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UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL AND HUMAN SCIENCES

School of Psychology

Using Facebook to Self-Enhance: Narcissism and Psychological Outcomes

by

Camellia Kojouri

Thesis for the degree of Doctor of Educational Psychology

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ABSTRACT

FACULTY OF HUMAN AND SOCIAL SCIENCES

Psychology

Doctorate in Educational Psychology

USING FACEBOOK TO SELF-ENHANCE: NARCISSISM AND PSYCHOLOGICAL OUTCOMES

By Camellia Kojouri

This thesis explores adolescents' use of social networking sites and associated psychological outcomes. A systematic review of the literature in the field revealed some positive, and some negative relations between online social networking and indicators of psychological wellbeing. Research into motives underpinning Facebook use is in its infancy, however, emergent findings suggest that motives for using social networking sites may influence psychological wellbeing more than the specific online behaviours themselves. This chapter is supplemented with a narrative overview of the literature exploring consequences of Facebook use on academic outcomes.

The empirical study explores the relationship between narcissism, Facebook use, motives for Facebook use, and psychological indicators among a sample of adolescents in the UK. A sample of 218 adolescents, aged 13-18 years, completed an online survey and the data were analysed using a correlational design. The findings show that narcissism was positively related to Facebook use. Different motives for using Facebook were also related to narcissism, such that narcissists used Facebook to fulfil self-enhancement, as opposed to affiliative motives. Moreover, these self-enhancement motives mediated the relationship between narcissism and indicators of wellbeing; high narcissists were more likely to pursue self-enhancement goals, leading to reduced satisfaction with life, less positive relations with others, and higher levels of depression. Implications are discussed, particularly in relation to the importance of exploring motives for online behaviours.

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DECLARATION OF AUTHORSHIP

I, Camellia Kojouri, declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

Using Facebook to Self-Enhance: Narcissism and Psychological Outcomes

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission.

Signed:

Date:

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Abbreviations

APA	American Psychological Association
B	Unstandardised regression coefficient
β	Standardised regression coefficient
CI	Confidence Interval
DfE	Department for Education
DV	Dependent Variable
EP	Educational Psychologist
H1	Hypothesis 1
H2	Hypothesis 2
IM	Instant Messaging
IV	Independent Variable
LD	Learning Difficulties
<i>M</i>	Mean
OC	Online Communication
OSN	Online Social Networking
<i>p</i>	Significance Value
R^2	Statistic for variance accounted for
SD	Standard Deviation
SEND	Special Educational Needs and Disability
SNS	Social Networking Site
SPSS	Statistical Package for the Social Sciences
<i>t</i>	Statistic from t-test

Chapter 1: Literature Review

The Impact of Online Social Networking on Adolescent Psychological Wellbeing

Given the rise in the use of social networking sites in recent years, particularly among adolescents, the potential impact that using such sites may have on their psychological wellbeing needs to be considered. Indicators of psychological wellbeing have been shown to affect many aspects of life, from physical health, to education and career outcomes, to social relationships, to cognitive wellbeing (Huppert, 2009). Positive psychological wellbeing, such as high self-esteem, has been shown to have positive effects on these areas of life (Boehm, Peterson, Kivimaki, & Kubzansky, 2011; Rosli et al., 2012) and poor psychological wellbeing, such as low self-esteem, loneliness and depression, has been shown to relate to poor outcomes (Fröjd et al., 2008; Trzesniewski et al., 2006). Therefore, if online social networking is impacting on young peoples' psychological health negatively, it is imperative to understand how and why this may be happening.

Currently, the literature on the use of online social networking and psychological wellbeing in adolescence presents mixed findings, some reporting a positive link between the use of social networking sites and wellbeing, and some, a negative link; most failing to provide robust causal findings. Reported benefits associated with social networking site use have included improvements in self-esteem, perceived social support and social capital, (Best, Manktelow, & Taylor, 2014), improved relationships (Valkenburg & Peter, 2011), and reduced loneliness (Allen, Ryan, Gray, McIerney, & Waters, 2014a). The main pitfalls of social networking site use identified have been increased social isolation and ostracism, cyberbullying, exposure to harm, and depressed mood (Allen et al., 2014a; Best et al., 2014). Individual differences in the personalities of social networking site users have started to receive considerable attention in the field, with different personality variables, such as the Big Five personality traits (Costa & McCrae, 1992) and self-esteem, being differentially associated with psychological outcomes (Ross et al., 2009).

Many studies, however, do not operationalise 'online social networking' and focus on arbitrary variables such as intensity of use and number of online friends, rather than

specific activities and their related goals. Recently, the role of motives for using online social networking has been explored, but as of yet research on this topic is sparse. Why are adolescents engaging in specific online communication activities? What goals are they trying to fulfil? And does the perception of fulfilling certain goals mean more for psychological wellbeing than the communicative activity in itself?

Implications of psychological wellbeing in relation to academic outcomes are well-documented (Anderson, 2005). However, to date, few studies have addressed how adolescents' use of online social networking is directly associated with this. Consequently, academic wellbeing has not been clearly operationalised within the online social networking literature. Researchers have investigated achievement grades, cognitive abilities, and school attitudes, all under the umbrella term academic wellbeing. Although there is insufficient literature to warrant a systematic review of the relationship between online social networking and academic wellbeing in adolescents, existing papers are reviewed narratively, providing a snapshot of the current research-base.

Given the rapid evolution of technology, a number of pivotal papers are reviewed here for the first time. Moreover, in comparison to previous reviews, we show greater consideration of individual differences in how adolescents use social networking sites, and how these uniquely relate with outcomes. This is the first review to acknowledge the impact that the psychological effects of social networking site use may be having on school outcomes, as well as narratively reviewing the literature on social networking sites use and academic wellbeing directly.

Online Social Networking

The prevalence and use of social Networking Sites have grown exponentially in the past decade (boyd & Ellison, 2007). These are online platforms allowing users to create personal profiles, connect with other users, and observe and explore the activities and interpersonal connections of others. Social networking sites vary in their individual features and functions, however, showing who users are connected with, and their activities, tends to be a central tenet of holding an account. The majority of social networking sites promote the maintenance of existing friendships and networks, whereas some encourage connection with others with similar interests (boyd & Ellison, 2007).

Activities that can be carried out on social networking sites include adding friends, posting status updates, messaging others privately or publically, posting and tagging pictures and videos, instant messaging, playing games, posting links to articles, videos and webpages, and creating and RSVP'ing to events (boyd & Ellison, 2007). Alongside information searching, online social networking has been ranked the most popular internet function (O'Dea & Campbell, 2011).

One of the most heavily used social networking sites is Facebook with an estimated 936 million daily active users (Facebook Press, 2015). Particularly drawn to social networking sites are adolescents and young adults, considering them an "essential" component of their lives (Greenhow & Robelia, 2009, p. 1141). More than 70% of teens use them daily, and 40% spend a minimum of two hours logged on (Tsitsika et al., 2014).

It is not just social networking sites that afford users the possibility to communicate with others online. This is also possible through other platforms, such as those enabling instant messaging. This review therefore treats the concept of online social networking as encompassing communication both via a social networking site and via alternative online platforms.

Adolescence

Adolescence has been defined as the development of children from 12-18 years (APA, 2002). It is considered to be the most crucial stage of development, whereby, in addition to physical changes associated with puberty, adolescents start to question their values, understand abstract concepts, and experiment with their identity and role in society (Erikson, 1968). As this happens, they tend to depend less on their parents and more on their peers (Subrahmanyam & Greenfield, 2008). The physical and psychological changes experienced during this phase of life can result in adolescents being self-conscious and comparing themselves to others their own age (Erikson, 1968).

With social networking sites being such a public platform for communication, self-presentation, and feedback, adolescents are increasingly concerned with how they construct and present their identity online (Doster, 2013). The importance that adolescents place on the role of these sites and the significant amount of time they spend on them warrants focussed attention from parents and educators to understand the

impact that this is having on the emerging adults of society. Within the related literature, areas of concern have regarded levels of privacy (Debatin, Lovejoy, Horn, & Hughes, 2009), online harassment (Wolak, Mitchell, & Finkelhor, 2007), risky and sexualised behaviour (Cookingham & Ryan, 2014), political radicalisation (Thompson, 2011), cyberbullying (Smith et al., 2008), and even self-harm and suicide, as a consequence of online harassment and cyberbullying (Seligman, 2011). A key denominator here appears to be the psychological wellbeing of adolescents, particularly, due to their aforementioned psychological vulnerability.

Childhood wellbeing has received a growing amount of attention in research, policy, and practice in recent years, nationally and internationally (Statham & Chase, 2010). Findings that children in the UK rank lower on measures of wellbeing than in most other developed countries has called for targeted exploration of the factors contributing to this (Save the Children, 2011; UNICEF, 2007). Further, recent reforms to the Special Educational Needs and Disability (SEND) legislation were based on evidence that youngsters with SEND in the UK were achieving poor life outcomes in terms of education, health, relationships, and employment (DfE, 2015).

Psychological Wellbeing

Definitions of psychological wellbeing have been categorised as hedonic, i.e., subjective experiences of pleasure and displeasure, or eudaimonic, i.e., behaviour and action leading to wellbeing (Ryan & Deci, 2001). Differences in definitions mean that it has been difficult to conceptualise and measure the construct consistently; the term is often used interchangeably with emotional or subjective wellbeing (Ahn, 2011; Apaolaza, Hartmann, Medina, Barrutia, & Echebarria, 2013). Psychological wellbeing appears to be a multi-faceted construct, influenced by a range of feelings, experiences, and evaluations of one's life (Dolan, Layard, & Metcalfe, 2011), and it would therefore seem that hedonic and eudaimonic perspectives both have a role to play. Ryff (1989) discusses six components to psychological wellbeing: self-acceptance, positive relations with others, purpose in life, personal growth, environmental mastery, and autonomy. Taking a closer look at these six dimensions, the relationship with other concepts considered important to psychological wellbeing is evident. For example, self-acceptance is closely related to self-esteem, positive relations with others relates to feelings of loneliness, and all six

components are important to overall life satisfaction. The absence of one or more of these components may lead to feelings of depression and anxiety (Ryff & Singer, 1996).

Regardless of the exact definition or measure of psychological wellbeing, a significant amount of the literature linking this construct with online social networking, specifically addresses the constructs of self-esteem (Apaolaza et al., 2013), loneliness (Bonetti, Campbell, & Gilmore, 2010), and depressive states (Frison & Eggermont, 2015a). As much of the research focusses on university-aged populations, this review used psychological wellbeing as an umbrella term to encompass related concepts, thus, warranting a review specific to adolescents.

With the internet providing a new context for adolescent development, and online social networking now being an activity of daily living for many teens, it is crucial that both they and the key adults in their lives understand the impact that this may be having on the quality of their lives currently and in the future. Given the magnitude of this phenomenon, implications will be felt across different generations and sectors of society.

Method

A systematic search was conducted exploring the relationship between online social networking and psychological wellbeing in adolescents. Databases searched were PsycINFO via EBSCO host and Medline via Ovid. The search was structured around the three key concept groups: (1) online social networking, (2) psychological wellbeing, and (3) adolescence, with different combinations of terms being used across the three areas. Filters were applied to ensure that only peer-reviewed journals, papers in the English language, and papers published from 2008-2015 were included. Exclusion criteria were also applied (Appendix B). The final papers needed to specifically relate to online social networking and the psychological wellbeing of adolescents. Hand-searching based on reference lists and citations allowed for additional papers to be obtained. This resulted in a total of 20 papers being retained. Key data were then extracted from each study (Appendix D), allowing for the information to be amalgamated and analysed.

Findings

Upon analysing information from the studies, the data seemed to naturally fall under key themes. Findings identified support for a number of theories relating to the

impact of online social networking on psychological wellbeing. This included the displacement hypothesis, the stimulation hypothesis, the social enhancement or rich-get-richer hypothesis, and the social compensation or poor-get-richer hypothesis.

Displacement hypothesis.

According to the displacement hypothesis, online communication displaces time spent interacting with existing friends, reducing the quality of these friendships and therefore lowering wellbeing. The studies below explore the relationship between time spent on online social networking and the psychological wellbeing of adolescents. The findings provide potential support for the displacement hypothesis.

The association between Facebook use and depression was explored amongst a high school population in Serbia (Pantic et al., 2012). A total of 160 adolescents completed self-report measures of depression, daily time on social networking sites, daily time watching TV, and sleep duration, in a 24 hour period. Significant positive correlations were found between time spent on social networking sites and depression, whilst controlling for the other factors, although the effect size was small. This study may support the displacement hypothesis; that online communication impacts on time spent engaging in meaningful, face-to-face interactions. This in turn may affect relationship quality, and consequently, wellbeing. Nonetheless, the study did not consider what participants were doing while on social networking sites. O'Dea and Campbell (2011) extended these findings by exploring the impact of online social networking on perceived social support, in addition to more direct psychological outcomes. A sample of 400 Australian adolescents answered questions on online communication, perceptions of social support, self-esteem, and psychological distress. Results revealed that social networking site users and those visiting social networking sites the most, perceived less social support from their families than non-users. Time spent on social networking sites was significantly negatively correlated with self-esteem and positively with psychological distress, such that self-esteem decreased and psychological distress increased with time spent on social networking sites; effect sizes were small.

The perception of less social support from families may have been due to adolescents spending more time online and less time offline with their families, supporting the displacement hypothesis (Valkenburg & Peter, 2007). The negative

association between time online and self-esteem may have been because more time online meant more opportunity to receive negative feedback from peers (Valkenburg, Peter, & Schouten, 2006); peers whose opinions are highly valued at this stage of life (Pellegrini & Bartini, 2000). It is also possible that social networking site users of this age are spending more time on consumption or passive use of social networking sites, i.e., following the lives of others, as opposed to direct communication or active use (Burke, Marlow, & Lento, 2010). This would afford less opportunity for positive peer feedback, which has been associated with higher self-esteem (Valkenburg & Peter, 2007).

Perceptions of social support were also explored by Subrahmanyam and Lin (2007). They investigated the relationship between online communication in the form of email, and wellbeing, using self-report measures of loneliness and perceived social support. Findings from a sample of 156 adolescents in the U.S, revealed that time spent using email was not associated with loneliness nor perceived social support from friends or family. It would, therefore, not appear that emailing displaced time spent on more meaningful activities and did not impact on the support adolescents felt they had available. Whilst a relationship was not apparent between emailing and loneliness, adolescents' appraisals of the extent and *types* of online relationships they had, did relate to loneliness. Those who felt relationships with online partners were ones they could turn to in an emergency reported higher loneliness. This effect size was moderate. Familiarity or extent of online relationships did not, on the other hand, relate to perceived social support. This study, therefore, would imply that the displacement hypothesis is oversimplistic. It may not be time spent in online communication in itself that relates to poorer psychological wellbeing, rather, it may be adolescents' evaluations of their online friendships. It is possible that lonely adolescents place greater value on their online friendships than non-lonely adolescents, explaining why those who turn to their virtual peers in times of need are lonelier; perhaps, they make less effort with their peers in the 'real world'.

Also providing support for the displacement hypothesis, Tsitsika et al. (2014) explored social networking site use, internalising problems, and competencies among an impressively large sample of adolescents across six European countries: Greece, Spain, Poland, the Netherlands, Romania, and Iceland. A total of 10,930 adolescents participated, reporting on their online communication tools, social networking site

membership, and time spent on social networking sites. Internalising problems were measured on the subscales of Anxious/ Depressed, Withdrawn/ Depressed, and Somatic Complaints. Social Competence was also measured. Results revealed that heavier social networking site users scored marginally higher than moderate social networking site users on all internalising problems, however, effect sizes were small. The negative effects of heavy social networking site use were greater for the younger social networking site users, i.e., 14-15 years. Social competence, which considered the number of close friends and the frequency and quality of interactions, was significantly higher for older adolescents who used social networking sites heavily compared to moderately. No effects were found for younger adolescents. This contradicts the displacement hypothesis, that time spent in online communication displaces meaningful time spent with friends and thus, friendship quality. It also highlights how online communication may provide a way for older adolescents to self-disclose, practise social skills, and receive social support, enhancing their sense of belonging among peers (Leary & Baumeister, 2000). The large sample and range of countries makes this the most generalisable of the studies in the field currently. It is also advantaged by the breakdown of adolescence into younger and older age-groups.

It is possible that the association between social networking site use and internalising problems is the result of teens spending less time on adaptive activities offline, such as socialising, physical activity, creative activities, goal-oriented activities, relaxation, etc. This would be in line with the displacement hypothesis. The authors commented that associations between heavier social networking site use and somatic complaints may be explained by the physical stress that sitting in a particular position for extended periods of time has on an individual, as well less time spent on physical activities. Nonetheless, now that the internet and social networking sites are mobile, available on phones and electronic tablets, this argument may be less valid. The fact that negative effects were found to be more pronounced in younger adolescents may be a reflection of limited online abilities and experiences in comparison to older peers. It may be better explained, however, by their lower emotional resilience and less developed 'friendship skills', in coping with peer dynamics (Rubin, Bukowski, & Parker, 2006; Selman, 1980).

Other researchers have failed to find support for the displacement hypothesis. Alloway, Horton, Alloway, and Dawson's (2013) study with 103 adolescents in the UK, investigated the impact of Facebook and YouTube use on social connectedness. Adolescents reported on their social connectedness, time spent on the social networking sites, time on different activities, and active or passive engagement with the sites. They were categorised as high Facebook users if they had held an account for over a year, and low users if less than a year. This categorisation could lack validity given that individuals may hold an account for years and use it sparingly. Participants were also categorised as high YouTube users if they used it more than once per day, and low users if once per week or once per month. Findings revealed a positive, but non-significant trend between social connectedness and high Facebook users; no relationship was found for YouTube users. This is not surprising given the range of communicative functions available on Facebook in comparison to YouTube. Passive or active engagement on the social networking sites did not affect social connectedness, suggesting that social comparison may not necessarily be more prevalent among passive users. The study therefore, does not support the notion that time spent on social networking sites displaces time spent in other meaningful activities impacting on psychological wellbeing.

Partial support for the displacement hypothesis was found in a study exploring loneliness and online communication in Israel among 716 teens, with and without learning difficulties (Sharabi & Margalit, 2011a). Findings, with small effect sizes, revealed that online communication with offline friends was associated with less loneliness, whereas virtual friendships were associated with more loneliness. This suggests that online communication with weak social ties can mean less time dedicated to existing relationships offline; nevertheless, when used to strengthen existing relationships, online communication can reduce loneliness, supporting the stimulation hypothesis discussed below.

Stimulation hypothesis.

The stimulation hypothesis, also termed the increase hypothesis (Lee, 2009), states that online communication stimulates wellbeing via its positive effect on time spent with existing friends and the quality of these relationships. Support was found by Apaolaza et al. (2013) who examined the relationship between the use of the Spanish

social networking site, Tuenti, and the wellbeing of 334 adolescents. Intensity of Tuenti usage, socialising on Tuenti, loneliness, self-esteem, and satisfaction with life were measured. Results revealed a significant positive relationship between Tuenti use and Tuenti socialising. Tuenti socialising was associated with improved self-esteem and lower loneliness, with both pathways for these small effect sizes leading to improved satisfaction with life. These findings suggest that spending time on social networking sites provides opportunities for socialising. This is in line with the stimulation hypothesis that online communication can improve wellbeing by increasing the time spent with existing friends, maintaining and strengthening social ties and thus, augmenting the quality of friendships.

The importance of friendships for wellbeing was also demonstrated by Valkenburg and Peter (2007) who investigated the effect of online communication on existing friendships, the quality of those friendships, and wellbeing. A sample of 1210 Dutch adolescents completed an online survey measuring online communication, via the use of instant messaging and chat, time spent with friends, friendship quality, and satisfaction with life. As predicted, adolescents spent significantly more time on instant messaging than on chat, with the former predominantly used to communicate with existing friends and the latter with strangers. Corroborating the stimulation hypothesis, time spent instant messaging positively related to time spent with existing friends, although the effect size was small. Time spent with friends and instant messaging frequency were related to wellbeing via their impact on friendship quality. Quality of friendships remained a significant predictor of satisfaction with life when time spent with friends was controlled for, and time spent with friends fully mediated the relationship between instant messaging frequency and friendship quality. The positive effects found in this study were for instant messaging and not for the use of Chat, highlighting the importance of operationalising social networking site use and the different features available. This leads one to consider the motives underlying social networking site use and the importance of whether or not individuals perceive their needs to be met.

The value of time spent with friends was also demonstrated by Valkenburg et al. (2006), who focussed on what happens during 'time spent' online, in terms of peer feedback. They investigated the relationship between a Dutch social networking site and adolescents' wellbeing. A sample of 881 Dutch adolescents completed measures of

frequency of social networking site use, frequency of reactions to profiles, tone of reactions, relationships established through the social networking sites, social self-esteem, and life satisfaction. Results showed that most adolescents tended to largely receive positive reactions on their profile and a small minority received predominantly negative feedback. Positive feedback was significantly associated with enhanced social self-esteem and wellbeing, and negative feedback with lower social self-esteem and wellbeing. Effect sizes were small to moderate. This supports theories of adolescence which highlight the value that adolescents place on the opinions of their peers and how meaningful this is for their psychological development (Pellegrini & Bartini, 2000).

The studies discussed above provide a valuable starting point in the consideration of the impact of online social networking on wellbeing. They explore this across a broad age-range of adolescents, cultures, and nationalities. Benefits associated with social networking site use include improvements in self-esteem, social competence, social connectedness, time spent with friends, quality of friendships, and reductions in loneliness. Possible costs identified include increased depression and psychological distress, less perceived social-support, lower self-esteem, and higher loneliness. It seems that both the perceptions of online relationships and the quality of these relationship explain some of the variance in the findings. A key drawback is the use of self-reports which may impact the validity of the findings, as is the cross-sectional designs which do not allow for causation to be inferred. Furthermore, these studies do not consider individual differences of social networking site users. The subsequent studies consider differences in personality traits and pre-existing psychological wellbeing, and will be reviewed in light of the hypothesis they corroborate.

Poor-get-poorer hypothesis.

The Matthew effect is a phenomenon referred to in disciplines such as education, sociology, and economics, whereby individuals high in characteristics such as status or wealth continue to accumulate advantage, whereas those low in such characteristics continue to see a reduction in what they have (Rigney, 2010). These opposing dimensions have been coined the poor-get-poorer and the rich-get-richer hypotheses.

The poor-get-poorer hypothesis in this field of research would refer to individuals with poor psychological wellbeing experiencing further psychological difficulty following

online social networking. Of the literature reviewed, one study identified a trend toward this hypothesis. Van den Eijnden et al. (2008) examined the relationships between online communication, depression, and loneliness in a two-wave longitudinal design across six months. A total of 663 adolescents in the Netherlands completed questionnaires about types of online communication, depressive mood, and loneliness. Results revealed a positive relationship between instant messaging at Time 1 (T1) and depression at Time 2 (T2) for those high in loneliness but not for those low in loneliness; however no significant group differences were found. It is therefore not currently possible to conclude that lonely individuals are at a greater disadvantage from instant messaging. This warrants research exploring whether adolescents who are already emotionally vulnerable experience poorer or improved outcomes associated with social networking site use over time than those who are more resilient.

Further results of this study revealed no significant relationship between instant messaging and loneliness. One possible explanation for the association with depression and not with loneliness could relate to the type and quality of the interactions that teens are having when chatting online.

Moreover, feelings of depression were not related to instant messaging at T2, suggesting that instant messaging may be associated with future depression rather than with current depression. Feelings of loneliness at T1 negatively correlated with instant messaging at T2, indicating that those high in loneliness engaged in instant messaging less often than those low in loneliness. It is possible that lonely adolescents are less likely to seek personal contact with others; they may not feel motivated to do so, and may retreat into themselves. This has implications for parents, carers, and educators in terms of remaining alert to adolescents who may seem lonely and withdrawn, providing them with opportunities for meaningful interactions with their peers. It also serves as a reminder to be aware that the effects of online communication may not be immediate and may be seen or felt months later.

Rich-get-richer hypothesis.

The rich-get-richer, also known as the social enhancement hypothesis, may be viewed as an extension of the stimulation hypothesis. It states that those who already

have strong social skills may benefit most from use of social networking sites in the formation of friendships than those with weak social skills (Zywica & Danowski, 2008).

Empirical support for the rich-get-richer hypothesis was proffered by Lee (2009), exploring the role of earlier sociability on online communication and subsequent friendships among a large sample of 1,312 U.S adolescents. Unlike other studies, this study utilised interviews with a primary caregiver, time diaries, and child interviews. This allowed for triangulation, increasing the validity of the information. Also, a longitudinal design enabled the effects of online social networking to be assessed at five to six years apart.

At T1 a *Primary caregiver interview* asked about earlier sociability, particularly *quality of relationships*, and *internalising behaviour problems*. Participants completed *Time diaries* at T2 exploring time on a computer (categorised by purpose), time interacting with parents, and time interacting with friends. A *Child Interview* at T2 measured the frequency of online communication, cohesiveness of parent-child relationships, and cohesiveness of friendships. Findings showed that whilst time on a computer displaced time with friends, online communication did not, supporting the displacement hypothesis for computer use but not for online social networking. Online communication, was however, negatively related to time spent with parents. This supports the notion that adolescents are starting to separate psychologically from their parents and are turning towards their peers for support (Pellegrini & Bartini, 2000). It is, therefore, crucial, that parents and educators treat peer relationships as a central feature of adolescent development, and that young people are afforded regular opportunities to practise and strengthen social skills formally and informally.

Results revealed that adolescents with positive earlier social relationships used online communication more frequently, which was related to more cohesive friendships. Effect sizes were small and moderate, respectively. Online communication significantly mediated the relationship between early sociability and friendship quality later in life. The second dimension of early sociability, i.e., internalising behaviour problems, was not related to online communication and friendship outcomes. Likewise, there was no significant relationship between online communication and the quality of parent-child

relationships. The lack of longitudinal design between internet use and cohesive friendships meant that a causal relationship could not be inferred.

These results support the rich-get-richer hypothesis, suggesting that those with strong social skills benefit the most from social networking sites in the formation of friendships. Friendships, in turn, have been associated with improved psychological wellbeing, providing opportunities for emotional support and self-disclosure (Almquist, Östberg, Rostila, Edling, & Rydgren, 2014). The finding that computer use displaces time spent with friends, whereas online communication does not, suggests that adolescents are benefitting particularly from the communicative features of social networking sites. It warrants closer examination of social networking site features that adolescents are using the most and how these relate to wellbeing. These results may also be explained by the Uses and Gratifications theory (West & Turner, 2007), which proposes that different individuals have different motives in their use of social media and seek to meet different needs. It is possible that sociable individuals are keen to maintain existing friendships and therefore, use features such as chat, email, and instant messaging, more than socially isolated individuals who may be drawn to different features of online social networking to broaden their friendship network. Social networking sites afford high levels of profile visibility and public broadcasting; lonely or introverted individuals may seek to compensate for their limited social lives by using features such as status updates, joining interest groups, and 'friending' weak social ties.

Poor-get-richer hypothesis.

According to the poor-get-richer, or the social compensation hypothesis, those who have limited social skills and may be socially anxious may benefit most from online social networking in the formation of new friendships (Zywica & Danowski, 2008), which as aforementioned, has been positively associated with psychological wellbeing (Almquist et al., 2014).

This social compensation for weak social ties was demonstrated by Bonetti et al. (2010) in Australia. They examined how 626 lonely and/or socially anxious individuals use online communication. Participants answered questions on online communication frequency, online communication topics, chat partners, online communication purposes, loneliness, and anxiety. Results showed that lonely individuals engaged in higher levels of

self-disclosure, communicating more frequently about intimate topics. They also felt more comfortable communicating online than they did face-to-face and strived to meet new people, thus, compensating for weak social ties.

Dolev-Cohen and Barak (2013) also found that the poor-get-richer through examining the effects of instant messaging on emotional relief for distressed and un-distressed adolescents. One hundred 14-18 year olds in Israel reported on positive/negative affect and the Big Five personality traits. Analysis of real instant message conversations identified negative expressions of emotion and made judgements on emotional states. Results showed that instant messaging contributed to emotional relief for distressed participants only, although effect sizes were small and did not reach the level of un-distressed participants. Introverted individuals perceived the most benefits, which may suggest that introversion-extraversion moderates the relationship between instant messaging and emotional relief. Nevertheless, differences in perceived benefits of instant messaging between introverts and extroverts were only evident in self-reports and not in objective ratings, thus, emphasising the importance of how concepts are measured. To assess psychological wellbeing, the views of the social networking site user would naturally seem most valid. It is possible that teens with weaker social ties perceive greater social support from IM partners than those who already have a strong social network. The findings may support the social compensation hypothesis on two fronts; that those with poorer psychological wellbeing benefit more from instant messaging than psychologically healthier individuals, and that those who prefer time alone benefit more from instant messaging than those who prefer to socialise. The study also highlights the potentially therapeutic value of writing (Slatcher & Pennybaker, 2006). Writing on a social networking site has been considered instrumental in promoting understanding of the self and others (Sauter, 2013). Although this study only utilised a small sample, an advantage is that it collected objective ratings of participants' emotional states, using a naturalistic design, which explored real conversations.

Van Zalk, Branje, Denissen, Van Aken, and Meeus, (2011) conducted a longitudinal study in the Netherlands, at three time points with four month intervals. They examined the role of extraversion and supportiveness in the online communication and emotional adjustment of 197 adolescents. Self-report measures asked about number of hours per week spent chatting with friends and online-exclusive peers, depression, self-esteem,

supportiveness to others, and extraversion. Overall, chatting with friends and online peers was not related to depression and self-esteem, therefore supportiveness did not mediate the relationship between chatting and wellbeing. For low extraverts, chatting to online-exclusive peers subsequently related to less depression and more self-esteem, both between T1 and T2, and T2 and T3. Effect sizes were small. Further, supportiveness at T2 mediated the relationship between chatting to online-exclusive peers at T1 and less depression at T3.

These findings provide partial support for the social compensation hypothesis, such that low extraverts benefit from online social ties largely due to the perception of supportiveness. This emphasises the importance of perceptions of online feedback. It is not chatting in itself that enhances wellbeing for certain individuals, rather their perception of the function that this communication is serving. Again, this study recognises individual differences when considering the effects of social networking site and of the needs that users might be trying to gratify (West & Turner, 2007). A strength of the study is the longitudinal design. One of the fundamental reasons to understand the impact of online social networking on adolescent wellbeing is to understand not only the immediate, but also the medium and long-term effects on an individual's life outcomes in terms of relationships, health, independence, and employment (DfE, 2015).

Sharabi and Margalit (2011b) extended this research to explore whether the psychological profiles of adolescents with and without learning difficulties explain how they interact online. A sample of 887 16-18 year old students in Israel participated (213 with learning difficulties, 674 without). Self-report measures asked about loneliness and social dissatisfaction, internet use, virtual friendships, and positive/ negative affect. Online communication was not related to loneliness for individuals with or without learning difficulties. Cluster analysis identified groups of children with different levels of loneliness and virtual friendships, finding that:

- a) For lonely individuals, with high negative affect and few virtual friendships, online communication with family and friends was not related to loneliness, whereas online communication with people they did not know related to higher loneliness
- b) Individuals low in loneliness and high in positive affect had few virtual friendships, which was not related to their loneliness

- c) Individuals low in loneliness and high in positive affect with a large number of virtual friendships experienced less loneliness when communicating online with friends and family but not with online-exclusive friends
- d) For lonely individuals, high in negative affect, and with many virtual friendships, online communication with virtual friends and with friends and family was related to reduced loneliness

The findings of this study reinforce the importance of considering individual differences in the impact of online communication, and call for teachers to adapt their practice to suit the different characteristics of their pupils. They support the rich-get-richer hypothesis, such that individuals with strong social ties, experience the greatest gains in online communication through maintaining and strengthening existing friendships, not through communicating with unfamiliar individuals. They also support the poor-get-richer hypothesis, such that lonely, sad individuals use online communication to create new social ties and strengthen existing ones. The way in which lonely, sad individuals benefitted from communicating with familiar *and* unfamiliar individuals online highlights the motivation to compensate for the limited face-to-face interactions they may encounter, and to broaden their social network.

The research suggests that it is not only the friend- rich that benefit from online social networking; distressed, sad, and lonely individuals experience positive gains also. Online social networking may provide a less intimidating way for some adolescents to access a social world in which they can feel they belong (Leary & Baumeister, 2000).

Investigating the very immediate effects of online communication on wellbeing, Gross (2009) examined the relationship between online communication with a stranger and recovery from induced social exclusion in terms of self-esteem and a range of emotions, comparing the effects for 50 adolescents and 60 young adults in the U.S. Self-report measures explored internet usage and experience, dispositional psychological adjustment, a 1-item pre and post measure of self-esteem, and a checklist of 21 emotions. Participants also completed 12-minutes of a computer activity, either Tetris or instant messaging. Results revealed that instant messaging with a stranger, rather than playing Tetris, facilitated greater replenishment of self-esteem and perceived relational value, and reduced negative affect, among previously excluded participants. This shows

that the social compensation theory can apply for temporarily distressed youth, as well as those with dispositional distress; effect sizes, however, were small. Adolescents reported greater gains in self-esteem than did young adults, although their conversations within the 12 minutes were shorter and simpler; thus, differences in online experience between the age-groups may have confounded the results. Unlike adolescents, excluded young adults did not experience less negative affect following instant messaging. This highlights the vulnerability of adolescents, as well as their readiness to benefit from interventions. It also serves as a reminder to families, educators, and policy-makers, of the value of prevention and early intervention when seeking to help children (Ramey & Ramey, 1998).

Another study supporting the social compensation hypothesis was conducted in the Netherlands (Selfhout, Branje, Delsing, Ter Bogt, & Meeus, 2009). A two-wave longitudinal study, with a one year interval, examined the relationship between online communication and depression. A sample of 307 adolescents answered questions on the frequency of internet use for surfing and instant messaging, depression, and perceived friendship quality. Analysis showed that neither instant messaging nor surfing at T1 related to depression at T2. Perceived friendship quality did, however, mediate the relationship between internet use and depression, although it is worth considering the subjectivity of assessing friendship quality from one perspective. Instant messaging at T1 was associated with less depression for those who perceived low friendship quality, whereas internet use for non-communication purposes related to more depression for individuals who perceived low friendship quality. Although effect sizes were small, these findings corroborate the poor-get-richer hypothesis for online communication and the poor-get-poorer hypothesis for surfing. This emphasises the way in which social networking site use cannot be considered as a whole and needs to be operationalised in terms of the activities and purposes available, which could potentially have positive effects on wellbeing. Further, it highlights the significance of the meaning that adolescents assign to activities, again reinforcing the importance placed on peer relationships. Evidently, causality cannot be inferred here and longitudinal data is not available for online communication, only for depression.

Motives for Online Social Networking.

The studies paying attention to individual differences point towards a consideration of the differences in the motives of social networking site users. What are different people trying to achieve in their engagement with online social networking? Only recently has the notion of motives been addressed explicitly. One of the first studies to do this considered the relationship between Facebook motives and loneliness, as opposed to merely Facebook features and activities (Teppers, Luyckx, Klimstra, & Goossens, 2014). A sample of 256 adolescents participated in the longitudinal study in Belgium, reporting on parent and peer-related loneliness, time spent on Facebook, attitude to Facebook, and Facebook motivation. Motives explored were: *personal contact, decrease loneliness, entertainment, maintaining relationships, social skills compensation, social inclusion, and meeting people*.

Analyses revealed that time spent on Facebook per day and positive attitude toward Facebook positively correlated with all Facebook motives at T1 and T2 five months apart, with largely small to moderate effect sizes. This suggests that adolescents with the strongest motives to use Facebook are those who spend the most time on the site. It is unclear whether these motives cause more time spent on Facebook or whether time spent on Facebook contributes to the development of motives. Further, time spent on Facebook and positive Facebook attitudes positively correlated with parent-related loneliness at T2, corroborating the displacement hypothesis; effect sizes were small.

A strength of the study is that it considers individual differences in loneliness, as well as exploring motives. At both T1 and T2 parent-related loneliness positively related to *meeting people*, and peer-related loneliness positively related to *social skills compensation* and *decrease loneliness*. Also, at T2 parent-related loneliness was positively associated with *social skills compensation, social inclusion* and *personal contact*; and peer-related loneliness was positively associated with *entertainment, social inclusion* and *personal contact*. These findings emphasise the importance of exploring individual differences when considering not only how, but importantly, why, adolescents use social networking sites.

In terms of longitudinal effects, *social compensation* at T1 positively related to peer-related loneliness at T2, whereas, *meeting people* at T1 related to a decrease in

peer-related loneliness at T2. These results provide support for the displacement and the stimulation hypothesis respectively. The study shows that different individuals will be interested in using social networking sites for different reasons and that these reasons can predict different emotional outcomes, both positive and negative. Emotional wellbeing appears to be an important variable to consider both as a predictor and as an outcome of adolescents' social networking site use. The range of motives highlight the significance of relationships and connectedness for adolescents' wellbeing and serve as a reminder for families and schools to prioritise the social aspects of learning, as well the academic ones. Interestingly, the only motive not significantly related to loneliness was *maintaining relationships*. This further supports the social compensation hypothesis that lonely individuals use social networking sites to make up for deficiencies in their social life.

Social support-seeking. Another potential motive for social networking site use is social support-seeking. Frison and Eggermont (2015a) examined school and family-related daily stress, social support-seeking via Facebook, perceived social support via Facebook, and depressed mood in a sample of 910 adolescents in Belgium. Daily stress was found to positively predict social support-seeking via Facebook and, in turn, positively predict depressed mood. Although not an individual difference, daily stress highlights an important variable that can influence how and why adolescents use social networking sites. The secondary-school phase places new demands on teens physically, socially, and academically (Pellegrini & Long, 2002). It is important for adolescents, parents, and schools to consider the impact of daily stresses on young peoples' coping strategies and how this translates into their social networking site use. Interestingly, daily stress did not predict social support-seeking offline. This may suggest that adolescents go online for support with troubles offline, and again highlights the significance of online social networking for today's young people.

Social support-seeking through Facebook positively related to perceived social support through Facebook, which, in turn, reduced depressed mood. Perceived social support on Facebook mediated the relationship between social support-seeking on Facebook and depressed mood. Rather unusually perhaps, social support-seeking on Facebook was *directly* associated with increased depressed mood, whereas social support-seeking offline was not. This effect was mediated by perceived social support. It

may be that support-seeking in the absence of positive responsiveness from peers online is more detrimental to wellbeing than not support-seeking at all. Support-seeking offline may be conducted in a more personal context, e.g., on the phone or face-to-face, which could lend itself to more positive appraisals of success. Through exploring direct and indirect effects of online social support-seeking, this study highlights that the perceived success in fulfilling motives is crucial when considering the impact of online social networking. This is in line with the finding that the tone of online peer feedback influences adolescents' self-esteem (Valkenburg & Peter, 2006). This perception, therefore, may outweigh the content of the feedback. A limitation of the study is the use of just two items to measure support-seeking on Facebook, which may have affected the reliability.

Gender Differences.

Frison and Eggermont (2015b) extended this research, differentiating between active and passive Facebook use, and exploring gender differences. Active use includes direct communication, e.g., messaging and updating statuses, and passive use involves following the activities and conversations of others (Burke et al., 2010). Frequency of active and passive use was measured, as was perceived online social support, and depressed mood. A gender difference emerged such that passive Facebook use was positively related to girls' depressed mood, but not to boys'. Similarly, active Facebook use was positive related to depressed mood for boys, but not for girls. Active private Facebook use did not predict depressed mood, however, it was positively associated with perceived online social support for girls. Active public use was positively associated with perceived online social support for both boys and girls. The perception of online social support separately mediated the relationships between active private Facebook use or active public Facebook use and depressed mood in girls.

The finding that passive Facebook use related to depressed mood in girls may be explained by the social comparison theory (Festinger, 1954), proposing that people compare themselves to others across a range of domains, e.g., wealth, attractiveness, and success, in an attempt to formulate accurate self-evaluations. Given increases in narcissistic tendencies and self-promotion amongst today's youth (Twenge, Konrath, Foster, Campbell, & Bushman, 2008), adolescents are presenting the best versions of

themselves online, and it may be that girls who passively use Facebook compare themselves to those they are 'following' online and appraise themselves negatively.

