Corresponding Author: Dr. Jessica Morgan,

Corresponding Author's Institution: University of Greenwich

First Author: Rebecca Smith

Order of Authors: Rebecca Smith; Jessica Morgan; Claire Monks

Abstract: Two studies were conducted to examine perceptions of online social media ostracism among school and university students in order to further test Williams' need threat model. In both studies, participants were randomly assigned to read a vignette describing either inclusion or exclusion on Facebook, they were asked to imagine that they were the target of this inclusion/exclusion, and to estimate how they would feel. In study 1 (N=61, Mean age=16.98), participants in the excluded condition estimated a significantly higher threat to their sense of belonging compared to their sense of self-esteem, control and meaning. Study 2 (N=172, Mean age=18.83) replicated and extended these findings by comparing school and University students' views of social media ostracism whilst controlling for their technological familiarity with Facebook. Both school and university students detected social media ostracism and anticipated impacts on their mood and psychological needs. Social media vignette interacted with educational institution demonstrating that university students perceived social media ostracism more negatively and social media inclusion more positively. Taken together, these findings suggest that whilst both school and university students perceive social media ostracism as psychologically painful, those in their first year at University, who are particularly reliant on online social media, may be more sensitive to the potential effects of exclusion and inclusion on this platform.

Covering Letter

Department of Psychology, Social Work and Counselling

University of Greenwich

27.09.16

Dear Dr Ransdell,

Thank you very much for inviting us to resubmit our article 'Students' perceptions of the effect of social media ostracism on wellbeing'. All changes in the manuscript have been highlighted.

Many thanks,

Jessica Morgan

*Response to Reviewers

Thank you for your review of our manuscript – please find details of your requested revisions below. These changes are also highlighted in the revised manuscript.

List of changes

Reviewer comment	Change/addition
Could the authors provide any details to how representative their samples are?	See sections 6.2 and 10.2
What were the recruitment procedures?	More detail is now given about how representative the samples are, and about the recruitment procedures.
Could they discuss the limitations of such convenience samples in the research?	See section 11.1 Limitations of the sample are now acknowledged, and comments are now made on the generalisability of the findings.

*Highlights

Highlights

Effects of facebook ostracism among school and university students are compared

Both samples perceive facebook ostracism as psychologically painful

University students perceive facebook ostracism more negatively

University students perceive facebook inclusion more positively

University students appear more sensitive to exclusion and inclusion on this platform

Students' perceptions of the effect of social media ostracism on wellbeing

Drs Rebecca Smith, Jessica Morgan and Claire Monks

University of Greenwich

London, UK

Students' perceptions of the effect of social media ostracism on wellbeing

Abstract

Two studies were conducted to examine perceptions of online social media ostracism among school and university students in order to further test Williams' need threat model. In both studies, participants were randomly assigned to read a vignette describing either inclusion or exclusion on Facebook, they were asked to imagine that they were the target of this inclusion/exclusion, and to estimate how they would feel. In study 1 (N=61, Mean age=16.98), participants in the excluded condition estimated a significantly higher threat to their sense of belonging compared to their sense of self-esteem, control and meaning. Study 2 (N=172, Mean age=18.83) replicated and extended these findings by comparing school and University students' views of social media ostracism whilst controlling for their technological familiarity with Facebook. Both school and university students detected social media ostracism and anticipated impacts on their mood and psychological needs. Social media vignette interacted with educational institution demonstrating that university students perceived social media ostracism more negatively and social media inclusion more positively. Taken together, these findings suggest that whilst both school and university students perceive social media ostracism as psychologically painful, those in their first year at University, who are particularly reliant on online social media, may be more sensitive to the potential effects of exclusion and inclusion on this platform.

Keywords: ostracism, inclusion, exclusion, online communication, social networking, cyberbullying

1. Introduction

Psychologists have proposed that belonging is a fundamental human need; we need to experience positive, frequent and stable interactions with people who care about us, in order to stay mentally and physically well (Baumeister and Leary, 1995). The immediate effects of being ostracised or excluded include lower positive mood, higher negative mood and lower sense of belonging, self-esteem, meaningful existence and control (Williams, 2007); longer-term behavioural consequences of ostracism include decreased self-regulation and increased aggression and retaliatory behaviour (Baumeister, Brewer, Tice and Tweng, 2007). Therefore it is crucial to understand how people perceive ostracism and its effects. The studies reported here aim to investigate late adolescents' understanding of social media ostracism and its impact on well-being.

Using social networking sites (SNS) is among the most popular activities of today's young adults (Duggan, Ellison, Lampe, Lenhart, & