thing? And, even if not, would they be telling me if they weren’t happy with things? I’m not sure they would feel able to show that vulnerability or perhaps even to admit it to themselves, but I can’t see how to overcome that in the interview.</p>
15.02.18	<p>I’m feeling very stressed about recruitment. I’ve not had any luck with other schools and time is running out. I’ve been asking friends and family to put me in touch with any teens they know, but I’m the wrong age – all my friends kids and their friends are too young! I definitely need to interview some boys, given the apparent gender differences after Stage 1. Some of the girls I’ve spoken to were much less active on SM, similar to the boys April spoke to, which gives me a hunch it’s not as clear cut as “girls are active on SM, boys are passive”.</p>
31.02.19	<p>Feeling much better about recruitment. I think I now have enough interviews arranged. The same ideas are cropping up repeatedly in the interviews and I think theoretical sufficiency is not too far away. Coding is also much quicker now and I am rejigging the categories so they better reflect the data. It’s quite pleasing to come across something that doesn’t feel quite right and then to find a better home for it. Gradually things are slotting into place. NVivo makes constant comparisons between codes and categories and data easy and although I wasn’t always sure it was the best approach, I’m glad I’ve used the software at this stage. I’ve also noticed how at the beginning I was really trying to find codes for every piece of data, even when participants were responding almost with monosyllables, or just adopting the words of the interviewer. Looking back, this feels very forced and I have more confidence now to discriminate between meaningful and perhaps shallower data.</p>
03.03.19	<p>I interviewed a girl who was the most passive SM user yet – she was loathe to even have an account, but felt like she didn’t have a choice, as this was how her friends were communicating. She spoke of feeling like she would have been left behind. It felt sad. It confirms to me it’s really not a choice to be on it or not – you can choose to be more or</p>

	<p>less active in terms of posting, but it's pretty mandatory to be on it and checking it to make sure you maintain friendships and stay in the loop. Those two categories feel like they are there in every experience I have heard about. I have recently been thinking about what my "core" category might be, and "being seen" or something to do with status has felt important for a while. But it's clearly not important to everyone, so I will need to rethink that.</p>
15.03.19	<p>As I code my final interviews, the idea of safety is becoming more prominent. All the codes seem to relate to safety. A host of codes are to do with evaluating safety, which depends on the overall balance of various factors, such as the resources and natural dispositions (e.g. confidence levels) individuals have to make it safer on the one hand, with fear of a negative result on the other. Then, whether they post or not, they have strategies to help them feel safe at whatever level of activity on SM they participate in. So if they're very active, they study how it works to ensure maximum success, and if they're passive, they adopt a superior attitude of "not needing" it. Staying in the loop is also driven by a fear of being left behind/not knowing what's going on or how to behave, which feels unsafe to them. This makes me think of learning theory quite a bit – they really learn from their experiences and tailor their behaviour accordingly.</p>

Appendix N. A coded transcript

This has been removed from the electronic copy.

Appendix O. List of categories, subcategories and example codes

As hundreds of codes were produced, the following table contains examples from each category rather than an exhaustive list.

Categories	Sub-categories	Example codes
Staying in the loop	Seeing what's happening	Feeling isolated without SM Knowing what to say because of staying in loop on SM Knowing what others are up to Seeing what's happening Staying in the loop
	Fearing not having a clue	Equating not going online with being lazy or boring Feeling anxious about others judging me if I don't go on SM Feeling unpleasant when out of the loop Feeling 'out of the loop' when offline Not having a clue
Evaluating safety of use	Not letting friends down	Being alert to new messages Feeling let down by friend who lost streak Feeling pressure from others to maintain streaks Feeling sad I couldn't message friends because I'd lose streaks Forcing friend to keep up streaks while away Losing a streak equals letting a friend down Maintaining streaks Not being aware of developments online can damage friendships Not liking my photo and liking others' makes you a bitch Receiving notifications so that I can like friends' posts because that's what friends do Seeing streaks as a way to maintain friendships
	Keeping on top	Being a teen means you are on SM Going online every day Having to be on SM while watching TV Time sensitivity of receiving feedback Trying to maintain streaks while away Working hard to maintain streaks Worrying about SM activity or lack of it
	Lacking confidence	Criticising self 'cringing' on past posts Disliking own posts Feeling boring Feeling embarrassed at old posts Judging self as not interesting enough to post Not posting because noone cares Posts having to be good enough Seeing own feedback as worthless When others post selfies it's cute, but I can't do that

Fearing things going wrong	<ul style="list-style-type: none"> Being unsure of others' reactions Being successful on SM is difficult Being wary of unknown people online Exposing self online is more risky than offline Fearing things going wrong Hearing about others' negative experiences online Lack of control online Making one mistake can be disastrous Posting a selfie as risking self-exposure or taking a risk Posting anything is exposing Predicting being ignored Predicting rejection Risking everything with a post Things feel precarious
Wanting to avoid negative judgment	<ul style="list-style-type: none"> Assessing potential judgement from others Being successful on SM takes a lot Being the first to like a post is exposing Displaying opinion online is risky Fearing screenshotting behind one's back Feeling judged as a boy posting about emotions Feeling vulnerable after requesting someone Getting friend to post because risk to self was too great Predicting negative judgement based on number of likes in comparison to others Predicting negative reactions to SM activity or lack of it Wanting things to go right Waryness of potential negative feedback We are all desperate for that little thing not to go wrong Worrying about others' interpretations of SM activity Worrying about being thought of as a sheep
Keeping to a perceived code of conduct	<ul style="list-style-type: none"> Acceptable for girls to feedback to girls Keeping other people's information private Respecting others' privacy by not reading their conversations Assuming others share own code of conduct re sharing snaps Following trends reduces need to think up interesting posts Not posting a photo after friend criticises it Posting because of others Posting because others are posting Taking cues on what to like from friends Reciprocating SM action Valuing reciprocated action
Feeling safe with friends	<ul style="list-style-type: none"> When you're unsure, you usually just cover up Experiencing positive explanations for others keeping information Following others Following trends reduces need to think up interesting posts

