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SOCIAL MEDIA EXPERIENCES OF YOUNG PEOPLE

Section A: A Review of Measures of Impacts of Social Media Use for Young People

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Summary of the MRP

Section A: Introduces literature on the widespread impacts of social media. It then presents a systematic review and critical appraisal of measures of the impacts of social media use amongst young people. Ten measures were identified and their psychometric properties are presented and explored. Information relating to the reliability, validity and interpretability of measures is examined. Clinical implications are discussed along with recommendations for future research.

Section B: Presents an empirical study of the development and validation of a new measure of the social media experiences of young people; the Social Media Experiences Scale (SMES). Extant literature informs the initial item development stage, which is followed by a consultation stage of a focus group with a sample of young people. The 95-item SMES is then tested in a sample of 256 UK young people (16-24 years). Factor analysis is performed and a final 20-item measure is retained. Psychometric properties are obtained and discussed in terms of their clinical and research implications. Limitations of the research are then considered.

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Section A: Literature Review

A Review of Measures of Impacts of Social Media Use for Young People

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Abstract

The widespread adoption of social media by all age groups has prompted interest and conversation around the potential benefits and harms of such technology. Particular interest has been paid to younger populations, who may be at more risk of harm from social media due to factors such as their level of emotional development and intensity of social media usage. In recent years, a number of measures have been developed aiming to reliably measure such impacts of using social media.

A systematic literature search identified ten relevant measures which were subjected to critical appraisal against set quality criteria. Results identified a large variation in measure quality, with limitations in the reliability, validity and interpretability of measures. The highest rating measures included the Bergen Facebook Addiction Scale (BFAS) and the Social Media Disorder Scale (SMD), measuring addiction to Facebook and disordered use of social media, respectively. Clinical implications of findings are discussed, along with suggested directions for future research.

Keywords: Social media, measures, adolescents, impacts

Introduction

The development and widespread adoption of social media (SM) has had an undeniable impact worldwide. Latest figures estimate there to be over 3.9 billion users of SM globally, with huge increases in recent years and numbers predicted to continue to rise (Oberlo, 2022). Whilst the specific online platforms that the term 'social media' relates to are ever-shifting and growing, SM can be defined as "forms of electronic communication through which users create online communities to share information, ideas, personal messages, and other content" (Merriam-Webster, 2020). Most definitions of SM refer to how these online networks allow users to interact with each other (Carr & Hayes, 2015, Kuss & Griffiths, 2011). The majority of social media use happens via smartphones, allowing users to be almost constantly connected to multiple online networks (Droesch, 2019).

Younger generations account for a significant proportion of SM users, with a reported 87% of 12-15-year olds in the UK having at least one account on SM (Dixon, 2022) and 89% of 10-15-year olds reporting that they are online every day (ONS, 2021). With this level of prevalence of SM use amongst youth, there are claims that SM is 'profoundly changing the landscape of adolescence' (Brown & Bobkowski, 2011, p. 97). Adolescence is characterised by a rapid period of development encompassing all aspects of a young person's life, including physical changes, advances in executive functioning and new found independence from caregivers (Christie & Viner, 2005). Erikson's theory of the stages of psychosocial development (Erikson, 1950, 1968) highlights that the key conflict facing adolescents is that of developing personal identity. SM is argued to play an increasingly significant role in adolescent identity development (Middaugh, 2019) and with the need for practitioners to be aware of young people's growth, development and needs (Larsen & Luna, 2018), SM is now an unavoidable part of this conversation.

Impacts of SM

Much of the research within the field has focussed its attention predominantly on the experiences of adolescents and young adults, perhaps in part due to the unique developmental experiences faced by these groups, as well as their comparatively increased use of SM. Young people may be more emotionally impacted by their usage of SM than older adults (Hayes et al., 2015) and their heightened emotional sensitivity may make them more sensitive to acceptance and rejection through social media, with associated consequences on well-being (Crone & Konijn, 2018).

Negative impacts of SM use are more widely cited in literature, with some claiming that observed increases in mental health issues experienced by adolescents may be directly attributable to the widespread use of SM (Twenge, 2020). Whilst causation cannot be implied from correlational research, literature has linked SM use to negative outcomes for adolescents such as higher levels of depressive and anxiety symptoms (Piteo & Ward, 2020), poor sleep quality and lowered self-esteem (Woods & Scott, 2016), experiences of harassment and poorer body image (Kelly et al., 2018), engagement in risky sexual behaviour and substance use (Vannucci et al., 2020) and decreases in academic achievement (Sampasa-Kanyinga et al., 2019; Kuss & Griffiths, 2011). Problematic use of SM has also been linked to having negative impacts on adolescents' ADHD symptoms (Boer et al., 2020) and negative associations with life satisfaction and positive mental health (Marino et al., 2018). There is markedly less in the literature which speaks from the perspectives of adolescents; one recent paper reported that adolescents perceived SM as a threat to their mental wellbeing (O'Reilly, et al., 2018).

Positive effects of SM have also been identified, including gains in social capital from using social media (Ellison et al., 2011), for example by maintaining existing social ties and forming new connections (Ellison et al., 2007). Social Identity Theory (Tajfel, 1978, Tajfel &

Turner, 1979) posits that people derive self-esteem and pride from groups they belong to. This theory may then be relevant in understanding how and why individuals make use of SM, if people are able to build upon their social capital through these platforms.

Other cited positive effects include opportunities for adolescents to increase their self-esteem via positive feedback received on SM, and opportunities to experiment with identity (Valkenburg et al., 2017), as well as SM being used to seek information and resources relating to mental health (O'Reilly et al., 2019). Recent research has identified that adolescents have used SM as a constructive coping strategy to deal with feelings of anxiety experienced during Covid-19 lockdowns (Cauberghe et al., 2021). SM platforms may also be helpful sources of support for often marginalised groups, representing 'hubs of community' for transgender adolescents (Selkie et al., 2020).

With evidence for both beneficial and harmful impacts of SM use on young people, others have acknowledged simultaneous positive and negative effects. For example, adolescents may experience simultaneous impacts on their relationships, experiencing both closeness and disconnection as a result of their SM use, or may find SM to be a source of entertainment and boredom, a place where they find affirmation for their self-expression as well as being concerned about experiencing judgement from others (Weinstein, 2018). Person-specific effects are also likely to exist, with effects of SM use on wellbeing differing between adolescents (Beyens et al., 2020). Confounding factors such as adolescents' perceptions of their social support or tendencies towards social comparison, may also contribute to explaining relationships between SM use and consequences of this (Piteo & Ward, 2020).

The current review

In light of the aforementioned literature, it is important for clinicians to be actively considering the role of SM usage in a young person's clinical presentation. Therapists'

commitment to incorporating an awareness of SM use into their clinical work may relate to multicultural competency, referring to therapist abilities to implement culturally appropriate interventions (Sue & Sue, 2003). Thus, there may be a responsibility for therapists to stay informed on cultural norms surrounding SM use in younger populations (Pagnotta et al., 2018). Research has evidenced that multicultural competency is positively associated with therapeutic alliance (Tao et al., 2015), and both constructs have been linked to the efficacy of therapy for adolescents (McLeod, 2011). Futhermore, direct positive relationships between adolesents' perceptions of their therapists' social media competency and their reported therapeutic alliance have been observed (Pagnotta et al., 2018) with this relationship not being affected by variations in adolescents' frequency of SM use.

With ample evidence for the impacts of SM use on its young users, it follows that being able to accurately measure these impacts is needed in order to identify areas of needed support, or more positively, existing sources of support. Measures of SM impacts may also be of use to therapists to elicit conversations about SM in their clinical work with young people and to identify areas of harm and/or need. To the author's knowledge, there are no published reviews of measures of SM impacts for any age group, including young people. One recent review (Saqib & Amin, 2022) has presented an overview of measures of social media addiction, but does not report any psychometric properties. There is therefore a need for a comprehensive review of measures of SM impacts on young people.

Review objective

The current review aims to address a gap in research by identifying and critically evaluating existing measures of impacts of social media usage on young people, with reference to the psychometric properties and content of each measure. In this instance, impacts are specified to be observable effects on wellbeing, e.g. not just the experience of a

specific behaviour (such as cyberbullying) and measures which relate only to frequency or quantity of use were also excluded.

Methodology

Literature search

Databases used for the searches included PsychInfo, Web of Science, ASSIA, Cochrane Library and Cinahl. No data limits were placed on the searches and so results included all papers from the dates of inception of the databases until the time of searching (December 2021). The development of search terms was informed by initial internet and database searches and previous research (Shankleman, 2021) and were discussed in supervision. Full details of the search terms are listed in Table 1. Search terms were combined with Boolean operators 'AND' and 'OR'. Terms were searched initially in all paper abstracts, however these results yielded a large number of results (e.g. 12,045 results on Web of Science) and so the search strategy was altered to search in the abstracts for the population search terms, but in the titles for the search terms relating to both 'social media' and 'measure'.

Initial searches were performed on the databases to identify measures of SM impacts; ten relevant measures were identified. Searches of each of the ten measure names were then conducted to search for any other papers containing psychometric properties on each of the identified measures. Figure 1 displays the search process and the number of papers and measures identified at each stage.

Table 1

Search terms used in the literature search

Topic	Terms used

Population	adolescen* OR teen* OR young people OR child* OR girl* OR boy* OR youth OR young person
	AND
Social media	social media OR online social network* OR social networking site OR social network OR Facebook OR Instagram OR Snapchat OR Twitter OR TikTok OR digital technolog*
	AND
Measure	measur* OR questionnaire OR scale OR psychometric OR reliability OR standardis* OR valid* OR standardiz*

Inclusion and exclusion criteria

Included papers were limited to those published in English in peer-reviewed journals. Measures were excluded for a number of reasons. Firstly, as this review was interested in measures of impacts of SM (effects on wellbeing), measures were excluded if they only measured amount/frequency of use. Similarly, measures of cyberbullying were not included due to them capturing the experience of a specific behaviour which may be conducted via SM but is not necessarily an impact of use itself (e.g. measures captured experiences such as having a 'friend request' ignored, but did not capture associated impacts on wellbeing such as mood or self-esteem). Measures of SM addiction were included if they measured addiction through impact and not frequency or quantity of SM use. No specific age range was determined, however measures were excluded if they were aimed to be used by/validated on samples of adults above university student ages only, due to the review focussing on impacts on young users of SM for the reasons mentioned previously. Due to the limited scope of the review, original versions of measures were reviewed and adaptations were excluded. This included adaptations of measures to broader experiences of internet use (i.e. less specifically

related to SM), adaptations to older populations and measures which were adapted to other languages where revisions had been made beyond translating the measure. For example, if measure items had been changed to include different content, these adapted measures were not included in the review, but papers providing data on measures which had been translated directly into another language were included.

Figure 1

A flow chart displaying how measures and papers were identified and selected for inclusion

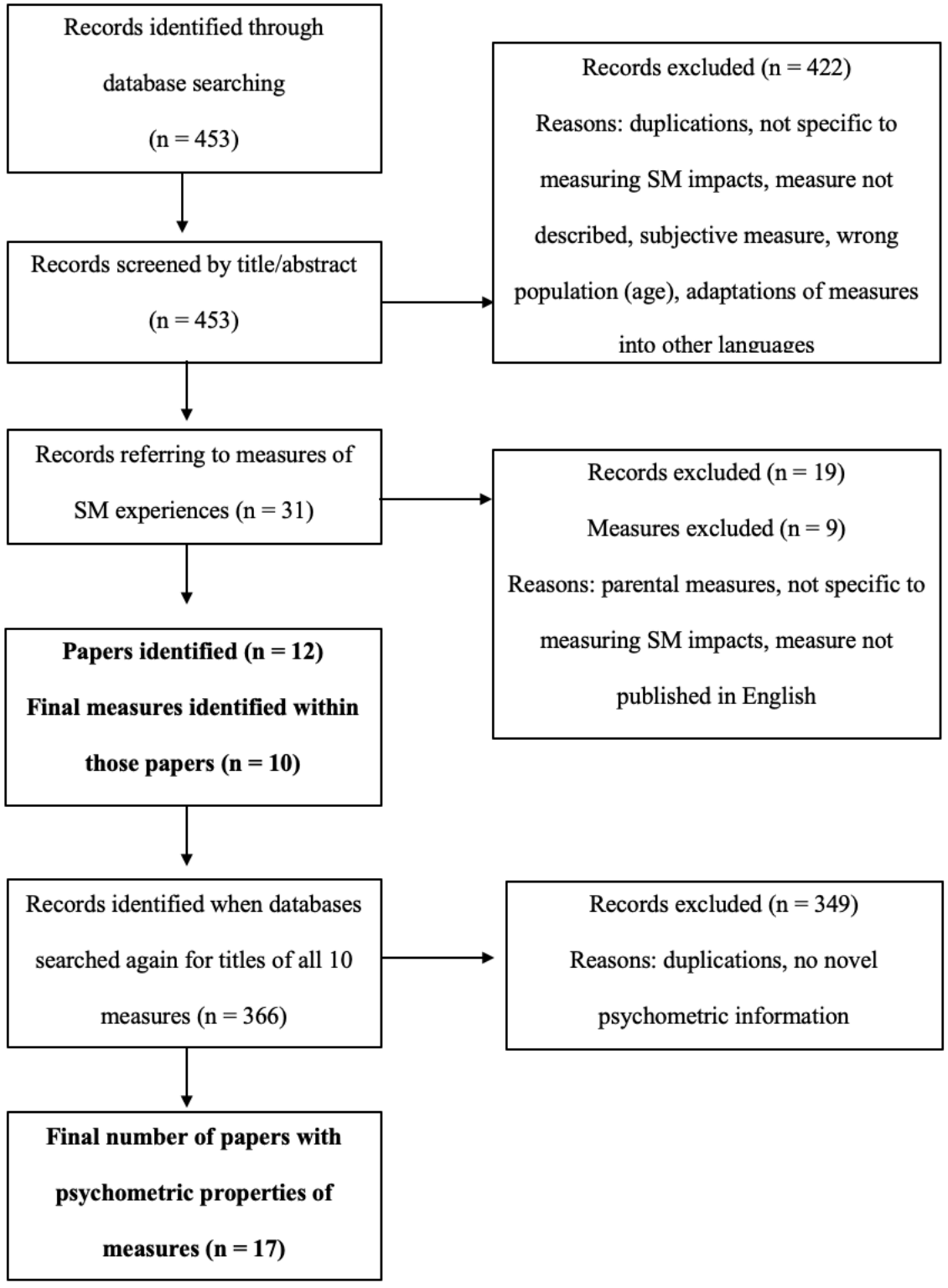

Table 2

Quality scoring criteria

Domain	Score of 0	Score of 1	Score of 2
Content validity	Not met	Impacts of SM captured by the measure	AND experts and members of the intended population involved in generation of items
Factor structure	No factor analysis or no factor structure supported	EFA conducted and factor structure supported	EFA and CFA conducted OR CFA conducted and supported previously proposed theoretical factor structure
Internal consistency	Not reported or Cronbach's alpha > .7	Cronbach's alpha between .7 and .95	AND factor analysis conducted on adequate sample size (n = > 100 and 7 x number of measure items)
Test-retest reliability	Not reported	Reported but *r* = > .70	*R* = .70 or above
Convergent validity	Not reported	Only one correlation recorded (*r* = at least .50)	At least 75% of results in line with hypothesised expectations AND correlations with theoretically related constructs of at least *r* = .50
Floor/ceiling effects	Not reported	More than 15% of sample scoring either highest or lowest score possible	Less than 15% of sample scoring either highest or lowest score possible
Interpretability	Not reported	One of criteria not met	Can qualitative meaning be attached to quantitative scores, for example normative data provided or mean scores of subgroups

Note: SM = social media, EFA = exploratory factor analysis, CFA = confirmatory factor analysis

Quality criteria

In line with other reviews of psychological measures (e.g. Taylor-Roberts et al., 2019) this review used an adapted version of Strauss et al.'s (2016) quality criteria to score each measure on a number of domains. Measures were given a score of zero if a criterion was either not met or no relevant data for it was reported, a score of one if the criterion was met partially, and a maximum score of two in cases where there was evidence for the criterion being met fully. Scores in each domain were summed giving each measure a total score out of a maximum of 14. Criteria used by Straus et al. (2016) were developed from quality criteria devised by Terwee et al. (2007) to assess measures of health status and also drew upon the 'rules of thumb' for evaluating psychological measures as set out by Barker, Pistrang, & Elliott (2002). Table 2 displays a summary of the quality criteria domains and how each were scored. Where measures had multiple papers with psychometric properties reported, the majority of the information had to meet the criterion above for the relevant scores to be given.

Results

Each of the ten measures will be discussed in turn and their psychometric properties examined. Following this will be a critique and discussion about measures of SM impacts with reference to implications and suggestions for future research. Table 3 contains the relevant psychometric data for each measure covering all quality criteria domains previously set out. Table 4 displays the quality ratings (scores) for each measure.

Table 3

Psychometric properties of measures

Measure	Content validity: focus of measure (included impacts)	Content validity: recipient and expert groups consulted?	Factor structure: EFA or CFA?	Internal consistency: Cronbach's alpha	Test-retest reliability: r	Convergent validity: correlation (Pearson's r) with measures of related constructs	Interpretability: qualitative meaning given to scores? Subgroups tested for difference?
Social Media Disorder Scale (SMD; van den Eijnden et al., 2016; Fung, 2019; Boer et al., 2021; Watson et al., 2020; Afe et al., 2020)	Disordered use of SM (yes)	No	CFA supported one-dimensional factor structure Reported elsewhere: CFA as above	.81 Reported elsewhere: 0.71 – 0.87	.50 Reported elsewhere: .70	Positive correlations with compulsive internet use (.51), self-declared SM addiction (.48) and depression (.29) as predicted Reported elsewhere: Positive correlations with General Health Questionnaire (.17-.27), Bergen Social Media Addiction Scale (.44) and Social Media Addiction Scale (.56)	Higher scores indicate more disordered use. Cut off points for diagnoses given Differences by gender (more disordered boys than girls) in one sample but not all. No differences by age Reported elsewhere: Significantly higher scores for girls, lower educated adolescents, younger respondents and adolescents with non-Western immigrant backgrounds

Bergen Facebook Addiction Scale (BFAS; Andreassen et al., 2012; Mahmood et al., 2020; da Veiga et al., 2019; Pontes et al., 2016)	Facebook addiction (yes)	No	CFA supported one-dimensional factor structure Reported elsewhere: CFA as above	.83 Reported elsewhere: .78 – .87	.82 (3-weeks) Reported elsewhere: .94	Positive correlations with Addictive Tendencies Scale (.69), Facebook Attitudes Scale (.58) and Online Sociability Scale (.37) as predicted. Reported elsewhere: Positive correlations with deficient self-regulation subscale of Generalised Problematic Internet Use Scale (.72), interpersonal sensitivity subscale of Brief Symptom Inventory (-.32).	Higher scores indicate more problematic use/addiction to Facebook. Between group differences analysed, no difference in gender Reported elsewhere: no effects of age, gender or monthly family income
Social Media Addiction Scale 1 (SMAS-1; Tutgun-ünal & Deniz, 2015)	SM addiction (yes)	Yes: Experts but not recipients	EFA only – factor structure supported	.97 for total scale. >.89 for all subscales.	.84 for total scale (4 weeks).	Positive correlations with Facebook Addiction Scale (.75) and Generalised Problematic Internet Use Scale 2 (.67)	Categories of scores from ‘no addiction’ to ‘very highly addicted’ No between group differences analysed.
Social Media Addiction Scale 2 (SMAS-2;	SM addiction and its effect on academic	Yes: Experts but not recipients	EFA only – three-factor structure supported	.70, .63 and .94 for three subscales. Not reported	Not reported	Not reported in original paper	Higher scores and so level of SM addiction = worse academic performance

Al-Menayes, 2015; Watson et al., 2020)	performance (yes)		Reported elsewhere: CFA conducted but factor structure didn't match original (only 6/10 items significantly loaded onto the correct factor)	for total scale Reported elsewhere: .68, .76, .43 for subscales		Reported elsewhere: Positive correlation with Bergen Social Media Addiction Scale (.54) and Social Media Disorder Scale (.56)	No between group differences analysed. Reported elsewhere: difference in gender with males having lower scores
Social Media Addiction Scale-Student Form (SMAS-SF; Sahin, 2018)	SM addiction (yes)	Yes: Experts but not recipients	EFA & CFA supported four-factor structure	.93 for total and > 0.8 for all subscales	> .8 for total score and subscale scores (4 weeks)	Not reported	Higher scores indicate higher level of addiction No between group differences analysed
Problematic Facebook Use Scale (PFU; Marino et al., 2016)	Problematic use of Facebook (some items related to preferences of use not impacts)	No	CFA – factor structure supported	.86	Not reported	Positive correlation with Bergen Facebook Addiction Scale (.79)	Higher scores indicate problematic use Gender and age differences examined

Social Network Addiction Scale (SNAS; Gökdaş & Kuzucu, 2019)	SM addiction (yes)	Yes: Experts but not recipients	EFA and CFA – factor structure supported	.87 for adolescents and .84 for young adults McDonald's omega also calculated (.87)	Not reported	Positive correlation with the Problematic Mobile Phone Use Scale (.55)	Higher scores indicate higher level of addiction Differences between age groups reported
Social Media Benefits Scale (SMBS; Craig et al., 2021)	Beneficial impacts of SM that drive use	Yes: Experts and recipients	EFA only. Factor structure supported (4 factor)	.89	Not reported	Not reported	Higher scores indicate more substantive use of SM for its beneficial impacts Between group differences analysed by age – younger users more likely to use for emotional support & development
Scale of Excessive Use of Social Networking Sites (SEUS; Kotyśko & Michalak, 2020)	SM addiction (yes)	No	EFA and CFA Did not support hypothesised factor structure	> .9	Not reported	Positively correlation with Bergen Facebook Addiction Scale as predicted (.80)	Higher scores indicate higher severity of problem No between group differences analysed

Social Media Use Disorder Scale for Adolescents (SOMEDIS-A; Paschke et al., 2021)	SM addiction (yes)	Yes: Experts but not recipients	EFA and CFA – factor structure supported	.91 for total scale, and > .8 for both subscales McDonald's omega = .93.	Not reported	Positive correlation with Social Media Disorder Scale (.68) and parent measure of Social Media Disorder Scale (.54).	Higher scores used to diagnose Social Media Use Disorder (SMUD). Group differences analysed – no difference found in terms of gender

Table 4

Quality ratings of measures

Measure	Content validity	Factor structure	Internal consistency	Test-retest reliability	Convergent validity	Floor/ceiling effects	Interpretability	Total
SMD	1	2	2	1	2	0	2	10
BFAS	1	2	2	2	2	0	2	11
SMAS-1	1	1	2	2	2	0	1	9
SMAS-2	1	1	1	0	2	0	1	6
SMAS-SF	1	2	2	2	0	0	1	8
PFU	1	2	2	0	1	0	1	7
SNAS	1	2	2	0	1	0	1	7
SMBS	2	1	2	0	0	0	1	6
SEUS	1	0	2	0	1	0	1	5
SOMEDIS-A	1	2	2	0	2	0	2	9

Rating: 0=criterion not met OR insufficient data to rate criterion (red); 1=criterion partially met (orange); 2=criterion fully met (green)
Total score: maximum=14

Table 5

Constructs of measures and age ranges applicable for

Measure	Age range	Constructs assessed
SMD	10-23	Disordered use of SM assessed over nine domains; preoccupation, tolerance, withdrawal, displacement, escape, problems, deception and conflict
BFAS	10-29	Addiction to/problematic use of Facebook. Devised around six components of addiction; salience, tolerance, mood modification, relapse, withdrawal & conflict
SMAS-1	17-25	Addiction to SM assessed over domains of occupation, mood medication, relapse and conflict
SMAS-2	13-25	Addiction to SM. Developed in the context of a study assessing the relationship between SM addiction and academic performance
SMAS-SF	12-22	Addiction to SM assessed over domains of virtual tolerance, virtual communication, virtual problem and virtual information
PFU	14-29	Problematic use of Facebook assessed on five subscales: preference for online social interactions, mood regulation, cognitive preoccupation, compulsive use and negative outcomes
SNAS	14-17	Addiction to SM measured through items relating to control difficulty, negativity in social relations and decrease in functions
SMBS	14-29	Measuring which, if any, benefits SM sites are used for. Benefits of use relating to; emotional support and development, general educational purposes, entertainment or "killing time" and LGBTQ+ specific information
SEUS	'Adolescents' mean age = 17	Addiction to SM. Devised around six components of addiction; salience, tolerance, mood modification, relapse, withdrawal & conflict
SOMEDIS-A	10-17	Assessing social media use disorder (SMUD) on the ICD-11 criteria of gaming disorder. Items relate to negative consequences and cognitive-behavioural symptoms

Measures

Social Media Disorder Scale (SMD; van den Eijnden et al., 2016)

Description

The SMD is a 9-item scale developed from the Internet Gaming Disorder (IGD) scale to identify problematic use of SM. It was developed around nine previously identified domains, including preoccupation, tolerance, withdrawal, displacement, escape, problems, deception and conflict. Respondents are asked to indicate 'yes' or 'no' on items such as 'during the past year have you regularly had arguments with others because of your social media use?'. Four additional papers were found which reported on psychometric properties of the SMD, including large samples in multiple countries.

Validity

The original creation of the SMD did not involve members of the target population in the item generation stage, however with items such as '(have you) regularly had arguments with others because of your SM use?', the measure appears at face value to relate to impacts of SM use. The SMD obtained a maximum score of two in the domain of convergent validity. Significant positive correlations were observed between SMD scores and compulsive internet use (r = .51) and self-declared SM addiction (r = .48) in the original paper (van den Eijnden et al., 2016). Other papers reported weak to moderate correlations between the SMD and other hypothesised related measures and constructs; Watson et al. (2020) observed significant positive correlations between the SMD and scores on both the Bergen Social Media Addiction Scale (r = .44) and the Social Media Addiction Scale (r = .56) and Fung (2019) reported a significant positive correlation between the SMD and scores on the General Health Questionnaire (GHQ; r = .27) and a significant negative correlation with the Brief Self-Control Scale (r = -.42) in a large sample of Chinese university students. Whilst a number of the correlations were weak (e.g. r = .17 for the correlation between SMD

and GHQ in sample of Nigerian adolescents (Afe et al., 2020)), the criteria of at least 75% of results being in line with hypothesised expectations was met. These findings suggest that the SMD has adequeate convergent validity.

Reliability

Good internal consistency of the SMD was reported in all papers found; Cronbach's alpha = .81 (van den Eijnden, 2016), .75 (Fung, 2019), .87 (Boer et al., 2021), .80 (Watson et al., 2020) and .71-.72 (Afe, 2020). A score of one was obtained for test-retest reliability, as van den Eijnden's (2016) original paper reported $r = .50$, which did not meet the threshold of $r = .70$ or greater. However, Afe (2020) also assessed for test-retest reliability and observed significant positive correlations between scores ($r = .70$, $p < .001$). No other paper reported on the test-retest reliability of the SMD.

Interpretability

The SMD obtained the maximum score of two in the domain of interpretability. Meaning was given to scores on the SMD, with van den Eijnden (2016) providing suggestions for cut off points for a diagnosis of SMD, with higher scores indicating more disordered use of SM. Mean scores of multiple subgroups were also provided across different papers, including mean scores by gender (Afe, 2020; Boer et al., 2021; Watson et al., 2020) age, education level and ethnicity (Boer et al., 2021).

Summary

The SMD obtained an overall quality rating of 10/14. The SMD's reliabilty had been repeatedly evidenced across multiple papers on large sample sizes in multiple countries. CFAs conducted by multiple researchers consistently supported the one-dimensional factor structure of the SMD (Boer et al., 2021; van den Eijnden, 2016; Watson et al., 2020) suggesting that the SMD is an accurate measure of disordered use of SM. Although a number of the significant correlations between the SMD and related constructs were small in

magnitude, convergent validity was also consistently evidenced. The SMD is a short 9-item measure and therefore may be easily and quickly used in clinical settings to act as a short screening tool for potential disordered use.

Bergen Facebook Addiction Scale (BFAS; Andreassen et al., 2012)

Description

The BFAS is a 6-item self-report measure on a Likert-type scale, used to assess addiction to/problematic use of Facebook. The measure was devised around the six components of addiction identified by Griffiths (2012): salience, tolerance, mood modification, relapse, withdrawal & conflict. Items include 'how often during the last year have you used Facebook so much that it has had a negative impact on your job/studies?'. A further three papers were identified which provided psychometric properties of the BFAS across multiple samples. An adapted version of the BFAS has since been created which is applicable to all SM (Bergen Social Media Addiction Scale, BSMAS; Andreassen, et al., 2016). However, due to the limited scope of this review as well as the agreed upon restrictions that adaptations of measures would not be included, only the original BFAS is included.

Validity

Convergent validity of the BFAS has consistently been evidenced in the literature. In the original paper, Andreassen et al. (2012) reported significant positive correlations between scores on the BFAS and scores on the Addictive Tendencies Scale (r = .69), Facebook Attitudes Scale (r = .58) and the Online Sociability Scale (r = .37), findings which were all in line with the authors' hypotheses. In their research validating the BFAS in a sample of Portuguese adolescents (age 10-18 years), da Veiga et al. (2019) reported significant positive correlations between the BFAS and the deficient self-regulation subscale of the Generalized Problematic Internet Use Scale (r = .72) and the interpersonal sensitivity subscale of the Brief

Symptom Inventory (r = .32). Despite other observed correlations being small in magnitude, the BFAS met the criteria to receive a maximum score of two for convergent validity. The measure was given a score of one for content validity, due to the absence of members of the target population being included in the item development stage.

Reliability

The BFAS obtained a score of two for both internal consistency and test-retest reliability. In the original validation study, Andreassen et al. (2012) reported Cronbach's alpha for the scale to be .83, indicating good internal consistency. This finding was replicated elsewhere by Mahmood et al. (2020), α = .78, da Veiga et al. (2019), α = .87, and Pontes et al. (2016), α = .83. Test-retest reliability was also evidenced by both Andreassen et al. (2012), r = .82 after a 3-week delay, and by da Veiga et al. (2019), r = .94. All four of the papers with psychometric properties relating to the BFAS included in this review conducted a CFA, where a one-factor solution was found to be a good fit to the data by all.

Interpretability

The BFAS was given a score of two for interpretability due to the inclusion of subgroup means and consideration to the qualitative meaning of scores. Higher scores on the BFAS were said to indicate addiction to/more problematic use of Facebook, with the authors providing suggested score cut offs. The original paper by Andreassen et al. included mean scores by gender and analyses of between group differences, finding no significant difference between male and female respondents. Mahmood et al. (2020) reported no statistically significant effects of age, gender or monthly family income on BFAS scores.

Summary

The BFAS obtained an overall quality rating of 11/14. The papers included provided robust support for the validity and reliability of the BFAS in measuring addiction to Facebook. The age groups of the participant samples varied, with participants from 10-29

years being included, suggesting that the BFAS may be a valid tool to be used across a wide age-range. Furthermore, the generalisability of the BFAS is supported by it having been validated internationally, with the included papers targeting populations from Norway, Portugal and Pakistan. The BFAS is a short and easy to administer measure which appears to be both reliable and valid.

Problematic Facebook Use Scale (PFU; Marino et al., 2016)

Description

The PFU is a 15-item scale adapted from the Generalized Problematic Internet Use Scale (Caplan, 2010), which is not included in this review due to it not focussing specifically on SM. Respondents are asked to rate a number of items on a Likert-type scale, including 'my Facebook use has made it difficult for me to manage my life'. The measure is made up of five subscales including POSI (preference for online social interactions), mood regulation, cognitive preoccupation, compulsive use and negative outcomes. The PFU has been validated within an age range of 14-29 years. No further papers were identified which reported on psychometric properties of the PFU.

Validity

The PFU was given a score of one for content validity as some measure items related to preferences of use rather than impacts. There was also no evidence that a sample of young people were consulted regarding the generation of measure items. Convergent validity was measured by analysing the relationship between scores on the PFU and scores on the theoretically linked Bergen Facebook Addiction Scale (BFAS); a significant positive correlation was observed ($r = .79$, $p < .001$). As convergent validity of the PFU was not tested with any other measure, a score of one was given.

Reliability

Internal consistency of the PFU was reported to be good, with a Cronbach's alpha of .86. A score of two was given for internal consistency due to the combination of this figure and the CFA performed on an adequate sample. Test-retest reliability analyses were not observed.

Interpretability

Normative data on the sample (n = 1,650) were not reported (e.g. mean scores of different subgroups), however differences between groups were statistically analysed. Marino et al. found no significant effects of either gender or age on total or subscale PFU scores. Some consideration was given to the meaning behind scores, with higher scores indicating more problematic use however no cut-offs were provided to distinguish between problematic and non-problematic use. The PFU was therefore given a score of one for interpretability.

Summary

The PFU received a total quality rating of 7/14. The factor structure of the measure was supported by a theoretically driven CFA and the convergent validity of the measure was demonstrated by its relationship with the BFAS. Whilst internal consistency of the measure was good, test-retest reliability analyses were not conducted and data on floor and ceiling effects was missing.

Social Network Addiction Scale (SNAS; Gökdaş & Kuzucu, 2019)

Description

The SNAS is a 10-item scale used to measure addiction to SM on a Likert-type self-report scale. The measure includes items such as 'I have begun to have problems focusing on my work/school since I began to use social networks'. Results of the factor analysis confirmed a three-factor structure, consisting of items relating to control difficulty, negativity in social relations, and decrease in functions. The measure has been validated in both

adolescent and young adult populations. No further papers containing relevant psychometric properties of the measure were found in searches.

Validity

The SNAS is a measure of addiction to SM and although no adolescents or young adults were consulted in the development of items, experts in the field were involved in the construction of measure items. The measure incorporates impacts of SM use (e.g. 'my performance at work/school has decreased since I began to use social networks') and so the SNAS was given a score of one for content validity. Scores on the SNAS were significantly positively correlated (as hypothesised) with scores on the Problematic Mobile Phone Use Scale (PMPUS; $r = .55$, $p < .001$), given the SNAS a quality score of one in the domain of convergent validity.

Reliability

Test-retest reliability was not assessed in Gökdaş & Kuzucu's paper. Internal consistency was confirmed via both Cronbach's alpha (.87) and McDonald's omega (.87) and subscales significantly positively correlated with each other.

Interpretability

A score of one was given to the SNAS for interpretability. Qualitative meaning was given to total scores on the scale, with higher scores indicating higher levels of addiction. However, cut offs were not provided. Normative data was also not provided, nor were means for various subgroups, despite between group differences being analysed by age.

Summary

The SNAS was given a quality rating of 7/14. Multiple CFAs were performed on large samples of both adolescents and young adults, with a supported factor structure and good reported internal consistency of the measure. However, convergent validity was only assessed against one other measure and test-retest reliability was not assessed.

Social Media Benefits Scale (SMBS; Craig et al., 2021)

Description

The SMBS is a two-step scale asking respondents to indicate their favourite SM sites and then identify which, if any, benefits they use the site for out of 17 benefit items, including '…makes me feel connected'. The scale was developed specifically for and with LGBTQ+ youth (participants aged 14-29 years). Results of the analyses confirmed a four-factor structure with benefits of use relating to; emotional support and development, general educational purposes, entertainment or "killing time" and LGBTQ+ specific information. The SMBS is the only scale included in this review to focus specifically on benefits of SM use. No further papers were identified containing psychometric properties of the SMBS.

Validity

The SMBS obtained the maximum score of two for content validity and was the only measure included in the review to have involved members of its intended population in the generation of items. This was achieved through interviews with LGBTQ+ youth and consultation with a youth advisory board. The measure was not assessed for convergent/discriminant validity by comparing scores to any other measures, which the authors explained by there being no other known measures of the same construct for the same population.

Reliability

Cronbach's alpha was reported to be .89 for the scale and a factor analysis was conducted on a large sample (n = 6178). Test-retest reliability analyses were not conducted.

Interpretability

The authors had given thought to the qualitative meaning of scores, with higher scores indicating more substantive use of SM for its beneficial impacts. Age group differences were statistically analysed, with younger participants reported as being more likely to use SM for

emotional support and development compared to older participants who were more likely to use SM for its educational benefits. However, mean scores by age group were not provided, and so the SMBS was given a score of one for interpretability.

Summary

The SMBS was given a quality rating of 6/14. Despite full marks for content validity and internal consistency, CFA was not conducted and there was no evidence to support the scale's test-retest reliability or convergent validity. Consideration was given by the authors as to the scale's clinical utility as a starting point for clinicians working with LGBTQ+ youth to adapt interventions to reinforce positive impacts of SM on wellbeing.

The Scale of Excessive Use of Social Networking Sites (SEUS; Kotyśko & Michalak, 2020)

Description

The SEUS is a self-report measure of addiction to SM sites based upon Griffiths' (2012) proposed components of addiction: salience, mood modification, tolerance, withdrawal symptoms, conflict and relapse. Items include 'I cannot fall asleep because of social networking site usage'. The SEUS was created with the aim to offer a measure of addiction that was not specific to one SM site only. The hypothesised factor structure was not supported by analyses (EFA & CFA). No other papers were identified containing psychometric properties of the SEUS.

Validity

Scores on the SEUS were significantly positively corelated with scores on the Bergen Facebook Addiction Scale (BFAS) as hypothesis ($r = .80$, $p < .001$) and the results met the criteria of over 75% of hypothesised correlations with other measures being found to be significant. However, only the relationship with the BFAS met the threshold of $r = > .50$, and therefore a score of one was given for convergent validity. The SEUS was also given a score

of one for content validity, as although the measure objectively related to impacts of SM use, members of the target population were not included in the item generation stage of measure development.

Reliability

The SEUS was shown to have good internal consistency (Cronbach's alpha greater than .90) with item-total correlations reported to be > .65 for every item. The factor analyses were conducted on large samples across three study stages (n = 587, n = 351 and n = 1054, respectively), giving the SEUS a score of two for internal consistency. Test-retest and inter-rater reliability analyses were not conducted.

Interpretability

Between group differences were not statistically analysed and no normative data were provided (for example mean scores by age/gender of participant). Meaning had been given to scale scores, with higher scores reportedly indicating a higher severity of problem, but cut offs were not provided. The SEUS therefore obtained a score of one for interpretability.

Summary

The SEUS obtained a quality rating of 5/14. A theoretical factor structure was proposed and hypothesised by the authors, however this was not supported by the factor analysis (EFA and CFA) and no significant factor structure was observed. Convergent validity was evidenced through a significant positive correlation with scores on the BFAS, however other reported correlations with hypothesised related constructs were small in magnitude.

Social Media Use Disorder Scale for Adolescents (SOMEDIS-A; Paschke et al., 2021)

Description

The SOMEDIS-A is the first known successfully validated measure assessing social media use disorder (SMUD) on the ICD-11 criteria of gaming disorder. It is a self-report

measure asking respondents to rate nine items on a Likert-type scale, including items such as 'due to my social media use, I neglect my appearance, my personal hygiene, and/or my health (e.g. sleep, nutrition, exercise)'. A two-factor structure was supported by EFA and CFA analyses, with factors relating to negative consequences and cognitive-behavioural symptoms. No other papers were identified to have reported on psychometric properties of the measure.

Validity

Convergent validity was evidenced with significant positive correlations between SOMEDIS-A scale scores and scores on the Social Media Disorder Scale (SMDS, $r = .68$, $p < .001$) and the parent version of the SMD (SMDS-P, $r = .54$, $p < .001$), as hypothesised. The other observed correlations were of smaller magnitudes ($r = < 0.5$) but were still of significance. This meant that the SOMEDIS-A could be given a score of two for convergent validity, and was given a score of one for content validity due to the measure objectively measuring negative impacts of SM use.

Reliability

Internal consistency of both the measure total score (Cronbach's alpha = .91, McDonald's omega = .93) and both subscales (Cronbach's alpha and McDonald's omega > .8) was observed on analyses of an adequate sample size (n = 931). Re-test reliability analyses could not be conducted due to the chosen cross-sectional design of the study, and inter-rater reliabilities were not relevant due to the self-report nature of the measures. As with all measures discussed in this review, floor and ceiling effects were not discussed.

Interpretability

Consideration was given to the meaning behind scores, with the authors suggesting that higher scores on the SOMEDIS-A may be used to assist in diagnosing adolescents with SMUD. Both cut offs and normative data for subgroups were provided. Between group

differences were analysed; for example, no effects of gender on SOMEDIS-A total or subscale scores were identified. The SOMEDIS-A was therefore given a score of two for interpretability.

Summary

The SOMEDIS-A was given a quality rating of 9/14. There was evidence of good internal consistency and convergent validity with other associated measures, as well as ample consideration as to the clinical implications and utilities of the tool. CFA conducted on a large sample confirmed a theoretically-backed factor structure.

Social Media Addiction Scale 1 (SMAS-1; Tutgun-ünal & Deniz, 2015)

Description

The SMAS-1 is a 41-item measure of SM addiction, validated in a population of Turkish university students. Respondents are asked to rate items on a Likert-type scale, including 'my productivity decreases due to social media use'. An EFA was conducted which supported a four-factor structure with domains of occupation, mood medication, relapse and conflict. The measure created with intention of being applicable to all SM platforms (not limited to Facebook only). No other papers were found which reported on psychometric properties of the SMAS-1.