Both public and private active Facebook use being positively associated with perceived support may support the rich-get-richer hypothesis, such that existing relationships are being maintained and strengthened, resulting in more positive psychological outcomes. Frison and Eggermont's studies warrant further exploration of social networking site motives and the underlying mechanisms mediating social networking site use and outcomes, e.g., perception of success in fulfilling goals. Operationalisation of social networking site use is crucial to the validity of studies and this could have been strengthened through further break down of active and passive use; here they were measured using only two items.

Significant gender differences were also found in Australia among 1,819 adolescents aged 13-17 years (Blomfield-Neira & Barber, 2014). Males with a social networking site profile were found to have significantly higher social self-concept than males without a profile, whereas no significant difference was evident in females. Furthermore, females with a profile had significantly lower self-esteem and higher depressed mood than females without profiles. No such differences were found for males, although effect sizes were small. Gender frequencies were not reported despite this being a significant independent variable.

The study also revealed that social networking site frequency was a positive predictor of social self-concept, but not of self-esteem or depressed mood. Social networking site investment, i.e., how important a social networking site is to each individual, was not linked to social self-concept, however, it negatively related to self-esteem and positively to depressed mood.

Again, these findings may imply that females are more vulnerable to social comparison and more sensitive to the quantity and quality of online feedback. The positive effects of social networking site frequency on social self-concept may suggest that the more time youth spend online, the more opportunities they have to practise their social skills and to receive positive feedback. The negative outcomes associated with social networking site investment may suggest that adolescents placing most value on the role of social networking sites in their lives are less able to consider information critically

and distinguish between reality and “the complex, elaborative and decorative versions of self” (Doster, 2013, p. 267) presented online. Social networking site investment appears to be a key factor for consideration in future research. This also fits with the need to understand motives. Adolescents who are highly invested in social networking sites may have very different motives for using them than adolescents who are not.

Critique

Given the limited evidence-base focussing exclusively on social networking site use and adolescent wellbeing, this review encompassed online communication via social networking sites, and outside of social networking sites. Findings reveal both positive associations between online communication and psychological wellbeing, and negative ones. Most findings can be interpreted in light of a number of key theories, i.e., the displacement, stimulation, poor-get-poorer, and poor-get-richer hypotheses. It may be that discrepancies and weaknesses in methodologies go some way in explaining some of these differences. Adolescents are likely to vary in their ability to estimate the time spent on different online activities and in their subjective interpretations of the scales used; future research may benefit from software that can record time spent on different activities (Subrahmanyam & Lin, 2007). Furthermore, there are variations in measures of social networking site use and psychological wellbeing, which again, could contribute to the mixed findings.

A strength of the evidence-base is the range of countries in which research has been conducted, particularly given the global explosion of social networking sites (boyd & Ellison, 2007). Sample sizes on the whole are large, with half of the studies cited including a minimum of 500 participants, and one including over 10,000, across six countries. Whilst this is a clear advantage, many of the effect sizes are small, suggesting that the impact of online social networking on wellbeing is confounded by other important variables.

The research portrays an evolving understanding of the impact of social networking sites on adolescent wellbeing. The nature of studies has evolved from addressing time spent in online communication, to a consideration of the different activities available, and more recently to the meaning assigned to these activities and the motivations underpinning them. Given that the work of Educational Psychologists (EPs)

emphasises the voice of young people, one way in which self-reports prove useful is through their ability to elicit adolescents' views around how and why they communicate online. Moreover, psychological wellbeing is personal and may not be obvious to others for rating. The research focussing on motives is in its infancy, with only one study addressing this explicitly (Teppers et al., 2014). This warrants further attention, highlighting that similar to the offline world, time spent online cannot be considered as a whole and without consideration of motives.

Five studies used longitudinal designs and one of these explored motives of using a social networking site (Teppers et al., 2014). With the exception of Lee (2009), the intervals used did not exceed one year. It is important to understand the longer-term impact that social networking site use may be having on adolescents and their life outcomes. Most of today's youth are unlikely to remember a world prior to social networking sites and it remains to be seen how this may impact on their life outcomes as adults.

A range of individual differences that may influence online communication have been explored, including early sociability, loneliness, and extraversion. It is likely that such differences influence individual motivations and perceptions associated with social networking site use. The literature has started to investigate adolescents' perceptions in fulfilling motives, such as affiliation, self-presentation, and receiving social support. This needs to be explored further, addressing a wider range of motivations and associated perceptions. It may be that evaluations of success in meeting needs online prove more important to wellbeing than the nature of the needs or the activities themselves.

Many of the studies conducted are cross-sectional in design and causality cannot be inferred. It may be that relationships are bidirectional, with the variables of self-esteem, depression and loneliness both impacting on social networking site use, and being impacted on by social networking site use. Furthermore, the age-ranges used in most studies span four to eight years across adolescence and do not differentiate between young, middle, and older adolescents. As psychologists and educators we know that key developmental shifts occur as children move through adolescence, and it is, therefore, likely that the reasons and outcomes associated with social networking site use vary by age.

Two studies have explored gender differences, yielding significant differences in how online social networking may impact on girls and boys. This research is in its infancy and highlights a need for further investigation. It also serves as a reminder for researchers and educators to consider individual differences in their work more generally.

Online Social Networking and Academic Wellbeing

Whilst we know that psychological wellbeing is related to academic success (Gutman & Vorhaus, 2012), this field of research would be further strengthened by exploring influences of social networking site use on school outcomes, either directly or indirectly, through psychological wellbeing. The impact of internet use on academic wellbeing has been widely researched (Chen & Fu, 2009); however, to date, the online communication research is limited and has been largely conducted with university populations (Alloway & Alloway, 2012; Junco, 2012; Kirschner & Karpinski, 2010). Of the handful of papers that have addressed online communication and academic wellbeing, outcomes explored have varied widely. Currently, five papers have been identified that address at least one academic or school-related outcome for adolescents.

Lee (2009) found that early sociability was positively associated with the use of online communication and in turn more cohesive friendships. Cohesive friendships, in turn, was found to be positively correlated with school connectedness in terms of inclusiveness, happiness, and closeness to people at school. This effect disappeared when cohesive friendships was removed from the model, again demonstrating the importance of peer relationships during adolescence and how this can directly influence feelings towards school. This reinforces the emphasis that parents and educators should place on the social dimensions of schooling and identifies a key avenue for exploration when pupils may seem disengaged with school.

Koles and Nagy (2012) conducted a study in Hungary with 118 adolescents and college students. In addition to Facebook usage patterns, cyber-relationship motives were explored: *adventure*, *escape to a virtual world*, and *romance*; and their associations with school attitude: *academic self-perceptions*, *attitudes towards school*, *peer attitudes towards school*, and *motivation/ self-regulation towards school work*. Results showed poorer attitudes towards school and lower motivation and self-regulation in participants who considered Facebook to be a more significant part of their everyday lives. Higher

frequency of Facebook visits was associated with lower school attitudes and perceived peer attitudes towards school. For females in particular, higher daily Facebook usage related to lower academic self-perceptions, more negative school attitudes, and lower motivation. It is important to bear in mind that these findings included high school *and* college students.

Cyber-relationship motives and school attitudes were analysed separately across these populations. Results revealed a moderate positive correlation between *adventure* and academic self-perceptions in high school students (this was negative for college students). *Escape to a virtual world* had no significant impact on high school students (it was negatively associated with academic self-perceptions and motivation/ self-regulation in college students). *Romance* was associated with more positive peer attitudes for high school students, with a large effect size, (and had a negative impact on the academic self-perceptions of college students). The potential support element of Facebook was also explored. More positive school attitudes tended to be seen in high school students who perceived online relationships as a source of emotional support; this was significant for academic self-perceptions (the opposite was true for college students). There was a positive trend between the social compensation dimension of *Escape to a virtual world*, and positive school attitudes in high school students. This did not reach significance, however, a significant negative impact of social compensation was found on the academic self-perceptions and motivation of college students.

Overall, it would appear that high school students may benefit from online communication motives in their educational experiences. College students seem to be more negatively affected and whilst this age-group was not the focus of this review, it serves as a reminder of the need for longitudinal studies. It may be that appraisals of educational experiences become more negative as adolescents transition into adulthood. The impact of social networking sites on wellbeing may be worth exploring during periods of change. The differences between adolescents and young adults calls for the adolescent age-group to be broken down further. Just as these authors demonstrate significant differences between high school and college students, there are likely to be differences between young, middle, and older-aged adolescents, particularly given the evolving dynamics in social, academic, and developmental expectations across the teenage years (Pellegrini & Long, 2002).

A recent study that did find differences between younger and older adolescents was conducted by Tsitsika et al. (2014). This study, mentioned previously in relation to emotional wellbeing, also explored the impact of social networking site use on offline competencies, including self-reported measures of engagement and competency with offline activities, i.e., sports and hobbies, as well as academic performance. Heavy social networking site use was associated with significantly poorer activities and academic performance. Together, this effect size was strong, however, taken individually they were small. Differences between heavy and moderate use groups were larger in the young age-group, although there were no significant age-by-use interactions. These findings support the notion that time spent on social networking sites may displace time engaged with studying or extra-curricular activities. Nevertheless, they prompt one to wonder whether it is uniquely time spent on social networking sites that is contributing to poorer outcomes, or time spent on the internet more generally, an effect which has been found repeatedly (Chen & Fu, 2009).

Contrary to these negative effects, Sharabi and Margalit (2011a) found small positive effects linking both internet communication and virtual friendships with adolescents' achievement goals, in terms of mastery and performance. It may be that adolescents who are more motivated to use technology and to maintain healthy social lives, are also more motivated to achieve in other arenas, such as education. It may also be that having positive relationships, online or offline, contributes to psychological wellbeing and in turn, to the motivation to succeed generally.

The impact of social networking sites on cognitive abilities has also been explored. Alloway et al. (2013) gathered measures of social networking site use, verbal ability, working memory, spelling, and maths. High Facebook users scored higher on all measures, except maths. Checking friends' status updates related to verbal ability and no activities related to verbal working memory or spelling. Cognitive abilities were not associated with YouTube use and none of the YouTube activities were associated with cognitive scores. Finally, Active or Passive engagement with neither Facebook nor YouTube was related to any of the outcome variables.

These findings may be explained by the way in which Facebook is more language-loaded than YouTube, providing more opportunities to read and write, e.g., messaging

and commenting. Adolescents who have been using Facebook for longer may have benefited their language skills and consequently their verbal ability and spelling. Additionally, Facebook is multi-dimensional allowing users to view and use multiple sources of information or activity simultaneously. The home-page currently presents multiple links to navigate the site with an array of activity choices. This abundance of information, in addition to decisions around what an individual wants to do on Facebook, and navigation of the site, is likely to place greater demands on working memory than a site such as YouTube, whose main function is viewing and commenting on videos. However, as discussed, there are difficulties with the authors' categorisation of high and low Facebook users, which may impact the validity of the findings.

Overall, the research on online social networking and academic wellbeing is limited and currently, there is little consensus over the academic outcomes being explored. This is, therefore, an area for further exploration given the predominance of social networking sites in the lives of today's adolescents.

Conclusions and Implications

Whilst there may be gaps in the research-base, there remain key implications for EPs. Social networking sites highlight the rapid evolution of social norms affecting adolescents (Cookingham & Ryan, 2014). If EPs are to continue to take a 'whole-child', holistic approach in our work, we need to consider all environmental factors and ecological systems in which a young person lives, including the 'online' systems (Bronfenbrenner, 1979).

Despite widely-held concerns around privacy, online harassment, cyberbullying, and risky behaviours associated with social networking sites, there appear to be clear benefits. These include gains in self-concept, self-esteem, and friendship quality, and reductions in depressed mood and loneliness. Evidently, gains depend on individual differences and how social networking sites are being used, e.g., actively, or passively, and for what purpose. Nonetheless, the same considerations would be applicable for activities adolescents engage with offline. Possible pitfalls highlighted include lower self-esteem and perceived social support, and higher depressed mood, psychological distress, and loneliness. These risks depend, however, on a range of factors, such as adolescents' attitudes and investment towards online communication, the tone of feedback they

receive, their perceptions of online relationships, and whether or not they are communicating with familiar peers. Importantly, causality cannot be inferred from the studies available at present.

What we can be certain about as psychologists, is that for many young people, skills which can be taken for granted, e.g., social skills, often need to be taught explicitly and learned over time (Haring, Lovitt, Eaton, & Hansen, 1978). It may be, that 'social networking literacy' needs to be taught, helping young people to cope with social feedback and to strengthen their resilience. This may involve supporting them not only in their direct use of social networking sites, but importantly, in how to critically assess what they experience online. Young people may need to be taught to value their uniqueness, to avoid social comparison, and to recognise the boundary between their internal and external world. Such critical thinking skills will be invaluable in social and academic contexts offline too. Perhaps, the social networking site platform is stimulating opportunities for learning and growth which were already needed given the recent rise in narcissistic tendencies (Twenge & Campbell, 2009). Where adolescents may be seeking to get certain needs met online, EPs can support adaptive ways to also get these needs met offline.

One of the challenges for psychologists is the speed with which online and offline social contexts are evolving, resulting in a 'gap' between research and practice (Allen, O'Connor, Ryan, & Freeman, 2014b). In turn, interventions are less likely to be timely and relevant to adolescents. It is therefore important that closer links are established between research and practice. It may be that social networking sites can be used as a means to disseminate research with almost immediate effect, making it current and highly visible to adolescents. Furthermore, as gaining the views of young people is central to our work, our research should be no different. Qualitative research would help to bring the online experiences of adolescents to life and help pave future research. Adolescents who are involved in discussions around social networking site use are more likely to take ownership of and feel invested in the actions and implications that follow.

As a final comment, whilst it could be argued that the EP role may be less defined than usual given the emerging nature of this topic, it seems more likely that we are

required to apply the same holistic thinking skills to understand adolescents' online behaviours, as those which we use to understand their offline behaviours.

Chapter 2: Empirical Paper

Using Facebook to Self-Enhance: Narcissism and Psychological Wellbeing

The recent rise in levels of narcissism among young people, along with the exponential rise in the prevalence and use of social networking sites, has led to speculation as to whether or not these two phenomena are related (Bergman, Fearrington, Davenport, & Bergman, 2011). It is important to understand whether the use of social networking sites impacts negatively on the psychological wellbeing of adolescents, the heaviest users of the sites (Best et al., 2014). Beyond the question of whether there is a relationship between online social networking and wellbeing, it is necessary to understand *how* and *why* these effects may be occurring, i.e., what is it that young people are hoping to achieve online? What are their motives underpinning their use of social networking sites? And are they using these sites in the same way that they act in the offline world?

Social Networking Sites

The development of the communication-based tasks we engage in online, i.e., the Web 2.0 (O' Reilly, 2005), has led to a new platform of social communication in the form of social networking sites (Staples, 2010). Amongst other things, social networking sites allow individuals to create profiles of themselves, add friends, post and tag pictures/videos, play games, post status updates, send messages, and create and join groups and events (boyd & Ellison, 2007).

One of the most heavily used social networking sites currently is Facebook, with an estimated 936 million daily active users (Facebook Press, 2015). Adolescents in particular, are thought to consider them an "essential" component of their lives (Greenhow & Robelia, 2009, p.1141).

Social Networking Sites and Psychological Wellbeing

With the growing prevalence of social networking sites, researchers have started to investigate the impact this may be having on users' psychological wellbeing. This is particularly crucial for adolescents, who are at a vulnerable stage of their lives, depending less on their parents and more on their peers (Pellegrini & Bartini, 2000). Research on the

psychological outcomes of social networking site use for adolescents has addressed self-esteem (Apaolaza, Hartmann, Medina, Barrutia, & Echebarria, 2013), loneliness (Sharabi & Margalit, 2011a), anxiety and depression (Tsitsika et al., 2014), distress (Dolev-Cohen & Barak, 2013), and social connectedness (Alloway, Horton, Alloway, & Dawson, 2013). Findings on the whole tend to be mixed and there is an absence of causal conclusions.

Studies exploring the impact of social networking site use on wellbeing tend to provide support for one or more key theories in the field of Internet research. These theories are themselves, however, contradictory; claiming that time spent online either promotes psychological wellbeing or impedes psychological wellbeing. One of these is the displacement hypothesis, stating that time spent on social networking sites displaces time spent in more meaningful, face-to-face activities and interactions, thus, contributing to poorer psychological wellbeing. This was supported in a study finding a significant positive relationship between time spent on social networking sites and depression scores in a sample of 160 eighteen year olds in Serbia (Pantic et al., 2012). Further, Australian adolescents using social networking sites have been found to perceive less social support from their families than non-users; and time spent on these sites has been associated with lower self-esteem and higher psychological distress, predicting 14.6% and 13.9% of the variance, respectively (O'Dea & Campbell, 2011). Other findings suggest that that this hypothesis is over-simplistic. It has been found that perceptions of the quality of adolescents' friendships are more important than the time spent communicating with them online (Subrahmanyam & Lin, 2007), as is the degree of familiarity with them in the offline world (Sharabi & Margalit, 2011a). Tsitsika et al. (2014) found small effect sizes for heavy social networking site users' internalising problems, when compared with moderate social networking site users. Nonetheless, differences were found between younger and older adolescents, with younger adolescents experiencing more negative effects. It is not possible to conclude, therefore, that the time spent on social networking sites displaces time in more meaningful activities leading to poorer psychological outcomes. It may be that this is due to the higher vulnerability of younger adolescents (Erikson, 1968).

A second key theory in the literature is the stimulation hypothesis, stating that online communication increases time spent with existing friends and the quality of these friendships, which in turn, enhances psychological wellbeing. Findings supporting this

have revealed that online communication with offline friends is related to lower levels of loneliness (Sharabi & Margalit, 2011a), and that time spent socialising online is associated with higher self-esteem and lower loneliness (Apaolaza et al., 2013). Quality of friendships has been found to mediate the relationship between time spent instant messaging and wellbeing (Valkenburg & Peter, 2007). The importance of operationalising 'what happens' in the time spent on social networking sites is highlighted in the literature. For example, the frequency and tone of feedback received from peers is considered particularly influential on wellbeing, with negative feedback being associated with lower self-esteem and wellbeing, and the reverse for positive feedback (Valkenburg, Peter, & Schouten, 2006).

The remaining pertinent theories in the field take into account individual differences. The poor-get-poorer hypothesis states that individuals already struggling with their psychological wellbeing experience the most negative consequences in association with social networking site use. There is, currently, just one study supporting this hypothesis; adolescents high in loneliness have been found to experience depression six months after instant messaging, whereas no such effect was evident for those low in loneliness (Van den Eijnden, Meerkerk, Vermulst, Spijkerman, & Engels, 2008). Stronger support has been found for those low in psychological wellbeing or social skills experiencing positive gains. This is known as the poor-get-richer, or the social compensation hypothesis (Zywica & Danowski, 2008). Studies have revealed that lonely individuals disclose more online and strive to make new friendships here, as they feel more comfortable than doing so offline (Bonetti, Campbell, & Gilmore, 2010). Lonely adolescents high in negative affect benefit from instant-messaging with both online-only friends and friends and family (Sharabi & Margalit, 2011b). Distressed adolescents have been found to experience greater emotional relief after instant messaging than undistressed adolescents, with introverts experiencing the biggest relief. Similarly, for individuals scoring low on extraversion, instant messaging with online-only friends related to lower depression and higher self-esteem four months later, with perceived supportiveness mediating this relationship (Van Zalk, Branje, Jaap, Van Aken, & Meeus, 2011). Again, this emphasises the importance of adolescents' perceptions of their online communication in influencing wellbeing. Support has also been found for the recovery from experimentally-induced social exclusion following instant messaging (Gross, 2009).

It is not just those with psychological difficulties benefitting from online communication. Those already high in social skills also experience gains in the formation of online friendships and consequently in psychological wellbeing. This is known as the rich-get-richer, or the social enhancement hypothesis (Zywica & Danowski, 2008). For example, earlier sociability, during childhood, has been found to relate to more frequent online communication and in relation, stronger friendships during adolescence (Lee, 2009).

Teppers, Luyckx, Klimstra, & Goossens, (2014) have extended the research-base by considering how individual differences are related to motives for using Facebook in a longitudinal design. This is the first study to consider motives for social networking site use in adolescents. It finds that loneliness influences adolescents' reasons for using the site five months later. Loneliness was associated with motives of *meeting people, social skills compensation, social inclusion, entertainment, personal contact, and a reduction in loneliness*, with slight variations between time points and between parent and peer-related loneliness. Other variables such as stress have been found to predict support-seeking through Facebook, and perceptions of having this need fulfilled have shown reductions in adolescents' depressed mood (Frison & Eggermont, 2015a). Thus, in the past year or two researchers have shown greater awareness of motives for using Facebook and the importance that adolescents' perceptions of success at fulfilling these motives has on their psychological wellbeing; nonetheless, this research is limited.

Personality and Facebook Use

A range of individual differences have been explored in relation to social networking site use (Skues, Williams, & Wise, 2012). These include the Five Factor Model of personality, addressing neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (Costa & McCrae, 1992). Results have been variable and findings conflict regarding how influential personality is in the use of social networking sites (Moore & McElroy, 2012; Ross et al., 2009). This has largely been due to methodological differences, e.g., difficulties with dichotomising personality variables (Skues et al., 2012) and operationalising social networking site use (Ross et al., 2009).

Nevertheless, there exists a substantial research-base indicating that personality does have a role to play. Significant associations include the following: highly extraverted individuals have more Facebook friends than those low in extraversion; those high in neuroticism post more pictures than those low in neuroticism; agreeableness is associated with using less page features; conscientiousness and extraversion predict addictive tendencies and amount of time spent on social networking sites, and neuroticism and openness to experience are also positively associated with time spent on social networking sites (Amichai-Hamburger & Vinitzky, 2010; Moore & McElroy, 2012; Skues et al., 2012; Wilson, Fornasier, & White, 2010).

Social networking sites are thought to “bridge the gap between the online self and the offline individual” (Mehdizadeh, 2010, p. 363). Information about who is using these sites and why could help us better understand peoples' behaviour online and offline. For example, are social networking site users using their profiles to negotiate their identities in daily life? Are certain types of people seeking to fulfil a sense of affiliation or belonging? Are others using it as a platform to enhance their self-image? If so, there could be different consequences of social networking site use depending on the needs of social networking site users and whether or not these needs are being met.

Narcissism

One personality trait to receive considerable research attention both individually and in relation to online social networking is narcissism (McKinney, Kelly, & Duran, 2012; Mehdizadeh, 2010). Campbell and Foster (2007) have conceptualised narcissism as consisting of three key ingredients. The first of these is a positive view of the self. This means considering oneself to be unrealistically superior to others and to rate oneself to be advantaged in agentic domains, such as dominance, status, success, intelligence, and physical appearance (Bradlee & Emmons, 1992; Horton & Sedikides, 2009). Narcissists have less inflated self-views in communal areas, such as affiliation, empathy, gratitude, and morality (Sedikides, Gregg, Cisek, & Hart, 2007). The second ingredient identified is a lack of interest in close relationships. Narcissists' limited need for intimacy (Carroll, 1987) means that most of their relationships are valued for their contribution to personal gain, rather than for affiliation. The third ingredient is the presence of self-regulatory strategies that narcissists use to make themselves feel and look important and validated in the

presence of others (Wallace & Baumeister, 2002). Strategies may be *intrapersonal*, such as internal attribution of success and external attribution of failure, or *interpersonal*, such as manipulating others for selfish ends or trying hard to surpass others in different domains of life. Ultimately, the principal goal of the narcissist is one of grandiose identity construction within the social arena; they are openly driven by agency and lack communion (Morf & Rhodewalt, 2001).

One of the ways in which narcissists seek to create this grandiose identity is by striving to self-enhance at every opportunity. Self-enhancement has been defined as “the motivation to maintain or elevate positive aspects of one’s self-concept” (Sedikides, Skowronski, & Gaertner, 2004, p. 61). Narcissists are believed to be driven to self-enhance, even at the cost of interpersonal relationships, an approach coined “the others exist for me illusion” (Sedikides, Campbell, Reeder, & Elliot, 1998). They do this in different ways, such as over-estimating their own abilities, becoming defensive toward criticism, seeking public approval, and remaining alert to the possibility of alternative romantic partners (Cambell & Foster, 2007).

This need to fulfil agentic goals has been considered central to a narcissists' pursuit of meaning in life (Campbell & Foster, 2007). It has been argued that agentic drives toward achievement, materialism, and reflections on past glories, are significant means through which these individuals seek to lead an existentially fulfilling life.

A widely-used measure of narcissism as a normally distributed personality trait is the Narcissistic Personality Inventory (NPI), consisting of 40 self-report, forced-choice items (Raskin & Hall, 1979). The measure is designed to capture seven dimensions of narcissism: Exhibitionism, Entitlement, Exploitativeness, Superiority, Authority, Self-sufficiency, and Vanity. Other researchers have conceptualised narcissism as consisting of two dimensions: grandiose narcissism and vulnerable narcissism (Miller, et al., 2011). Aggressive tendencies, denial of weakness, and a need for power relate to grandiose narcissism; whereas defensiveness, feelings of incompetence, and a need for external feedback relate to vulnerable narcissism (Dickinson & Pincus, 2003).

Much debate exists with regards to whether narcissism is healthy or unhealthy (Campbell & Foster, 2007). One school of thought argues that narcissism on the whole is maladaptive, largely due to the associated agentic attitudes. It is argued that grandiose

desires and efforts to gain admiration and approval from others, mask deeper underlying insecurities, and that when the attention that is craved is absent or limited, narcissists are emotionally fragile and vulnerable (Morf & Rhodewalt, 2001). Negative outcomes include the likelihood of anger and defensiveness at receiving negative feedback (Twenge & Campbell, 2009), committing crime (Stone, 2007), unhealthy competitiveness (Twenge & Campbell, 2009), ignoring the needs of others (Morf & Rhodewalt, 2001), conspicuous consumption (Sedikides et al., 2007), and low relationship commitment (Foster, Shriram, & Campbell, 2006).

Other researchers have found that narcissism is also associated with positive outcomes, particularly in psychological wellbeing. It has been associated with reduced levels of daily sadness, loneliness, and anxiety; reduced dispositional depression, loneliness, and neuroticism; and improved subjective and relationship wellbeing, with self-esteem fully mediating the relationship between narcissism and positive wellbeing (Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004). Interestingly, the benefits found here seem to be of personal benefit; many of the aforementioned negative effects of narcissism seem to be in communal or *interpersonal* domains (Twenge & Campbell, 2009).

Narcissism is considered to be increasingly prevalent amongst today's youth, or Millennials, i.e., those born between 1980 and 2000 (Twenge, Konrath, Foster, Campbell, & Bushman, 2008). A large meta-analysis of 16,475 American students found that narcissism has increased significantly across generations from 1980 to 2006 (Twenge et al., 2008), revealing a 30% increase in young peoples' narcissism from 1982 to 2008. Similar trends have been found among a Chinese population of 10,655, with younger participants displaying higher levels of narcissism than older ones (Cai, Kwan, & Sedikides, 2012), suggesting that rising narcissism is a global phenomenon.

Narcissism and Social Networking Sites

Increases in the prevalence of social networking sites, along with increases in narcissism, has warranted research into how these variables may be associated, particularly as social networking sites provide a platform for self-enhancement (Buffardi & Campbell, 2008). Some studies have found positive links between narcissism and certain aspects of Facebook use, such as the frequency of Facebook activity (Horton, Reid,

Barber, Miracle, & Green, 2014), number of Facebook friends (Davenport, Bergman, Bergman, & Fearington, 2014; McKinney et al., 2012), posting updates (Panek, Nardis, & Konrath, 2013), sharing self-promoting content (Mehdizadeh, 2010), photo-related features, such as viewing, tagging, and commenting (Alloway, Runac, Quershi, & Kemp, 2014; Ryan & Xenos, 2011), and selecting profile pictures emphasising personality and attractiveness (Kapidzic, 2013). There are also conflicting findings, however, such as narcissism *not* being associated with time spent on Facebook (Alloway et al., 2014), posting status updates (Deters, Mehl, & Eid, 2014), or viewing pictures and reading posts (Bergman, Fearington, Davenport, & Bergman, 2011).

Some researchers have distinguished between different types of narcissism when exploring links to Facebook use. Carpenter (2012), for example, found that the grandiose exhibitionists self-promote more than others on Facebook and have more Facebook friends. Both grandiose exhibitionists and entitled exploitatives were likely to accept strangers as Facebook friends. Entitled exhibitionists were found to demonstrate more Facebook behaviours such as: retaliating against negative comments, seeking more social support than they provide, and checking Facebook to see what others are saying about them. Grandiose exhibitionists became angrier at lack of comments on their statuses and also retaliated against negative comments, although this was weaker than it was for entitled exhibitionists. It is important to consider that such findings may vary with age, for example, exhibitionism and superiority have been found to relate to Facebook use differentially for different age-groups (Panek et al., 2013).

The only peer-reviewed study to consider the association between narcissism and Facebook use in an adolescent sample has been conducted with 275 12-18 year olds in Singapore (Ong et al., 2011). The findings revealed that narcissism was related to self-generated Facebook content, i.e., frequency of updating status, and positive ratings of own profile picture. It was not related to system-generated content, i.e., the number of Facebook friends, or number of photos posted. When comparing Facebook users to non-users, it has been found that users score higher than non-users in total narcissism, and in the subtypes of leadership and exhibitionism (Ryan & Xenos, 2011).

Garcia and Sikstrom (2014) found that narcissism related to the semantic content of status updates, such that the statuses of high narcissists included more 'odd' and

negatively-valued words. Also investigating the content of status updates, Winter et al. (2014) found that individuals high in narcissism displayed deeper self-disclosures in their statuses, as well as higher levels of self-promotional content.

Exploring *why* narcissists use social networking sites, Bergman et al. (2014) investigated the activities they engage in on these sites and the underlying motives. Findings revealed that narcissism was positively associated with the reported importance of getting to know others online rather than face-to-face, number of social networking site friends, the belief that social networking site friends were interested in their activities, the desire for social networking sites friends to know what they were doing, and the importance of portraying a positive self-image through their profiles. This corroborates the agentic motives of a narcissist. Narcissism did not, however, predict the frequency of posting status updates, time spent reading posts, or looking at pictures posted by others. Similar findings supporting agentic drives revealed that narcissism was associated with motives of attracting friends and seeking admiration (Davenport et al., 2014). Interestingly, this study found that narcissism was more related to reasons for Facebook use, than to active Facebook use.

Going beyond how narcissism may predict Facebook use and motives, to a consideration of consequences, Qiu, Lin, and Leung (2010) found that after browsing Facebook, individuals high in narcissism displayed increased public self-awareness, i.e., the ability to see themselves from a third party perspective, and individuals low in narcissism experienced a decrease in this. Further, those low in narcissism perceived their Facebook friends to lead more positive lives than themselves, which negatively affected their psychological wellbeing; this was not found for high narcissists.

The mixed findings evident in the research-base may be explained by narcissism better predicting reasons and motives for Facebook use, than Facebook activities themselves (Davenport et al., 2014). Although the associations between narcissism and Facebook activities may vary, it is possible that the underlying motives for these behaviours are similar. Given that perceptions of friendship quality and social support have been found to contribute to psychological outcomes, this warrants further research on different perceptions associated with Facebook use; for example, for adolescents high in narcissism, the perception of fulfilling agentic goals is likely to be significant. To date,

no studies have explored the motives of British adolescents in their use of social networking sites, and the associated psychological outcomes. Thus, no studies have explored this in relation to *narcissistic* adolescents in Britain.

The need to belong and the need for self-presentation have been proposed as the two primary needs associated with Facebook use (Nadkarni & Hoffman, 2012), and it would be expected that narcissists are more motivated by self-enhancement than they are by communal or affiliative goals. This is in line with the finding that narcissists can be identified by their social networking site profile page through features such as their self-promotion in their main photo, and main photo attractiveness and sexiness (Buffardi and Campbell, 2008). It is likely that the needs that adolescents are seeking to fulfil on Facebook or other social networking sites is what impacts upon their psychological wellbeing, above and beyond what they are actually doing on them.

The Present Study

Research on narcissism to date focuses primarily on whether or not narcissists use social networking sites and *how*, rather than the associated *reasons* and *consequences* for this. Furthermore, research to date has largely explored the *interpersonal* consequences of narcissism, i.e., the effects on others and society generally, warranting further investigation of the *intrapersonal* consequences also, i.e., effects on the self.

This project draws together previous research investigating a) narcissism as a predictor of social networking site use and b) social networking site use as a predictor of psychological outcomes. It expands on this by exploring two key motivations of Facebook use, i.e., self-enhancement and affiliation, as potential mediators explaining the relationship between narcissism and outcomes. In contrast to much of the previous research, this study addresses personal outcomes for narcissists, and use an adolescent, rather than a college-aged sample. Further, it is the first study that explores the impact of two of the most fundamental motives for Facebook use (Nadkarni & Hoffman, 2013) on five different psychological outcomes, i.e., satisfaction with life, depression, positive relations with others, anxiety, and self-esteem. Finally, we focus solely on one social networking site, i.e., Facebook, as a) it is currently the most heavily-used, and b) we hypothesise that the motivations associated with social networking site activities are

more important than the particular activities conducted, or the social networking site that has been used.

Facebook use.

Research Question. As previous research findings are mixed, we continue to investigate:

- a) whether narcissists use Facebook more than non-narcissists;
- b) whether there are any differences between narcissists and non-narcissists' use of Facebook activities in a sample of school pupils.

Motives for Facebook use.

Hypothesis 1.

- i) Individuals high in narcissism will use Facebook to fulfil motives of self-enhancement;
- ii) Individuals low in narcissism will use Facebook to fulfil motives of affiliation.

Hypothesis 2. Facebook motives will mediate the relationship between narcissism and psychological wellbeing (assessed with measures of satisfaction with life, depression, positive relations with others, anxiety, and self-esteem), such that:

- i) high narcissists will use Facebook for self-enhancement more than low narcissists, and doing so will lead to improved psychological wellbeing
- ii) low narcissists will use Facebook for affiliative goals more than high narcissists, which will lead to improved psychological wellbeing.

Method

Participants

A sample of 277 adolescents aged 13-18 years ($M = 14.60$ years, $SD = 1.49$), were recruited for the study using opportunistic sampling. Participants were recruited from mainstream, comprehensive secondary schools in the South-East of England and a total of 18 schools took part. Participants all held a Facebook account and were entered into a prize-draw for partaking in the study. After screening for incomplete or uniform questionnaires, 218 participants remained (109 males, 109 females). Number of participants in each year group were as follows: Year 8= 3; Year 9= 78; Year 10= 48; Year 11= 32; Year 12= 32, and Year 13= 24.

The minimum sample size for an effect size of 80% was calculated using Tabachnik and Fidell's (2007) equation of $N = 50 + 8(m)$, where m is the number of predictor variables. Given that we had 11 predictors, the minimum sample required was 138, therefore, the data met the requirements for sufficient power.

Design

A correlational design was used to explore how reasons for Facebook use mediate the relationship between narcissism and psychological outcomes.

Measures

Participants' level of narcissism, Facebook use (frequency, profile information, and activities), underlying motivations for using Facebook, and psychological wellbeing (satisfaction with life, depression, positive relations with others, self-esteem), were measured. Good validity and reliability were established for all these measures among this sample and all have been previously used with adolescent populations. Unless otherwise stated, scale responses for questionnaires ranged from 1= *strongly disagree* to 8= *strongly agree*. A copy of all of the measures can be found in Appendix F.

Narcissism. Subclinical narcissism was operationalised using the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988). This is a forced-choice measure, containing 40 paired statements, with one narcissistic statement and one non-narcissistic statement. Participants were asked to select the statement most suited to them, e.g., "I

will be a success” or “I am not too concerned about success”, and were given a score of 1 for every narcissistic response. Responses were summed to give a score of between 0 and 40, with higher scores meaning higher narcissism.

Facebook frequency. Frequency of Facebook use was measured using three items adapted from Bergman et al. (2011); Pempek, Yermolayeva, & Calvert (2009); Ross et al. (2009), and Ryan and Xenos (2011). The questions used were “Approximately how long (in years) have you had your Facebook account (e.g., 3)”; “In the past week, on how many days have you used your Facebook account?”, and “In the past week, on average, approximately how much time per day have you spent actively using Facebook?”

Facebook profile information. Following Carpenter (2012), participants were asked to report how many Facebook friends they had. Three items asked about Facebook photos, i.e., the number of photos posted, the content of photos (adapted from Bergman et al., 2011; Ross et al., 2009), and the number of photos posted by others that participants were tagged in (Pempek et al., 2009). Two items asked about Facebook groups. The first of these, devised for this study, asked how many groups participants were an administrator for. The second asked how many groups they were a member of (Pempek et al., 2009). One item asked about how many pages they had liked.

Facebook activity. Participants were asked to rate how often they engaged in 25 Facebook activities (adapted from Pempek et al., 2009; Ross et al., 2009; Seidman, 2013) on a six-point scale, ranging from “Few times/ day” to “Never”. The Facebook activities rated included: checking one’s profile/ reading posts on own wall; reading posts on others’ walls; writing on others’ walls, and posting personal photos.

Facebook motives. Two motives for Facebook use were assessed. Participants indicated their agreement to 15 items assessing self-enhancement motives (adapted from Bergman et al., 2011; Carpenter, 2012; Pempek et al., 2009, & Seidman, 2013); e.g., ‘To attract as many Facebook friends/ followers as possible’ or ‘I want everyone to know what I am doing’.

Seventeen items assessed affiliation motives (adapted from Ellison, Steinfield, & Lampe, 2007; Pempek et al., 2009; Ross et al., 2009; Ryan & Xenos, 2011), e.g., ‘To stay in touch with people’ or ‘To talk to others’.

Psychological Wellbeing.

Satisfaction with Life. Satisfaction with life was measured using Diener, Emmons, Larson, & Griffin's (1985) five-item, satisfaction with life scale. Participants indicated their level of agreement with statements such as 'I am satisfied with my life' and 'If I could live my life over, I would change almost nothing'.

Positive Relations with Others. Positive relations with others was assessed with the 14-item positive relations with others subscale of Ryff's (1989) scales of psychological wellbeing. Participants rated their agreement on statements such as 'Most people see me as loving and affectionate' and 'Maintaining close relationships has been difficult and frustrating for me'.

Anxiety and Depression. The 14-item Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) was used to assess feelings of depression and anxiety. Participants rated their agreement on statements such as 'I feel tense or wound up' and 'I still enjoy the things I used to enjoy'.

Self-esteem. Self-esteem was measured using the ten-item Rosenberg (1965) self-esteem scale. Participants rated agreement with statements such as 'On the whole I am satisfied with myself' and 'I certainly feel useless at times'.

Control measures.

Social desirability. The Impression Management subscale from the Balanced Inventory of Desirable Responding (BIDR-16; Hart, Ritchie, Hepper, & Gebauer, 2010) was used to control for socially-desirable responding. Participants indicated agreement with eight statements, such as 'I sometimes tell lies if I have to' and 'I never cover up my mistakes'.

Procedure

Contact was made with the head teachers of secondary schools to ask if they agreed to participate in the research. They were sent an information pack containing the aims of the research, copies of the questionnaires, and a consent form. Head teachers who agreed to take part returned a completed consent form. The link to an online questionnaire programmed in iSurvey (an online survey generation and research tool)

was also provided and participating schools asked pupils with a Facebook account to complete the survey during lesson time. The survey took approximately 30-40 minutes. On completion of the study, participants were given the option of being entered into a prize draw to win one of five £50 Amazon vouchers; all identifying data was separated at this stage, such that names and email addresses were requested after following a separate link.

Participants were provided with information about the study at the start of the online survey and asked to tick a box to indicate that they consented to participating. The study proceeded once consent had been given. Participants completed measures of narcissism, Facebook use (including frequency, profile details, activities, and motives), and psychological wellbeing. The order of questionnaires was randomised to reduce order effects. Participants had the option of saving their progress and re-accessing their questionnaire at a later stage. They received an online debriefing statement at the end of the survey.

The University of Southampton iSurvey system held all survey responses. The survey was anonymous and participants were not able to be connected to their data. Only cumulative results have been disseminated.

Results

Data preparation

In total, 277 adolescents completed the survey. Scales that had less than 2/3 of items completed were removed from the dataset. Participants were excluded entirely if they had completed less than two of the questionnaires in the survey or if they had provided mostly uniform responses. Following this data cleaning process, 218 participants remained.

Descriptive statistics for each of the variables are presented in Table 1.

Table 1 Descriptive Statistics

	N	Mean	Std. Deviation	Skewness z- score	Kurtosis z-score	Reliability
Narcissism	218	14.93	7.49654	.509	-.316	.858
Impression Management	218	4.39	1.14870	.011	.032	.643
Self- enhancement	171	2.08	1.20140	1.277	1.033	.926
Affiliation	173	3.43	1.30884	.153	-.450	.892
SWL	155	4.71	1.97613	-.568	-.241	.912
Positive Relations	151	5.27	1.04022	.456	-.029	.759
Depression	159	3.47	1.17978	.336	-.502	.681
Anxiety	159	3.88	1.60803	.183	-.398	.844
Self-Esteem	156	5.26	1.54408	-.212	-.913	.878

As demonstrated in the table, the data generally have acceptable skew and kurtosis, with z-scores falling between -1.0 and +1.0 (Field, 2013). The data for self-enhancement is slightly positively skewed, although this may be a reflection of adolescents underplaying their exhibitionist tendencies and is not significant enough to warrant normalising. There was one slight outlier for self-enhancement also, identified by looking for kurtosis that was above 3.29. However, given that it was only one and fell just outside the norm, it was not felt that it had significantly impacted on the data.

Correlations

Due to the large number of comparisons being made, data were interpreted using the Bonferroni correction method (0.5/ 25) to reduce the familywise error rate. Therefore, a minimum significance level of 0.02 was required for a correlation to be considered significant (Field, 2013).

As presented in Table 2, results revealed that narcissism correlated positively with impression management, self-enhancement, and self-esteem. This corroborates definitions of narcissists as agentic individuals seeking external approval and validation,

and believing themselves to be superior to others (Campbell & Foster, 2007). Surprisingly, narcissism did not correlate with any of the other psychological wellbeing indicators. Because impression management correlated with all measures save affiliation, it was controlled for in subsequent analyses.

In terms of Facebook frequency and profile information, narcissism positively correlated with the number of years adolescents had held a Facebook account; $r(193) = .24, p \leq .001$, the number of Facebook friends they had; $r(183) = .19, p < .01$, and the number of Facebook groups they were an administrator for $r(187) = .22, p < .01$.

Regressions

Facebook frequency. Narcissism was significantly related to how long adolescents had held a Facebook account ($B = .06, t(192) = .00, SE = .02, p = .001$). Regression analyses found that narcissism explained 5.7% of the variance in this ($R^2 = .057$). It did not significantly relate to how many days they had used Facebook in the past week ($B = .04, t(192) = .13, SE = .02, p = .08, R^2 = .02$), nor how many hours per day they had spent on Facebook in the past week ($B = .03, t(192) = 1.88, SE = .02, p = .06, R^2 = .02$).

Facebook profile information. Narcissism related to the number of Facebook friends adolescents had ($B = 20, t(126) = 3.38, SE = 5.92, p \leq .001$); explaining 8.4% of the variance ($R^2 = .084$); the number of groups they were a member of ($B = 2.46, t(126) = 3.33, SE = .74, p \leq .001$), explaining 8.2% of the variance ($R^2 = .082$); and the number of groups they were an administrator for ($B = 5.09, t(192) = 2.78, SE = 1.83, p < .01$), explaining 5.8% of the variance ($R^2 = .058$).

It did not significantly relate to the number of photos they had posted ($B = 11.11, t(192) = .26, SE = 43.18, p = .80, R^2 = .00$), or the content of their photos, i.e., whether pictures were of only them ($B = 0.20, t(192) = 1.53, SE = .01, p = .13, R^2 = .02$); them and friends/ family ($B = .01, t(192) = .54, SE = .01, p = .59, R^2 = .00$); only friends and family ($B = .00, t(192) = .01, SE = .01, p = 1.0, R^2 = .00$), or anything else ($B = -.01, t(192) = -.44, SE = .01, p = .66, R^2 = .00$). Similarly, narcissism was not related to being tagged in others' photos ($B = -39.93, t(192) = -.39, SE = 102, p = .70, R^2 = .00$), or the number of pages liked ($B = 18.38, t(192) = .00, SE = 4419.8, p = .10, R^2 = .00$).

Facebook activities. Interestingly, narcissism was not associated with any of the Facebook activities, as demonstrated in Table 3. There was a positive trend of narcissists looking more than non-narcissists at their newsfeed, although this did not reach significance when accounting for Bonferroni corrections. Milder positive trends were evident between narcissism and looking at others' pictures, tagging videos, and posting links.

Facebook motives. Supporting hypothesis 1, narcissism significantly related to self-enhancement motives ($B = .04$, $t(192) = 2.94$, $SE = .01$, $p = .05$), explaining 5% of the variance ($R^2 = .05$), and not to affiliation motives ($B = .011$, $t(165) = .79$, $SE = .01$, $p = .43$, $R^2 = .00$).

Psychological wellbeing. Narcissism significantly related to self-esteem ($B = .06$, $t(192) = 3.39$, $SE = .02$, $p \leq .001$), explaining 7.5% of the variance ($R^2 = .075$). It did not, however, relate to the remaining psychological outcomes, i.e., satisfaction with life ($B = .032$, $t(142) = 1.43$, $SE = .02$, $p = .15$, $R^2 = .01$), depression ($B = -.00$, $t(192) = -.30$, $SE = .01$, $p = .76$, $R^2 = .00$), positive relations with others ($B = -.00$, $t(192) = -.26$, $SE = .01$, $p = .79$, $R^2 = .00$), and anxiety ($B = -.00$, $t(192) = -.10$, $SE = .02$, $p = .92$, $R^2 = .00$).

Table 2 *Correlations between key variables*

		1	2	3	4	5	6	7	8	9
Narcissism		1								
	N	218								
Impression		.243**	1							
management	N	218	218							
Self-		.241**	.182*	1						
enhancement	N	171	171	171						
Affiliation		.053	.068	.628**	1					
	N	173	173	171	173					
Satisfaction with		.152	-.266**	-.128	-.033	1				
Life	N	155	155	151	151	155				
Positive		-.052	-.340**	-.152	.040	.380**	1			
Relations	N	151	151	148	148	148	151			
Depression		-.017	.225**	.147	-.050	-.529**	-.516**	1		
	N	159	159	155	155	152	148	159		
Anxiety		-.025	.272**	.160*	.187*	-.556**	-.310**	.439**	1	
	N	159	159	155	155	152	148	159	159	
Self-esteem		.315**	-.269**	-.149	-.129	.750**	.401**	-.534**	-.647**	1
	N	156	156	152	152	149	146	151	151	156

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

Table 3 *Regressions between narcissism and Facebook activities*

	Unstandardised Coefficient		Standardised Coefficient	<i>p</i>	<i>t</i>	<i>R</i> ²
	B	SE	β			
Check your profile/ read posts on your wall	-.01	.02	-.04	.54	-.61	.00
Read posts on others' wall	-.03	.02	-.11	.12	-1.54	.01
Write on others' wall	-.00	.01	-.01	.90	-.13	.00
Post personal photos	-.01	.01	-.05	.53	-.63	.00
Look at your own pictures	-.02	.01	-.11	.13	-1.52	.01
Look at others' pictures	-.03	.02	-.13	.07	-1.85	.02
Post videos	-.02	.01	-.10	.19	-1.32	.01
Tag videos	-.03	.02	-.12	.09	-1.70	.02
View videos	-.02	.02	-.09	.21	1.25	.01
Look at others' status updates	-.02	.02	-.09	.22	-1.24	.01
Check your inbox messages	-.02	.02	-.08	.28	-1.08	.01
Look at your news feed	-.04	.02	-.15	.04	-2.10	.02
Comment on other peoples' posts/ statuses/ photos	-.01	.02	-.04	.60	-.53	.00

	Unstandardised		Standardised	<i>p</i>	<i>t</i>	<i>R</i> ²
	Coefficient		Coefficient			
	B	SE	β			
Post links to videos or websites you find interesting	-.03	.02	-.14	.06	-1.91	.02
Create or RSVP to events	-.02	.01	-.10	.17	-1.38	.01
Talk about drama in your life	-.01	.01	-.04	.58	-.56	.00
Vent your frustrations	-.00	.01	-.01	.89	-.14	.00
Post thoughts or feelings that occur to you	.01	.01	.03	.65	.46	.00
Send private messages	.01	.02	.04	.60	.53	.00
Chat on Facebook chat/ messenger	.02	.02	.09	.23	1.20	.01
Look at or interact with groups	-.01	.02	-.03	.68	-.41	.00
Add or remove friends/ groups	-.01	.01	-.04	.62	-.50	.00
Change your status	.00	.01	.02	.82	.22	.00
Play games	-.00	.02	-.02	.77	-.29	.00
Look up/ find new people to friend	-.01	.01	-.04	.59	-.55	.00

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

The relationship between narcissism, Facebook motives, and psychological variables

In order to explore whether the relationship between narcissism and the various psychological outcomes measured were mediated by what adolescents' motives were in using Facebook, i.e., self-enhancement and/or affiliation, a number of multiple mediation models were tested. Each of the psychological variables was explored in turn. Given the strong association between narcissism and impression management, impression management was controlled for in the mediation models tested. Bootstrapped regression analyses were used to test for direct and total effects. A direct effect is that of the independent variable (IV), narcissism, on the dependent variable (DV), i.e., each one of the psychological wellbeing outcomes, whilst controlling for the mediators. A total effect is that of the IV on the DV without controlling for the mediators. INDIRECT for SPSS was used to test for any indirect effects using 5,000 bootstrapped samples. An indirect effect was considered significant if the 95% bias-corrected confidence intervals did not pass through zero (Preacher & Hayes, 2008). All confidence intervals (CI) presented are bias-corrected. An indirect total effect refers to the effect of all the mediators, in this case, self-enhancement and affiliation, on the DVs.

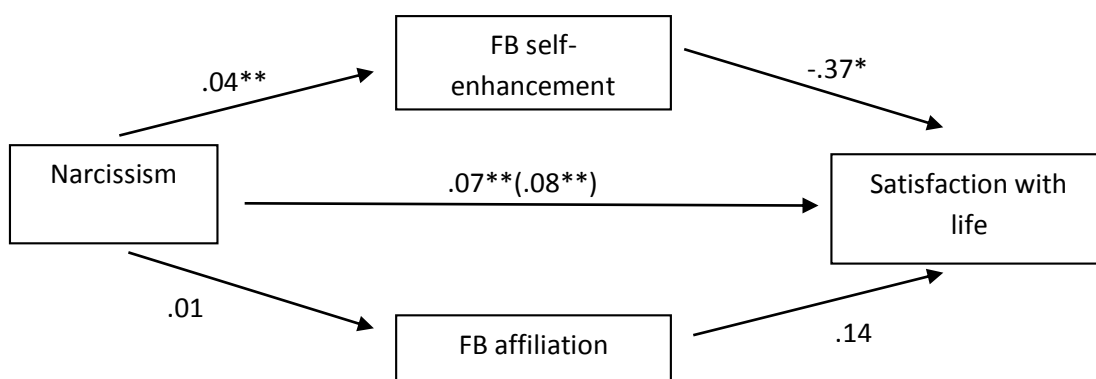


Figure 1. Multiple mediation model showing the relationship between narcissism, Facebook motives, and satisfaction with life, controlling for impression management ($N=151$). The path coefficients in all models are unstandardised regression coefficients. The value in parentheses is the direct effect of narcissism on satisfaction with life and the value outside the parentheses is the total effect. * $p < .05$, ** $p < .001$.

Narcissism, self-enhancement, and affiliation were found to account for 16.4% ($R^2 = .16$) of the variance in satisfaction with life. Figure 1 shows that narcissism was significantly associated with satisfaction with life. Higher narcissism was also related to self-enhancement motives, but not affiliation motives. Self-enhancement negatively related to satisfaction with life, whereas affiliation showed no significant association. An indirect total effect was found for the motives on the relationship between narcissism and satisfaction with life ($B = -.01$, $CI = -.03 / -.00$). Taken individually, there was a significant indirect effect of self-enhancement ($B = -.01$, $CI = -.04 / -.00$), such that high narcissists were more likely to pursue self-enhancement goals on Facebook, relating to poorer satisfaction with life. There was no indirect effect of affiliation ($B = .00$, $CI = -.00 / .02$). This model, therefore, provides support for H1i, that narcissists will seek to self-enhance on Facebook, and not H1ii, that low narcissists will seek to fulfil affiliation motives on Facebook. It does not support H2i, that narcissists who self-enhance will experience improved psychological wellbeing, i.e., satisfaction with life, nor H2ii that low narcissists who affiliate will experience improved psychological wellbeing.

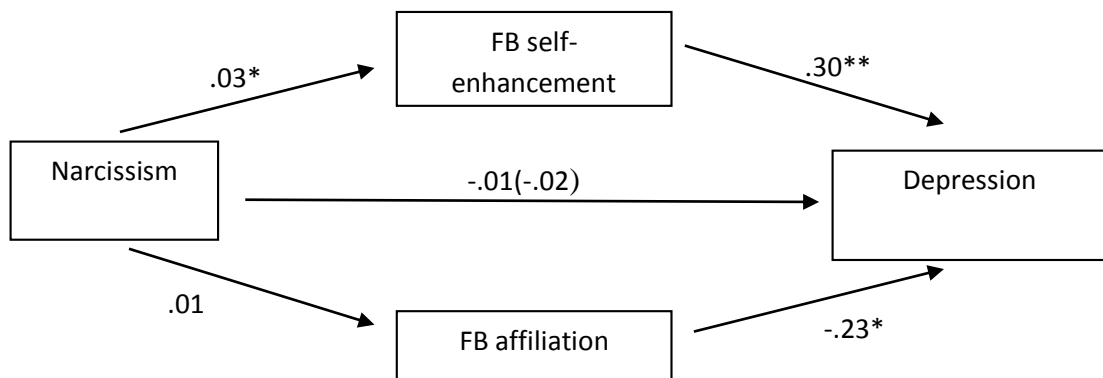


Figure 2. Multiple mediation model showing the relationship between narcissism, Facebook motives and depression, controlling for impression management ($N = 155$). The path coefficients in all models are unstandardised regression coefficients. The value in parentheses is the direct effect of narcissism on depression and the value outside the parentheses is the total effect. $*p < .05$, $**p < .001$.

Narcissism, self-enhancement, and affiliation accounted for 11.2% ($R^2 = .112$) of the variance in depression. Figure 2 shows that the direct effect of narcissism on depression was not significant, however, it was still possible to test for indirect effects

(Preacher & Hayes, 2008). It also shows that narcissism related to self-enhancement but not to affiliation, providing support for H1i, and not for H2ii. Self-enhancement was found to be positively associated with depression, and affiliation negatively. An indirect total effect was not found for the motives on the relationship between narcissism and depression ($B = .00$, $CI = -.00 / .018$). There was a significant indirect effect of self-enhancement ($B = .01$, $CI = .00 / .02$), such that high narcissists self-enhanced more and, in turn, were more depressed. This contradicts H2i that expected it would relate to improved psychological wellbeing. There was no indirect effect of affiliation ($B = -.00$, $CI = -.01 / .04$), providing no support for H2ii.

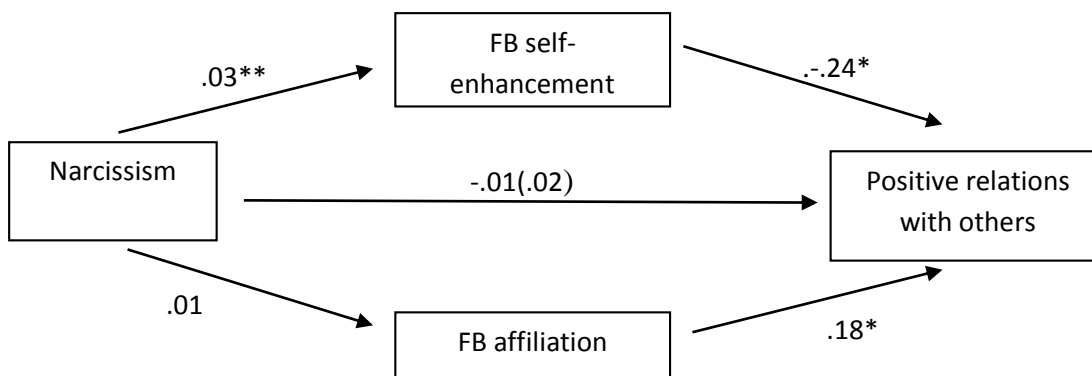


Figure 3. Multiple mediation model showing the relationship between narcissism, Facebook motives, and positive relations with others, controlling for impression management ($N = 148$). The path coefficients in all models are unstandardised regression coefficients. The value in parentheses is the direct effect of narcissism on positive relations with others and the value outside the parentheses is the total effect. $*p < .05$, $**p < .001$.

Narcissism, self-enhancement, and affiliation accounted for 16.1% ($R^2 = .16$) of the variance in positive relations with others. Figure 3 shows that narcissism did not relate to positive relations with others. Again, in this model, narcissism related to the self-enhancement motive and not to affiliation, providing support for H1i and not H2i. Both motives were associated with positive relations with others, with self-enhancement having a negative impact, and affiliation a positive one. There was no total indirect effect

of motives on the relationship between narcissism and positive relations ($B = .02$, $CI = -.02 / .00$). There was an indirect effect of self-enhancement ($B = .01$, $CI = -.20 / -.00$), such that individuals high in narcissism self-enhanced more and consequently experienced poorer relations with others. This contradicts H2i which expected this to relate to more positive relations with others. Unexpectedly, affiliation did not have an indirect effect ($B = .00$, $CI = -.00 / .01$) contrary to H2ii.

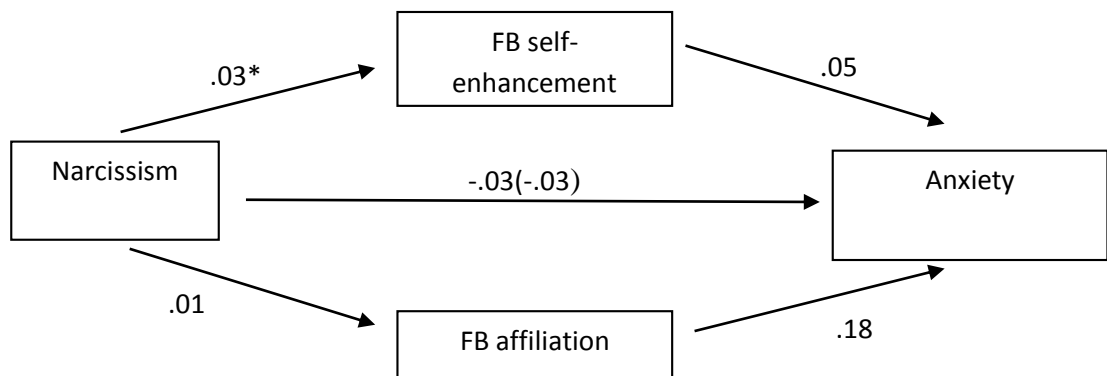


Figure 4. Multiple mediation model showing the relationship between narcissism, Facebook motives, and anxiety, controlling for impression management ($N = 155$). The path coefficients in all models are unstandardised regression coefficients. The value in parentheses is the direct effect of narcissism on anxiety and the value outside the parentheses is the total effect. $*p < .05$, $**p < .001$.

Narcissism, self-enhancement, and affiliation together accounted for 11.5% ($R^2 = .115$) of the variance in anxiety. Figure 4 shows that narcissism did not relate to anxiety. It was associated with self-enhancement and not affiliation, supporting H1i and not H1ii. Neither of the Facebook motives related to anxiety. No total indirect effects were found for the motives on the relationship between narcissism and anxiety ($B = .00$, bias-corrected $CI = -.01 / .02$). Similarly, no indirect effects were found for self-enhancement ($B = .00$, bias-corrected $CI = -.01 / .01$) or affiliation ($B = .00$, $CI = .00 / .02$), thus, providing no support for H2.

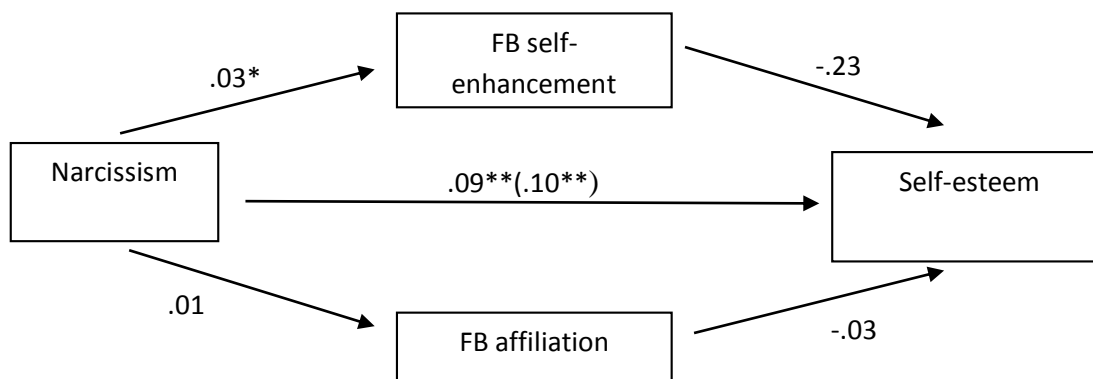


Figure 5. Multiple mediation model showing the relationship between narcissism, Facebook motives, and self-esteem, controlling for impression management ($N=152$). The path coefficients in all models are unstandardised regression coefficients. The value in parentheses is the direct effect of narcissism on self-esteem and the value outside the parentheses is the total effect. $*p < .05$, $**p < .001$.

Narcissism, self-enhancement, and affiliation together accounted for 29.3% ($R^2 = .29$) of the variance in self-esteem. Figure 5 shows that narcissism had a strong positive relationship with self-esteem. It related to self-enhancement and not affiliation, providing support for H1i and not H2ii. Neither motive was related to self-esteem. There was no total indirect effect ($B = -.01$, $CI = -.02 / .00$), nor individual indirect effects for self-enhancement ($B = -.01$, $CI = -.02 / .00$) or affiliation ($B = -.00$, $CI = -.01 / .00$). Thus, H2 was not supported.

These results revealed that the only psychological outcomes to be directly related to narcissism were satisfaction with life and self-esteem. Providing support for H1i and not for H1ii, narcissism was found to repeatedly relate to self-enhancement motives, and not to affiliation motives. Unexpectedly, the findings showed that the use of Facebook for narcissists who seek to fulfil self-enhancement motives relates to poorer satisfaction with life, less positive relations with others, and higher levels of depression. Affiliation motives for Facebook use did not have an indirect effect on the relationship between narcissism and psychological wellbeing. Furthermore, no indirect effects were found for Facebook motives on the relationship between narcissism and anxiety, and narcissism and self-esteem.

Discussion

The present study aimed to identify a prevalent personality trait, narcissism, that might predict the frequency of Facebook use, certain profile characteristics, and Facebook activities. We also aimed to identify a possible mechanism through which narcissism and psychological wellbeing may be related, i.e., motives for Facebook use.

Our study was the first to show that narcissism was positively correlated with the number of years adolescents had held a Facebook account. It did not, however, corroborate findings that narcissism was linked to frequency of Facebook use (Horton et al., 2014; Panek et al., 2013). Narcissism related to the number of Facebook friends that adolescents had, replicating previous findings by some researchers (Davenport et al., 2014; McKinney et al., 2012); however, where previous research had been conducted with adolescents, significant associations were not found between narcissism and system-generated content, such as number of friends and photo count (Ong et al., 2011). We also found that narcissism related to the number of Facebook groups that adolescents were an administrator for. This may be in line with the leadership tendencies of a narcissist (Raskin & Terry, 1988).

Narcissism did not significantly relate to any Facebook activities, contradicting previous findings that it is associated with activities such as posting status updates (Mehdizadeh, 2010; Ong et al., 2011; Panek et al., 2013) and photos (Ong et al., 2011).

Motives

Consistent with the offline world, narcissism was found to significantly predict self-enhancement motives for using Facebook, and not affiliation motives. This is indirectly supported by previous studies showing that narcissism is associated with posting more self-promoting content on Facebook, as reflected in the About Me section and in the photos posted (Buffardi & Campbell, 2008; Mehdizadeh, 2010), and that narcissists can be identified by the content of their Facebook profiles (Buffardi & Campbell, 2008). It also corroborates findings that narcissists want to show others what they are doing on Facebook; believe that others are interested in what they are doing; place importance on portraying a positive self-image through Facebook (Bergman et al., 2014), and want to win the admiration of others on Facebook (Davenport et al., 2014).

These self-enhancement motives fit with the definition of narcissists as being driven by agentic goals (Campbell & Foster, 2007).

The finding that narcissism relates to self-enhancement motives for Facebook use, is in line with Nadkarni and Hoffman's (2012) proposed model that Facebook use is driven by either the need for self-presentation and/ or the need to belong, and that narcissism contributes to the need for self-presentation. Our expectation that low narcissism would predict affiliation motives for Facebook was not supported. This may be because the need to belong would be better explained by cultural and demographic variables, rather than personality traits (Nadkarni & Hoffman, 2012). It is possible that adolescents from different cultures vary in the extent to which they are driven to affiliate with others. It is also possible that personality variables, other than narcissism, would predict affiliation drives. Teppers et al. (2014), for example, found that individual differences in adolescents' loneliness was associated with motives of affiliation for Facebook use, such as *meeting people*, *social inclusion*, and *personal contact*. Future research may, therefore, benefit from exploring a broader range of personality traits.

In terms of how self-enhancement mediates the relationship between narcissism and psychological outcomes, the results suggest that the more a narcissist tries to self-enhance, the lower their satisfaction with life is, the more depressed they are, and the poorer their relations are with others. This is the opposite of our expectation that through pursuing self-enhancement goals, narcissists would experience psychological gains. This may be explained by different types of narcissism, which were not explored in the study, e.g., grandiose and vulnerable narcissism (Miller et al., 2011). The same impact on psychological wellbeing was found when the direct impact of self-enhancement was considered. Thus, self-enhancement appears to have negative consequences for adolescents, whether narcissistic or not. It may be that adolescents who are driven to self-enhance are more susceptible to social comparison and envy (Festinger, 1954), leading to more negative feelings. As we know, adolescents place much importance on their self-image, and their psychological wellbeing is influenced by peer feedback (Valkenburg et al., 2006); narcissists, therefore, being particularly interested in self-enhancement, are likely to be even more sensitive to feedback. This may explain both the effects of self-enhancement on wellbeing directly, and its effects as a mediator. Nonetheless, given that narcissism is reported to be on the rise among today's younger

generations (Twenge et al., 2008), and the use of social networking sites is continuously increasing with growing opportunities for self-enhancement (Facebook Press, 2015), this is a worrying finding.

Although the impact of narcissism on psychological wellbeing could be explained in part by self-enhancement motives and not by affiliative motives, affiliation did directly predict more positive relations with others and less depression. This warrants further exploration of different motives of non-narcissists or low-narcissists (such as those used by Teppers et al., 2014), which may impact on their psychological wellbeing.

Implications

A number of implications arise from this research for educational practitioners, families, and young people themselves. Firstly, it would appear that adolescents who are narcissistic are no more likely than non-narcissists to use Facebook more frequently or to engage with particular Facebook activities. They are, however, more likely to use Facebook for self-enhancement purposes, which can lead to negative psychological outcomes. Further, self-enhancement directly relates to poorer psychological wellbeing regardless of narcissistic tendencies. This suggests that the need to self-enhance puts adolescents at a disadvantage. Future research could explore further the need for self-enhancement and why adolescents may want to do this. For example, it may stem from a low sense of self-worth, a desire to belong (Leary & Baumeister, 2000; Nadkarni & Hoffman, 2012), an attempt to avoid negative feedback and gain admiration (Valkenburg et al., 2006), or possibly an inability to regulate one's own emotions, placing excessive importance on the opinions of others (Pellegrini & Bartini, 2000). Interventions around appreciating difference and diversity could help to develop adolescents' confidence in their uniqueness and develop their emotional resilience to receiving negative feedback. Developing adolescents' ability to think critically about what they see on social media, in a phase of life when they are so keen to 'fit in', may help them to see beyond glossy celebrity cultures and value individuality and imperfection. Such interventions may need to be targeted more toward narcissistic personalities who seem to be the most vulnerable here.

The positive direct effects of affiliative motives on psychological wellbeing calls for schools and families to consider the peer relationships of adolescents a central feature of

leading a fulfilling life. With ever increasing academic pressures on teens, having a social life may not always be considered a priority, particularly by parents and educators. Nonetheless, as we can see, affiliation, which ties in with a sense of communion and belonging, enhances relations with others and lowers depression. Thus, as Educational Psychologists, we ought to continue to take a holistic approach to our work, ensuring we raise social wellbeing in all of our discussions with schools and families, even where the primary concern may be an academic one. As we know, psychological wellbeing directly impacts on academic wellbeing (Gutman & Vorhaus, 2012), and this needs to be continually highlighted in our work. This study could be further expanded by investigating whether the psychological effects of Facebook motives are found to directly influence academic outcomes.

The implications to arise from this research, therefore, relate to both the online and the offline world. Rather than objectifying activities that adolescents engage in, we are called to explore the qualitative aspects of their lives, the reasons for their behaviours, and the meanings associated with them. Qualitative research investigating how adolescents understand their Facebook behaviours would be a valuable and novel contribution to this field of research. Also, to complement self-reports, data collection would benefit from triangulation, for example, by using software to monitor social networking site frequency and activities, and by asking teachers and families about the personality traits and psychological wellbeing of adolescents.

To explore some of the unexpected findings revealed here, it may be worth exploring whether grandiose and vulnerable narcissists use Facebook for different reasons (Miller et al., 2011). One of the strengths of this study is that it pays attention to an individual difference considered to be on the rise (Twenge et al., 2008) in the consideration online social networking, a phenomenon that is on the rise (Facebook Press, 2015). Further, it is the first study in the UK to explore Facebook motives and outcomes among adolescents, preceded only by one other study in Belgium. Uniquely, this study explored five different indicators of psychological wellbeing, increasing the construct validity. It also explored two key motives in the lives of social networking adolescents (Nadkarni & Hoffman, 2012). A diverse range of participants were involved across a number of schools in the south of England; evidently, a larger sample size would have further enhanced the generalisability of the findings. One of the key limitations of

the study was the sole use of self-reports, which as aforementioned could be complemented in future research. It is worth acknowledging, however, the difficulty with asking third parties about the motives and the psychological wellbeing of adolescents. Furthermore, this study included a measure of impression management to account for the possibility of socially desirable responses.

Overall, these findings have contributed to a greater awareness of how the use of social networking sites may impact young peoples' psychological wellbeing. The results were in accordance with our expectation that narcissism would be more closely linked to motives for using Facebook, than it would be to the frequency of Facebook use, or to particular Facebook activities. This supports previous findings that adolescents' perceptions associated with social networking site use impact on their wellbeing more than the activities, e.g., perceptions of social support (Frison & Eggermont, 2015a; Van Zalk et al., 2011) and perceptions of peer feedback (Valkenburg et al, 2006). Findings suggest that affiliation serves adolescents more positively than self-enhancement, and that narcissists are particularly vulnerable given their agentic motives. Future research may seek to replicate these findings, to further breakdown types of narcissism, and to empirically explore the effects of Facebook motives on academic outcomes, through its impact on psychological wellbeing.

Appendices

Appendix A Search terms

Appendix B Exclusion criteria

Appendix C Flowchart outlining literature search

Appendix D Table of key information from papers extracted for literature review

Appendix E Ethical approval of study

Appendix F Letter to Head teachers

Appendix A

Search terms used for Medline via OVID

Social media [MeSH] OR Facebook [keyword] OR Twitter [keyword] OR Internet [MeSH] OR online systems [MeSH]

AND

Wellbeing [keyword] OR well being [keyword] OR well-being [keyword] OR self concept [MeSH] OR loneliness [MeSH] OR depression [MeSH]

AND

Adolescence [keyword] OR adolescent development [MeSH] OR adolescent (MeSH)

Filter for Humans, English only, Published 2008-2015, Peer Reviewed journal

Results= 324 papers

Search terms used for PsycInfo via EBSCO

Social media [thesaurus] OR online social networks [thesaurus] OR computer mediated communication [thesaurus] OR internet [thesaurus] OR electronic communication [thesaurus]

AND

Psychosocial factors [thesaurus] OR self esteem [thesaurus] OR self concept [thesaurus] OR loneliness [thesaurus] OR depression [thesaurus] OR major depression [thesaurus] OR well being [thesaurus] OR social support [thesaurus] OR life satisfaction [thesaurus]

AND

Adolescent development [thesaurus] OR adolescent attitudes [thesaurus] OR high school students [thesaurus]

Filter for No dissertations, English only, Published 2008-2015, Peer reviewed journal

Results= 66 papers

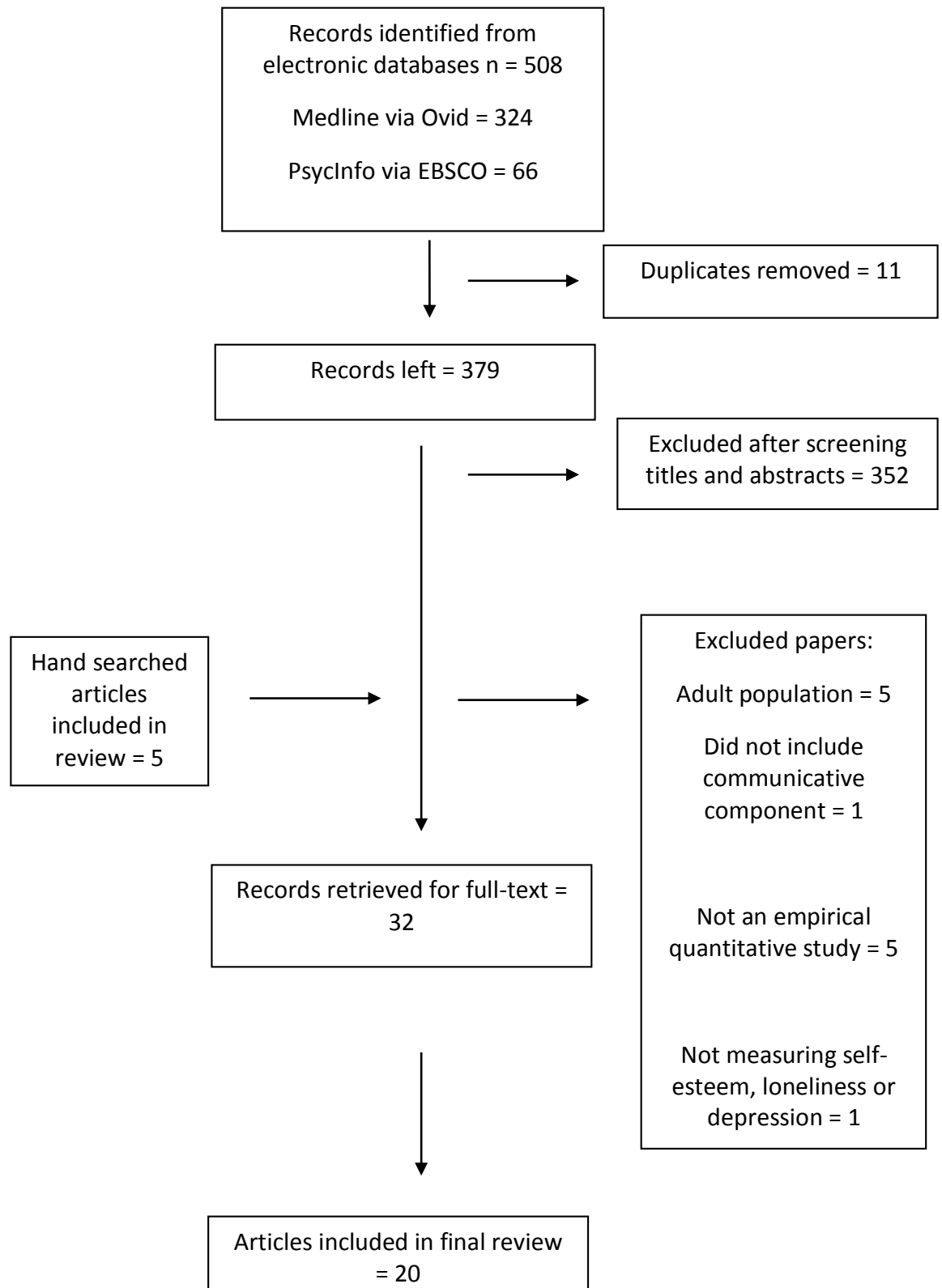
Appendix B

Exclusion criteria for literature search:

- Languages other than English
- Sources other than peer reviewed articles
- College or university aged students
- A mean sample age of less than 12 years or more than 18 years 11 months
- Use of the internet/ social networking sites that did not include a communicative function e.g. only considering number of online friends
- Papers that did not include a quantitative analysis
- Papers that considered psychological variables as predictors of OC only and not as outcomes
- Papers that did not include an outcome variable of self-esteem, loneliness or depressed mood
- Meta-analyses and literature reviews
- Unrelated topic

Appendix C

Papers retrieved from literature search



Appendix D

Key information from papers extracted for literature review

Authors	Study Characteristics	Participant Characteristics	Key Findings	Related theories/ models	Strengths & Limitations
Apaolaza, Hartmann, Medina, Barrutia, & Echebarria (2013).	Measures: Intensity of Tuenti use, 4 items measuring degree of socialising on Tuenti, UCLA Loneliness Scale, Rosenberg Self-Esteem Scale, Satisfaction with Life Scale Design: Cross-sectional Country: Spain	N: 334 Age range: 12-17 years Mean age: Gender: 52% female, 48% male Ethnicity: n/a	Socialising on Tuenti reduces feelings of loneliness; Socialising on Tuenti enhances self-esteem; Socialising on Tuenti enhances teenagers' subjective wellbeing indirectly, mediated by a decrease in the feeling of loneliness; Socialising on Tuenti enhances subjective wellbeing, mediated by enhanced self-esteem.	Intensity of Tuenti use related to degree of socialising on the SNS, implying an increase in social capital. Highlights importance of mediator variables. Stimulation hypothesis.	Cross-sectional, can't determine causality. Self-report measures. Small effect sizes.
Blomfield-Neira, & Barber (2014).	Measures: Self-reported SNS use, SNS frequency, SNS investment (adapted from Steinfield & Lampe, 2007), social self-	N: 1,819 Age range: 13-17 years Mean age: 14.6 years Gender: n/a Ethnicity: 83.4 % Caucasian	Adolescents with SNS profile had higher social self-concept than adolescents without profile ($d = 0.19$) Males with SNS profile had significantly higher social self-concept than males without profile ($d = 0.31$). No significant difference for females with and without profile. No main effect for self-esteem.	Stimulation hypothesis	Large sample. Cross-sectional, can't determine causality. Small effect sizes.

	concept, self-esteem, depressed mood Design: Cross-sectional Country: Australia		<p>Females with profile had significantly lower self-esteem than females without profile ($d = 0.21$).</p> <p>Main effect of SNS profile on depressed mood ($d = 0.22$). Females with SNS profile had higher level of depressed mood than females without SNS profile ($d = 0.38$). No significant difference for males.</p> <p>SNS frequency of use was a significant positive predictor of social self-concept. SNS investment was not linked to social self-concept.</p> <p>SNS frequency not related to self-esteem. SNS investment was a significant negative predictor of self-esteem.</p> <p>No link between SNS frequency and depressed mood. SNS investment was a positive predictor of depressed mood.</p>	Females may be more vulnerable to social comparison. OC may be more likely to displace other meaningful activities for females.	<p>Self-report measures.</p> <p>Mostly Caucasian. Number of males and females not reported despite gender being a significant independent variable.</p> <p>Measures of SNS frequency and SNS investment overlap.</p>
Bonetti, Campbell & Gilmore (2010).	Measures: Amount of online communication (OC), Topics of OC, Partners of OC, Purposes of OC, UCLA Loneliness Scale (SF V3), Social anxiety scale	N: 626 Age range: 10-16 years Mean age: 12.85 years Gender: 49.5% female, 50.5% male Ethnicity: n/a	<p>Small effect of loneliness and social anxiety on frequency and duration of OC ($n^2 = 0.02$).</p> <p>Lonely individuals communicate online more frequently about personal things and intimate topics; they compensate for weak social skills and to meet new people</p>	Social compensation	<p>Small effect size.</p> <p>Cross-sectional design, can't determine causality.</p> <p>Sample limited to Australia.</p>

	Design: Cross-sectional Country: Australia				
Dolev-Cohen & Barak (2013)	Measures: Positive affect negative affect scale (PANAS), Textual analysis of participants' conversations, Judgement of emotional state condition Big Five NEO-FFI Design: Cross-sectional Country: Israel	N: 100 Age range: 14-18 years Mean age: Gender: 67% girls, 33% boys Ethnicity: n/a	IMing contributed to the wellbeing of distressed adolescents Self-report: $n^2 = 0.2$ Reflected in chat text: $n^2 = 0.11$ Judges' evaluations: $n^2 = 0.32$ This was mediated by level of introversion/ extraversion, such that introverts benefited the most, but only according to self-report and not according to judge's evaluations or negative emotional expressions.	IMing increases disinhibition & self-disclosure Writing is therapeutic. Poor get richer hypothesis. Importance of individual differences. Role of perceived social support.	Naturalistic research. Self-report and objective ratings used. Cross-sectional. Small sample. Small effect sizes.
Frison & Eggermont (2015a).	Measures: The Adolescent Stress Questionnaire, 2 items- social support seeking through Facebook, 2 items- social support seeking, Adapted version of MSPSS,	N: 910 Age range: n/a Mean age: 15.44 years Gender: 51.9% girls, 48.1% boys Ethnicity: n/a	Daily stress is positively associated with support seeking through Facebook, and in turn depressed mood Social support seeking through Facebook is positively associated with perceived social support through Facebook, (large effect size) which in turn reduced adolescents' depressed mood (small effect size) Perceived social support on Facebook mediated the relationship between social support seeking on Facebook and depressed mood Social support seeking on Facebook directly increased depressed mood (small effect), whereas social support seeking offline did not	Importance of motives and perceived success at fulfilling the motive Optimal matching theory- certain types of support most effective when matched with specific types of stress.	Cross-sectional. Large sample. Self-reports; only 2 items asking about support seeking on FB. Examines direct & indirect impact of support-seeking.

	Friends subscale of MSPSS, 5 items from Centre for Epidemiological Studies Depression Scale for Children (CES-DC) Design: Cross-sectional Country: Belgium			Go online for support with troubles offline.	Severity and chronicity of depression not measured; measures depressed mood not depression. Small effect sizes on depressed mood.
Frison & Eggermont (2015b).	Measures: Facebook use- active public, active private & passive, Perceived online social support- 4 items adapted from family subscale of MSPSS; CES-DC Design: Cross-sectional Country: Belgium	N: 910 Age range: Mean age: 15.44 years Gender: 51.9% girls, 48.1% boys Ethnicity: n/a	Passive FB use positively related to adolescents' depressed mood- only for girls, sig gender difference; Active public FB use positively related to depressed mood- boys only but no sig gender difference; Active private FB use not significantly related to depressed mood; active public and active private FB use positively related to perceived online social support- active private FB use positively related to perceived online support but only for girls with sig gender difference; active public only for boys but no sig gender difference Mediation effects: Perceived online social support mediated relationship between active private FB use and adolescent depressed mood and active public FB use and adolescent depressed mood.	Upward social comparison Tone or frequency of feedback received Rich-get-richer Importance of perceptions of support especially for girls	Cross sectional Only explored one mediator- not sig for boys Explored 2 types of stressors, school and family. There could be others e.g. peers. Only 2 items measured active & passive FB use.

			Perceived online social support mediated relationship between active private FB use and depression and active public FB use and depression in girls only.	Importance of passive and active and further public and private use. Gender and importance of individual differences.	Effect sizes unavailable on version of paper accessed.
Gross (2009).	Measures: Questionnaire on internet usage & experience & dispositional psychological adjustment, Laboratory induction of social inclusion or exclusion, 1 item pre & post measure of self-esteem, Checklist of 21 emotions on 6 subscales of perceived relational value, dysphoria, shame, anger,	N: 50 adolescents Age range: 11-15 years Mean age: 12.5 years Gender: 54% female, 46% male N: 60 young adults Age range: 18-23 years Mean age: 18.4 years Gender: 53% female, 47% male	IMing with an unfamiliar peer facilitated greater replenishment of self-esteem ($n^2 = .05$) and perceived relational value ($n^2 = .08$) among previously excluded adolescents and young adults. There was also a greater reduction of negative affect among adolescents following the social IMing task ($n^2 = 0.01-0.1$).	Importance of belongingness. Poor-get-richer.	Effects observed when controlling for dispositional psychological variables. Unique experimental design. Samples not matched on a range of demographic; there could have been group differences. 12 minutes, not necessarily sufficient time

	anxiety & competence, 12 min computer activity- puzzle or IMing Design: experimental Country: US				for social interaction. Small effect sizes.
Lee (2009).	Measures: <i>Primary caregiver interview:</i> 5 items assessing a child's relationships with friends, the primary caregiver, the other parent, siblings & a teacher, <i>Time diary:</i> time spent on a computer, time interacting with parents, time interacting with friends, <i>Child interview:</i> 2 items- frequency of online	N: 1,312 Age range: 12-18 years Mean age: 14.82 years Gender: 50.6% female, 49.4% male Ethnicity: n/a	Adolescents who had better earlier social relationships more frequently used online communication (small effect), which in turn was related to the outcome of better friendships (moderate effect). Adolescents who used online communication more frequently were more likely to feel more connected to school by having more cohesive friendships. Time spent communicating online was negatively related to time interacting with parents. Frequent use of online communication did not affect quality of parent-child relationships. Time spent on online communication was not related to time spent interacting with friends.	Online communication displaces time spent with parents but not time spent with friends. Findings support rich-get-richer hypothesis- this may be explained by the uses and gratification approach	Longitudinal but only 2 time points Representative sample. Data on internet use and cohesive relationships both collected at T2, therefore, cannot imply causal relationships Reliable time diary data. Different data sources. Moderate

	communication, Cohesive parent-child relationships, 3 scales on intimate conversations with parents, closeness to parents and support to parents, Cohesive friendships, 3 scales on intimate conversations with friends, closeness to friends, support to friends, 3 items on School Connectedness Design: longitudinal Country: USA				effect size for impact of OC on friendships.
O'Dea & Campbell (2011).	Measures: Multidimensional scale for Perceived Social Support,	N: 400 Age range: Mean age: 14.31 years Gender: 54.8% female, 45.2% male	Users of online SNS reported less social support from their families than non-users Significant negative correlation between time spent on SNS and self-esteem ($r^2 = -.146$)	More time spent may mean more opportunity for negative feedback	Self-report. Cross-sectional. Limited information on sample characteristics.

	Rosenberg's Self-esteem scale, K6 for Psychological Distress, Questions related to internet use and activity Design: Cross-sectional correlation Country: Australia	Ethnicity: n/a	Significant positive correlation between time spent on SNS and psychological distress ($r^2 = -.139$) Significant negative correlation between SNS visits and MPSS for family ($r^2 = -.129$)	Displacement hypothesis	Small effect sizes.
Pantic, Damjanovic, Todorovic, Topalovic, Bojovic-Jovic, Ristic, & Pantic (2012).	Measures: Questionnaire BDI-II-II, Average daily time on SNSs, Average daily time watching TV, Sleep duration in 24 hour period Design: Cross-sectional Country: Serbia	N: 160 Age range: Mean age: 18.02 years Gender: Ethnicity:	Statistically significant correlation between time spent on SNSs and depression scores on BDI-II-II	Displacement hypothesis	Cross-sectional. Self-report. Small effect size.
Selfhout, Branje, Delsing, ter Bogt, & Meeus (2009).	Measures: Childrens' Depression Inventory, Social Anxiety	N: 307 Age range: 14-17 years Mean age: 15.5 years	For adolescents who perceived low friendship quality, internet use for communication purposes related to less depression, whereas internet use for non-communication purposes related to more depression	Social compensation for communication purposes	Sample demographics not generalisable;

	subscale of the Screen for Child Anxiety Related Emotional Disorders Questions on internet use, the Support scale of the Network of Relationship Inventory Design: longitudinal Country: the Netherlands	Gender: 51.2% girls, 48.8% boys		Poor-get-poorer for non-communication purposes	highly educated. Self-report measures; assesses friendship quality from one perspective. Longitudinal data available on depression not on internet use. Small effect sizes.
Sharabi & Margalit (2011a)	Measures: Loneliness Scale Internet, Communication Questionnaire Design: Cross-sectional Country: Israel	N: 716 (213 with LD, and 674 without LD) Age range: 16-18 years Mean age: n/a Gender: 340 girls, 334 boys Ethnicity: n/a	Students with higher levels of internet communication with people they knew offline reported less intense feelings of loneliness Students with more virtual friendships reported stronger feelings of loneliness	The stimulation hypothesis The displacement hypothesis	Different types of LD not differentiated. Correlational design; causality cannot be inferred. Self-report measures. Small effect sizes.
Sharabi & Margalit (2011b)	Measures: Loneliness & Social Dissatisfaction Scale,	N: 887 with and without LD Age range: 16-18 years Mean age: n/a	Internet communication was not related to loneliness for LD & non LD Lonely & sad individuals who communicated online with people they did not know felt lonelier	Differences between LD & non LD in feelings of loneliness but no differences	Self-report measures. Correlational data; causality cannot be inferred.

	10 items on internet communication from Internet Scale, 5 items on Virtual Friendship, the Affect Scale Design: Cross-sectional Country: Israel	Gender: 50.5% female, 49.5% male Ethnicity: n/a	Low level of loneliness and negative affect group – low level of virtual friendships & not related to level of loneliness Not lonely with many virtual friendships- internet communication with friends and family related to lower loneliness; no effect for virtual friendships Lonely with many virtual friendships- internet communication with virtual friends and with friends and family significantly related to lower levels of loneliness	in the four clusters. Displacement hypothesis. Stimulation hypothesis. Poor-get-richer hypothesis.	Small effect size.
Subrahmanyam & Lin (2007)	Measures: Internet Access Questionnaire, Revision of UCLA Loneliness Scale (RULS), Social Support Scale for Children (SSS-C)	N: 156 Age range: 15-18.4 years Mean age: 16.5 years Gender: equal	Time on email was not related to loneliness Familiarity with online partners not related to loneliness Perceived relationship with online partners related to loneliness	Importance of perceptions.	Self-report measures. Estimations of time spent online. Cross-sectional. Moderate effect size.
Teppers, Luyckx, Klimstra, & Goossens (2014)	Measures: Parent-related and peer-related loneliness: 2 subscales of the Loneliness and Aloneness Scale for Children and Adolescents (LACA), 7 items assessing	N: 256 Age range: Mean age: 15.88 years	Time spent on fb/ day positively correlated with fb motives at T1 & T2 Time spent on FB & Positive attitudes towards FB pos correlated with parent-related loneliness at T2 All correlations among the motives were moderate to high T1 and T2 positive correlation between parent related loneliness and meeting new people motive T1 & T2 peer related loneliness positive correlated with social skills compensation & decrease on loneliness motives	Displacement and stimulation hypothesis.	Longitudinal. Adolescents all from one high school; mainly Caucasian middle-class. Self-report measures. First longitudinal study exploring FB motives & loneliness.

	<p>Facebook motivation taken from 2 subscales from a questionnaire on computer-mediated communication (Recchiutti, 2003), Time spent on FB, 6 attitudinal items from FB Intensity Scale (Ellison, Steinfield & Lampe, 2007)</p> <p>Design: 2 wave longitudinal (across 5 months)</p> <p>Country: Belgium</p>		<p>T2 parent-related loneliness positively associated with motives of social skills compensation, social inclusion & personal contact motives.</p> <p>T2 peer-related loneliness positively associated with entertainment, social inclusion and peer contact motives</p> <p>Longitudinal effects: Social compensation at T1 related to peer-related loneliness at T2</p> <p>Meeting new people motive at T1 related to decrease in peer-related loneliness at T2</p> <p>Peer-related loneliness at T1 related to increase in motives of social compensation, decrease loneliness and personal contact at T2.</p>		<p>Effect sizes for motives small-moderate.</p> <p>Effect sizes for parent-related loneliness small.</p>
<p>Tsitsika, Tzavela, Janikian, Olafsson, Iordache, Schoenmakers et al. (2014)</p>	<p>Measures: Self-report online communication tools, SNS membership & time spent on SNSs,</p>	<p>N: 10, 930</p> <p>Age range: 14-17 years</p>	<p>No significant difference between moderate and heavy SNS users in social competence; slight effect in older adolescents</p> <p>Heavier SNS users scored marginally higher than moderate users on all 3 internalising syndrome scales: Anxious/ Depressed (d= 0.9) Withdrawn/ Depressed (d= 0.15) Somatic Complaints (d= 0.24)</p>	<p>Personal needs perspective</p> <p>Displacement from adaptive activities,</p>	<p>Cross-sectional; causality cannot be inferred. Large sample. Small effect sizes</p>

	Youth Self-Report Problem Checklist, Youth Self-Report Activities, Social Competence & Academic Performance scales Design: cross-sectional Country: Greece, Spain, Poland, the Netherlands, Romania, Iceland			including physical activities	
Valkenburg, Peter, & Schouten (2006)	Measures: self-reports on use of SNS, frequency of reactions to profiles, tone of feedback; relationships established on SNS, 3 subscales of Harter's self-perception profile, Diener's satisfaction with life scale	N: 881 Age range: 10-18 years Mean age: 14.8 years Gender: 55% girls, 45% boys Ethnicity: n/a	Positive feedback enhanced social self-esteem and wellbeing. Negative feedback reduced social self-esteem and wellbeing.	Importance of adolescents' perceptions of peers opinions	Cross-sectional; causality cannot be inferred. Self-report measures. Good sample size. Small-moderate effect sizes.

	Design: Cross-sectional Country: the Netherlands				
Valkenburg. & Peter (2007)	Measures: IM use, Chat use, Time spent with Friends- items adopted from Network of Relationship Inventory Quality of friendships Satisfaction with Life Scale Design: Cross-sectional Country: Netherlands	N: 1,210 Age range: 10-17 years Mean age: Gender: 53% girls, 47% boys Ethnicity:	Time spent with friends mediates the relationship between IMing and wellbeing Quality of friendships first mediator between online communication and wellbeing Time spent with friends fully mediates relationship between IMing and quality of friendships Time spent on chat not related to time spent with friends	Stimulation hypothesis Positive effects for IM not chat	Cross-sectional; causality cannot be inferred. Self-report measures. Small effect size for effect of IMing on wellbeing.
Van den Eijnden, Meerkerk, Vermultst, Spijkerman, & Engels (2008)	Measures: Questionnaire on online communication and other internet functions, Compulsive Internet Use Scale-SF, Depressive Mood List	N: 663 Age range: 12-15 years Mean age: 13.37 years Gender: 345 female, 318 male Ethnicity: 92% Dutch	Real time online communication functions positively associated with compulsive internet use 6 months later. Consistent positive correlation between IMing and depression at Time 1 and Time 2 (6 months later). $R^2 = .06-.07$ IMing had no significant relationship with loneliness. Relationship between IMing and depression significant for those high in loneliness and not for those low in loneliness, however no significant group differences were found. Feelings of depression not related to IMing at Time 2.	May support the social displacement hypothesis Although it cannot be concluded that loneliness moderates	Short-term effects i.e. 6 months Focussed on young adolescents. Longitudinal. Small effect sizes. Self-report measures.

	Design: Longitudinal Country: the Netherlands		<p>Feelings of loneliness at Time 1 negatively correlated with IMing at Time 2, indicating that those high in loneliness engaged in IMing less often than those low in loneliness.</p>	<p>relationship between IMing and depression, the pattern of results is in line with the poor-get-poorer hypothesis.</p>	
<p>Van Zalk, Branje, Jaap, Van Aken, & Meeus (2011)</p>	Measures: Internet use-number of hours spent chatting with peers and friends on 7 point Likert scale, BDI-SF, 10 item Rosenberg Self-Esteem Scale, 2 items Supportiveness to Others, Extraversion scale of Big Five Inventory Design: Longitudinal Country: the Netherlands	N: 197 Age range: Mean age: 18.9 years Gender: 78% female, 22% male Ethnicity: 92% Dutch	<p>Online chatting with peers and friends was not related to depression and self-esteem; therefore supportiveness did not mediate relationship between chatting and emotional adjustment as a whole.</p> <p>For individuals low on extraversion, chatting to online-exclusive peers specifically related to less depression and more self-esteem (small effect).</p> <p>For individuals low on extroversion, supportiveness at Time 2 mediated the relationship between chatting to online-exclusive peers at Time 1 and less depressive symptoms at Time 3.</p> <p>Supportiveness did not mediate relationship between chatting with online-exclusive peers and self-esteem.</p> <p>Chatting with online-exclusive peers at Time 1 significantly related to supportiveness at Time 2 (moderate).</p> <p>Supportiveness at Time 2 significantly related to depression at Time 3.</p> <p>Effect of chatting to online-exclusive peers at Time 1 on depression at Time 3 was significantly reduced when</p>	<p>Social compensation hypothesis</p>	<p>Longitudinal. Self-report measures.</p> <p>Effect sizes for psychological outcomes were small.</p>

			including the effects of supportiveness at Time 2 on depression at Time 3.		
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Appendix E

Email from ERGO confirming ethical approval of study

Your Ethics Amendment (Ethics ID:12934) has been reviewed and approved

ERGO [ergo@soton.ac.uk]

Actions

To:

Kojouri C.

Inbox

Tuesday, November 11, 2014 12:04 PM

Submission Number 12934:

This email is to confirm that the amendment request to your ethics form (Personality and Social Networking (Amendment 1)) has been approved by the Ethics Committee.

You can begin your research unless you are still awaiting specific Health and Safety approval (e.g. for a Genetic or Biological Materials Risk Assessment)

Comments

None

[Click here to view your submission](#)

ERGO : Ethics and Research Governance Online
<http://www.ergo.soton.ac.uk>

Appendix F



3rd November 2014

Dear Headteacher,

Please allow me to introduce myself. My name is Camellia Kojouri, an Educational Psychologist in Training, and I am contacting you about a research project I am conducting as part of my Doctorate in Educational Psychology (supervised by Dr Claire Hart and Dr Sylwia Cisek, University of Southampton). The study is on personality and social networking.

The prevalence of adolescents using social networking sites is extremely high. I am interested in examining how young people use Facebook, their reasons and motives for doing so, and importantly, whether fulfilling motives using Facebook can improve psychological wellbeing. I will examine these relationships for people with varying personality profiles.

Research Plan

We will recruit pupils between 13 and 18 years of age who hold a Facebook account from a range of schools in the South of England. They will be directed to an online questionnaire which they can complete in their own time. The questionnaire should take approximately 45 minutes and will include questions on personality, frequency of using Facebook activities, reasons for using these activities, and general wellbeing. Copies of all questionnaires are attached.

What are the benefits of this research for schools and young people?

This research will help us to understand how personality variables are associated with Facebook use and motivations and what the impact of this is for young people's social-emotional wellbeing. It is hoped that through gaining a better understanding of online behaviours, schools and families will be more able to understand reasons for offline behaviours. Through recognising the needs that young people are trying to meet, adults will be better placed to support them in meeting these needs in a positive and constructive manner. It is also hoped that the findings of the study will encourage young people to use social networking sites in a more reflective way, maintaining an awareness of their motivations, patterns of use and personal consequences. The results of this study will be written up for publication in an Educational Psychology journal. All schools that participate will be given a £50 Amazon voucher. In addition, all pupils who complete the survey will be entered into a prize draw to win one of five £50 Amazon vouchers.

On completion of this research

I will share the results of this study by providing a written summary of the findings and the proposed implications of the research.

What next?

Please find attached the following documents:

- Poster advertising the study
- Copy of the online questionnaire
- Head-teacher consent form

If you are interested in participating or have any questions please email me at ck2g12@soton.ac.uk.

Thank you in advance,

Camellia Kojouri

Educational Psychologist in Training

Hillingdon Educational Psychology Service/ University of Southampton

Participant Information Sheet (Version 1, 03/06/2014)

Study Title: Personality and Social Networking

Researcher: Camellia Kojouri, Dr. Claire Hart, Dr. Sylwia Cisek

ERGO Study ID number: 10226

Please read this information carefully before deciding to take part in this research.

What is the research about?

I am a Trainee Educational Psychologist and this research project is contributing to a doctoral qualification in Educational Psychology.

This study is aimed at understanding the relationship between a number of personality traits, Facebook use, and outcomes for young people.

Why have I been chosen?

You have been approached because you are currently attending one of the secondary schools participating in this study. You must have a Facebook account in order to participate.

What will happen to me if I take part?

You will be asked to complete a series of questionnaires asking you about aspects of your personality, your Facebook use and your general wellbeing. This should take approximately 45 minutes.

Are there any benefits in my taking part?

By taking part you will contribute to an understanding of the factors that affect Facebook use and social-emotional outcomes. I hope that this information will help me to make clear recommendations for how to help young people use social networking sites most effectively.

In addition, by participating you can enter into a prize draw with a chance to win one of five £50 Amazon gift cards.

Are there any risks involved?

Some people may experience emotional reactions to some of these questions. You are welcome to leave questions blank if you do not wish to answer them, however, your responses are anonymous and you will not be able to be linked to the answers you provide.

Will my participation be anonymous?

Yes, all responses you give will remain anonymous. We have no way of identifying the individual responses you give.

What happens if I change my mind?

You may withdraw from the research at any time without any negative consequences. If you want to withdraw from the study while completing the questionnaire just close your browser window.

What happens if something goes wrong?

If you are experiencing difficulties with social networking sites, your emotional wellbeing and/or your academic wellbeing, please tell an adult that you trust. Likewise, if you are affected in any negative way by completing the questionnaire please tell an adult. You may also contact the Samaritans for further support (www.samaritans.org).

If you would like to make a complaint about the study please contact fshs-rso@soton.ac.uk (telephone 02380 593856).

Where can I get more information?

I am available to answer any questions you may have about the research project. You can contact me, Camellia Kojouri, by e-mail at ck2g12@soton.ac.uk.

Please tick the box at the bottom of the page only if you agree with the statements below:

I have read and understood the information above.

I confirm that I am aged between 13-18 years.

I confirm that I hold a Facebook account.

I agree to take part in this research project, to answer an online questionnaire, and for the data I provide to be used for the purpose of this study.

I understand my participation is voluntary and I may withdraw at any time without my legal rights being affected. I also understand that I can leave questions blank if I do not wish to answer them.

I understand that information collected about me during my participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of this study.

I understand that my honest opinion is valuable to the research and will do my best to answer the questions accurately and honestly.

I understand that I will not be able to be linked to my data.

☐ Please tick (check) this box to indicate that you have read and understood the statements above and that you consent to taking part in this survey

[Click here to start this survey](#)

i-Survey

1. About You

- 1.1 Please select your gender: (Male/ Female)
- 1.2 Please state your age (in years)
- 1.3 Please select your year group (8/9/10/11/12/13)
- 1.4 Please state the name of your school

2. My Personality

Read each pair of statements below and then choose the one that is ***closer*** to your own feelings or beliefs (by selecting either response A **or** B). Please do not skip any items.

- 2.1. A I have a natural talent for influencing people.
B I am not good at influencing people.
- 2.2 A Modesty doesn't become me.
B I am essentially a modest person.
- 2.3 A I would do almost anything on a dare.
B I tend to be a fairly cautious person.
- 2.4 A When people compliment me I sometimes get embarrassed.
B I know that I am good because everybody keeps telling me so.
- 2.5 A The thought of ruling the world frightens the hell out of me.
B If I ruled the world it would be a much better place.
- 2.6 A I can usually talk my way out of anything.
B I try to accept the consequences of my behaviour.
- 2.7 A I prefer to blend in with the crowd.
B I like to be the centre of attention.
- 2.8 A I will be a success.
B I am not too concerned about success.
- 2.9 A I am no better or no worse than most people.
B I think I am a special person.
- 2.10 A I am not sure if I would make a good leader.
B I see myself as a good leader.
- 2.11 A I am assertive.
B I wish I were more assertive.
- 2.12 A I like having authority over people.
B I don't mind following orders.
- 2.13 A I find it easy to manipulate people.
B I don't like it when I find myself manipulating people.
- 2.14 A I insist upon getting the respect that is due me.
B I usually get the respect that I deserve.
- 2.15 A I don't particularly like to show off my body.
B I like to display my body.

- 2.16 A I can read people like a book.
B People are sometimes hard to understand.
- 2.17 A If I feel competent I am willing to take responsibility for making decisions.
B I like to take responsibility for making decisions.
- 2.18 A I just want to be reasonably happy.
B I want to amount to something in the eyes of the world.
- 2.19 A My body is nothing special.
B I like to look at my body.
- 2.20 A I try not to be a show off.
B I am apt to show off if I get the chance.
- 2.21 A I always know what I am doing.
B Sometimes I am not sure of what I am doing.
- 2.22 A I sometimes depend on people to get things done.
B I rarely depend on anyone else to get things done.
- 2.23 A Sometimes I tell good stories.
B Everybody likes to hear my stories.
- 2.24 A I expect a great deal from other people.
B I like to do things for other people.
- 2.25 A I will never be satisfied until I get all that I deserve.
B I take my satisfactions as they come.
- 2.26 A Compliments embarrass me.
B I like to be complimented.
- 2.27 A I have a strong will to power.
B Power for its own sake doesn't interest me.
- 2.28 A I don't very much care about new fads and fashions.
B I like to start new fads and fashions.
- 2.29 A I like to look at myself in the mirror.
B I am not particularly interested in looking at myself in the mirror.
- 2.30 A I really like to be the center of attention.
B It makes me uncomfortable to be the center of attention.
- 2.31 A I can live my life in any way I want to.
B People can't always live their lives in terms of what they want.

- 2.32 A Being an authority doesn't mean that much to me.
B People always seem to recognize my authority.
- 2.33 A I would prefer to be a leader.
B It makes little difference to me whether I am a leader or not.
- 2.34 A I am going to be a great person.
B I hope I am going to be successful.
- 2.35 A People sometimes believe what I tell them.
B I can make anybody believe anything I want them to.
- 2.36 A I am a born leader.
B Leadership is a quality that takes a long time to develop.
- 2.37 A I wish somebody would someday write my biography.
B I don't like people to pry into my life for any reason.
- 2.38 A I get upset when people don't notice how I look when I go out in public.
B I don't mind blending into the crowd when I go out in public.
- 2.39 A I am more capable than other people.
B There is a lot that I can learn from other people.
- 2.40 A I am much like everybody else.
B I am an extraordinary person.

3. **Personality Traits**

Here are a number of personality traits that may or may not apply to you. Please click the answers to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

I see myself as:

- 3.1 Extraverted, enthusiastic
3.2 Critical, quarrelsome
3.3 Dependable, self-disciplines
3.4 Anxious, easily upset
3.5 Open to new experiences, complex
3.6 Reserved, quiet
3.7 Sympathetic, warm
3.8 Disorganised, careless
3.9 Calm, emotionally stable
3.10 Conventional, uncreative

4. General Attitudes and Behaviours

Read each statement and select the answer that best describes you. There are no right or wrong answers; we are interested in your personal feelings and opinions.

- 4.1 I sometimes tell lies if I have to
- 4.2 I never cover up my mistakes
- 4.3 There have been occasions where I have taken advantage of someone
- 4.4 I sometimes try to get even rather than forgive and forget
- 4.5 I have said something bad about a friend behind his or her back
- 4.6 When I hear people talking privately, I avoid listening
- 4.7 I never take things that don't belong to me
- 4.8 I don't gossip about other people's business

5. Frequency of Facebook use

- 5.1 Approximately how long (in years) have you had your Facebook account (e.g., 3).
- 5.2 In the past week, on how many days have you used your Facebook account?
- 5.3 In the past week, on average, approximately how much time PER DAY have you spent actively using Facebook?
- 5.4 How many friends are on your Facebook Friends list? (Please check your Facebook account).
- 5.5 How many photos have you posted on Facebook? To get this information on a computer or laptop, click on 'Photos' either on your Profile page or Home page, then 'Albums' and add up the totals from each album. To get this information on a mobile phone, click on 'More' at the bottom right-hand corner of the screen, then Albums and add up the totals from each album.
- 5.6 Roughly how many of the pictures you have uploaded on your Facebook page contain the following: Only you; You and your family/ friends; Only friends and family; Anything else e.g. landscapes, quotes, jokes.
- 5.7 How many photos posted **by other** Facebook users are you tagged in? To find this information, look at the number next to 'Photos' (under 'About Me') on the left-hand side of your profile page.
- 5.8 How many groups are you a member of? To find this information, click on 'Home' then look at the number next to 'Groups' on the left-hand panel of the page.
- 5.9 How many groups are you an administrator for? To find this information, click on 'Home', then click on 'Groups' on the left-hand panel of the page and look at 'Groups I manage'
- 5.10 How many pages have you liked? To find this information go to 'Profile' and the information is on the left-hand side under 'Likes'.

6. Facebook Activities

Here are a number of Facebook activities. How frequently do you perform the following activities when you're on Facebook? (Few times/ day; Once/ day; several times week; once/ week; less often; never)

- 6.1 Check your profile/ reading posts on your wall
- 6.2 Read posts on others' walls
- 6.3 Update or edit profile
- 6.4 Write on other people's walls
- 6.5 Post photos of special occasions or events (e.g., vacations, weddings, parties)
- 6.6 Post photos of everyday events
- 6.7 Tag photos
- 6.8 View photos
- 6.9 Look at my own pictures

- 6.10 Look at others' pictures
- 6.11 Post videos
- 6.12 Tag videos
- 6.13 View videos
- 6.14 Look at others' profiles/ check to see what someone is up to
- 6.15 Check your inbox messages
- 6.16 Change your profile information
- 6.17 Change your status
- 6.18 Play games
- 6.19 Look at your news feed
- 6.20 Comment on other peoples' posts/statuses/ comment on photos
- 6.21 Look up/find new people to friend
- 6.22 Post countdowns to exciting events
- 6.23 Post information about important events in your life (e.g., new job, engagement).
- 6.24 Post information about daily events occurring in your life (e.g., movie you saw recently, party you attended)
- 6.25 Post what you're doing that day.
- 6.26 Post links to videos or websites you find interesting
- 6.27 Looking at links to YouTube.com in people's profiles
- 6.28 Creating or RSVPing to events
- 6.29 Talk about drama in your life
- 6.30 Vent your frustrations
- 6.31 Post miscellaneous thoughts or feelings that occur to you
- 6.32 Send private message
- 6.33 Chat on Facebook chat/ messenger
- 6.34 Post on walls
- 6.35 Read your news feed
- 6.36 Create groups
- 6.37 Look at groups (reading posts)
- 6.38 Interact with groups (posting information)
- 6.39 Add or remove groups
- 6.40 Add or remove friends
- 6.41 Get information from others about a course
- 6.42 Post on your friends' walls

7. **Motivation**

Why do you use Facebook? Please indicate how true each of the statements below is for you:

Self-enhancement

- 7.1 To appear popular
- 7.2 To get attention from others
- 7.3 To entertain or amuse other people
- 7.4 Others are interested in what I am doing
- 7.5 Others are concerned with what I am doing
- 7.6 I want everyone to know what I am doing
- 7.7 It is important to me that other people know what I am doing
- 7.8 To look attractive to others
- 7.9 To make others want to be my friend
- 7.10 To show others how much I care about my family/friends
- 7.11 To have as many Facebook friends as possible
- 7.12 To gain admiration from my friends
- 7.13 To impress others
- 7.14 To show everybody my strengths
- 7.15 To see what people are saying about me

- 7.16 I like to read my newsfeed to see if my friends have mentioned me
- 7.17 It is important to me to know if anyone is saying anything bad about me on Facebook

Affiliation

- 7.18. It allows me to keep in touch with people from my past
- 7.19. It allows me to easily maintain long distance relationships
- 7.20. It is a quick and easy method of interacting with my friends/family/ To check in with friends and family
- 7.21. It allows me to get to know people better than I would have offline
- 7.22. It allows me to meet new people
- 7.23. To get to know others
- 7.24. To talk to others
- 7.25. To feel closer to other people
- 7.26. To get other people to feel closer to me
- 7.27. To be supportive of others
- 7.28. To stay in touch with people/ To keep in touch with friends
- 7.29. To become closer to others
- 7.30. To find out more about others
- 7.31. To socialise
- 7.32. To meet new friends
- 7.33. To find someone to become romantically involved with
- 7.34. To keep up with people I know in the real world
- 7.35. To network with friends
- 7.36. To network with family
- 7.37. To talk with people with similar interests or hobbies as mine
- 7.38. To stay connected with others from a real world group or community affiliation to which I belong
- 7.39. To check out someone I met socially
- 7.40. To learn more about other people in my classes
- 7.41. To learn more about other people living near me
- 7.42. To feel included
- 7.43. To get invited to social events

Self-expression

- 7.44 To express who I really am
- 7.45 To express aspects of myself that I'm not normally comfortable expressing offline
- 7.46 To express who I ideally want to be
- 7.47 To exaggerate information about myself
- 7.48 As a way to express my identity and opinions
- 7.49 To give people a better sense of who I really am
- 7.50 To express my opinions or personal interests to those who view my profile

Seek self-support

- 7.51 To post about what is bothering me
- 7.52 To vent when something is bugging me
- 7.53 To let people know that I am upset about something

Procrastination

- 7.54 As a way to avoid working
- 7.55 It provides a distraction from work or school
- 7.56 To delay studying or doing homework

Informational purposes

- 7.57 It provides me with information about topics of interest
- 7.58 To find and spread info
- 7.59 To keep abreast of current events
- 7.60 To find information on people
- 7.61 To contact classmates about class notes
- 7.62 To contact classmates about class assignments
- 7.63 To contact classmates about class projects
- 7.64 To get help with school work

Miscellaneous

- 7.65 All of my friends use it
- 7.66 To take a break while working
- 7.67 It allows me to collect information on people I am interested in
- 7.68 Just for fun
- 7.69 As a way to relax
- 7.70 To keep up with social happenings or events
- 7.71 Because I am bored
- 7.72 To see what people are doing
- 7.73 As a joke; to be silly or funny
- 7.74 As a forum to discuss serious topics (e.g., news events)

8. My Facebook Image

People who look at my Facebook Profile will think that I am:

- 8.1 Popular
- 8.2 Successful
- 8.3 Confident
- 8.4 Fashionable
- 8.5 Friendly
- 8.6 Outgoing
- 8.7 Warm
- 8.8 Affectionate

9. Feelings about Myself

Read each statement and select the answer that best describes you. There are no right or wrong answers; we are interested in your personal feelings and opinions.

- 9.1 On the whole, I am satisfied with myself
- 9.2 At times, I think I am no good at all
- 9.3 I feel that I have a number of good qualities
- 9.4 I am able to do things as well as most other people
- 9.5 I feel I do not have much to be proud of
- 9.6 I certainly feel useless at times
- 9.7 I feel that I'm a person of worth, at least on an equal plane with others
- 9.8 I wish I could have more respect for myself

- 9.9 All in all, I am inclined to think that I am a failure
- 9.10 I take a positive attitude toward myself

10. Your Wellbeing

We are interested in finding out about your wellbeing. There are no right or wrong answers. Please indicate how true each of the following statements is for you:

Generally....

- 10.1 I feel tense or wound up
- 10.2 I still enjoy the things I used to enjoy
- 10.3 I get a sort of frightened feeling as if something awful is about to happen
- 10.4 I can laugh and see the funny side of things
- 10.5 Worrying thoughts go through my mind
- 10.6 I feel cheerful
- 10.7 I can sit at ease and feel relaxed
- 10.8 I feel as if I am slowed down
- 10.9 I get a sort of frightened feeling like butterflies in the stomach
- 10.10 I have lost interest in my appearance
- 10.11 I feel restless as if I have to be on the move
- 10.12 I look forward with enjoyment to things
- 10.13 I get sudden feelings of panic
- 10.14 I can enjoy a good book or radio or TV programme

11. Positive relations with others

We would like to find out more about your relationships with others. Please indicate your agreement with the following statements, answering as honestly as you can.

- 11.1. Most people see me as loving and affectionate.
- 11.2 Maintaining close relationships has been difficult and frustrating for me
- 11.3 I often feel lonely because I have few close friends with whom to share my concerns
- 11.4 I enjoy personal and mutual conversations with family members or friends.
- 11.5 It is important to me to be a good listener when close friends talk to me about their problems.
- 11.6 I don't have many people who want to listen when I need to talk.
- 11.7 I feel like I get a lot out of my friendships.
- 11.8 It seems to me that most other people have more friends than I do.
- 11.9 People would describe me as a giving person, willing to share my time with others.
- 11.10 I have not experienced many warm and trusting relationships with others.
- 11.11 I often feel like I'm on the outside looking in when it comes to friendships.
- 11.12 I know that I can trust my friends, and they know they can trust me.
- 11.13 I find it difficult to really open up when I talk with others.
- 11.14 My friends and I sympathize with each other's problems.

12. Satisfaction with Life

We would like to know how you feel about your life. Please indicate your agreement to the following statements, answering as honestly as you can.

- 12.1 In most ways my life is close to my ideal
- 12.2 The conditions of my life are excellent
- 12.3 I am satisfied with life
- 12.4 So far I have gotten the important things I want in life
- 12.5 If I could live my life over, I would change almost nothing

Personality and Social Networking

DEBRIEF SHEET (Version 1, 03/06/2014)

Thank you for helping with this research, it is very much appreciated.

This study has been designed to investigate whether individuals with certain personality traits are more or less likely to use Facebook. We are also interested in whether people with different personality traits are motivated to use Facebook for different reasons (for example, for self-promoting or for making and maintaining friendships). We will examine whether success at fulfilling motives can lead to better psychological wellbeing (e.g. higher self-esteem).

Your anonymous data is now stored on secure computers. Your individual responses cannot be linked back to you.

If you have any questions or comments you can contact me, Camellia Kojouri, at ck2g12@soton.ac.uk. If you would like to talk to someone not directly involved in the project to ask a question or to make a complaint you can contact the ethics committee at 02380 593856.

If any of the questions in this survey have raised any concerns or you are experiencing difficulties with social networking, e.g., cyberbullying, please contact a trusted adult. You may also seek advice and support at www.samaritans.org.

A copy of the results of the study will be made available to your school in the summer term. If you would like a personal copy of the results of the study please contact me at ck2g12@soton.ac.uk.

Your responses have been saved on the University of Southampton's i-survey system. You may wish to either save or print a copy of this page for your records.

If you would like to find out more about this research area you may like to refer to the following papers:

Amichai-Hamburger, Y., & Vinitzky, G. (2010). Social network use and personality, *Computers in Human Behaviour*. 26, 1289-1295.

Brandtzaeg, P. B. (2012). Social networking sites: Their users and social implications- A longitudinal study. *Journal of Computer-Mediated Communication*, 17, 467-488.

If you would like to participate in the prize draw with a chance to win one of five £50 Amazon gift cards then please enter your name and school below and click here [Note, this will open a new i-survey so that data from the questionnaires cannot be linked with this identifying information].

For your chance to win one of five £50 Amazon gift cards please enter your name and email address below and click **next** at the bottom of the page.

Name _____ Email _____

Thanks again for your help.

Personality and Social Networking
SCHOOL CONSENT FORM (Version 1, 03/06/2014)

FAO: Dr Claire Hart (Researcher Supervisor)
 School of Psychology
 University of Southampton
 Highfield Campus
 Southampton
 SO17 1BJ
C.M.Hart@soton.ac.uk
 Office Tel: 023 8059 2638

Dear Dr Hart,

Please accept this email as confirmation that I agree to advertising the research study '*Personality and Social Networking*' in my school. I understand that this research will be conducted by Camellia Kojouri, an Educational Psychologist in Training, as part of her doctorate course. I accept responsibility for any parental objections that may arise.

Please initial the box(es) if you agree with the statement(s):

I have read and understood the participant information sheet

☐

(Version 1, 03/06/2014) and have had the opportunity to ask questions about the study.

I agree that my school will allow advertisement of this research project.

☐

I understand that children's participation is voluntary and that they may withdraw at any time without their legal rights being affected.

☐

I am happy to address any parent concerns regarding their child's participation in this project.

☐

Name and electronic signature of Head teacher:

.....

Name of School: Date:

Please email the completed form to Dr Claire Hart (Research Supervisor) at
C.M.Hart@soton.ac.uk

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