Taking cues on what to like from friends
 Bolstering and affirming evaluation of post from friends
 Having online friends known IRL
 Followers you know well are safe, less exposing
 Feeling safer with fewer followers
 Being followed by randomers risks negative feedback
 Limiting what is shared with whom
 Verifying authenticity of unknown followers
 Studying how Adding someone can result in them liking your old
 things work on posts
 SM Attention-grabbing gets a response
 Being aware of how popularity works on SM
 Being better friends gets more likes
 Being dramatic help you to be seen
 Comparing number of likes to other posts of same event
 and getting annoyed if others have more
 Comparing own content with others'
 Expecting number of likes based on type of post
 It's not the post, it's the person that gets the response
 Guessing friends' reactions
 Judging posts depends on the poster
 Being aware of number of likes and followers other
 people have
 Being aware of social standing
 Expressing confusion at varying popularity
 Expressing confusion about what gets likes
 Observing reactions to different posts
 Predicting perceived popularity based on the number of
 friends
 Knowing certain types of posts get more likes
 Knowing more people means more likes
 Letting others log on to maintain streaks
 Looking out for good snapchat opportunities
 Maximising feedback by posting at certain times
 Posting an old photo as if it's current is not cool
 Posting at times when people are less likely to feedback
 is bad
 Posting something later is weird
 Remembering number of likes for different posts
 Comparing own feedback with others'
 Contrasting levels of restricting access
 Investigating reason for rejection
 Studying number of likes one receives
 Trying to figure out what makes some people receive
 more likes than others
 Seeing the Believing SM is good
 positives of SM Building relationships using SM
 Feeling SM is a positive thing
 Feeling confident about navigating SM
 Feeling very happy with online identity

		Being less judged online
		Making friends online
		Using SM as entertainment
		Using SM for inspiration
		Using SM for memories
		Using SM to become friends in real life
	Being passive on SM	Avoiding SM activity
		Avoiding disclosure
		Avoiding negative judgement
		Being hidden is safe
		Being passive on SM
		Keeping others unaware
		Not being bothered about likes because I don't post
		Not posting much
		Not wanting to engage in SM
Staying hidden	Keeping posts bland or neutral	Being neutral to avoid negative feedback Keeping low profile to avoid negative judgment
		Keeping opinions to self
		Keeping self hidden from others
		Posting bland things to avoid controversy
		Showing my room in posts feels invasive
		Standing out online is risky
		Wanting to avoid conflict
	Posting to craft identity	Anticipating posting a lot
		Choosing what to post online
		Considering whether to post
		Choosing exciting posts
		Defining own SM profile as wholesome
		Displaying identity on SM
		Equating not posting with being really boring
		Feeling excited about event because it will make good snapchats
		Having one selfie is important for showing self
		Not wanting to be thought of as boring
		Portraying self as easy going online
		Posting communicates identity as interesting or unique
		Posting for humour
		Posting indiscriminantly when younger
		Posting to show one is normal
Posting strategically	Posting to acquire status	~I'm still here, I'm not dead, I'm still here and still popular, I'm still making snaps, you can still follow me.~
		Acting differently online to be liked
		Becoming more popular by posting fun things
		Being judged for not posting for an occasion
		Describing coolness
		Equating posting with being held in mind
		Equating posting with caring
		Equating posting with saying you've had a good time
		Feeling pressure to post frequently

		Feeling pressure to have photos online
		Frustration in wanting likes but also wanting to craft interesting identity
		How you seem is more important than how you are
		Impressing people with cool posts
		Not posting means people avoid you
		Photos of people online indicate closeness of friendships
		Posting because of need to stay relevant
		Posting fun things makes you popular
		Using SM to maintain friendships
		Using SM to gain popularity
		Wanting to be seen positively by others
		Wanting to portray positive self-image
	Comparing own feedback to others'	Differentiating between close friends and acquaintances
		Differing amounts of feedback to SM activity
		Examining own and others' followers to see if they are liking others' posts more than own
		Evaluating quantity of feedback
		Evaluating number of followers
		Needing more likes to be satisfied
		Quantifying likes as a proportion of total followers
		Quantifying others' number of likes
		Quantity of feedback related to poster, not photo
Evaluating feedback	Interpreting meaning of likes	Equating a friend liking a photo to 'having my back'
		Equating a photo not being liked to receiving hate
		Equating likes to popularity
		Equating likes to kindness
		Equating likes to friendship
		Equating likes to courtesy
		Equating likes to a favour done for someone
		Equating getting likes with doing well
		Equating 'getting it right' with getting likes
		Feeling loved or appreciated when scrolling through likes
		Getting fewer likes next time is disappointing
		Having set expectations about rate of feedback for own posts
		Liking a picture to support a friend
		Liking a post immediately is a sign of friendship
		Liking a post in expectation that they will like your post back - 'like for like'
		Liking a post sooner or later depending on strength of friendship
		Liking all someone's posts means you are a good friend
		Likes dispensed in return for good behaviour, ie liking your posts in return
		like for like

	Feeling good/acquiring status	<ul style="list-style-type: none"> Enjoying receiving feedback Evaluating day as 'good' based on likes received Feeling appreciated after receiving feedback on a post Feeling appreciated or valued online Feeling excited seeing comments and likes Feeling good about oneself after receiving positive feedback Getting 'an extra little boost of happiness' with each notification 'my favourite time', when everyone liked a photo Positive feedback is affirming of one's actions and intentions Positive impact on self because of others' views
Feeling good/acquiring status	Feeling rejected/exposed	<ul style="list-style-type: none"> Being affected by lack of positive feedback Being bothered when someone in friendship group hasn't liked a photo Experiencing negative feedback online Feeling SM efforts go unappreciated Feeling rejected Feeling sad due to lack of feedback Lack of positive feedback makes one less likely to post in future Lack of positive feedback affects confidence Making an effort is fruitless Posting less after negative feedback Receiving no feedback
Feeling rejected/exposed	Dismissing SM	<ul style="list-style-type: none"> Attention-seeking posting is negative Being too busy to post online Discounting importance of SM or content Dismissing SM participation as too time-consuming Displaying indifference to judgment online Displaying indifference to not getting likes Displaying indifference to number of likes in response to friends saying they don't care Displaying indifference to others receiving more likes as a proportion of followers on SM Displaying indifference to SM Distancing self from effortful selfies Distancing self from selfies Downplaying use of SM Equating selfies to self-absorption Identifying as someone who doesn't take selfies Judging others' SM actions or content Judging update posts as meaningless Judging selfies as meaningless Identifying others as on SM too much Minimising importance of Snapchat Not being defined by SM profile Not getting likes and not caring about it Not missing SM

Managing negative feelings	Valuing authenticity	<p>Not needing SM, taking it or leaving it</p> <p>Not trusting SM to portray people's true personalities</p> <p>Others care, not me</p> <p>Rejecting SM because it takes too much time and effort</p> <p>Ascribing deletion of post to self-preference, not others'</p> <p>Ascribing SM inaction to personal preference rather than fear</p> <p>Believing people post for themselves, not others</p> <p>Being creative</p> <p>Being disappointed meeting someone IRL after looking at their SM</p> <p>Caring about what others think too much is bad</p> <p>Differing on and offline behaviour</p> <p>Differing online vs offline image</p> <p>Discounting importance of what others think of posts</p> <p>Doctoring photos is unrealistic</p> <p>Importance of being authentic</p> <p>Doing things for myself</p> <p>Feeling frustrated when others do things for likes</p> <p>Feeling pressure to make it seem like posting is for self, not others</p> <p>Feeling frustrated when others do things for likes</p> <p>Interpreting others' actions as 'for likes'</p> <p>Liking a picture because it was 'purely' in the moment</p> <p>Making a good post my own way</p> <p>Perceiving self as authentic online</p> <p>Staying true to your interests</p> <p>Valuing authenticity online</p>
	Rationalising experiences	<p>Accepting bad photos of self online</p> <p>Accepting lack of control over what is posted</p> <p>Accepting rejection</p> <p>Being aware people only post the positives</p> <p>Caring more about close friends than acquaintances</p> <p>Feeling secure</p> <p>Attributing less SM use to WiFi, not feeling unpopular</p> <p>Being aware of discrepancy between online and offline lives</p> <p>Explaining poor proportion of followers to likes as due to public profile attracting random followers</p> <p>Feeling unthreatened because most people's posts are trivial</p> <p>Justifying amount of feedback received</p> <p>I don't value likes, so people don't like my posts</p> <p>Knowing SM doesn't tell the full story</p> <p>Minimising impact of negative feedback</p> <p>Putting a positive spin on negative feedback</p> <p>Seeing through tricks for looking hotter</p> <p>Seeing through staged selfies</p> <p>Understanding people put the best bits online</p> <p>Being reassured that others' lives are boring</p>

Justifying posting less as for self as well as in response to feedback
Not caring about likes because one is happy IRL
'not caring what anyone else thinks'
Rationalising others having more things than me
Reframing popularity as hard work
Returning to positive event after talking about lack of feedback
Setting boundaries for whose opinion counts
Setting up notifications to enable one to like friends' posts and maintain friendships
Valuing opinion of self and close friends

Doing things on SM to feel better

Censoring boring posts
Changing online presentation
Changing post in response to negative feedback
Delaying reading a message
Deleting if someone else doesn't like a post
Deleting photos when older
Editing followers
Editing SM content
Gaining status or an ego boost from leaving would-be followers hanging
Keeping would-be followers hanging means you are wanted
Posts with too few likes are unacceptable and deleted
Scrolling through likes to self-soothe
Sending screenshots as punishment for friends not liking posts

Appendix P. Summary of focussed codes after Stage 1 analysis

I wrote this summary to clarify my thoughts on the major emerging categories at this stage of the analysis, to demonstrate how they were grounded in the data with examples, and to describe, tentatively, the properties of the codes and their relationship to other codes. This was useful to send to my supervisors and GT consultant as it gave them an idea of where the project was heading and fostered useful discussion around where to go next. There was more of a gender split after Stage 1 analysis as April Ward had interviewed some girls who were generally active on SM and boys who generally weren't. However, after Stage 2, these gender distinctions became less dominant, as I spoke to some boys who were very active and girls who adopted a dismissive stance towards SM.

Being authentic

Teens value authenticity online – they describe themselves as authentic and are disparaging when others are seen to be staging things or making too much effort. *“That's what I tend to show, what I'm like in real life.”* It's important that they are seen to be posting for themselves, not others. *“It doesn't really matter, if it's meaningful to you, you just post it.”* Doing something “for likes” is not respected. The worst thing about SM is *“how someone can pretend to be something that they're not.”* (Links to other categories: If they don't feel like they can be authentic because they don't feel good enough, they **stay hidden**. And they can't be seen to be **working hard**, although they are. Huge amount of tension between desire to be **authentic** and to be **popular**.)

Being hidden is safe

Particularly relevant to boys - boys are not posting, there's nothing to see on their profiles, they don't want to share things with everyone. They keep their opinions to themselves – but not because anything bad would happen if they didn't. They just prefer to keep quiet. *“I wouldn't feel like it's a big deal, it's just that I don't really like doing it because I just keep my opinions to myself. I'd be fine with it, I just don't really do it.”* (This is how they reconcile being hidden with **being authentic**.) Controversy is avoided, as this can attract trolls/hate comments. They don't want to start arguments and be judged. Posting bland things that are funny is safer. Boys are passive. *“If I don't put stuff on there, then no-one can criticise me.”* *“They can't form an opinion because they have nothing to form an opinion on”.* *“I want to seem neutral”.* *“It doesn't show you anything about me. I don't seem weird or anything”.*

Girls are also wary of judgement, and grateful when they have another reason to not post, so they can reconcile being hidden with a valid reason: *“I don't want people to judge me on what I do. Plus, none of my family want their photos on there, and they'll say I'm not allowed anything on there, which is sort of a good thing, because then no one can criticise me.”* The more visible or popular you are on SM, the more risks: *“I don't wanna be one of those massive things where people say, “You're rubbish” or “You're so mean because you didn't reply back to me last week”.*

Being seen/accepted

Teens like to post something cool, interesting or funny – something they would enjoy seeing themselves. (Need to be cool contradicts **desire for authenticity** – they want to be authentic to an extent, but only show the best of themselves.)

Boys don't post selfies. They think girls do for attention, and to find out what people really think. Although they don't put their opinions online, they have the idea that it's easier to do this online than in person, because you can delete the post (contradicts **being hidden**). The boys recognise that by not posting anything, they don't show anything about themselves that might spark new friendships.

Girls partly post to feel validated, appreciated. They like to have at least one photo of themselves to show that they aren't ugly. A post is a chance for people to see good things about them, and it's important others see what they post. But there is also pressure to post – *"I feel like I have to have some photos on there"* – if they don't, others will think they don't exist, or that they don't care, or they're boring. Posting says: *"I'm still here, I'm not dead, I'm still here and still popular, I'm still making snaps, you can still follow me."* Could they still be a person without posting? There is a question about choice – is it even an option not to post? For girls, this seems part of life. *"You're in bed and you're thinking, 'I haven't posted a snap in a while,'" or "If it's Christmas and you don't post family selfies, it's like "Wow, you must be sitting at home doing nothing and having a really boring Christmas.""*

Criticising self

Boys have thoughts around not being interesting enough to post, or people not caring about their opinion. They assume their feedback wouldn't matter – *"Like, if someone posted something, I wouldn't really just go "That's nice", or "that's horrible", because they wouldn't really value my opinion."* (It seems they really buy into the idea people are posting for themselves and **being authentic**.) The boys are less critical about their own posts/feedback because they aren't posting.

Girls feel they don't get enough likes - *"It's only got that many"* - that friends get more likes than them; that friends can post selfies but they can't. *"You look really nice in that picture, but I wouldn't be able to do that."* (Relates to **wanting to be seen**, but only if it's good enough.) If the number of likes received increases, this becomes the new norm, and anything below isn't enough. Certain posts are not *"worthwhile"*. *"I don't have the most exciting life", "I don't have a sense of humour at all."* *"I'm not popular, so nobody would notice"*. Girls compare events like birthday parties and can feel jealous. *"My friends would never do that for me."* Girls cringe on past posts, *"and then I'm like, "Eurgh", and I delete it."*

Dismissing

A very large category.

Boys display a lot of indifference. *"Doesn't really affect me," "other people's opinions don't really matter that much," "I don't care what anyone else thinks"*. It wouldn't be a problem if I posted my opinion – *"I would do it but I can't be arsed"*. (Stark contrast to **being hidden** and wanting to be neutral to avoid judgement. Here, *"people can have their opinions of me, cos what matters is what you think of yourself"*. Does relate to **authenticity** – dismissing importance of other people's opinion, posting for themselves. There is also a close link between **dismissing** and **managing negative feelings**.) It seems difficult to acknowledge that likes might have an impact – *"I got 80 likes and was quite pleased, quite proud, but then I didn't care after a few minutes"*. Boys don't read into the number of friends – perhaps because they don't have many. (Hint at link between engagement and feedback: *"I don't*

think I've ever looked to see if it's got likes. I wouldn't do very well. I don't really care that much.")

Girls also minimise importance of likes at times – *"Because I'm happier in my life I don't really care about the likes."* (This is in keeping with **being authentic**, but contrasts with **studying how SM works** and **things really mattering**. There is a real dissonance here.) Likes are framed as a bonus, but not very important. Taking a good selfie is too much effort – why bother? They distance themselves from selfies – except one girl, who admits to taking many. (It would be interesting to know why and what she thinks about that.) *"No one takes Snapchat or ultimate best friends seriously"*. *"I don't really put much thought into it," "I can just laugh at it"*. Again, impact of negative events is minimised *"I would probably get over it the next day"*.

Feeling exposed

When April asks, *"What would you worry about if you put something on like, "Oh, I went to Tesco today"?"*, the boys joke, *"I'd be hated on by Asda supporters."* They feel exposed if they post anything (links to **being hidden is safe**). But if they're not online, that can also be exposing. They might miss something that has happened: *"Like, they could be talking about something and you wouldn't have a clue."* (See **staying in the loop**.)

Girls feel incredibly vulnerable after they post something – *"I wasn't getting likes for a while and I thought, oh, my God."* *"G had to make me post it, because I wouldn't do it."* The risk is high: *"you receive a lot of hate if someone doesn't like your photo"*, but they have to do it to **be seen**. Selfies are the height of exposure – they can't justify posting them for the memory, or friendship. Posts that don't get enough likes get deleted, but the experience does make them question whether to risk posting again in future. Being the first person to like something is also exposing, so is seen as a sign of close friendship. *"It's OK with you, but with other people, like if I was the first person to like S, I'd be like, "Oh, my God."*

It's also an important aspect of friendship/relationships to let others log on – to read conversations you've had with other people, or to maintain streaks. But this is also exposing, *"I'm now really conscious of what I've sent to you on Instagram, because others are logged in"*. *"When A logged in to my account, I knew he looked at everything and it made me feel weird"*. There is a lack of control/choice – over others posting photos you don't want to be posted, over others reading messages not meant for them. People feel pressure to let others log onto their accounts – *"if it's to keep that number going..."* (This links to **perceived code of conduct**). Although screenshotting is the done thing if someone is annoyed with someone (again, see **perceived code of conduct**), the idea that people are having conversations about you is *"traumatising"*. SM can feel dangerous: *"Everything can go wrong...it just takes one tiny thing for it to all go horribly. We're desperate for that little thing not to go wrong"*.

Feeling good after positive feedback

"I feel good about myself, like people actually care", it's *"really satisfying"*, like *"people agree...and appreciate it"*. It makes them *"really happy"*, an *"extra little boost of happiness"* with each ping. It's really nice to scroll down and see all the people who have liked a post. This mostly came from the girls. (Contrasts with **dismissing** the importance of likes.) One boy said, *"I got 80 likes on a comment once and I was quite pleased [LAUGHS]"*, but when April asks how that felt, he says, *"Yeah, I felt quite proud, but then I didn't care"*

after a few minutes.” It seems it was easier for the girls to acknowledge the effect feedback can have.

Feeling rejected

There is fear that if they don’t check messages and get back to someone quickly - if they’re not available constantly, in other words - their friend might not contact them again in future, and they risk losing that friendship/their confidence. (This is why it’s so important to **stay in the loop**.) Teens also feel rejected when someone they expect to like their photo (e.g. someone in their friendship group) doesn’t. (See **perceived code of conduct**. Again, in order to avoid upsetting friends in this way, the answer is to be online very frequently and to set up alerts so you know when friends have posted something, so you can like it promptly.)

Feeling safe with friends

Girls bolster each other with affirmations about their posts during the interview – *“it was a really cute one!”* One 12yo girl generally feels friends only screenshot something for a positive reason. (This contrasts with feeling exposed/out of control.) *“We all trust each other very much.”* (They have to trust each other if they are obliged to give each other log in details - **code of conduct**.) It is safer if you are only friends with people you know, as they won’t post negative feedback. *“I hope you know everybody that you’re following, because otherwise you’re in for a bad time.”* People you know are also more likely to like your posts, compared to random followers. This highlights the importance of peer support on and off-line, and how popularity on and off-line are linked.