Validity

Experts were consulted in the item development stage of the SMAS-1, but this group did not involve members of the target population, giving the SMAS-1 a score of one for content validity. Convergent validity was evidenced through significant positive correlations found between total SMAS-1 scores and scores on the Facebook Addiction Scale ($r = .75$, $p < .001$) and the Generalized Problematic Internet Use Scale ($r = .67$, $p < .001$), as hypothesised by the authors. The SMAS-1 therefore received the maximum score of two for convergent validity.

Reliability

The SMAS-1 received a score of two for both internal consistency and test-retest reliability, being one of the few measures in this review to include re-test data. Cronbach's alpha was reported to be .97 for the total scale and > .89 for each of the four subscales which were identified in the EFA, suggesting that the measure had good internal consistency. Test-retest reliability was also proven, with significant positive correlations observed between original scores and scores on a re-test after a 4-week period ($r = .84$, $p < .001$). This finding was also observed for all subscales of the measure.

Interpretability

No normative data were provided and differences between subgroups were not analysed (e.g. the effect of gender or age on scale scores). The authors did give qualitative meaning to the scores, suggesting score cut offs which signified anything from 'no addiction' to 'very highly addicted'. The SMAS-1 was therefore given a score of one for interpretability.

Summary

The SMAS-1 obtained a quality rating of 9/14. The measure was observed to have good validity (content and convergent) and reliability (internal consistency and test-retest) and was validated with a large sample (n = 775 Turkish university students). No significant differences were observed between the Turkish or English versions of the measure, suggesting that the SMAS-1 may have cross-cultural validity. However, no CFA was conducted and therefore more limited inferences can be drawn from the analysis.

Social Media Addiction Scale (SMAS-2; Al-Menayes, 2015)

Description

The SMAS-2 was created as a variation of the Internet Addiction Test (IAT) to measure SM addiction, in the context of a study assessing the relationship between SM

addiction and academic performance. It is a 10-item self-report measure on Likert-type scale, including items such as 'my school grades have deteriorated because of my social media usage'. One additional paper reporting novel data relating to the psychometric properties of the SMAS-2 was found.

Validity

No data on validity was reported in the original paper by Al-Menayes (2015) with no other measures being given to participants to be able to assess convergent validity. In terms of content validity, the SMAS-2 is a measure of SM addiction and clearly relates to impacts of SM use, with items such as 'it's difficult to sleep after using SM'. However, no experts or people from the target population were consulted on the item generation, as it was devised as a variation of the IAT. A review by Watson et al. (2020) reported that scores on the SMAS-2 were significantly positively correlated with scores on the Bergen Social Media Addiction Scale (r = .54) and the Social Media Disorder Scale (r = .56). As this evidence met the necessary criteria, the SMAS-2 was given a score of two for convergent validity.

Reliability

Three factors were identified following the EFA conducted by Al-Menayes (2015) and Cronbach's alpha was reported for the three identified subscales (.70, .63 and .94 respectively) but no figure was provided for the total scale reliability. Internal consistency analysis was replicated by Watson et al. (2020) who reported Cronbach's alpha for the three subscales to be .68, .76 and .43. This finding contradicts that of Al-Menayes (2015) and calls the internal consistency of the subscales into question. Test-retest reliability was not assessed in either paper and therefore the SMAS-2 received a score of zero in this domain.

Interpretability

No explanation was given by Al-Menayes as to the thematic meaning behind the three factors which had been identified in the EFA. It was reported that higher scores indicated a

higher level of addition to SM, and that two of the three factors significantly negatively correlated with academic performance (meaning that higher levels of addiction were related to poorer grades). However, Watson et al. (2020) conducted a CFA on the SMAS-2 and reported that whilst three factors were identified, only 6/10 of the measure's items loaded significantly onto the correct factor, thus limiting the measure's interpretability and overall construct validity. Between group differences were not analysed by Al-Menayes, but Watson et al reported gender differences in scale scores, with male participants receiving overall lower scores. The SMAS-2 obtained a score of one for interpretability due to these shortcomings.

Summary

The SMAS-2 obtained an overall quality rating of 6/14. The original paper was lacking any data on the measure's validity, and the psychometric properties reported by the other identified paper (Watson et al., 2020) provided mixed support for the measure, with some evidence of convergent validity but issues relating to the measure's reliability. The original sample of participants (Al-Menayes, 2015) were predominantly female (70%). Comparatively, participants in Watson et al.'s research were of mixed ethnicities and there was more of a gender balance, perhaps suggesting that these findings are more generalisable to wider populations.

Social Media Addiction Scale-Student Form (SMAS-SF; Sahin, 2018)

Description

The SMAS-SF is a self-report measure of SM addiction, with items such as 'I notice that my productivity has diminished due to social media'. The SMAS-SF has been validated in a population aged between 12-22 years. A four-factor structure was identified with EFA and CFA, with factors relating to virtual tolerance, virtual communication, virtual problem,

virtual information. No other papers were identified with psychometric properties of the SMAS-SF.

Validity

Convergent validity of the SMAS-SF was not assessed and therefore the SMAS-SF obtained a score of zero for this domain. A score of one was given for the domain of content validity, as though the measure related to impacts of SM use and experts were consulted on the measure design, members of the target population were not included in the development stage.

Reliability

The SMAS-SF was reported to have good internal consistency, with a Cronbach's alpha of .93 for the total score, and > .8 for each of the four identified subscales. Furthermore, test-retest analyses yielded significant positive correlations between original scores and re-test scores after a 4-week delay, for both total scale scores and scores on each subscale (r = > .8 for all). These results indicate that the SMAS-SF may be a reliable measure.

Interpretability

Normative data were not provided on group differences (e.g. by age or gender) and no between-group analyses were conducted. Explanation was given to the meaning of measure scores, with higher scores indicating high levels of SM addiction. No cut offs were suggested by the authors. The SMAS-SF was therefore given a score of one for interpretability.

Summary

The SMAS-SF obtained a quality score of 9/14. The SMAS-SF appears to be a reliable measure of SM addiction in a young population (12-22 years), with both internal consistency and reliability observed. Both EFA and CFA were conducted, both supporting a

four-factor structure with obvious factor themes. The SMAS-SF lost points due to a lack of data on convergent validity, and no floor or ceiling effects being reported.

Discussion

This review sought to critically appraise existing measures of impacts of SM usage. The systematic literature search identified ten relevant measures with a total of 17 associated papers reporting on their psychometric properties. Measures were scored according to quality criteria and their scores can be compared.

Summary of measures

The results of the critical appraisal highlight significant variance in the quality of measures, with the lowest scoring measure (SEUS) receiving a total score of 5/14, compared to the highest scoring measure (BFAS) which obtained a total score of 11/14. The mean total score of measures was 7.8, suggesting that overall measures of the impacts of SM use have issues with thorough psychometric evaluation.

In general, internal consistency of the measures was strong, with all but one measure (SMAS-2) receiving the maximum score of two for this domain, suggesting that items of these scales and their relevant subscales were measuring the same construct. Conversely, test-retest reliability was less regularly analysed, with only four of the ten measures reporting data on this domain, and only three receiving full marks. In terms of factor structure, only the SEUS had neither exploratory not confirmatory factor analyses conducted on it. Three of the ten measures received one point in this domain due to either CFA having not been performed (SMBS & SMAS-1), or where a CFA was performed but did not support the previously identified factor structure (SMAS-2). None of the ten measures reported on the floor or ceiling effects of their measures and therefore limited inferences can be drawn about the dispersion of respondent scores.

As with reliability, the validity of measures also varied. For content validity, only the SMBS scored the maximum of two points. All other measures were deducted one point due to not including members of the target population in the item generation stage of the measure design. Whilst a number of the measures included expert perspectives from researchers or clinicians in the field (SMAS-1, SMAS-2, SMAS-SF, SNAS, SMBS & SOMEDIS-A), opinions of young people on the measures were otherwise lacking in the identified papers, although this is perhaps unsurprising given the target age ranges of the measures. Five of the measures met the appropriate criteria in the domain of convergent validity, reporting significant positive correlations with associated measures and constructs that had been previously hypothesised. Two of the measures failed to report any data on convergent validity (SMBS & SMAS-SF) and the rest reported either weak correlations or only one significant association with a relevant construct.

The authors of all identified papers had provided commentary as to the suggested qualitative meaning behind qualitative scores, giving evidence for the measures' interpretability. Half of the measures (5/10) had associated papers which provided analysis of between group differences, including statistically analysing for the effects of gender, age, educational background and ethnicity. Whilst some papers provided suggested score 'cut offs' on measure scores to identify problematic use/SM addiction (SMD, SMAS-1), few papers included normative data on scale and subscale scores, making applying meaning to scores more difficult.

The age ranges of all included participants varied significantly, with a range of participants from 10 to 29 years. Some papers gave little or no explanation as to the reason for the age of their target population, with no clear theoretical basis behind this. Whilst some measures have been validated for use in SM users of a wide age range (e.g. the BFAS, validated with participants as young as 10 years and as old as 29), other measures have only

been validated within more limited age ranges. Similarly, the cross-cultural validity of most of the measures is brought into question due to the lack of validation outside of the original country of the measure creation. The results of this review found that only the BFAS, SMD, SMAS-1 and SMAS-2 had been validated in more than one cultural setting and thus no other measure (at present) can claim to be applicable, meaningful, and thus equivalent in another culture (Matsumoto, 2003).

The highest scoring measure was the BFAS (11/14), followed by the SMD (10/14). These measures each had several papers which reported on their psychometric properties, which may go some way to account for their higher scores, with more data to evidence each relevant domain. The BFAS only dropped marks for no data reporting on the floor and ceiling effects and for the target population not being consulted on the measure's items. This may be potentially explained by the fact that the BFAS was devised around Griffith's (2012) components of addiction, and therefore had a theoretical basis to the item creation and selection. The SMD received the same scores as the BFAS in all domains except test-retest reliability, where not all data met the required threshold of $r = > .70$. Both measures were evaluated to be largely reliable and valid measures of disordered SM use and addiction to Facebook.

Future research

Of the ten measures identified within this review, the majority (seven) had only been validated within one population. Amongst the highest scoring measures were measures where multiple validation studies had been conducted, often across multiple cultural contexts, thus providing more robust evidence for the generalisability of findings. This review has identified an overall limit to measure generalisability, and the field would therefore benefit from large, cross-national studies.

All included measures were assessed as having at least components in them that related directly to impacts of SM use. Some measures relating specifically to SM addiction or problematic/disordered use were devised from, or in reference to, definitions of addiction which include notable impact on a person's life as grounds for diagnosis. However, not all measures included in the review could be said to measure the exact same construct, thus potentially limiting inferences drawn from their comparisons. This illustrates a wider issue for research in this field, with a limited number of measures in existence which focus specifically on the impacts of SM use. It may also raise the issue of what underlying theoretical frameworks might be drawn upon to support measure development into the broader topic of impacts more generally.

Despite being focussed on the specific experiences of adolescents and young people in general, none of the identified measures within the review specifically related the development of the measures to developmental theory. Whilst there was evidence for adequate psychometric properties of many of the measures, developing tools that are sufficiently developmentally sensitive and aligned with extant developmental thinking would be a welcome focus in future research.

The review identified a lack of measures designed to capture beneficial consequences of SM use, despite research pointing towards the existence of positive impacts or dual effects of SM use with both positive and negative consequences (e.g. Weinstein, 2018). Only the SMBS identified in this review had this positive focus, and this measure was developed specifically for LGBTQ+ youth and therefore can only be generalised to this population. If further measures of positive SM impacts were developed and validated, clinicians may be able to use the information gathered by such measures to influence and adapt clients' interventions to reinforce any positive aspects of their SM use (Craig et al., 2021). Measures capturing this information may also provide opportunities to highlight a client's strengths,

such as their ability to foster and nurture connections/relationships through utilising SM platforms.

A number of the papers provided suggested cut-offs for diagnosis, with higher scores on measures such as the SMD being used to diagnose individuals with Social Media Disorder. There may be an argument that the use of such measures could help to identify individuals who are experiencing significant impacts from their use of SM and who may benefit from support around this. However, the potentially pathologising language of diagnosis and negative connotations of the word 'disorder' may lead individuals to feel stigmatised for their experiences. In the papers identified in this review, limited thought or explanation was provided as to the specificity of the cut-offs for diagnosis, and future research may benefit from exploring the value of such diagnoses more carefully.

As well as identifying a distinct imbalance between the number of measures relating to negative impacts compared to those measuring any beneficial consequences of SM use, another finding of the review was that no measure was identified which covered both positive and negative experiences or impacts of SM use. For the reasons previously stated, a tool capturing both positive and negative experiences may have even wider clinical utility, and therefore the field would benefit from such a measure being developed and validated.

Clinical implications

As previously discussed in the rationale for this review, valid and reliable measures of the impacts of SM use could bridge a gap between clinicians and the young people they work with, by facilitating conversations on experiences of SM and allowing clinicians to develop their SM-related multicultural competency. This review identified a number of short, easy to administer, self-report measures which may be easily utilised in clinical settings to help to identify problematic use of SM and those at risk of being negatively impacted by their use of SM. For clinicians who may not feel confident in discussing SM due to the ever-changing

digital world and creation and widespread use of an expanding range of platforms, measures such as those discussed in this review may allow for important information on young people's experiences of SM not being lost. With evidence for the link between the therapeutic alliance and adolescents' perceptions of therapists' SM competency (Pagnotta et al., 2018), any tool that may facilitate conversations between therapists and their clients regarding SM could arguably positively influence therapeutic outcomes.

Conclusions

The systematic review of measures of impacts of SM use in a young population identified ten measures, all with some identified weaknesses in terms of their psychometric properties or design. The highest scoring measure was the BFAS, a measure of addiction to/problematic use of Facebook, which was rated to be a largely reliable and valid measure. Whilst no measure can stand in place of a comprehensive and thorough clinical assessment, measures may act as useful adjuncts and assist in the facilitation of discussions around SM and the helpful and harmful roles this may play in a young person's life. Future research should focus on validating existing measures cross-culturally and providing more robust evidence for their convergent validity. It may also be beneficial for a measure to be developed which encompasses both positive and negative impacts of SM, as at present measures tend to focus on negative impacts (including addiction) only.

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Section B: Empirical Paper

Development and Validation of the Social Media Experiences Scale (SMES) for Young People

Word Count: 7906 (216)

A thesis submitted in partial fulfilment of the requirements of Canterbury Christ Church University for the degree of Doctor of Clinical Psychology and prepared for submission to the journal "Cyberpsychology, Behavior, and Social Networking"

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Abstract

Social media has rapidly developed into a pivotal and impactful aspect of the lives of young people, influencing many aspects of well-being. Despite the impacts of social media use being well documented to be both positive and negative, measures of social media impacts have largely focussed on negative experiences such as addiction to social media. To address this gap, the current study developed a new measure, namely the Social Media Experiences Scale (SMES), in consultation with a focus group of young people. Ninety-five candidate items for the SMES were administered to a sample of 256 young people from the UK (50% female, 16-24 years). An exploratory factor analysis suggested a two-factor structure with a stable set of items on two distinct subscales relating to positive and negative experiences of social media respectively. Ten items were retained for each subscale, creating a 20-item final SMES. Both subscales were found to have satisfactory internal consistency and test-retest reliability. Scores on the SMES subscales were correlated with scores on related measures in largely theoretically consistent ways. Analyses and implications for clinical use and future research are discussed, along with a critique of the current research.

Keywords: Social media; measure; youth; psychometric; well-being

Introduction

Social media (SM) refers to various internet-based networks which work to facilitate interaction between users through verbal and visual means (Carr & Hayes, 2015). Others have defined SM platforms as 'virtual communities' where users are able to connect with others, sharing their interests or maintain relationships with offline friends (Kuss & Griffiths, 2011). Despite varying definitions of SM, evidence for its widespread use globally is undeniable. Recent data from the Office of National Statistics reports that 89% of 10-15-year olds are online everyday (ONS, 2021) with SM becoming the predominant way for these 'digital natives' to experience relationships (Prensky, 2001). Perhaps unsurprisingly given its reach, the topic of SM and the potential impacts that it may have, has captured the attention of researchers and policymakers alike (Dickson et al., 2018), with societal impacts being observed on personal, professional and business levels (Akram & Kumar, 2017).

Whilst the use of SM is documented amongst all age groups, younger populations are reported to use SM more frequently and with a higher intensity of use (Chou et al., 2009). Research into the effects of using SM has therefore predominantly focussed on younger populations, including adolescents. More recently, some have attributed the observed global increases in mental health issues (including depression) amongst adolescents to the widespread use of SM (Twenge, 2020). Young people are reported to be more likely to be emotionally impacted by their SM use (Hayes et al., 2015) and it is argued that SM now plays an increasingly significant role in the identity development of adolescents (Middaugh, 2019).

Social media: helpful or harmful?

The literature on adolescent mental health has been saturated in recent years with research on the impacts of SM, citing both beneficial and harmful effects of use (e.g. Borca et al., 2015; Woods & Scott, 2016). With so many daily users of SM, it may be logical to assume that experiences of using SM are not all negative. Some benefits for adolescent users

may include promoting their overall development as well as the development of interests and expertise (Borca et al., 2015). The findings of this research were drawn from qualitative interviews with adolescents, with participants reporting a beneficial use of SM to promote autonomy, by providing users with a private space and opportunities for adolescents to negotiate and test parental rules. Positive effects on education have also been reported, with SM facilitating students' abilities to connect with other students for collaboration on tasks/assignments or to ask for help (Siddiqui & Singh, 2016).

The mental health burden of the recent Covid-19 global pandemic has been well documented, with observed increases in anxiety, depression and post-traumatic symptoms in children and adolescents (de Miranda et al., 2020). SM may have had a positive role to play in the midst of this, with some using SM platforms to access support and information about Covid-19 (Saud et al., 2020). SM may have also helped by providing people with mental health support resources and a sense of solidatory for those experiencing lockdowns and/or isolation (Depoux et al., 2020). It has also been suggested that SM platforms may have specific benefits for more marginalised groups, representing hubs of community. For example, these platforms may be helpful by providing transgender youth with access to emotional, appraisal and informational support which they may have otherwise been unable to access (Selkie et al., 2020).

Harmful effects and negative experiences of using SM are equally well documented in the literature, with impacts being reported across a wide range of well-being domains. For example, SM may impact upon the body image concerns of young women in particular, through the process of negative social comparison (Perloff, 2014). Relationships have also been observed between SM use and poorer sleep, low self-esteem and increases in anxiety and depression amongst adolescents (Woods & Scott, 2016). Adolescents' increased investment in SM has also been linked to low mood and worry, suggesting that adolescents

who are highly invested in their use may be more at risk of experiencing negative outcomes from SM (Blomfield Neira & Barber, 2014). It is worth noting that much of the data in the field is correlational and so some caution is needed in drawing causal conclusions.

A recent, large-scale review on SM and adolescent well-being reported that most studies in this field found a mixed pattern of associations between SM and well-being (Best et al., 2014). Amongst the reported positive effects were increases in self-esteem and social capital, and opportunities for identity experimentation and self-disclosure. Negative impacts, such as increased exposure to harm, experiences of cyberbullying and isolation and depression, were also observed. Simultaneous positive and negative effects have also been identified; for example, users may at once feel both closeness to and disconnection from others, entertained and bored, experiencing both inspiration and distress (Weinstein, 2018). Adolescent SM may use platforms to exchange useful information, whilst also being at risk of harm from using platforms to share personal information (Siddiqui & Singh, 2016). With previously reported benefical uses of SM in the context of the Covid-19 pandemic, SM has also been used negatively to spread misinformation, with potentially dangerous consequences (Depoux et al., 2020).

Shankleman et al.'s recent review (2021) meta-synthesised the qualitative literature on adolescents' expriences of SM use and identifed four themes, each containing both benefits and negative aspects: connections, identity, learning, and emotions. For example, the theme of connections described how SM could both help adolescents to create and nurture relationships, but also facilitate conflict and criticism from peers, thus compromising relationships. Similarly in the domain of emotions, SM may have both positive and negative effects on mood by helping adolescents to regulate dificult feelings but also exposing them to upsetting content. SM was found to both promote and obstruct learning through inspiration

and preoccupation, and may also support identity construction (promoting authenticity and distinctiveness) and frustrate identity construction (if used for inauthentic self-presentation).

Social Identity Theory (Tajfel, 1978; Tajfel & Turner, 1979) suggests that individuals may derive pride and self-esteem from the groups which they belong to. It may be that young people use SM in attempts to increase social connectedness and build upon their social capital, as is suggested in Shankleman's (2021) findings. Furthermore, Erikson's (1950, 1968) proposed stages of psychosocial development highlight a number of key conflicts affecting individuals across the lifespan, with a suggestion that the key conflict facing adolescents is that of developing personal identity. Others have supported the claim that adolescent identity development is significantly influenced by SM and that this influence is increasing over time (Middaugh, 2019). Together, these ideas may help to make theoretical sense of Shankleman's (2021) findings, and other literature in the field.

Measures of SM impacts: what already exists?

With documented beneficial and harmful effects of SM use in young populations, it follows that tools which help to measure or identify these effects could have helpful clinical implications. A review of such measures (Norwood, 2022) identified ten questionnaires that met the criterion of having at least components that related specifically to impacts of SM use. The review highlighted mixed and varying evidence for the reliability and validity of these measures, with several methodological and design issues emerging from the quality appraisal. The majority of the measures identified (9/10) could be said to relate to negative impacts of SM use, including addiction and problematic use of SM platforms. The measure with the most robust evidence to support its psychometric properties was the Bergen Facebook Addiction Scale (BFAS; Andreassen et al., 2012), which has since been adapted to include other SM platforms. This measure was developed following a definition of addiction as identified by Griffiths (2012), with items relating to components such as mood modification,

withdrawal and conflict. The BFAS has been consistently evidenced as having internal consistency and convergent validity, and has also been validated in multiple cultural settings. Other measures of SM addiction/problematic use include the Social Media Disorder Scale (SMD; van den Eijnden et al., 2016) and the Social Media Addiction Scale (SMAS; Tutgun-ünal & Deniz, 2015).

Norwood's (2022) review identified only one measure that related specifically to beneficial impacts of SM use in adolescents, namely the Social Media Benefits Scale (SMBS; Craig et al., 2021). The SMBS includes items which relate to benefits of SM use such as emotional support and development, educational purposes (both general and LGBTQ+ specific) and entertainment. The measure was developed in collaboration with members of its target population (being the only measure included in the review to do so), and was validated in a large sample of LGBTQ+ youth (age 14-29 years). The internal consistency of the measure was good (Cronbach's alpha = .89). However, as of yet, no data have been provided on the measure's convergent validity.

As well as the quality issues which were identified in the review, one key finding was that no measure accounted for both positive and negative impacts or experiences of SM use. Nor did any measure cover all four domains of SM impact identified in Shankleman et al.'s (2021) review. With ample evidence to suggest that adolescents may experience a range of benefits and harms from using SM (and can experience both simultaneously), a single measure that comprehensively captures this information could be of significant clinical utility, not least because clinical services are unlikely to have time to administer multiple different measures.

The current study

The current study sought to develop and validate a measure of 16-24-year old's experiences of SM, both positive and negative (the Social Media Experiences Scale; SMES)

and covering all four of Shankleman et al.'s (2021) domains of well-being (connections, emotions, learning and identity). This age group was selected in part due to 16-24-year olds being amongst those most likely to use SM regularly (ONS, 2021), and therefore developing and validating a measure within this age range may be of clinical utility. The selection of this age group was also informed by Erikson's (1958, 1968) psychosocial developmental stage theory, with the key conflict facing adolescents being identified as developing personal identity, a process which is regularly linked to SM use (Middaugh, 2018). The age group was expanded to include those over the age of 18 for several reasons. Firstly, Erikson's theory posits that young adults face the conflict of intimacy versus isolation, with a focus in this age range on developing close relationships with others. The aforementioned literature (including Shankleman et al., 2021) supports the notion that SM may be used in attempts to develop social connectedness. Secondly, there was an aim to develop a measure that could be used in services supporting young people, beyond child and adolescent services. Other measures within this field including measures of social media addiction have also been validated in populations of both adolescents and older participants including university students (e.g. the Problematic Facebook Use Scale, validated in a population of 14-29-year olds; Marino et al., 2016).

This study was grounded in the NHS values of working together for patients and commitment to quality of care; the proposed measure was developed in the hope that it will be able to be used by practitioners working with young people to facilitate therapist understanding of social media use impacts, enabling them to provide appropriate and effective care that holds these impacts in mind. With evidence for the significant positive association between the perceived social media competency of therapists and the therapeutic alliance between them and their adolescent service users (Pagnotta et al., 2018), a measure that may facilitate open dialogue around SM use could have positive therapeutic implications.

The measure will also support further research in this area which in turn could lead to a better understanding of relationships between SM use and well-being.

The research questions for its two stages were as follows:

Consultation stage:

1) How understandable do a sample of 16-24-year olds find the draft measure items?
2) Does this sample have any suggestions for the measure, including changes to items or addition of any missed areas?

Collection of psychometric data stage:

3) What is the factor structure of the draft measure?
4) Which items does it makes sense to retain based on their factor loadings?
5) What is the test-retest reliability and internal consistency of the resulting measure, both in respect to any subscales identified by the factor analysis and the total score, if the analysis suggest one is meaningful?
6) What is the construct validity of the measure, both in terms of whether identified subscales make theoretical sense and whether their correlations with existing measures make theoretical sense?

Methods

Design

The SMES was designed, revised and validated in a number of stages. Following initial item development, an online focus group was conducted to gather qualitative data on item understandability and relevance. This informed revisions, resulting in a set of candidate SMES items that was administered online, alongside existing measures to be used for validation. The data extracted from this stage was subjected to a factor analysis to identify an appropriate factor structure for the SMES and ascertain which items to retain and which to

discard. It was also used to determine the psychometric properties of the final SMES, including test-retest reliability, internal consistency and construct validity.

Participants

The inclusion criteria for participants at both consultation and psychometric stages of the research were that participants were aged between 16-24 years, lived in the UK and regularly used social media (regularly being defined as using most days). The consultation stage involved an online focus group comprised of young people (n=5, all female) with a mean age of 20.2 years (SD = 0.45, range = 20-21). Participants' ethnicities varied; two participants were Pakistani British, two were White British and one was Black British. All were university students. Participants were recruited via e-mails to personal and professional connections which provided information on the research and asked for this to be shared with anyone within the target age range (16-24 years) who may be interested in participating. Participants then e-mailed to express their interest and were sent information sheets prior to the focus group along with a consent form which they were required to read and sign before participation, a copy of which can be found in Appendix 4. Participants in this stage were offered the opportunity to be entered into a prize draw for a £50 voucher for their participation. Unsuccessful attempts were made to recruit a more diverse sample in terms of gender and age. Information gathered in the focus group was then discussed in supervision where the measure was finalised.

Participation in the psychometric data collection stage was incentivised; participants had several opportunities to be entered into prize draws to win one of three £50 vouchers. Participation was entirely voluntary, and participants were informed of this in the information sheet. For one entry, participants were required to complete the SMES. Participants were then presented with the opportunity to complete two further measures (the Cyber-Peer Experiences Questionnaire; C-PEQ, and the Positive and Negative Affect Scale; PANAS) for

another entry into the prize draw. Participants were also asked if they would agree to completing the SMES again after a short time period of 1-2 weeks, for another entry into the prize draw (if second SMES was completed). Finally, participants were asked if they would complete one final questionnaire (the Assessment of Identity Development in Adolescence; AIDA) for a final entry into the prize draw.

The psychometric data collection stage involved disseminating the link to the online Qualtrics survey to a large sample of young people. Online social media platforms were utilised to post advertisements for the survey, and e-mails were sent to personal and professional connections asking for the online survey to be disseminated to appropriate groups. A final sample of 256 participants with a mean age of 20.62 years (SD = 2.35, range = 16-24) completed the set of candidate SMES items. As participants could discontinue the survey part way through, there was some attrition between the completion of the SMES items and the subsequent validation measures: 186 participants went on to also complete the C-PEQ, 185 completed the PANAS, and 162 completed the AIDA. 47 participants (18% of the original sample) completed the candidate SMES items a second time after a period of 1-2 weeks, for test-retest reliability purposes. Table 5 displays a breakdown of participants in the psychometric stage by their gender, ethnicity and occupation.

Table 6

Demographic characteristics of participants

	N	%
Gender		
Male	123	48.0%
Female	128	50.0%
Non-binary / third gender	4	1.6%

Another gender (details not specified)	1	0.4%
Ethnicity		
White (Welsh/English/Scottish/Northern Irish/British)	154	60.2%
White (Irish)	10	3.9%
White (Gypsy or Irish Traveller)	7	2.7%
White (Any other White background)	15	5.9%
Mixed/Multiple ethnic groups (White and Black Caribbean)	5	2.0%
Mixed/Multiple ethnic groups (White and Black African)	10	3.9%
Mixed/Multiple ethnic groups (White and Asian)	7	2.7%
Mixed/Multiple ethnic groups (Any other Mixed/Multiple ethnic background)	6	2.3%
Black/Black British (African)	27	10.5%
Black/Black British (Caribbean)	3	1.2%
Black/Black British (Any other Black background)	1	0.4%
Asian/Asian British (Indian)	3	1.2%
Asian/Asian British (Pakistani)	1	0.4%
Asian/Asian British (Chinese)	2	0.8%
Asian/Asian British (Any other Asian background)	3	1.2%
Other ethnic group (Any other ethnic group)	2	0.8%
Occupation		
Student (School)	36	14.1%
Student (College)	62	24.2%
Student (University)	107	41.8%
Employed	44	17.2%
Apprenticeship	2	0.8%

Unemployed	3	1.2%
Another - please give details	1	0.4%
Prefer not to say	1	0.4%

Participants were asked questions relating to their usage of social media, including the amount of time they spend on SM daily as well as the platforms they use most often. On average, participants reported spending 7.45 hours on SM daily, with 61.3% of participants using SM for between 1-6 hours. 13.9% of participants reported spending over 10 hours per day on social media (n=35). The most popular platforms identified in order of the number of participants who reported using the platform regularly were Instagram (n=214, 83.59%), YouTube (n=174, 67.98%), TikTok (n=165, 64.45%), Facebook (n=160, 62.5%), Snapchat (n=153, 59.77%) and Twitter (n=144, 56.25%).

There is mixed advice regarding the ideal sample size needed to conduct a factor analysis, with most guidelines advocating for sample sizes above 200 (Jung & Lee, 2011). Guadagnoli and Velicer (1988) reported that a factor with four or more loadings > 0.6 is reliable regardless of sample size – a condition which was met by the data. Sampling adequacy tests were also conducted on the data, as reported in the results section, which confirmed the adequacy of the 256 participant sample size.

Ethics

Approval for the research was granted by the Canterbury Christ Church University, Salomons Institute for Applied Psychology, ethics committee. Consideration was given to the potential psychological impact of asking participants to reflect on negative experiences they may have had on SM. This was explained within the information sheet that potential participants were required to read prior to consenting to their involvement, with participants

being discouraged from taking part if they believed that answering questions on this topic would cause them distress. Both the information and debrief sheets shown to participants provided information on organisations that could offer support should they feel they needed this. Participants were informed that they were able to pause or exit the study at any time should they wish to. Consent forms were completed by all participants prior to their participation.

Materials

The research materials included the online survey package containing the candidate SMES items, as well as three other self-report scales, detailed below. Existing measures were used to test the convergent validity of the SMES by comparing participants' scores on the SMES to scores on other measures which were hypothesised to be related.

The Cyber-Peer Experiences Questionnaire (C-PEQ)

The Cyber-Peer Experiences Questionnaire (C-PEQ; Landoll et al., 2015) is a measure of peer victimisation experiences that occur via electronic media. The measure asks adolescents the frequency with which they have experienced a number of scenarios over the past two months on a Likert type scale (1 = never, to 5 = a few times a week). Example items include 'a peer posted pictures of me that made me look bad via electronic media' and 'a peer removed me from his/her list of friends via electronic media'. The measure has been observed as having good internal consistency (α = .78-83 in the original paper); a finding which was replicated in the current study (α = .96, ω = .96) and by others (Moore & Fairchild, 2019). The authors of the C-PEQ advised that a number of the items were not found to be psychometrically valid and they were therefore not included in the current study. This questionnaire was administered to participants after completion of the SMES candidate items. Permission was sought from the authors for use of the C-PEQ in this study and was granted.

The Positive and Negative Affect Scale - PANAS

The Positive and Negative Affect Scale (PANAS; Watson et al., 1988) is a brief measure of mood consisting of two 10-item mood scales representing positive and negative emotional states. Psychometric properties have been widely examined and the measure is reported to be both valid and reliable, as demonstrated in the original paper and by subsequent research including for this age group (e.g. Crawford & Henry, 2004). The items are measured on a Likert-type scale (1 = very slightly or not at all, to 5 = extremely) asking users to record the extent to which they have felt a certain way over the past week, with higher scores on each subscale representing higher levels of positive/negative affect. Both PANAS scales were observed to have good internal consistency in the current study (positive subscale $\alpha = .89$, $\omega = .89$, negative subscale $\alpha = .91$, $\omega = .91$). The PANAS is easy to administer, has good face validity and has been used widely in research. It is also readily available to be used in research. This scale was administered to participants after the C-PEQ.

The Assessment of Identity Development in Adolescence (AIDA)

The Assessment of Identity Development in Adolescence (AIDA) is a measure of what is termed 'identity diffusion' in adolescence (Goth et al., 2012). It was developed as a self-rating inventory to explore adolescents' identity development, with higher scores indicating increased identity diffusion (thought to be problematic and indicative of a higher level of identity/personality impairment). Participants are asked to score items on a Likert-type scale based on their agreement (0 = no/strongly disagree, to 4 = yes/strongly agree) with statements relating to attitudes, interests and opinions. The original paper reported the AIDA to be valid, with participant scores differing significantly between a general population sample and a sample of adolescents with identified personality disorder, and reliable ($\alpha = .95$). The AIDA was originally developed to be used with adolescents (12-18-year olds). In

the 16 – 24-year-old sample in the current study, it also showed good internal consistency (α = .95). Permission to use this measure was granted by the original authors.

Procedure

The first round of development of the SMES candidate items drew upon research by Shankleman et al. (2021), who conducted a thematic meta-synthesis of qualitative studies of adolescents' experiences of the influence of social media on their well-being. Four main themes were identified by this meta-synthesis: emotions, connections, learning and identity. Each theme consisted of both positive and negative effects; for example, social media was experienced as facilitating the growth of relationships but also was connected with compromising relationships, conflict and disconnection. The initial draft SMES items were designed to include positive and negative experiences related to each of these four themes. Items were predominantly generated from qualitative data provided by Shankleman et al.'s (2021) research and were reviewed in supervision to consider any potential areas of omission and alternative wordings for each item. Items from the other measures included for validation purposes in this study were reviewed for any themes or experiences that may be relevant, but were not copied.

Subsequently, an online focus group with a sample of young people was conducted. In this group, participants were shown all the draft SMES items and were given the opportunity to provide their thoughts and opinions on the relevance, understandability and wording of each item. Participants were also asked if they thought any experiences were missing from the set of items. Information gathered from this focus group was used to inform the revisions then made to the candidate SMES items. The end result was a set of 95 items, a full copy of which can be found in Appendix 6.

The psychometric data collection stage involved use of the Qualtrics online platform for survey distribution. The online survey was advertised on social media as well as

disseminated via e-mail networks in attempts to reach a large sample of young people. After being shown an information sheet and consent form, consenting participants were given the candidate SMES items to complete. They were then offered the chance to end the survey for one entry into the £50 voucher prize draw or continue to complete further questionnaires (the PANAS and C-PEQ) for a second prize draw entry. After again being offered the choice of finishing the survey or continue for a further entry into the prize draw, continuing participants completed the AIDA. Participants who opted-in to the re-test were contacted between one and two weeks later, with an invitation to complete the SMES candidate items again for a further entry into the prize draw.

Data analysis strategy

Information elicited during the focus group was examined to address Research Questions 1 and 2. Research Questions 3 and 4 were addressed by conducting an exploratory factor analysis (EFA) using principal axis factoring with oblique rotation (direct oblimin). This method of EFA is frequently used in scale development (e.g. Baer et al., 2006; Oliveira et al., 2019). EFA has been advised over principal components analysis due to EFA being more theoretically aligned with research aiming to explore the dimensionality of scales proposing to measure a latent variable or variables (Baglin, 2014). The factor analysis was conducted following guidelines of Field (2017) for the purposes of item reduction and factor extraction. Forced factor extraction analysis was run to verify the identified factor structure of the scale (Field, 2017).

Test-retest reliability was analysed by calculating correlations between initial SMES scores and repeat test SMES scores. Convergent validity was assessed through correlational analyses between the SMES scores and scores on the other validated measures given to participants. SMES Internal consistency was calculated using Cronbach's alpha and

McDonald's Omega. All analyses are explained in further detail in the appropriate sections of the results.

Results

Preliminary analysis

Focus group

Participants in the focus group did not suggest any of the items be removed and reported that they found the items to be understandable and relevant to their experiences of social media (or to experiences they imagined their peers may have had). Some minor wording changes were suggested and participants agreed that a timescale of the past two weeks was appropriate when asking people about their recent experiences of social media. Suggestions were made for items to add, including 'using social media has made my mental health better' and 'using social media has made my mental health worse'; these items were added verbatim following the focus group.

Finalisation of the candidate items

The resulting set of 95 candidate items can be found in Appendix 6. These covered a number of domains, as informed by Shankleman et al. (2021), with both positive and negative experiences within each domain. The domains included connections, mood, identity, learning and a number of items deemed 'miscellaneous'. Items were rated on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree) and participants were asked to base their answers on experiences they had in the preceding two weeks. This set of 95 candidate items was used in the collection of the psychometric data, as detailed in the method.

Preliminary analyses of the psychometric data

Sampling adequacy was determined prior to running the factor analysis on the SMES candidate items, by examining the Kaiser-Meyer-Olkin (KMO; Kaiser, 1960; 1970) measure

and Bartlett's test of sphericity. The KMO measure was 0.908, with values above 0.9 considered to be 'marvellous' (Field, 2017), indicating that the correlational patterns were relatively compact and so performing a factor analysis was likely to produce reliable and distinct factors. Bartlett's test of sphericity was significant ($p < 0.001$), and it can therefore be assumed that the sample size was suitable for a factor analysis (Field, 2017). Additionally, anti-image matrices were inspected to identify whether any variables should be excluded from the factor analysis; all anti-image values met the acceptable limit of 0.5 (Field, 2017) and therefore no items were excluded from the analysis at this stage.

Responses to the 95 items were examined for normal distribution through interpreting the skewness and kurtosis (Kendall & Stuart, 1958). All values lay within an acceptable range. The average communalities of the items was 0.5952. The correlation matrix indicated no multicollinearity issues, with no values over 0.9, despite the determinant reported as being 1.063E-033. To further explore potential multicollinearity, variance inflation factors (VIF) were obtained for each of the 95 items by running a linear regression analysis. Myers (1990) suggests that tolerance values under 0.1 and VIF values greater than 10 may indicate a problem of multicollinearity; no item values fell in these ranges and therefore a problem of multicollinearity was not identified.

Statistical analysis

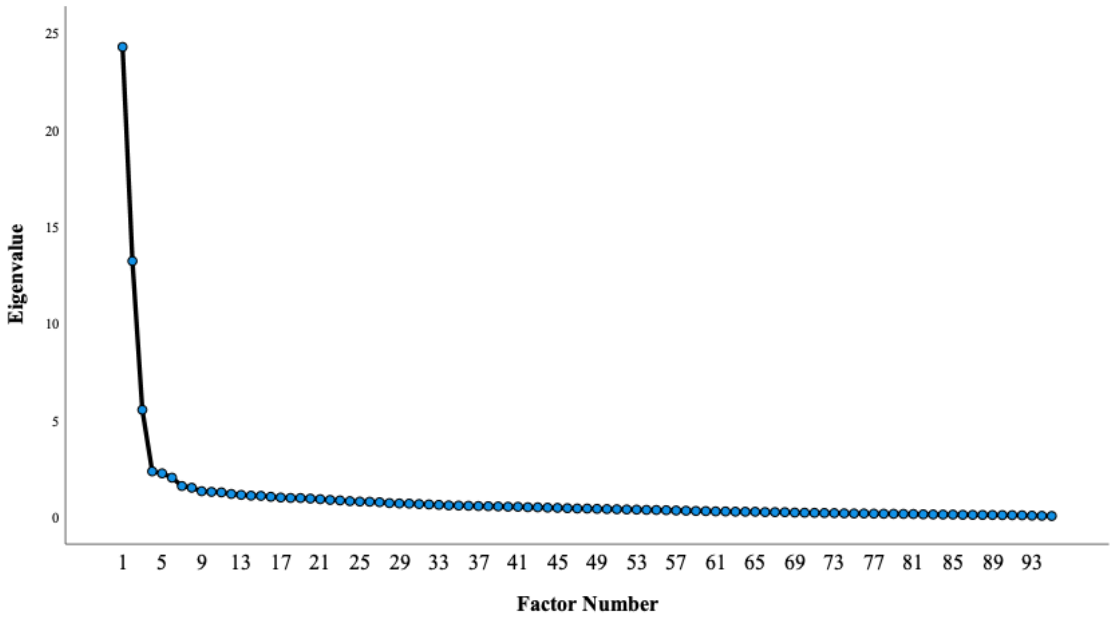
Exploratory Factor Analysis

An exploratory factor analysis (EFA) was conducted on responses to the 95 items of the SMES ($N = 265$) using principal axis factoring with oblique rotation (direct oblimin). Choosing an oblique rotation allowed for correlation among the factors, and is advised on theoretical grounds when measuring psychological constructs (Field, 2017). By Kaiser's criterion (i.e. eigenvalues of 1.0 or higher), 17 factors would have been retained, which in combination would have explained 59.52% of the variance. However, this criterion has been

criticised as overestimating the number of factors to retain, and Field (2017) suggests using the scree plot when Kaiser's criterion is not helpful. Furthermore, the average of the communalities of 0.5952 was just below the threshold recommended for Kaiser's criterion of 0.6 (Field, 2017). And the scree plot provides a reliable criterion for factor retention, when the sample size exceeds 200 ($N = 256$) (Stevens, 2002). Therefore, factor retention was determined by the scree plot (Figure 2), which showed a point of inflexion at the fourth factor, suggesting that three factors should be retained (Field, 2017).

Figure 2

Scree plot of eigenvalues



Forced factor extraction

As per Field (2017), the factor analysis was re-run as previously, except with forced extraction of three factors. The three factors identified from this analysis accounted for 43.59% of the variance. Table 6 displays the pattern matrix of all 95 items with the factor loadings for each item.

Table 7

Pattern matrix of the 95-item SMES

	Rotated Factor Loadings		
	1 (Negative)	2 (Positive)	3
SMES_85 - Using social media has made my mental health worse	.788		
SMES_20 - I have felt rejected by others on social media	.760		
SMES_19 - I have felt judged by others on social media	.742		
SMES_81 - I have felt bad about myself after using social media	.737		
SMES_40 - I have felt insecure when using social media	.733		
SMES_12 - Social media has made me feel excluded	.733		
SMES_15 - I have felt left out by people on social media	.728		
SMES_21 - I have felt lonely after using social media	.716		
SMES_93 - I have felt judged based on my appearance on social media	.710		
SMES_91 - I have felt bad about my appearance after using social media	.706		
SMES_94 - I have felt bad about my body after using social media	.700		
SMES_13 - I have felt excluded after seeing a post on social media	.691		
SMES_84 - I have felt unsafe on social media	.686		
SMES_43 - Social media has made me feel more confused about who I am	.684		
SMES_79 - I have spent time worrying about social media	.680		
SMES_16 - I have felt criticised by someone through social media	.668		
SMES_41 - I have felt I can't show my personality on social media	.663		
SMES_33 - I have felt that I can't be myself on social media	.659		
SMES_75 - Posts on social media have mostly made me feel unhappy	.654		
SMES_14 - I have felt left out after seeing a post on social media	.640		
SMES_76 - I have felt pressure to be on social media	.636		
SMES_58 - Time spent on social media has got in the way of other parts of my life	.631		
SMES_42 - I haven't stayed true to myself when posting on social media	.619		

SMES_74 - I have felt worried about my social media use	.618		
SMES_61 - I have felt I couldn't concentrate on work/school work because of social media	.618		
SMES_56 - Spending time on social media has disrupted my work/school work	.613		
SMES_35 - I have felt pressure to behave a certain way on social media	.608		
SMES_39 - I have felt that I need to change parts of myself when using social media	.606		
SMES_44 - Social media has made me feel that I need to change who I am	.601		
SMES_78 - I have worried about what I have posted on social media	.601		
SMES_37 - I have felt I needed to fit in when using social media	.594		
SMES_89 - Using social media has made it harder to concentrate on other things	.586		.430
SMES_82 - I have often seen something on social media that has made me feel worried	.586		
SMES_86 - Using social media has disrupted my sleep	.585		
SMES_59 - Social media has distracted me from other parts of my life e.g. work/school work	.582		.373
SMES_87 - I haven't slept enough because I have been using social media	.573		
SMES_83 - I have often seen something on social media that has made me cry	.571		
SMES_62 - I have felt that social media has stunted my critical thinking	.566		
SMES_63 - Social media has stopped me from developing my own opinions	.560		-.318
SMES_17 - Someone has made mean comments about me on social media	.558		-.304
SMES_88 - I have done fewer other activities because of spending time on social media	.554		
SMES_36 - I have felt pressure to post certain things on social media	.552		
SMES_34 - I have felt self-conscious when posting on social media	.540		
SMES_38 - I have felt I need to hide a part of myself on social media	.539		
SMES_57 - I have spent too much time on social media	.534		.517
SMES_77 - I have been upset by something I have seen on social media	.529		.338
SMES_80 - I have often seen something I didn't want to see on social media	.505		
SMES_18 - I have argued with someone over social media	.389		
SMES_22 - I have felt I can be myself on social media		.740	
SMES_32 - Social media has supported my development		.734	
SMES_28 - I have felt I can show my personality on social media		.696	
SMES_73 - Using social media has made my mental health better		.689	
SMES_27 - I have felt able to express different parts of myself on social media		.685	
SMES_92 - I have felt good about my appearance after using social media		.682	
SMES_64 - I have usually felt happy when I'm on social media		.669	

SMES_65 - Posts on social media have mostly made me feel happy	.669	
SMES_69 - I have felt good about myself after using social media	.669	
SMES_30 - Social media has helped me to develop in positive ways	.658	
SMES_11 - I have more friends because of social media	.644	
SMES_25 - I have felt able to express myself on social media	.640	
SMES_53 - Using social media has helped my work/school work	.636	
SMES_23 - I have felt I can be my true self on social media	.635	
SMES_26 - I have felt confident about myself after posting on social media	.632	
SMES_95 - I have felt good about my body after using social media	.625	
SMES_5 - I have found a new friendship group on social media	.620	
SMES_24 - I have felt more like myself after using social media	.618	
SMES_9 - I have felt accepted by others on social media	.612	
SMES_31 - Social media has helped me to know myself better	.606	
SMES_67 - Using social media has helped me de-stress	.591	
SMES_90 - Using social media has made it easier to concentrate on other things	.590	-.454
SMES_66 - I have enjoyed using social media	.589	.361
SMES_4 - I have made new friends through using social media	.569	
SMES_29 - I have stayed true to myself when posting on social media	.567	
SMES_2 - I have felt popular on social media	.558	
SMES_49 - I have better understood something after using social media	.556	.323
SMES_55 - I have learnt more from social media than I have from elsewhere	.556	
SMES_3 - I have felt liked on social media	.546	
SMES_8 - I have felt connected to a group on social media	.539	
SMES_10 - I have felt less lonely after using social media	.530	
SMES_50 - Using social media has made me feel like I know what's going on in the world	.527	.340
SMES_7 - I have felt supported after posting something on social media	.501	
SMES_70 - I have often seen something on social media that made me feel excited	.499	.406
SMES_47 - I have learnt something helpful by using social media	.498	.403
SMES_72 - I have felt safe on social media	.492	
SMES_51 - I have been introduced to new ideas through social media	.460	.412
SMES_1 - I have felt more connected to my friends or family through using social media	.432	.322
SMES_45 - I have felt inspired by something I have seen on social media	.429	.404

SMES_52 - I have developed a different view on something through using social media			.400	.319
SMES_46 - I have learnt about something I am interested in on social media			.400	.366
SMES_68 - Using social media has helped me when I have felt bored				.577
SMES_71. - I have often seen something on social media that has made me laugh				.574
SMES_60 - I have felt I have wasted time on social media	.476			.534
SMES_48 - Social media has taught me something			.445	.466
SMES_54 - Social media has provided access to information I wouldn't otherwise have			.341	.387
SMES_6 - I have been able to contact someone who lives far away from me via social media				.374

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.[a]
a. Rotation converged in 13 iterations.

Table 8

Pattern matrix of the final 20-item SMES

Item	Rotated Factor Loadings	
	Negative experiences (Factor 1)	Positive experiences (Factor 2)
Negative 1: Using social media has made my mental health worse	.788	
Negative 2: I have felt rejected by others on social media	.760	
Negative 3: I have felt judged by others on social media	.742	
Negative 4: I have felt bad about myself after using social media	.737	
Negative 5: I have felt insecure when using social media	.733	
Negative 6: Social media has made me feel excluded	.733	
Negative 7: I have felt left out by people on social media	.728	

Negative 8: I have felt lonely after using social media	.716	
Negative 9: I have felt judged based on my appearance on social media	.710	
Negative 10: I have felt bad about my appearance after using social media	.706	
Positive 1: I have felt I can be myself on social media		.740
Positive 2: Social media has supported my development		.734
Positive 3: I have felt I can show my personality on social media		.696
Positive 4: Using social media has made my mental health better		.689
Positive 5: I have felt able to express different parts of myself on social media		.685
Positive 6: I have felt good about my appearance after using social media		.682
Positive 7: I have usually felt happy when I'm on social media		.669
Positive 8: Posts on social media have mostly made me feel happy		.669
Positive 9: I have felt good about myself after using social media		.669
Positive 10: Social media has helped me to develop in positive ways		.658

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.[a]

a. Rotation converged in 13 iterations.

Factor structure

Although three factors were identified by the analysis, Factor 3 did not have enough items that uniquely loaded onto it ($n = 3$) to justify retaining this factor (Field, 2017). Also, Factor 3 only accounted for 5.27% of the variance after extraction. There was also no obvious theme within these items and therefore only Factors 1 and 2 were retained.

Factor 1 explained the largest proportion of the variance (24.98%) and items which uniquely loaded onto it referred to negative experiences of social media (where uniquely loading was defined as having a factor loading of greater than .3 onto Factor 1 and less than .3 on all other factors; Field, 2017). Factor 1 was labelled 'negative experiences'. Factor 2 explained 13.34% of the variance and was labelled 'positive experiences', as the items uniquely loading onto this factor represented positive experiences of social media.

In the interest of developing a usable measure that could be completed relatively quickly, the top 10 items (ranked by their loadings) that uniquely loaded onto Factor 1 were retained, and the same was done for Factor 2. The final measure contained 20 items split into two subscales relating to positive and negative experiences of social media. Table 7 displays the factor loadings of the final 20-item SMES measure. Guadagnoli and Velicer (1988) argue that if a factor has four or more loadings with values over 0.6 then it can be deemed a reliable factor regardless of sample size. All 20 items retained on the final SMES have factor loadings of at least .66.

Internal correlations

Correlational analyses were run to elicit information about the interrelationships between the subscales. A small positive correlation was observed between the positive and negative subscales of the SMES ($r = .13$, $p < .05$). It is likely that this correlation reached significance due to the large sample size. Its very small magnitude suggests that the subscales are measuring different dimensions that are close to being orthogonal. Therefore, it is not

meaningful to compute an overall score for the scale, but rather only calculate scores on the positive and negative subscales (much like with the PANAS).

Internal consistency

Both of the subscales demonstrated good internal consistency through Cronbach's alpha and McDonald's omega: $\alpha = .90$, $\omega = .90$ for the positive subscale, and $\alpha = .93$, $\omega = .92$ for the negative subscale. No items within either subscale were identified as being problematic (i.e. increasing the internal consistency of the subscale if they were removed), suggesting that all 20 items should be retained.

Test-retest reliability

Of the original sample of 256 participants, 47 completed the SMES items again after one to two weeks and their results were analysed for test-retest reliability. This sample size was adequate to use the Pearson correlation co-efficient (Field, 2017). Large, significant positive correlations were observed between the two time-points for both subscales (positive: $r = .80$, $p < .01$; negative: $r = .70$, $p < .01$), indicating that the measure had good test-retest reliability.

Construct validity

Convergent validity of the SMES subscale scores was assessed by examining correlations with the three other measures administered. Table 8 depicts a summary of the correlations. Correlations with the PANAS were largely in a theoretically understandable direction, with SMES-positive having a large, significant, positive correlation with PANAS-positive, and the same being true of SMES-negative and PANAS-negative. Surprisingly there was a significant positive (albeit small) correlation between PANAS-positive and SMES-negative. This may have been driven by the small positive correlation between the two SMES subscales and/or common method variance, and will be returned to in the discussion. When controlling for the SMES-positive in a partial correlational analysis, the correlation between

the SMES-negative and PANAS-positive remained significant, but became smaller in magnitude ($r = .17$, $p = .02$).

Scores on the C-PEQ measure of cyberbullying experiences showed a large, positive significant correlation with SMES-negative, as would be expected. However, the CPEQ was also positively correlated with the SMES-positive subscale, albeit to a lesser degree. Due to the slight association between positive and negative SMES subscales a partial correlation was run to determine the relationship between C-PEQ scores and positive and negative SMES subscale scores when controlling for the other SMES subscale. Again, the expected significant positive correlation was found between negative SMES subscale scores and C-PEQ scores ($r = .57$, $p < .01$), when controlling for the positive SMES subscale. However, a significant positive correlation continued to be observed between positive SMES subscale scores and C-PEQ scores ($r = .35$, $p < .01$), when controlling for the negative SMES subscale. This will be returned to in the discussion.

Given that an SMES subscale relating to identity did not emerge from the factor analysis, the correlations with the AIDA are arguably less meaningful from a construct validity perspective than they might have been. However, it might tentatively be expected that identity diffusion would correlate more highly with negative SMES experiences than positive ones, given that negative SMES experiences have been theorized to negatively impact identity (Middaugh, 2019). As can be seen from Table 8, this is what was found. Furthermore, when partial correlations were run to determine the relationships between AIDA scores and SMES subscale scores when controlling for the association between the SMES subscales, the correlation between positive SMES scores and AIDA scores became insignificant ($r = .11$, $p > 0.05$), while that between the AIDA and SMES-negative subscale remained large and significant ($r = .71$, $p < .01$).

Table 9

Correlations between scores on all measures and subscales

		Total C-PEQ score	Total AIDA score	Positive PANAS score	Negative PANAS score
Positive SMES subscale score		.36**	.21**	.62**	-.04
	N	186	162	185	185
Negative SMES subscale score		.58**	.72**	.21**	.48**
	N	186	162	185	185

**. Correlation is significant at the 0.01 level (2-tailed).

Demographic analyses

Gender

Table 9 displays the mean scores on both SMES subscales split by gender. A one-way between-subjects ANOVA was conducted to compare the means of scores between the male and female participants. The other two gender groups were excluded as they were too small to meaningfully include. There was a significant effect of gender on SMES-positive scores [$F(1, 249) = 9.07$, $p = .003$], with female participants scoring significantly lower than male participants on this subscale. No significant effect of gender was found on SMES-negative scores, [$F(1, 249) = .69$, $p > .05$].

Table 10

Mean scores according to gender

Gender		Positive SMES score	Negative SMES score
Female	Mean	33.64	32.45
	SD	7.12	8.76
	N	128	128
Male	Mean	36.39	31.49

	SD	7.34	9.61
	N	123	123
Non-binary/third gender	Mean	30.25	20.0
	SD	9.0	7.35
	N	4	4
Another gender	Mean	39	39
	SD	-	-
	N	1	1
Total	Mean	34.93	31.82
	SD	7.37	9.26
	N	256	256

Age

Bivariate Pearson's correlations (two-tailed) found that there were no significant correlations between the age of participants and scores on the SMES subscales ($r = .04$, $p > .05$ for SMES-P; $r = .01$, $p > .05$ for SMES-N).

Figure 3

The Social Media Experiences Scale (SMES)

This questionnaire will ask about your recent experiences of using social media.
Please rate how much you agree with each statement over the past 2 weeks.

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
1: I have felt insecure when using social media					
2: Using social media has made my mental health better					
3: I have felt judged by others on social media					
4: I have felt able to express different parts of myself on social media					
5: Social media has supported my development					
6: I have felt left out by people on social media					
7: Posts on social media have mostly made me feel happy					
8: I have felt rejected by others on social media					
9: Using social media has made my mental health worse					
10: I have felt good about myself after using social media					
11: I have felt judged based on my appearance on social media					
12: I have felt bad about my appearance after using social media					
13: I have felt I can be myself on social media					
14: I have usually felt happy when I'm on social media					
15: I have felt lonely after using social media					
16: Social media has helped me to develop in positive ways					
17: Social media has made me feel excluded					
18: I have felt good about my appearance after using social media					
19: I have felt bad about myself after using social media					
20: I have felt I can show my personality on social media					

Scoring:
Positive SMES subscale = items 2, 4, 5, 7, 10, 13, 14, 16, 18, 20
Negative SMES subscale = items 1, 3, 6, 8, 9, 11, 12, 15, 17, 19

Discussion

To the author's knowledge, no psychometrically robust measure encapsulating young people's positive and negative experiences of SM was in existence. The current study aimed to address this gap by creating, developing and validating a new measure, the Social Media Experiences Scale (SMES). Initial item development drew from previous research (Shankleman et al., 2021), with items clustered around pre-identified domains of experience which included connections, emotions, identity and learning. Draft items were then discussed with a focus group of young people, with recommended changes and additions being made. The resulting 95-item pool of candidate items was then subjected to factor analysis.

This uncovered three factors which accounted for 43.59% of the variance. Factors 1 and 2 each had a large number of items which uniquely and strongly loaded onto them. Factor 3 accounted for a small proportion of the variance (5.27%) and did not have enough items that uniquely loaded onto it ($n = 3$) to justify retention. From a theoretical perspective, items loading onto Factor 1 appeared obviously related to negative experiences of social media (e.g. 'I have felt rejected by others on social media'), with items in Factor 2 relating to positive experiences (e.g. 'social media has supported my development'). Factor 1 'Negative experiences' explained 24.98% of the variance, compared to 13.34% of the variance being explained by Factor 2, 'Positive experiences'. For the purposes of creating a measure which could be helpful and easily administered, the top ten highest ranking items (by their loadings) in each factor were retained, to create the final 20-item SMES made up of a positive subscale and a negative subscale.

A small positive correlation was observed between the positive and negative subscales. However, its small magnitude suggested that the subscales are measuring different dimensions that are close to being orthogonal. Therefore, an overall total score would not be

meaningful, and so the SMES produces two scores, SMES-positive (SMES-P) and SMES-negative (SMES-N). Each ranges from 10 to 50, with higher scores respectively indicating more positive and more negative experiences of SM. This is similar in design to the PANAS, a measure of mood that produces separate scores for positive and negative mood. Essentially, the results seem to suggest that positive and negative experiences of SM can co-occur and are not the opposite ends of a single dimension. This relates to Shankleman et al.'s (2021) theoretical model of adolescent SM use which identified several domains, each with co-occurring positive and negative aspects. It also sits in line with aforementioned literature which has highlighted this dual nature of SM use (e.g. Best et al., 2014; Siddiqui & Singh, 2016; Weinstein, 2018).

The exploratory factor analysis revealed a three-factor solution, with two factors being logically retained. The two factors made theoretical sense in that they related clearly to both positive and negative experiences of SM, which is in line with the original research aims. However, the initial 95-item version of the SMES was devised around Shankleman et al.'s (2021) identified domains of SM experience: connections, emotions, identity and learning. The factor analysis did not support a factor structure with these domains clearly identified, e.g. by identifying an eight-factor structure of the negative and positive aspects of each domain. Despite this, each of the four domains identified by Shankleman et al. (2021) were reflected in the items included in the final measure scales to some degree. Arguably, the domains of connections, emotions and identity were more well supported by the analyses, with more items being retained which related more closely to these areas. For these domains, both positive and negative items were retained which related to them.

The SMES-N subscale showed satisfactory reliability, both in terms of internal consistency and test-re-test reliability. Moreover, the internal consistency was not improved by the removal of any item, suggesting that all items could be retained. Convergent validity

was also found to be good, with significant positive correlations observed between the SMES-N and PANAS-negative scores. Significant positive correlations were also observed between the SMES-N and the C-PEQ, when controlling for the SMES-P subscale. Similarly, when the SMES-P subscale was controlled for, a significant positive correlation was observed between the SMES-N and AIDA scores. These results showed that respondents who reported more negative experiences of SM on the SMES, also reported more negative mood, experiences of cyberbullying and identity diffusion. Whilst causation cannot be implied from correlational research, the relationship between SM use and negative mood has been observed previously (e.g. Woods & Scott, 2016), with suggestions that problematic use is more heavily associated with detrimental effects on mood (Bomfield Neira & Barber, 2014). It may be that investment of use is a mediating factor in the relationship between mood and SMES scores. Small observed correlations might also represent shared-method variance, where responses may be influenced by the respondents' tendencies towards agreeing or disagreeing with questionnaire items.

Good internal consistency was also observed for the SMES-P subscale, along with good test-retest reliability. Scores on the SMES-P positively correlated with scores on the PANAS-positive scale. No significant correlation was observed between the SMES-P and scores on the AIDA, when controlling for the SMES-N, while a small but significant positive correlation was observed between the SMES-P and C-PEQ scores when controlling for the SMES-N. As previously mentioned, results of the analyses suggested retaining two separate SMES scales (positive and negative respectively) and not a total scale score, suggesting that positive and negative experiences of SM can co-occur, and therefore a small positive correlation between the SMES-P and the C-PEQ may reflect this dual nature of SM impacts.

No significant correlations were found between the age of participants and scores on either the SMES-P or SMES-N. When assessing for differences by gender, a significant

difference was observed between male and female participants on SMES-P scores, with females reporting lower SMES-P scores overall than male respondents. There is some literature to suggest specific gender effects of SM use on female users, relating to issues such as body image and social comparison of physical appearance (Perloff, 2014). It may be hypothesised that this factor could have impacted upon female respondents' experiences of SM and therefore scores, however no significant differences between genders were observed on SMES-N scores. Future research may benefit from further exploration of this relationship.

Implications for future research

Whilst the exploratory factor analyses conducted within this research were helpful in identifying an underlying factor structure of the SMES, future research would benefit from confirmatory factor analyses being conducted to verify this factor structure (Suhr, 2006).

The finding of a small but significant positive relationship between SMES-P and C-PEQ scores was not in line with expectations, as it was hypothesised that positive experiences of SM may be negatively correlated with experiences of cyberbullying. As has been previously identified in research, it is possible for adolescents to simultaneously experience positive and negative effects of using SM, suggesting they are not mutually exclusive (Siddiqui & Singh, 2016; Weinstein, 2018). It could be hypothesised that frequency/intensity of or investment in SM use could mediate this observed relationship. Perhaps people who use SM more regularly and intensely are more likely to experience both positive and negative impacts. Future research would benefit from explorations in this area.

As identified in Norwood's (2022) review, most measures relating to SM focus specifically on problematic use of SM and/or addiction. Related studies to this research (e.g. van den Eijnden et al., 2016; Andreassen et al., 2012) have compared these measures against a number of well-being related outcomes. It may be interesting to assess the relationship between the SMES subscales and measures of SM addiction such as the BFAS and SMD. It

may be the case that users who are experiencing addiction to SM are simultaneously using SM for its beneficial impacts. Measures of SM addiction are unable to capture this information due to their understandable focus on negative aspects of SM use. Norwood (2022) identified only one measure which related specifically to beneficial aspects of SM use (SMBS; Craig et al., 2021) which has only been validated for use within a specific population of LGBTQ+ youth. The field would benefit from the development of other measures of positive experiences, which in turn would allow for the convergent validity of the SMES-P to be assessed more thoroughly.

The scope of this research did not allow for investigations between scores on the SMES subscales and other measures of well-being such as self-esteem, sleep quality or body image. With literature to support the claim that SM can impact upon these areas (e.g. Best et al., 2014; Perloff, 2014; Woods & Scott, 2016), it may be of interest for relationships between SMES scores and these well-being factors to be formally assessed in future research.

Limitations

Preliminary analyses of the data collected suggested that the sample size was adequate to conduct the factor analysis as planned. There is conflicting advice regarding an adequate sample size to conduct EFA. However, Field (2017) suggests that sample sizes above 300 are ideal. A recommendation for future research would therefore be to replicate this study and test the factor structure of the SMES amongst a larger sample. Similarly, the size of the focus group in the consultation stage of this research was small (n = 5). From reviewing related studies, it is rare for members of the target population to be included in the item development stage (Norwood et al., 2022) and it is therefore a strength of this research to have included respondent perspectives. However, as well as the small sample size, there was also no representation of the perspectives of those with genders aside from female.

Criticisms may also be made as to the generalisability of findings from a cultural perspective, with over 72% of participants reporting to be white. Whilst this looks to be lower than the percentage of white people in the UK (UK Government, 2022), the sample sizes within groups of other ethnicities were relatively small. This may limit the generalisability of results to these groups and future validation studies would benefit from the inclusion of larger, more diverse samples. Students were also over-represented in the study sample, making up over 80% of participants. If students have unique experiences of SM, the findings may not be generalisable to those not currently in education.

In the interest of developing a helpful and easy to administer measure, the top ten highest loading items from each factor were retained. A possible downside to limiting the measure scales to this number could be that other relevant and prevalent experiences of SM were not included in the final measure. One argument may be that it would be acceptable to have included more items for each scale, potentially increasing the breadth of domains covered, and so the subjectivity of where to draw cut-offs may be brought into question.

Clinical implications

Research has consistently identified that young SM users may experience both positive experiences (e.g. Borca et al., 2015; Selkie et al., 2019) and negative experiences (e.g. Woods & Scott, 2016) from their use. These effects do not necessarily occur in isolation with each other, with users experiencing both helpful and harmful effects of SM use simultaneously (e.g. Best et al., 2014; Weinstein et al., 2018). Despite support for this claim arising from the extant literature, measures of SM impacts overwhelmingly focus on the negatives (Norwood et al., 2022). The SMES was developed to address this gap in the field, with the hope that clinicians could utilise this short, easy to administer measure to facilitate conversations on SM experiences, without the need for specific platform knowledge and ensure that positive experiences were not neglected from conversations.

The findings of the current research suggest that young people reporting more negative experiences on SM are also experiencing more negative moods, instances of cyberbullying and identity diffusion. Whilst caution should be taken when drawing conclusions from correlational data, findings may suggest that SM has an impact, be it positive or negative or both, on the lives of its young users, and it may therefore be neglectful for clinicians to fail to incorporate an awareness of these impacts into formulations and interventions. Therapists who use SM more frequently themselves may be more comfortable in broaching the topic of SM in therapy with adolescents (Hess, 2017). Valid and reliable measures of SM experiences may help to bridge a gap between adolescent clients and therapists with more limited experience of SM, who may otherwise lack confidence in addressing the topic. With an observed link between the therapeutic alliance and adolescent perceptions of their therapists' social media competency (Pagnotta et al., 2018), if measures such as the SMES helped therapists to feel more competent, there may be beneficial therapeutic outcomes of their use.

Conclusion

The SMES was developed due to a lack of a robust measure of both positive and negative experiences of SM. Analyses suggested two subscales of ten items each. Scores on the positive and negative SMES subscales were found to be both reliable and valid, with observed correlations with scores on related measures. Following the recommendations set out for future research, it is hoped that clinicians will make use of the SMES to ensure that the impacts of SM on their young clients are not ignored.

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Section C: Appendices

A thesis submitted in partial fulfilment of the requirements of Canterbury Christ Church University for the degree of Doctor of Clinical Psychology

July 2022

Appendix 1

Section B ethical approval information

Canterbury Christ Church University

Salomons Institute for Applied Psychology

Meg Norwood

04 January 2021
Direct line 01227 927094
E-mail margie.callanan@canterbury,ac.uk
Our Ref V:\075\Ethics\2020-21

Dear Meg

Development and validation of the Social Media Experiences Scale (SMES) for young people.

Outcome: Full Approval

The panel would like to thank you for your submission and we are pleased to offer you Full approval with comments for consideration:

1. It is good practice to introduce yourself AND your research supervisors in the opening paragraph of the Information about the Research document; please include their credentials and where they work.
2. You have anticipated that some may find the questionnaire distressing; please include signposts for support in the case of unexpected distress during completion of the questionnaire.
3. Consistency / clarity is needed in the public-facing documents regarding the £50 voucher, whether participating in the 3 stages of the questionnaires enrols one in 'another £50' or 'another chance at the £50'. Be clear if it is possible for a participant to receive £150 for participation.

We look forward to receiving a short report on progress and outcome on completion of the research, in order to complete our file. The report should be the same one that is provided to your participants. Please note that any changes of substance to the research will need to be notified to us so that we can ensure continued appropriate ethical process.

We wish you well with your study and hope that you enjoy carrying it out.

Yours sincerely,

Margie Callanan

Professor Margie Callanan
Chair of the Salomons Ethics Panel

Cc Linda Hammond

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Professor Rama Thirunamachandran, Vice-Chancellor and Principal

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Appendix 2

Information sheet: consultation stage

Canterbury Christ Church University

Salomons Institute for Applied Psychology
One Meadow Road, Tunbridge Wells, Kent TN1 2YG

www.canterbury.ac.uk/appliedpsychology

Information about the research
Version 1. Date : 09/02/2022

Developing a questionnaire to measure young people's experiences of social media

Hello. My name is Meg Norwood and I am a trainee Clinical Psychologist at Canterbury Christ Church University. I would like to invite you to take part in a research study. Before you decide whether to take part, it is important that you understand why the research is being done and what it would involve for you. You may find it helpful to talk to someone you trust about taking part in the study.

To take part you'll need to be:

- Between 16-24 years old
- Living in the UK
- Regularly using social media (using most days)

By taking part, you will have a chance to win a £50 voucher.

What is the purpose of the study?

Lots of young people use social media, sometimes using it can make them feel better and sometimes it can make them feel worse. We want to understand young peoples' experiences of social media better; to do this we have written a questionnaire. This study is looking at whether we have asked the questions in the best way.

We hope that this research will help professionals working with young people to talk more openly about how using social media makes young people feel. Results are likely to help our understanding of how social media can impact young people.

Do I have to take part?

It is up to you to decide whether to join the study. If you agree to take part, I will then ask you to sign a consent form. You will be given a copy of this information sheet and a signed consent form to keep.

Please remember that you can choose to stop at any time, without giving a reason. If you withdraw from the study, we would like to use the data collected up to your withdrawal.

What will happen to me if I take part?

This stage of study will involve meeting with a small number of young people to get their thoughts and opinions on a new questionnaire that we have written. We will ask you to look at a list of questions and tell us whether they are easy to understand, they make sense to you and whether they are relatable to your use of social media. You will also have the

chance to give suggestions to us on any experiences of using social media that you think we have missed from the questionnaire.

This will either take place in an individual meeting online (e.g. via Zoom) with the lead researcher (Meg Norwood) or in small online group with a few other young people. During this, notes will be taken by the lead researcher and conversations will be recorded as a back-up.

What are the possible risks and benefits of taking part?

We think this study is unlikely to cause any distress. However, it's possible that talking about social media could be upsetting for some people. If you feel that's likely to be true, we recommend that you do not take part. If you take part but find that you do become upset, you can stop at any time.

If talking about your experiences on social media has made you feel upset or has made you think about problems you may be experiencing and you feel like you need support, we advise that you contact any of the below:

- Your GP
- NHS 111 (either by dialling 111 or using https://111.nhs.uk
- Call Samaritans for free on 116 123
- If you are aged between 16-18, you could also call Childline for free on 0800 1111

You will be sent a debrief sheet after the study which also contains the above information.

After you have participated, you can give your e-mail address for a chance to win a £50 voucher. Everyone who gives their e-mail address will be entered into the prize draw. You do not have to enter the draw or supply your e-mail address.

Will information from or about me from taking part in the study be kept confidential?

Yes. All information which is collected from or about you during the course of the research will be kept strictly confidential. The information below explains how this will be done:

- Notes will be taken by the lead researcher during the interview or group, however these notes will be anonymous and not include any information that can identify you.
- These meetings will also be audio recorded; the data you provide will be kept electronically in a password protected folder on secure university file space.
- The research is due to be finished by July 2022, and recordings will be deleted by this time.
- The only time when I would be obliged to pass on information from you to a third party would be if, as a result of something you told me, I were to become concerned about your safety or the safety of someone else.
- Your anonymous data would be kept securely at the Salomons Institute for Applied Psychology for 10 years, after which time it will be destroyed.
- You have the right to check the accuracy of the data held about you and correct any errors.

For more information about data protection, please see the university's research privacy notice: https://www.canterbury.ac.uk/university-solicitors-office/docs/research-privacy-notice.docx

What will happen to the results of the research study?

Results from this research will be reported anonymously in my university research project and will also be submitted for publication in a journal.

Who is sponsoring and funding the research?

This research has been organised by lead researcher (Meg Norwood) with support and input from a lead supervisor (Dr Linda Hammond) and supporting supervisor (Dr Fergal Jones). This research project is part of the lead researcher's Clinical Psychology doctoral training requirements at Canterbury Christ Church University, who have funded the study.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by The Salomons Ethics Panel, Salomons Institute for Applied Psychology, Canterbury Christ Church University.

Questions, feedback and complaints

If you have any questions or feedback about the study, please contact me via e-mail at mn295@canterbury.ac.uk and I will get back to you.

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed, and can be raised with me at any time during the study. You can contact me via e-mail at mn295@canterbury.ac.uk. If you would prefer to call, you can contact me by leaving a message on the 24-hour voicemail phone number 01227 927070. Please leave a contact number and say that the message is for me (Meg Norwood) and I will get back to you as soon as possible. If you remain dissatisfied and wish to complain formally, you can do this by contacting the programme director, Professor Margie Callanan at Margie.callanan@canterbury.ac.uk.

Thank you for considering taking part in this research project!

If you would like to take part, please contact me via e-mail on mn295@canterbury.ac.uk.

Appendix 3

Information sheet psychometric data collection stage

MRP

Start of Block: Default Question Block

Information Sheet **Information about the research – Developing a questionnaire to measure young people's experiences of social media**

Hello. My name is Meg Norwood and I am a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite you to take part in a research study. Before you decide whether to take part, it is important that you understand why the research is being done and what it would involve for you. You may find it helpful to talk to someone you trust about taking part in the study.

To take part you'll need to be:
- Between 16-24 years old
- Living in the UK
- Regularly using social media (using most days)

Taking part in the study, you will have up to three opportunities to enter a prize draw to win a £50 voucher (three vouchers in total to be won).

What is the purpose of the study?
Lots of young people use social media, sometimes using it can make them feel better and sometimes it can make them feel worse. We want to understand young peoples' experiences of social media better; to do this we have written a questionnaire. This study is looking at whether we have asked the questions in the best way. We hope that this research will help professionals working with young people to talk more openly about how using social media makes young people feel. Results are likely to help our understanding of how social media can impact young people.

Do I have to take part?
It is up to you to decide whether to join the study. If you agree to take part, on the next page you will be asked to tick a box to say that you consent/agree to this. Please remember that you can choose to stop at any time, without giving a reason. If you would like to withdraw your data from the study, please contact me within 2 weeks of completing the study. After this point, it wouldn't be possible to withdraw data, as data analysis may have been started.

What will happen to me if I take part?
The research will take place online and will involve you answering some brief questions online about yourself, including your age, gender, and how often you use social media. If you wish to continue, you will be asked to complete up to 5 online questionnaires. These questionnaires will

ask you to what extent you agree to a number of statements. You will be asked after every stage whether you wish to continue to the next stage, with more opportunities to win vouchers.
1st stage: You will be asked to complete 3 questionnaires; two will ask questions about your recent experiences of using social media and one will ask brief questions about your mood. If you give your e-mail address after this stage, you will be entered into a prize draw to win a £50 voucher.
2nd stage: You will then have the opportunity to complete another questionnaire for the chance to win another £50 voucher.
3rd stage: Finally, for a third chance to win a £50 voucher, you can choose to give your e-mail address and be contacted to complete the first questionnaire again, two weeks later. You will not have to meet with any researchers face to face as this will all take place online.

What are the possible risks and benefits of taking part?
We think this study is unlikely to cause any distress. However, it's possible that talking about social media could be upsetting for some people. If you feel that's likely to be true, we recommend that you do not take part. If you take part but find that you do become upset, you can stop at any time.
If talking about your experiences on social media has made you feel upset or has made you think about problems you may be experiencing and you feel like you need support, we advise that you contact any of the below:

- Your GP
- NHS 111 (either by dialling 111 or using https://111.nhs.uk
- Call Samaritans for free on 116 123
- If you are aged between 16-18, you could also call Childline for free on 0800 1111

You will be sent a debrief sheet after the study which also contains the above information.

After each stage, you can give your e-mail address for a chance to win a £50 voucher, with three opportunities in total. Everyone who gives their e-mail address will be entered into the prize draw. You do not have to enter the draw or supply your e-mail address.

Will information from or about me from taking part in the study be kept confidential?
Yes. You will not be asked for your name at any point during the study. You will only be asked for your e-mail address if you choose to enter in to the prize draws at any stage. All information which is collected from or about you during the course of the research will be kept strictly confidential.

Your answers to the survey(s) will be kept confidential and stored on secure systems. More specifically, the surveys are being run on a platform called Qualtrics. Details of Qualtrics' security can be found here: https://www.qualtrics.com/uk/platform/gdpr/

Once the survey is complete, all the participants' answers will be downloaded from Qualtrics to a secure password protected, secure folder and at the end of the study they will be deleted from Qualtrics. Your anonymous data would be kept securely at the Salomons Institute for Applied

Psychology for 10 years, after which time it will be destroyed. You have the right to check the accuracy of the data held about you and correct any errors.
For more information about data protection, please see the university's research privacy notice: https://www.canterbury.ac.uk/university-solicitors-office/docs/research-privacy-notice.docx

What will happen to the results of the research study?
Results from this research will be reported anonymously in my university research project and will also be submitted for publication in a journal.

Who is sponsoring and funding the research?
This research has been organised by lead researcher (Meg Norwood) with support and input from a lead supervisor (Dr Linda Hammond) and supporting supervisor (Dr Fergal Jones). This research project is part of the lead researcher's Clinical Psychology doctoral training requirements at Canterbury Christ Church University, who have funded the study.

Who has reviewed the study?
All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests.
This study has been reviewed and given favourable opinion by The Salomons Ethics Panel, Salomons Institute for Applied Psychology, Canterbury Christ Church University.

Questions, feedback and complaints

If you have any questions or feedback about the study, please contact me via e-mail at mn295@canterbury.ac.uk and I will get back to you. Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed, and can be raised with me at any time during the study. You can contact me via e-mail at mn295@canterbury.ac.uk. If you would prefer to call, you can contact me by leaving a message on the 24-hour voicemail phone number 01227 927070. Please leave a contact number and say that the message is for me (Meg Norwood) and I will get back to you as soon as possible. If you remain dissatisfied and wish to complain formally, you can do this by contacting the programme director, Professor Margie Callanan at Margie.callanan@canterbury.ac.uk. Thank you for considering taking part in this research project.

If you would like to proceed, please click the arrow to continue.

Page Break

Appendix 4

Consent form: consultation stage

Salomons Institute for Applied Psychology

One Meadow Road, Tunbridge Wells, Kent TN1 2YG

CONSENT FORM – CONSULTATION STAGE

Title of Project: Development and validation of the Social Media Experiences Scale (SMES) for young people.

Name of Researcher: Meg Norwood

Please initial box

1. I confirm that 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 that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐
3. I understand that data collected during the study may be looked at by supervisors. I give permission for these individuals to have access to my data. ☐
4. I agree to the interview/focus group being voice recorded. ☐
5. I agree that anonymous data may be used in published reports of the study findings. ☐
6. I agree for my anonymous data to be used in further research to develop the questionnaire. ☐
7. I confirm that I am between 16-24 years, live in the UK and use social media regularly (at least most days). ☐
8. I I agree to take part in the above study. ☐

Signature (this can be typed electronically):
Date:

Appendix 5

Consent form: psychometric data collection stage

Consent form **Consent Form**

Title of Project: Development and validation of the Social Media Experiences Scale (SMES) for young people.

Name of Researcher: Meg Norwood

	Please tick box (1)
I confirm that I have read and understand the information sheet on the previous page for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. (1)	○
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. (2)	○
I understand that data collected during the study may be looked at by the supervisors. I give permission for these individuals to have access to my data. (3)	○
I agree that anonymous data may be used in published reports of the study findings. (4)	○
I agree for my anonymous data to be used in further research studies to develop this questionnaire. (5)	○
I confirm that I am between 16-24 years, live in the UK and use social media regularly (at least most days). (6)	○
I agree to take part in the above study. (7)	○

Consent If you don't agree with any of the above statements, please exit the study by closing your browser window.

End of Block: Default Question Block

Page 4 of 40

Appendix 6

95-item SMES

Draft items for SMES (Social Media Experiences Scale)

Answers on Likert-type scale; strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

Over the 2 past weeks…

Connections

Growing relationships

1. I have felt more connected to my friends or family through using social media
2. I have felt popular on social media
3. I have felt liked on social media
4. I have made new friends through using social media
5. I have found a new friendship group on social media
6. I have been able to contact someone who lives far away from me via social media
7. I have felt supported after posting something on social media
8. I have felt connected to a group on social media
9. I have felt accepted by others on social media
10. I have felt less lonely after using social media
11. I have more friends because of social media

Compromising relationships

12. Social media has made me feel excluded
13. I have felt excluded after seeing a post on social media
14. I have felt left out after seeing a post on social media
15. I have felt left out by people on social media
16. I have felt criticised by someone through social media
17. Someone has made mean comments about me on social media
18. I have argued with someone over social media
19. I have felt judged by others on social media
20. I have felt rejected by others on social media
21. I have felt lonely after using social media

Identity

Supporting construction

22. I have felt I can be myself on social media
23. I have felt I can be my true self on social media
24. I have felt more like myself after using social media
25. I have felt able to express myself on social media
26. I have felt confident about myself after posting on social media
27. I have felt able to express different parts of myself on social media
28. I have felt I can show my personality on social media
29. I have stayed true to myself when posting on social media
30. Social media has helped me to develop in positive ways
31. Social media has helped me to know myself better
32. Social media has supported my development

Frustrating construction

33. I have felt that I can't be myself on social media
34. I have felt self-conscious when posting on social media
35. I have felt pressure to behave a certain way on social media
36. I have felt pressure to post certain things on social media
37. I have felt I needed to fit in when using social media
38. I have felt I need to hide a part of myself on social media
39. I have felt that I need to change parts of myself when using social media
40. I have felt insecure when using social media
41. I have felt I can't show my personality on social media
42. I haven't stayed true to myself when posting on social media
43. Social media has made me feel more confused about who I am
44. Social media has made me feel that I need to change who I am

Learning

Promoting learning

45. I have felt inspired by something I have seen on social media
46. I have learnt about something I am interested in on social media
47. I have learnt something helpful by using social media
48. Social media has taught me something
49. I have better understood something after using social media
50. Using social media has made me feel like I know what's going on in the world
51. I have been introduced to new ideas through social media
52. I have developed a different view on something through using social media
53. Using social media has helped my work/school work
54. Social media has provided access to information I wouldn't otherwise have
55. I have learnt more from social media than I have from elsewhere

Obstructing learning

56. Spending time on social media has disrupted my work/school work
57. I have spent too much time on social media
58. Time spent on social media has got in the way of other parts of my life
59. Social media has distracted me from other parts of my life e.g. work/school work
60. I have felt I have wasted time on social media
61. I have felt I couldn't concentrate on work/school work because of social media
62. I have felt that social media has stunted my critical thinking
63. Social media has stopped me from developing my own opinions

Emotions

Positive effect on mood

64. I have usually felt happy when I'm on social media
65. Posts on social media have mostly made me feel happy
66. I have enjoyed using social media
67. Using social media has helped me de-stress
68. Using social media has helped me when I have felt bored
69. I have felt good about myself after using social media
70. I have often seen something on social media that made me feel excited
71. I have often seen something on social media that has made me laugh

72. I have felt safe on social media
73. Using social media has made my mental health better

Negative effect on mood

74. I have felt worried about my social media use
75. Posts on social media have mostly made me feel unhappy
76. I have felt pressure to be on social media
77. I have been upset by something I have seen on social media
78. I have worried about what I have posted on social media
79. I have spent time worrying about social media
80. I have often seen something I didn't want to see on social media
81. I have felt bad about myself after using social media
82. I have often seen something on social media that has made me feel worried
83. I have often seen something on social media that has made me cry
84. I have felt unsafe on social media
85. Using social media has made my mental health worse

Miscellaneous

86. Using social media has disrupted my sleep
87. I haven't slept enough because I have been using social media
88. I have done fewer other activities because of spending time on social media
89. Using social media has made it harder to concentrate on other things
90. Using social media has made it easier to concentrate on other things
91. I have felt bad about my appearance after using social media
92. I have felt good about my appearance after using social media
93. I have felt judged based on my appearance on social media
94. I have felt bad about my body after using social media
95. I have felt good about my body after using social media

Appendix 7

Final 20-item SMES

Final 20-item Social Media Experiences Scale (SMES)

Negative 1: Using social media has made my mental health worse
Negative 2: I have felt rejected by others on social media
Negative 3: I have felt judged by others on social media
Negative 4: I have felt bad about myself after using social media
Negative 5: I have felt insecure when using social media
Negative 6: Social media has made me feel excluded
Negative 7: I have felt left out by people on social media
Negative 8: I have felt lonely after using social media
Negative 9: I have felt judged based on my appearance on social media
Negative 10: I have felt bad about my appearance after using social media

Positive 1: I have felt I can be myself on social media
Positive 2: Social media has supported my development
Positive 3: I have felt I can show my personality on social media
Positive 4: Using social media has made my mental health better
Positive 5: I have felt able to express different parts of myself on social media
Positive 6: I have felt good about my appearance after using social media
Positive 7: I have usually felt happy when I'm on social media
Positive 8: Posts on social media have mostly made me feel happy
Positive 9: I have felt good about myself after using social media
Positive 10: Social media has helped me to develop in positive ways

Appendix 8

Participant information e-poster

Appendix 9

Full survey as displayed on Qualtrics

MRP

Start of Block: Default Question Block

Information Sheet **Information about the research – Developing a questionnaire to measure young people's experiences of social media**

Hello. My name is Meg Norwood and I am a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite you to take part in a research study. Before you decide whether to take part, it is important that you understand why the research is being done and what it would involve for you. You may find it helpful to talk to someone you trust about taking part in the study.

To take part you'll need to be:
- Between 16-24 years old
- Living in the UK
- Regularly using social media (using most days)

Taking part in the study, you will have up to three opportunities to enter a prize draw to win a £50 voucher (three vouchers in total to be won).

What is the purpose of the study?
Lots of young people use social media, sometimes using it can make them feel better and sometimes it can make them feel worse. We want to understand young peoples' experiences of social media better; to do this we have written a questionnaire. This study is looking at whether we have asked the questions in the best way. We hope that this research will help professionals working with young people to talk more openly about how using social media makes young people feel. Results are likely to help our understanding of how social media can impact young people.

Do I have to take part?
It is up to you to decide whether to join the study. If you agree to take part, on the next page you will be asked to tick a box to say that you consent/agree to this. Please remember that you can choose to stop at any time, without giving a reason. If you would like to withdraw your data from the study, please contact me within 2 weeks of completing the study. After this point, it wouldn't be possible to withdraw data, as data analysis may have been started.

What will happen to me if I take part?
The research will take place online and will involve you answering some brief questions online about yourself, including your age, gender, and how often you use social media. If you wish to continue, you will be asked to complete up to 5 online questionnaires. These questionnaires will ask you to what extent you agree to a number of statements. You will be

asked after every stage whether you wish to continue to the next stage, with more opportunities to win vouchers.
1st stage: You will be asked to complete 3 questionnaires; two will ask questions about your recent experiences of using social media and one will ask brief questions about your mood. If you give your e-mail address after this stage, you will be entered into a prize draw to win a £50 voucher.
2nd stage: You will then have the opportunity to complete another questionnaire for the chance to win another £50 voucher.
3rd stage: Finally, for a third chance to win a £50 voucher, you can choose to give your e-mail address and be contacted to complete the first questionnaire again, two weeks later.
You will not have to meet with any researchers face to face as this will all take place online.

What are the possible risks and benefits of taking part?
We think this study is unlikely to cause any distress. However, it's possible that talking about social media could be upsetting for some people. If you feel that's likely to be true, we recommend that you do not take part. If you take part but find that you do become upset, you can stop at any time.
If talking about your experiences on social media has made you feel upset or has made you think about problems you may be experiencing and you feel like you need support, we advise that you contact any of the below:

- Your GP
- NHS 111 (either by dialling 111 or using https://111.nhs.uk
- Call Samaritans for free on 116 123
- If you are aged between 16-18, you could also call Childline for free on 0800 1111

You will be sent a debrief sheet after the study which also contains the above information.

After each stage, you can give your e-mail address for a chance to win a £50 voucher, with three opportunities in total. Everyone who gives their e-mail address will be entered into the prize draw. You do not have to enter the draw or supply your e-mail address.

Will information from or about me from taking part in the study be kept confidential?
Yes. You will not be asked for your name at any point during the study. You will only be asked for your e-mail address if you choose to enter in to the prize draws at any stage. All information which is collected from or about you during the course of the research will be kept strictly confidential.

Your answers to the survey(s) will be kept confidential and stored on secure systems. More specifically, the surveys are being run on a platform called Qualtrics. Details of Qualtrics' security can be found here: https://www.qualtrics.com/uk/platform/gdpr/

Once the survey is complete, all the participants' answers will be downloaded from Qualtrics to a secure password protected, secure folder and at the end of the study they will be deleted from Qualtrics. Your anonymous data would be kept securely at the Salomons Institute for Applied Psychology for 10 years, after which time it will be destroyed. You have the right to check the accuracy of the data held about you and correct any errors.
For more information about data protection, please see the university's research privacy notice: https://www.canterbury.ac.uk/university-solicitors-office/docs/research-privacy-notice.docx

What will happen to the results of the research study?
Results from this research will be reported anonymously in my university research project and will also be submitted for publication in a journal.

Who is sponsoring and funding the research?
This research has been organised by lead researcher (Meg Norwood) with support and input from a lead supervisor (Dr Linda Hammond) and supporting supervisor (Dr Fergal Jones). This research project is part of the lead researcher's Clinical Psychology doctoral training requirements at Canterbury Christ Church University, who have funded the study.

Who has reviewed the study?
All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests.
This study has been reviewed and given favourable opinion by The Salomons Ethics Panel, Salomons Institute for Applied Psychology, Canterbury Christ Church University.

Questions, feedback and complaints

If you have any questions or feedback about the study, please contact me via e-mail at mn295@canterbury.ac.uk and I will get back to you. Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed, and can be raised with me at any time during the study. You can contact me via e-mail at mn295@canterbury.ac.uk. If you would prefer to call, you can contact me by leaving a message on the 24-hour voicemail phone number 01227 927070. Please leave a contact number and say that the message is for me (Meg Norwood) and I will get back to you as soon as possible. If you remain dissatisfied and wish to complain formally, you can do this by contacting the programme director, Professor Margie Callanan at Margie.callanan@canterbury.ac.uk. Thank you for considering taking part in this research project.

If you would like to proceed, please click the arrow to continue.

Consent form **Consent Form**

Title of Project: Development and validation of the Social Media Experiences Scale (SMES) for young people.

Name of Researcher: Meg Norwood

	Please tick box (1)
I confirm that I have read and understand the information sheet on the previous page for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. (1)	○
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. (2)	○
I understand that data collected during the study may be looked at by the supervisors. I give permission for these individuals to have access to my data. (3)	○
I agree that anonymous data may be used in published reports of the study findings. (4)	○
I agree for my anonymous data to be used in further research studies to develop this questionnaire. (5)	○
I confirm that I am between 16-24 years, live in the UK and use social media regularly (at least most days). (6)	○
I agree to take part in the above study. (7)	○

Consent If you don't agree with any of the above statements, please exit the study by closing your browser window.

End of Block: Default Question Block

Start of Block: Demographics

Age What is your age?

▼ 16 (1) ... 24 (9)

Gender What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Non-binary / third gender (3)
- ○ Another gender - please give details (4)

_____

- ○ Prefer not to say (5)

Ethnicity What is your ethnicity?

▼ White (Welsh/English/Scottish/Northern Irish/British) (1) ... Prefer not to say (18)

Education/Occupation What is your current occupation?

- ○ Student (School) (1)
- ○ Student (College) (2)
- ○ Student (University) (3)
- ○ Employed (4)
- ○ Apprenticeship (5)
- ○ Unemployed (6)
- ○ Another - please give details (7)

_____

- ○ Prefer not to say (8)

Page Break

SM platforms Which social media sites/platforms do you use regularly? Please tick all that apply.

- ☐ TikTok (1)
- ☐ Instagram (2)
- ☐ Facebook (3)
- ☐ Twitter (4)
- ☐ YouTube (5)
- ☐ Snapchat (6)
- ☐ BeReal (7)
- ☐ Other(s) - please give details (8)

_____

SM use On average, how many hours per day do you spend on social media?

▼ 0 (1) ... 24 (25)

End of Block: Demographics

Start of Block: SMES

SMES Intro This questionnaire will ask you about your recent experiences of using social media.

SMES Please rate how much you agree with each statement over the past **2 weeks.**

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I have felt more connected to my friends or family through using social media (1)	○	○	○	○	○
I have felt popular on social media (2)	○	○	○	○	○
I have felt liked on social media (3)	○	○	○	○	○
I have made new friends through using social media (4)	○	○	○	○	○
I have found a new friendship group on social media (5)	○	○	○	○	○
I have been able to contact someone who lives far away from me via social media (6)	○	○	○	○	○
I have felt supported after posting something on social media (7)	○	○	○	○	○
I have felt connected to a group on social media (8)	○	○	○	○	○

I have felt accepted by others on social media (9)	○	○	○	○	○
I have felt less lonely after using social media (10)	○	○	○	○	○
I have more friends because of social media (11)	○	○	○	○	○
Social media has made me feel excluded (12)	○	○	○	○	○
I have felt excluded after seeing a post on social media (13)	○	○	○	○	○
I have felt left out after seeing a post on social media (14)	○	○	○	○	○
I have felt left out by people on social media (15)	○	○	○	○	○
I have felt criticised by someone through social media (16)	○	○	○	○	○
Someone has made mean comments about me on social media (17)	○	○	○	○	○
I have argued with someone over social media (18)	○	○	○	○	○

I have felt judged by others on social media (19)	○	○	○	○	○
I have felt rejected by others on social media (20)	○	○	○	○	○
I have felt lonely after using social media (21)	○	○	○	○	○
I have felt I can be myself on social media (22)	○	○	○	○	○
I have felt I can be my true self on social media (23)	○	○	○	○	○
I have felt more like myself after using social media (24)	○	○	○	○	○
I have felt able to express myself on social media (25)	○	○	○	○	○
I have felt confident about myself after posting on social media (26)	○	○	○	○	○
I have felt able to express different parts of myself on social media (27)	○	○	○	○	○

I have felt I can show my personality on social media (28)	○	○	○	○	○
I have stayed true to myself when posting on social media (29)	○	○	○	○	○
Social media has helped me to develop in positive ways (30)	○	○	○	○	○
Social media has helped me to know myself better (31)	○	○	○	○	○
Social media has supported my development (32)	○	○	○	○	○
I have felt that I can't be myself on social media (33)	○	○	○	○	○
I have felt self-conscious when posting on social media (34)	○	○	○	○	○
I have felt pressure to behave a certain way on social media (35)	○	○	○	○	○
I have felt pressure to post certain things on social media (36)	○	○	○	○	○

I have felt I needed to fit in when using social media (37)	○	○	○	○	○
I have felt I need to hide a part of myself on social media (38)	○	○	○	○	○
I have felt that I need to change parts of myself when using social media (39)	○	○	○	○	○
I have felt insecure when using social media (40)	○	○	○	○	○
I have felt I can't show my personality on social media (41)	○	○	○	○	○
I haven't stayed true to myself when posting on social media (42)	○	○	○	○	○
Social media has made me feel more confused about who I am (43)	○	○	○	○	○
Social media has made me feel that I need to change who I am (44)	○	○	○	○	○
I have felt inspired by something I have seen on social media (45)	○	○	○	○	○

I have learnt about something I am interested in on social media (46)	○	○	○	○	○
I have learnt something helpful by using social media (47)	○	○	○	○	○
Social media has taught me something (48)	○	○	○	○	○
I have better understood something after using social media (49)	○	○	○	○	○
Using social media has made me feel like I know what's going on in the world (50)	○	○	○	○	○
I have been introduced to new ideas through social media (51)	○	○	○	○	○
I have developed a different view on something through using social media (52)	○	○	○	○	○
Using social media has helped my work/school work (53)	○	○	○	○	○

Social media has provided access to information I wouldn't otherwise have (54)	○	○	○	○	○
I have learnt more from social media than I have from elsewhere (55)	○	○	○	○	○
Spending time on social media has disrupted my work/school work (56)	○	○	○	○	○
I have spent too much time on social media (57)	○	○	○	○	○
Time spent on social media has got in the way of other parts of my life (58)	○	○	○	○	○
Social media has distracted me from other parts of my life e.g. work/school work (59)	○	○	○	○	○
I have felt I have wasted time on social media (60)	○	○	○	○	○
I have felt I couldn't concentrate on work/school work because of social media (61)	○	○	○	○	○

I have felt that social media has stunted my critical thinking (62)	○	○	○	○	○
Social media has stopped me from developing my own opinions (63)	○	○	○	○	○
I have usually felt happy when I'm on social media (64)	○	○	○	○	○
Posts on social media have mostly made me feel happy (65)	○	○	○	○	○
I have enjoyed using social media (66)	○	○	○	○	○
Using social media has helped me de-stress (67)	○	○	○	○	○
Using social media has helped me when I have felt bored (68)	○	○	○	○	○
I have felt good about myself after using social media (69)	○	○	○	○	○
I have often seen something on social media that made me feel excited (70)	○	○	○	○	○

I have often seen something on social media that has made me laugh (71)	○	○	○	○	○
I have felt safe on social media (72)	○	○	○	○	○
Using social media has made my mental health better (73)	○	○	○	○	○
I have felt worried about my social media use (74)	○	○	○	○	○
Posts on social media have mostly made me feel unhappy (75)	○	○	○	○	○
I have felt pressure to be on social media (76)	○	○	○	○	○
I have been upset by something I have seen on social media (77)	○	○	○	○	○
I have worried about what I have posted on social media (78)	○	○	○	○	○
I have spent time worrying about social media (79)	○	○	○	○	○

I have often seen something I didn't want to see on social media (80)	○	○	○	○	○
I have felt bad about myself after using social media (81)	○	○	○	○	○
I have often seen something on social media that has made me feel worried (82)	○	○	○	○	○
I have often seen something on social media that has made me cry (83)	○	○	○	○	○
I have felt unsafe on social media (84)	○	○	○	○	○
Using social media has made my mental health worse (85)	○	○	○	○	○
Using social media has disrupted my sleep (86)	○	○	○	○	○
I haven't slept enough because I have been using social media (87)	○	○	○	○	○

I have done fewer other activities because of spending time on social media (88)	○	○	○	○	○
Using social media has made it harder to concentrate on other things (89)	○	○	○	○	○
Using social media has made it easier to concentrate on other things (90)	○	○	○	○	○
I have felt bad about my appearance after using social media (91)	○	○	○	○	○
I have felt good about my appearance after using social media (92)	○	○	○	○	○
I have felt judged based on my appearance on social media (93)	○	○	○	○	○
I have felt bad about my body after using social media (94)	○	○	○	○	○
I have felt good about my body after using social media (95)	○	○	○	○	○

End of Block: SMES

Start of Block: Debrief 1

Debrief Thank you for completing our questionnaire.
You have completed enough to be entered into our prize draw. Please enter your e-mail address below if you would like to be entered.

_____

Continue It would be helpful if you could complete a couple of other (shorter) questionnaires. Completing these will give you another chance to be entered into our prize draw.
If you have time, would you like to complete more questionnaires now?

○ Yes (1)

○ No (2)

End of Block: Debrief 1

Start of Block: Final Debrief

Debriefing **Thank you for taking part in this study.**

Summary of findings Would you like a summary of the research findings? If yes, please enter your e-mail address here:

_____

Prize draw Would you like to be entered into the prize draw to win a £50 voucher? If yes, please enter your e-mail address here:

_____

Repeat questionnaire Would you like another opportunity to enter the prize draw by completing our questionnaire again in two weeks' time? If yes, please enter your e-mail address here:

_____

Debrief We hope that this research will help professionals working with young people to talk more openly about the impacts of social media. Results are likely to contribute to our understanding of how social media can impact young people.

We hope that taking part did not cause you any distress. However, if talking about your experiences on social media has made you feel upset or has made you think about problems you may be experiencing and you feel like you need support, we advise that you contact any of the below:
- Your GP
- NHS 111 (either by dialling 111 or using https://111.nhs.uk
- Call Samaritans for free on 116 123
- If you are aged between 16-18, you could also call Childline for free on 0800 1111

If you have any questions or feedback about the study, please contact me (Meg Norwood) via e-mail at mn295@canterbury.ac.uk and I will get back to you.

Continue **Thank you again for participating!**
Please press the arrow below to complete the survey.