Meaning of likes

Likes don’t mean the same thing to everyone. Many different meanings surfaced in the interviews: *“If I like your post first, it means you are my close friend; if I like all your posts, it means you are my close friend. I am liking this because you deserve it; I am liking this because I want you to like mine; I like this because I agree with your opinion; I like this because I like you; I like this because you don’t have many likes; I like this because I want to be part of your group; I like this because it’s common courtesy; because it’s harsh not to get likes; I like this because you care about it and I’d feel bad if I didn’t; I like this as a favour to you.”* So how do teens navigate that? Older teens are aware that people feel proud and popular when they receive likes, but the likes may be meaningless: *“It’s not real, you know? No one really likes it, they’re just like, “huh”. It’s not like they’re saying, “I really like this thing.” “with the whole selfies thing, I’m like, that’s a bit pointless, but I’ll like it anyway, because it’s harsh not to get likes”.* How do they manage this dissonance between buying into the likes whilst also knowing they don’t mean much?

Keeping to perceived code of conduct

This is mostly from the girls, because the boys generally aren’t being active on SM. If girls put up selfies, they expect to receive positive feedback from friends. There is an expectation all friends will like all their posts. It is noticed and remembered when a friend doesn’t like something: *“You still didn’t like mine, and I was like, “that bitch”.*” Some are careful to avoid offence by **staying in the loop**: *“This is why I have everyone on post notification, just so I know who’s posted and what they’ve posted.”* For less close friends, people wait a bit before they like it (link to **feeling exposed**). Some people adhere to a “like for like” or “follow for

follow” rule – but not everyone. Friends are expected to give each other their passwords, but keen to tell each other they respect privacy – “*I never read your messages*”. There are rules around screenshotting: “*I screenshot one of her pictures but I didn't show it to anyone she doesn't know or like, cos that would be wrong.*” If certain events happen, like the death of a celebrity, it is “wrong” to post a selfie, so they post “blackness”. They are obliged to post for things like Mother’s Day, because everyone else is doing it – if they don’t, it looks like they don’t care. (Tension with **being authentic** if you’re having to do things just because everyone else is.) There is an expectation they will maintain streaks, even if that means giving someone else log on details while they’re away, or paying for data. They feel they have let someone down if they don’t do this. Girls don’t acknowledge/seem aware of the pressure behind this though, saying “*I'm not gonna be really upset about it.*” “*I just like the number.*” They look to each other for how to behave on SM, e.g. “*I went onto her likes and searched if you liked it, because I didn't know whether to like it or not!*” They consult each other on what to post and whether to comment. (Not **being authentic**.)

Managing negative feelings

Another very large category. How do teens manage negative feelings arising from SM?

By accepting things as they are – “*I have accepted I don't get as many likes, and I just don't care, I'll get an amount I'm happy with.*” (Possibly identifying more as **authentic**, rather than popular?)

By being reassured from trivial posts that others’ lives are boring, or, if people post exciting things, believing they can’t be having that much fun if they are online. If people post about expensive things, “*inside they might be really miserable and upset because they have a really bad life and they're just putting money in front of it.*” (Again, “others seem to have exciting times/expensive things, but it’s not **authentic** like I am”.)

By setting boundaries on whose opinion matters: “*No, people can have their opinions of me, cos what matters is really what you think of yourself, and what people you care about think of you as well*”. (Again, “I’m **authentic**, I do things for me”.)

By bitching/screenshotting: “*we've all seen the screenshot of their conversation. When someone pisses you off, you send a screenshot, that's just the done thing.*” (Is this also about **authenticity**? Wanting to show others what really happened, “look at this proof?”)

By not caring – “meh, I don’t care, not bothered”. Or going a bit further – “*Because I'm happier in my life I don't really care about the likes.*” Only sad people care. Or saying popularity is hard work: “*Yeah, but they both really care about their followers, like L tries to get followers so hard.*” (Again, “they’re popular, but they try so hard, it’s not real”).

Managing tension/dissonance of authenticity vs popularity

They seem to do this by reframing changes or edits that they make in response to feedback as changes done for themselves. This is how they negotiate the tension between needing to be **authentic** but also wanting to be popular/**be seen** - they fuse the two so that what IS popular, or what others think, also happens to be what they think themselves. For example: “*There were only a few likes on that one. I: And how did that make you feel? Very bad, but I think I deleted that one cos I didn't like it anyway.*” “[A negative comment] made me take a step back, and I don't put as many things on my story now, I guess kind of because of that, but

also I just realised I don't really need to." This reframing is also used to manage tension between **staying hidden** and **being authentic**: "I can't really be arsed to [feedback on someone's post]. And also they put it there because they wanted to, so if I said "that's horrible", they wouldn't really care, since they like it."

They also reframe posts as for memories as well as for likes, as a way of reducing the impact of not getting enough likes: "I mean it's not like I feel bad, because all these photos, like, I have an explanation, there's a memory to them - except, just for example, selfies - but like I know that day we went to Brighton, so I didn't really care that I only had 60 or so likes."

Teens are aware people show their best side online – "It's not a false projection of them, it's just some of their life." And they think that's OK, because "when you look at someone's social media, you know that's not all their life is." But how does this square with **valuing authenticity**? They talk about being disappointed due to on-offline discrepancy: "I've been like, "Oh, I really want to meet and talk to this person," and then I see them at a party and they're just really dull". But actually they are relying on SM not telling the full story to **manage negative feelings** – see above, if people are online to post exciting things, they can't be having that much fun.

This quote really nicely sums up the tension between quests for **authenticity** and **popularity**: "I try really hard and I keep doing it because I desperately want to get it right, but then it doesn't get any likes. But then I'll just do a random one on a really popular song... and get ten likes, and it frustrates me, because I don't want to fill up my account with that because it's just boring. I want to fill it with interesting stuff, but no one really cares." A battle between what they want to post, and the feedback they get from SM: "When I don't try and I make a comment, everyone is like, "Oh, my God, you are so funny," but then if I actually tried, I can't do it, I don't have a sense of humour at all."

Seeing the positives of SM

Despite all the fear of judgement, teens talk as if they are judged less online: "Facebook is a weird place, you can just put anything up and it will just work." (This really contrasts with the boys' need to **be hidden**.) They talk about it facilitating friendship and connection, and some describe it very simply: "I think people just have friends if they want them, they don't if they don't" and "I'm like, maybe they just post because they want to post, let people have their lives." (Contrasts with **feeling exposed**. They might not be judging others but they certainly feel others will judge them.)

Staying in the loop

The boys deny they would miss out or feel disconnected from their social life without SM. But they do say they like "being connected" and "just knowing there are things happening and what's happening." When asked what's good about that, one says, "It just doesn't feel nice not knowing what's happening." Another would feel "lost. Like they could be talking about something and you wouldn't have a clue. And you could say something and whatever's going on, it could mean something really bad, so then you get like shouted at for saying something that you shouldn't have." (So here we start to see the importance of being on SM and staying in the loop. They think, "If I'm not online and people message me but I don't reply, they might not message me again." You have to be available at all times or you might

lose friendships.)

Girls – *“If you go offline, you feel really out of the loop.”* They talk about importance of notifications so you know who has posted when (so you can respond appropriately depending on friendship – see **code of conduct**). *“If someone takes it away you don't know what to do without it.”* – this has a nice double meaning, because it does sound like they really don't know what to DO without it, they don't know how to behave appropriately, they might say the wrong thing.

Studying how things work

Teens know how popularity works on SM, that it's about the poster, not the post: *“People like the A crowd and stuff like that, just them posting a picture saying "bored" will get noticed loads, and people will be like, "Do you want to go do something?" Whereas if I just posted a picture saying "bored" people would be like, "Whatever, she's just doing it for attention.”*

They are very aware of the numbers of likes and followers others have. *“My rate is generally - for the first...half hour - it's generally one a minute, basically.”* They monitor the number of likes they get, and compare these to others. *“Sometimes I will go through the people who have liked it and be like, "Do these people follow me?"”* *“I compared it, and I got 80 or something and she got 100 and something, so I was like, "What am I doing wrong?"”* They try to figure out how to get more likes, what it is about them vs other people that makes a difference to the online response. It generates real emotion and it is taken personally: *“If they have more than me I will get so annoyed. Not even more than me, but if it's a big difference proportionately, I'll get a bit like, "Why does everyone like their photo and not mine?”* They are confused and frustrated. I feel this is inevitable given the different **meanings of likes**. They study how to maximise feedback: *“You've got to get the right time - either before bed, at like seven, or just as you get home from school.”* They plan: *“I find out what we're doing on the weekend so I can think, "That might be a good Snapchat opportunity.”* (This all contrasts with **being authentic**.)

Things really mean something

Contradicts how they **dismiss** the importance/impact of SM. Despite knowing SM tells half the story, teens do infer meaning from SM and they are affected by it. *“I like when people look at my Instagram and think, "She has lots of friends.””* Numbers on Instagram do represent popularity. A picture of two people is posted and *“it's like you're best friends.”* *“If you don't post on Mother's Day it's like you don't care about your mum.”* If I didn't post, *“They wouldn't talk to me because they would think I was boring.”* Relates to the importance of **being seen**. There is pressure to be online – relates to **staying in the loop**. *“I mean, I'm quite private in a lot of things in my life and I don't really like people logged into my accounts, but if it's to keep that number going...”*

Working really hard

Because things **really mean something**, they work hard to “get it right”: *“I try really hard and I keep doing it because I desperately want to get it right”*. *“Tomorrow is going to be a big Snapchat day, because it's my sister's birthday party.”* Although of course it's not OK to admit to working hard - *“when people are like in their house, like they've clearly got really*

dressed up to take this selfie in their house, it's like, "Why?" - because this goes against **being authentic**.

Limiting what is shared with whom

They talk about keeping accounts private, messaging people individually instead of posting, not letting people follow them. (Links to **being hidden is safe**.) Some teens don't let others log in, resisting that pressure. They consider what they show in the background of their pictures, i.e. making sure it's a blank white wall. Facebook has become more of a family thing, so teens limit what is put on there.

Appendix Q. End of study summary for participants

Dear participant,

I'm writing to you because you took part in a research study about teenagers' experiences of social media. Thank you again for taking the time to be interviewed for this study. I aim to publish the results in a journal to increase parents', teachers' and healthcare professionals' understanding of what it is like to be a teenager on social media today.

The study

I interviewed 10 teenagers about their experiences on social media. I then used a research method called grounded theory method (GTM) to analyse the interview transcripts. GTM is used to build a theory from data like interview transcripts. I hoped that the theory would tell us more about how teenagers develop a relationship with social media, and what helps and challenges them to do this.

The results

The results are my interpretation of what people told me in the study. This kind of analysis is subjective, so another researcher looking at the interview transcripts may have developed a different theory. Not everything in the theory will be relevant to everyone, but the overall picture will hopefully make sense. You can see the results in the diagram on the next page, but it may be easier to understand if you read the description first. I've also included some quotes from the interviews.

Description

I heard that nearly all teenagers need to be on social media. Even if they never post anything, teenagers check their feeds often to "stay in the loop". This is really important, as it enables them to see what's happening, keep up with events, and like/comment on friends' posts, which means they don't let friends down. Without being on social media, it would be difficult to maintain friendships and to know what to say/how to behave in social situations.

There then seemed to be two groups of teens – one group used social media more "actively" – posting selfies/photos often and paying more attention to social media. The other group was more "passive", not really posting personal things, and caring a bit less about what was going on on social media.

There were some things that seemed to affect whether someone would end up being more active or passive on social media. Teenagers seemed to weigh up whether posting was going to be a positive experience for them or not. If someone felt like too many people might see their post, or they weren't that confident, or they worried about being judged and not receiving enough positive feedback, then they were more likely to "stay hidden" on social media rather than posting lots. On the other hand, if someone felt like they would get a reasonable amount of positive feedback from a post, that their friends would support them by liking/commenting, and that they knew what kinds of post tend to do well, then they were more likely to post something.

People who posted things on social media had two main goals. One was to shape their identity, to say something about who they are and perhaps show they are fun or nice or

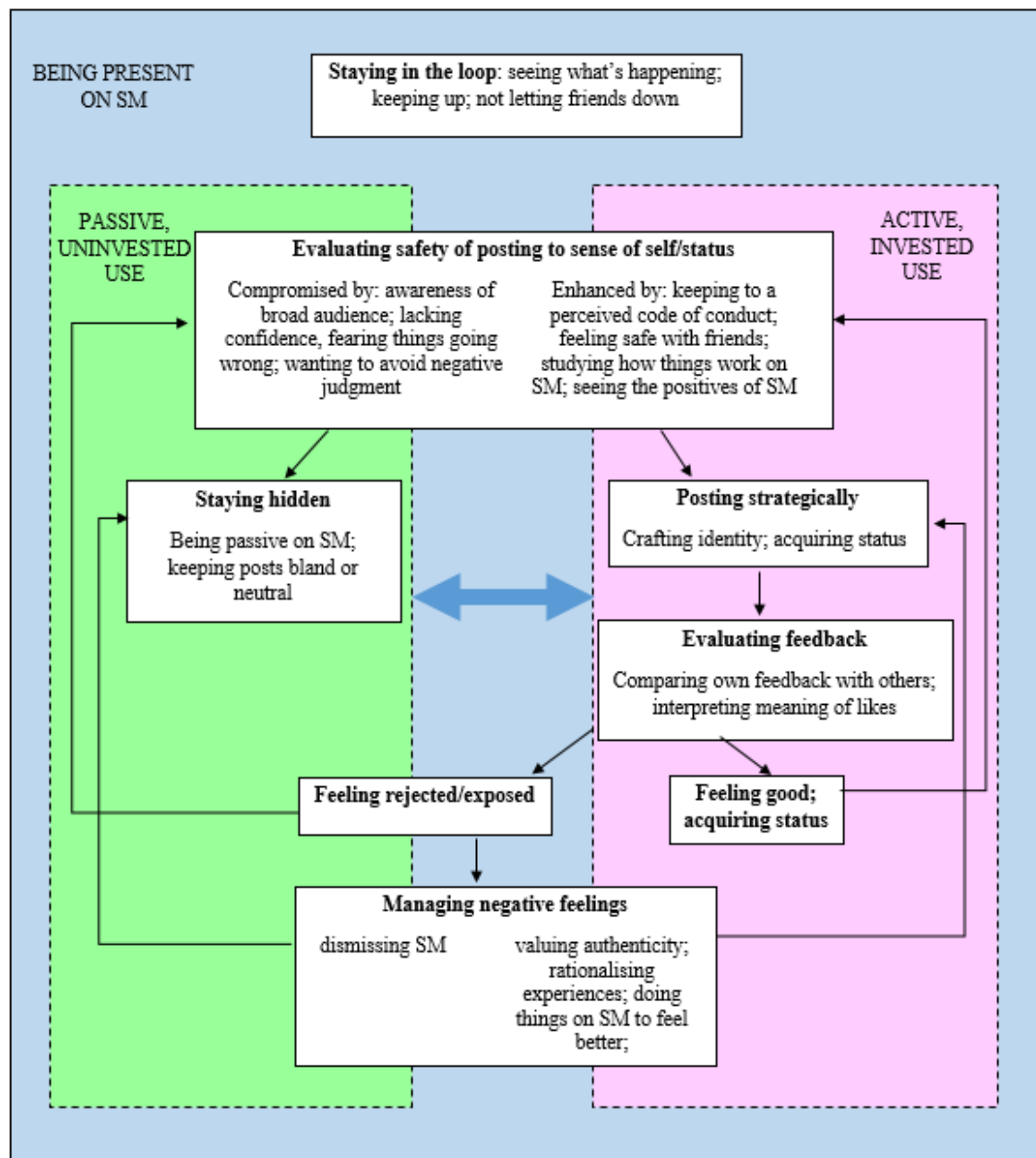
interesting. The other goal was to seem popular and important, perhaps by posting photos with friends.

After someone posts something, they evaluate the likes/comments they get. Everyone has different ideas about what is “enough” likes/comments, but if they are pleased with the results then they feel really happy, like they have been “seen” by their peers and that they matter. This makes them more likely to post again in future and to keep using social media “actively”.

If a post gets a disappointing amount of feedback, this can leave teenagers feeling rejected or a bit embarrassed. People deal with this in different ways – sometimes they delete the post, or they don’t mind, because they don’t feel it’s too important, or they had posted more for themselves than other people, anyway. Some people minimise the importance of social media, saying they prefer real-life experiences and that it’s too much hard work posting on social media lots. This makes people more likely to post less on social media in future.

Wherever teenagers are positioned on this diagram, and whether they care about social media a lot or not so much, they seem fairly happy with their relationship with social media.

Diagram



Quotes

On staying in the loop:

"If you go offline, you feel really out of the loop".

"Just sort of knowing what's going on in the world, and seeing whether someone's done something or whatever. Just knowing there are things happening and what's happening".

"I need to make sure that I do like and comment on my friends' posts, or people that I'm trying to get closer to and stuff. Like, you have to be on it, in that sense"

Things that make people less likely to post:

“I'm not a confident person, so putting myself out there was never something I was really willing to do”.

“I would say the people that post more are usually more like sociable in real life”.

“I don't want people to judge me on what I do”.

Things that make people more likely to post:

“If it's just like a close friend, I think it's just like a given that you like the photos”.

“They're all people that I know and I don't know anyone rude enough to comment like, ‘This is ugly’”.

On staying hidden:

“They can't form an opinion [on me] because they have nothing to form an opinion on”.

“I think it's just, like, not having to worry about what anyone's going to think about it, just living your life and not needing that validation from people”

On posting strategically:

“Posting a picture on the beach might be trying to say to people, ‘Look at me, I'm always on the beach, I'm such an exotic person, I'm having such a good time’”.

On interpreting likes:

“It doesn't actually mean you like the picture. It means you like the person. Or you don't like the person, you want their approval”.

“It's about being known...the likes are a symbol”.

On feeling good after receiving likes:

“I feel good about myself, like people actually care”.

“Every time it pings, it just gives you an extra little boost of happiness”.

On feeling rejected after not receiving enough likes:

“You feel sucky, it's like no one cares about you”.

“It knocks your confidence a bit, you're like, ‘Why would I want to post again?’”.

On managing negative feelings:

“It is too much work to put into something that means so little”

“Because I'm happier in my life I don't really care about the likes”.

I hope that some of these results fit with your own experiences of using social media. Thank you again for taking part in this study.

Yours sincerely,

Jenna Course-Choi

Appendix R. End of study summary for ethics panel

A copy of the following was sent to the Salomons ethics panel.

Dear [chair of research ethics committee],

Study title: How do adolescents negotiate social media? A grounded theory of the psychosocial processes underpinning engagement with social media

I am writing to inform you the above research project has now been completed, and a thesis has been written to be submitted for partial fulfilment of the degree of Doctor of Clinical Psychology at Canterbury Christ Church University. A brief summary of the study follows.

Summary

The impact of social media use on adolescents is a topic of much concern for parents, teachers and healthcare professionals, and is the subject of (often alarmist) headlines in the press portraying many adverse effects. Much extant, quantitative research has focused on the relationship between social media use and adolescent wellbeing, but little research has sought to understand *how* adolescents develop and maintain their understanding of and relationship to social media. This is important, as it could increase our understanding of safe uses of social media that are beneficial for adolescents' developmental goals.

The current study used data from 13 interviews conducted for a previous, similar study, and 10 original interviews with adolescents who had social media accounts. These data were analysed using grounded theory methodology to develop a theoretical model of adolescents' relationships to social media (see Figure 1). The model shows how adolescents adopt either a passive or active stance towards social media, depending on whether they judge it feels "safe" to post on social media without threatening their sense of self, and/or their status. The perceived "safety" of posting depends on their past experiences, values and personality traits. After each post, they evaluate feedback received from peers and recalibrate their stance accordingly. If they judge the feedback to be positive, they are rewarded with feelings of happiness/a sense of increased status. This strengthens the perception of safety of using SM and increase the likelihood of further posts. If they judge the feedback to be negative, they feel rejected/exposed, reducing the perception of safety on SM and encouraging them to be passive rather than active in future. They also employ various strategies to manage negative feelings after a post, which can reinforce either a passive/active stance.

The findings from this study emphasise the complexity of the relationship between adolescents and social media, the myriad factors that contribute to how they use it and the sophisticated strategies they have developed in order to use it in a way that maintains their sense of self and status amongst peers. In doing so, it highlights potential aspects of the relationship that may be targeted for clinical intervention, to ensure adolescents are able to maximise the benefits of social media use, and minimise the harms. The model relates to well-known learning, identity and social identity theories, and raises questions regarding identity development that could be explored in future research.

Regarding dissemination of these findings, it is intended that they be submitted for publication in X journal. Additionally, a separate summary report has been sent to the study participants.

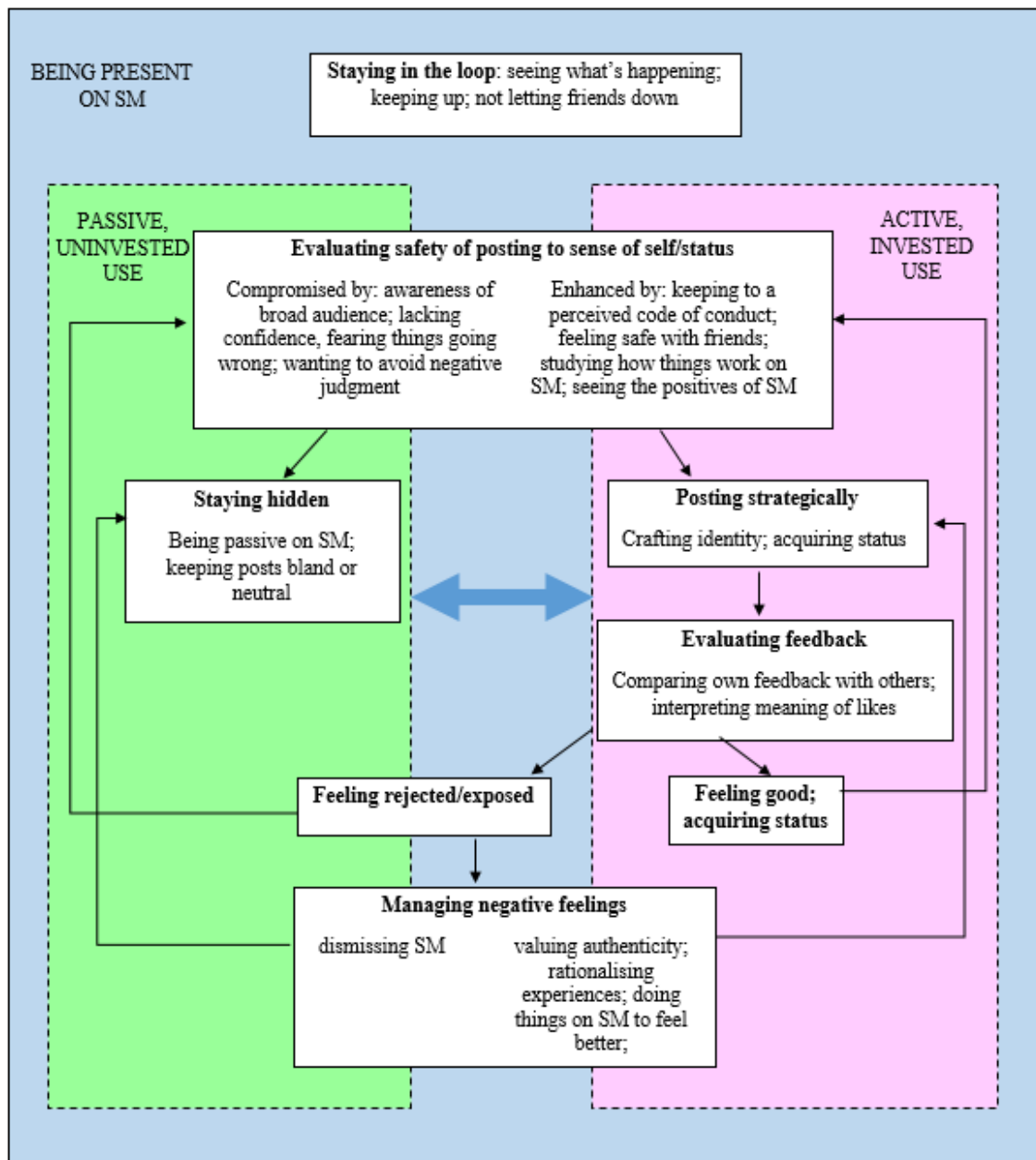


Figure 1. A model of adolescent engagement with social media.

Yours sincerely,

Jenna Course-Choi

Appendix S. Author guidelines for journal submission

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