End of Block: Final Debrief

Start of Block: C-PEQ

C-PEQ These questions ask about some things that often happen between teens. Please rate how often you have done these things to others and how often these things have happened to you in the past **two months.**

	Never (1)	Once or twice (2)	A few times (3)	About once a week (4)	A few times a week (5)
1. A peer I wanted to be friends with via electronic media ignored my friend request. (1)	○	○	○	○	○
2. A peer removed me from his/her list of friends via electronic media. (2)	○	○	○	○	○
3. A peer posted mean things about me publicly via electronic media. (3)	○	○	○	○	○
4. A peer posted mean things about me anonymously via electronic media. (4)	○	○	○	○	○
5. A peer posted pictures of me that made me look bad via electronic media. (5)	○	○	○	○	○
6. A peer publicly spread rumours about me or revealed secrets I had told them via electronic media. (6)	○	○	○	○	○
7. A peer sent me a mean message via electronic media. (7)	○	○	○	○	○
8. I found out that I was excluded from a party or social event via electronic media. (8)	○	○	○	○	○

9. A peer made me feel jealous by "messing" with my girlfriend/boyfriend via electronic media. (9)	○	○	○	○	○

End of Block: C-PEQ

Start of Block: PANAS

PANAS These questions ask about your mood.
Please indicate the extent you have felt this way over the past week.

	Very slightly or not at all (1)	A little (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
Interested (1)	○	○	○	○	○
Distressed (2)	○	○	○	○	○
Excited (3)	○	○	○	○	○
Upset (4)	○	○	○	○	○
Strong (5)	○	○	○	○	○
Guilty (6)	○	○	○	○	○
Scared (7)	○	○	○	○	○
Hostile (8)	○	○	○	○	○
Enthusiastic (9)	○	○	○	○	○
Proud (10)	○	○	○	○	○

Irritable (11)	○	○	○	○	○
Alert (12)	○	○	○	○	○
Ashamed (13)	○	○	○	○	○
Inspired (14)	○	○	○	○	○
Nervous (15)	○	○	○	○	○
Determined (16)	○	○	○	○	○
Attentive (17)	○	○	○	○	○
Jittery (18)	○	○	○	○	○
Active (19)	○	○	○	○	○
Afraid (20)	○	○	○	○	○

End of Block: PANAS

Start of Block: Debrief post CPEQ & PANAS

Q40 Thank you for completing our questionnaire.
You have completed enough for another entry into our prize draw. Please enter your e-mail address below if you would like to be entered.

_____

Q41 It would be helpful if you could complete one other questionnaire. Completing this will give you another chance to be entered into our prize draw.
If you have time, would you like to complete one more questionnaire now?

- ○ Yes (1)
- ○ No (2)

End of Block: Debrief post CPEQ & PANAS

Start of Block: AIDA

AIDA intro On the following pages you will find statements people might use to describe their attitudes, opinions, interests, and other personal feelings. For each statement, please circle one of the following five answers based on how you feel in general. Please answer every statement, even if you are not completely sure of the answer.
Remember, there are no right or wrong answers – just select the choice which best describes how you generally feel. Some statements may seem similar to you; these items should be viewed as an opportunity to describe yourself more fully and accurately.

AIDA Do you agree with this statement?

	I strongly disagree (1)	I disagree (2)	I neither agree nor disagree (3)	I agree (4)	I strongly agree (5)
1) I have had the same hobbies and interests for such a long time that they have become a part of who I am. (1)	○	○	○	○	○
2) I feel at home in my community, this is where I belong. (2)	○	○	○	○	○
3) I'm often unsure of my feelings in a given situation (e.g., whether or not I am angry, happy, sad, etc.). (3)	○	○	○	○	○
4) I feel that I have many different faces that don't go together very well. (4)	○	○	○	○	○
5) I could list a few things that I can do very well. (5)	○	○	○	○	○
6) It is often difficult for me to remember why I did things. (6)	○	○	○	○	○
7) Being together with 2 or 3 friends at the same time often causes trouble. (7)	○	○	○	○	○
8) I have changed so much since childhood that it's hard to connect to who I was then. (8)	○	○	○	○	○
9) I often argue with my friends and switch quickly between not being friends and then being friends again. (9)	○	○	○	○	○
10) When I look in the mirror, I am often surprised and don't like how I have changed. (10)	○	○	○	○	○

11) I'm not sure if my friends really like me. (11)	○	○	○	○	○
12) When people see me in new situations, they are very surprised how I can behave. (12)	○	○	○	○	○
13) I often feel lost, as if I had no clear inner self. (13)	○	○	○	○	○
14) Sometimes I feel like I disappear in my friendships because I sacrifice my own needs. (14)	○	○	○	○	○
15) Sometimes I feel like a fake, because my internal thoughts and feelings don't match my behaviour. (15)	○	○	○	○	○
16) I find myself easily overwhelmed when I'm out with a large group of friends. (16)	○	○	○	○	○
17) My inner voice usually leads me in the right direction. (17)	○	○	○	○	○
18) I feel I don't really belong anywhere. (18)	○	○	○	○	○
19) With many of my friends I fear that they would leave me alone when I need them. (19)	○	○	○	○	○
20) I am very sensitive to the disapproval of people when I'm speaking with them. (20)	○	○	○	○	○
21) Sometimes I feel that my interests are not my own but copied from others. (21)	○	○	○	○	○

22) When my friends disagree with my ideas, I feel humiliated and rejected. (22)	○	○	○	○	○
23) I feel like I belong in my family. (23)	○	○	○	○	○
24) I hang out with friends I don't even like because I really can't reject them. (24)	○	○	○	○	○
25) Others tell me that it is difficult to know who I really am. (25)	○	○	○	○	○
26) I have a clear idea of what my future might be (e.g., having a family, children, a satisfying career, hobbies, etc.). (26)	○	○	○	○	○
27) I am often unsure if I am doing the right things for myself. (27)	○	○	○	○	○
28) My parents think that I'm no good. (28)	○	○	○	○	○
29) Sometimes I have strong feelings without knowing where they come from. (29)	○	○	○	○	○
30) I often see my own behaviour differently from how my friends see it. (30)	○	○	○	○	○
31) People who know me in one situation (i.e. supervisors, friends) hardly recognise me in a different situation. (31)	○	○	○	○	○
32) I feel empty. (32)	○	○	○	○	○

33) I can imagine the kind of person I will be in the future. (33)	○	○	○	○	○
34) I often can't help feeling either inferior or superior to other people. (34)	○	○	○	○	○
35) I am confused about what kind of person I really am. (35)	○	○	○	○	○
36) I easily become upset or offended. (36)	○	○	○	○	○
37) I often don't know why I do the things I do. (37)	○	○	○	○	○
38) When I'm criticised by others, I feel devastated. (38)	○	○	○	○	○
39) I feel comfortable in my body. (39)	○	○	○	○	○
40) I usually have on-again, off-again relationships. (40)	○	○	○	○	○
41) I have had very good experiences with listening to my intuitions. (41)	○	○	○	○	○
42) When I'm alone I feel helpless. (42)	○	○	○	○	○
43) When I see myself in a mirror, I recognise myself immediately. (43)	○	○	○	○	○

44) I'm afraid that my friends suddenly won't like me anymore and exclude me. (44)	○	○	○	○	○
45) I often feel as if I could be several people rather than just one because I have so many different thoughts and feelings. (45)	○	○	○	○	○
46) Being alone is difficult for me. (46)	○	○	○	○	○
47) I have many different sides to me that don't match well (e.g. I want to be healthy, but I eat junk food all the time). (47)	○	○	○	○	○
48) I need a lot of praise in order to believe in myself. (48)	○	○	○	○	○
49) Many people are fake and do not behave the way they really are. (49)	○	○	○	○	○
50) I am often overwhelmed by strong feelings (i.e. anger, sadness, fear) and need others to help me calm down. (50)	○	○	○	○	○
51) I often have a black when I ask myself why I did things. (51)	○	○	○	○	○
52) I often feel deceived by others when they turn out to be very different from what I expected. (52)	○	○	○	○	○
53) I need reassurance from others to not give up. (53)	○	○	○	○	○
54) My friendships usually last only a few months. (54)	○	○	○	○	○

55) I have nothing in common with most people my age. (55)	○	○	○	○	○
56) I feel that I have a strong inner core no matter what happens. (56)	○	○	○	○	○
57) Others often tell me that I contradict myself, but I don't think I do. (57)	○	○	○	○	○
58) I can imagine that I will find my place in the world. (58)	○	○	○	○	○

End of Block: AIDA

Appendix 10

Journal author guidelines

Mary Ann Liebert, Inc. publishers

Manuscript Submission Guidelines and Policies for *Cyberpsychology, Behavior, and Social Networking*

Last updated 6/26/2022 7:04:23 PM

Journal Information

- **Manuscript Submission Site: https://mc.manuscriptcentral.com/cyberpsych**
- Editorial Office Contact: cyberpsych@vrphobia.com
- Support Contact: prosupport@liebertpub.com
- Journal Model: Hybrid
- Blinding: Double Blind: Do not include identifiers in the main manuscript. A separate title page is required.
- File formatting requirement stage: Upon submission
- Instant Online Option (immediate publication of accepted version): No
- Submission Fee: $49.00. The submission fee must be paid here before submitting.

Manuscript Types and Guidelines

Original Research Articles	• 3,000-word limit • Unstructured abstract of no more than 250 words • Maximum total of eight (8) figures and/or tables
Review Articles	• 4,000-word limit • Unstructured abstract of no more than 250 words • Maximum total of ten (10) figures and/or tables
Rapid Communications	• 2,000-word limit • Unstructured abstract of no more than 250 words • Maximum of six (6) figures and/or tables

Word limits do NOT pertain to the abstract, disclosure statements, author contribution statements, funding information, acknowledgments, tables, figure legends, or references.

References

Cyberpsychology, Behavior, and Social Networking uses Mary Ann Liebert's Vancouver reference format. Templates are available in **Zotero** and though the CSL Style Repository

Liebert Vancouver Style: Order of Citation

- Reference List: Prepared in sequential order as cited in text.

- In-text Citations: All references must be cited in text in numerical order, set in superscript Arabic numerals outside of any punctuation. Do not set reference numbers in parentheses or brackets. To cite several references at once, use commas to separate non-sequential citations and use dashes to separate sequential citations; do not include spaces. Ex: 3,7,12–15
- Journal titles should follow the abbreviation style of PubMed/Medline.
- Include among the references any articles that have been accepted but have not yet published; identify the name of publication and add "In Press." If the reference has been published online, provide the DOI number in place of the page range.

Style Examples for Reference List:

Type of Reference	Punctuation and Order of Elements in Reference List
Journal article with 1-3 authors	Wang Q, Nambiar K, Wilson JM. Isolating natural adeno-associated viruses from primate tissues with a high-fidelity polymerase. Hum Gene Ther 2021;32(23-24):1439-1449; doi: 10.1089/hum.2021.055 [insert article-specific DOI if available].
Journal article with more than 3 authors	Pfister EL, DiNardo N, Mondo E, et al. Artificial miRNAs reduce human mutant Huntington throughout the striatum in a transgenic sheep model of Huntington's disease. Hum Gene Ther 2018;29(6):663–673; doi: 10.1089/hum.2017.199 [insert article-specific DOI if available].
Edited Book	Herzog RW, Zolotukhin S, (eds). A Guide to Human Gene Therapy. World Scientific Publishing Co. Pte. Ltd.: Singapore; 2010.
Chapter in an Edited Book	Nicklin SA, Baker AH. Adenoviral Vectors. In: A Guide to Human Gene Therapy. (Herzog RW, Zolotukhin S. eds.) World Scientific Publishing Co. Pte. Ltd.: Singapore; 2010; pp. 21-36.
Authored Book	Isaacson W. The Code Breaker: Jennifer Doudna, Gene Editing, and the Future of the Human Race. Simon & Schuster: New York, NY; 2021.
Website	Last name, first/middle initial(s) of author(s) [if available]. U.S. Food and Drug Administration. What is Gene Therapy? Silver Spring, MD; 2018. Available from: **https://www.fda.gov/vaccines-blood-biologics/cellular-gene-therapy-products/what-gene-therapy** [Last accessed: month/date/year].
Personal communications	References that are unpublished (ie: personal communications, emails, letters) are not to be included in the reference list. Instead, insert "Personal communication; [name], date" parenthetically at the point of citation within text.
Using previously published images or tables as a reference	Reused/adapted images, tables, or any published material must be officially cited as a reference in the reference list, and the author(s) of the submitted work must obtain written permission from the copyright holder. Verbal approvals are not acceptable. Any fees associated with the reuse or adaptation of any material is the sole responsibility of the author(s).

PaperPal Preflight

The Paperpal Preflight service is available for this journal. PaperPal Preflight allows authors to check their **Original Research** manuscripts for common errors prior to submitting a manuscript for consideration. Please note that this does not guarantee that your paper will pass all submission or other checks, nor that it will be considered for review.

The checks are configured for Original Research manuscripts only and may not be applicable to other manuscript types. There may be additional requirements for submission. Please review the full instructions for authors for guidelines.

The basic service is free. PaperPal preflight offers an *optional* fee-based service that will provide a report showing tracked changes and potential modifications. Please note that if this service is used, a clean copy of the manuscript must be uploaded to the submission system.

There is no obligation to use either the free or paid service. No editorial, review, nor any other decisions will be dependent on its use.

All manuscripts must be submitted through the journal's ScholarOne Manuscripts site.

Mary Ann Liebert, Inc. publishers

General Manuscript Submission Guidelines and Policies for Mary Ann Liebert Journals

Last updated 6/28/2022 10:02:22 AM

Submission Preparation

All manuscripts must be prepared in accordance with the Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals (icmje.org). Please consult your specific journal's requirements for additional information.

All Mary Ann Liebert, Inc. journals follow the standards, guidelines, and best practices set forth by the Committee on Publication Ethics (COPE; publicationethics.org), the International Committee of Journal Medical Editors (ICJME; www.icmje.org), the World Medical Association (WMA); www.wma.net), and the American Medical Association (www.ama-assn.org).

Mary Ann Liebert, Inc. recommends that submissions follow standard relevant reporting guidelines. Please consult The Equator Network for more information.

PaperPal Preflight

The Paperpal Preflight service is available for most journals. PaperPal Preflight allows authors to check their **Original Research** manuscripts for common errors prior to submitting a manuscript for consideration. Please note that this does not guarantee that your paper will pass all submission or other checks, nor that it will be considered for review.

There may be additional requirements for submission. Please review the full instructions for authors for guidelines.

The basic service is free. PaperPal preflight offers an *optional* fee-based service that will provide a report showing tracked changes and potential modifications. Please note that if this service is used, a clean copy of the manuscript must be uploaded to the submission system.

There is no obligation to use either the free or paid service. No editorial, review, nor any other decisions will be dependent on its use.

All manuscripts must be submitted through the journal's ScholarOne Manuscripts site. Please refer to the individual journal's instructions for more information and to access the service.

Manuscript Formatting

Please check your journal's requirements for file formatting. Many journals require formatting compliance only on revision; however, unless stated, the file formatting should comply with the following requirements on submission.

Manuscript Files

The main text file, figure legends, and tables should be prepared in Microsoft Word. Some journals may accept LaTex. Please consult your individual journal instructions for guidance.

File Naming

- All file names should be in English and contain only alphanumeric characters.
- **Do not include spaces, symbols, special characters, dashes, dots, or underscores.**
- Title each file with the type of content contained in the file (e.g., manuscript.doc, tables.doc, FigureLegends.doc, Fig1.tif, SupplementalData.pdf, etc.).

Figures

- Submission of high resolution .TIFF or .EPS figure files is preferred. Please upload as individual files.
- Cite figures consecutively in text within parentheses
- Images should not reveal the name of a patient or a manufacturer

Figure Legends

- A legend should be provided for each supplied figure.
- All legends should be numbered consecutively.
- Figure legends may be included at the end of the main text file or uploaded as a separate, double-spaced Word file.
- In each legend, provide explanations for any abbreviations or symbols that appear in the figure.
- If the figure is taken from a copyrighted publication, permission must be secured by the author(s) and supplied at the time of submission with appropriate credit listed in the legend. Permissions and associated fees are the responsibility of the author.

Tables

- Tables may be included after the references at the end of the main text file, or uploaded as a single, separate Word file. All tables should be editable.
- Provide a title for each supplied table.
- Cite tables sequentially in text within parentheses.
- Explain abbreviations used in the body of the table in footnotes using superscript letters, not symbols.
- If a table is taken from a copyrighted publication, permission must be secured by the author(s) and supplied at the time of submission with appropriate credit listed in the legend. Permissions and associated fees are the responsibility of the author.

Supplemental Files

- Supplemental files should be uploaded as individual files. Most text, photo, graphic, and video formats are

accepted. Ensure that patient identities are not revealed.

- Supplemental Information will not be copyedited or typeset; it will be posted online as supplied.
- For journals that publish accepted versions of papers prior to copyediting and typesetting, supplemental files will not be posted with the paper until after production has been completed.

Manuscript Structure

Specific journal requirements will vary, however the general order of elements in each manuscript should be

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Appendix 11

Feedback to participants

Canterbury Christ Church University

Salomons Institute for Applied Psychology
One Meadow Road, Tunbridge Wells, Kent TN1 2YG

www.canterbury.ac.uk/appliedpsychology

Developing a questionnaire to measure young peoples' experiences of social media

Dear all who took part in our research,

Firstly, we would like to thank you for taking part in our study! Thanks to you, we are now in a positive to publish a new questionnaire to measure young peoples' experiences of social media.

Below is some more detailed feedback about the research project:

Research has identified that social media can have both positive and negative impacts on young people. These may include negatively impacting upon peoples' self-esteem and mood, as well as helping people to feel more connected to each other. Most of the measures of social media impacts so far have focussed on the negative aspects of social media use only. As far as we know, no measure existed which captured both positive and negative experiences of using social media.

This project aimed to develop a questionnaire that would measure both positive and negative experiences of social media in young people. This questionnaire was called the Social Media Experiences Scale (SMES). An initial 95-item measure was created following previous research and from consultation with a small focus group of young people. This measure was then tested to see if it was reliable and valid.

Data from 256 young people was assessed and a factor analysis was conducted. This factor analysis identified two underlying subscales of the SMES which related to 1) positive experiences and 2) negative experiences. Ten items were retained from each subscale, creating a final 20-item version of the SMES. Both of the subscales were found to have satisfactory reliability and validity, with scores correlating with scores on related questionnaires (e.g. mood and experiences of cyberbullying).

We hope that the SMES will be tested further for its reliability and validity in future research, and be used by clinicians to ensure that young peoples' experiences of social media are talked about.

Thank you again for your participation.

Yours sincerely,

Meg Norwood

Appendix 12

Summary letter to ethics panel

Dear X,

Study Title: Development and Validation of the Social Media Experiences Scale (SMES)

I am writing to inform you that a thesis has been written to be submitted for partial fulfilment of the degree of Doctor of Clinical Psychology at Canterbury Christ Church University on the above research project. A brief summary of this research is below. We are hoping to collect further data on the measure to repeat the analyses on a larger sample ahead of publication.

Social media has rapidly developed into a pivotal and impactful aspect of the lives of young people, influencing many aspects of well-being. Despite the impacts of social media use being well documented to be both positive and negative, measures of social media impacts have largely focussed on negative experiences such as addiction to social media. To address this gap, the current study developed a new measure, namely the Social Media Experiences Scale (SMES), in consultation with a focus group of young people. The 95-item SMES was then tested and data from a sample of 256 young people from the UK (50% female, 16-24 years) were analysed for their factor structure and psychometric properties. An exploratory factor analysis supported a two-factor structure with a stable set of factors on two distinct subscales relating to positive and negative experiences of social media respectively. Ten items were retained for each subscale, creating a 20-item final SMES. Both subscales were found to have satisfactory internal consistency and test-retest reliability. Scores on the SMES subscales were correlated with scores on related measures in largely theoretically consistent ways. Scores on the negative SMES subscale (N-SMES) were significantly positively correlated with scores on the negative PANAS scale (a measure of mood), as well as with scores on a measure of cyberbullying experiences (C-PEQ) and identity diffusion (AIDA) as predicted. Scores on the positive SMES subscale (P-SMES) were significantly

positively correlated with scores on the positive PANAS scale, and negatively correlated with scores on the AIDA when controlling for the N-SMES. A small but significant positive correlation was observed between the P-SMES and the C-PEQ which was outside of expectations.

It is recommended that clinicians consider the impacts of social media use on their young clients, both positive and negative, and it is suggested that the use of measures such as the SMES may help to facilitate these conversations. It is recommended that further research seeks to further validate the identified factor structure of the SMES by conducting confirmatory factor analyses amongst larger samples.

It is intended that findings of the research are to be submitted for publication in Cyberpsychology, Behavior and Social Networking.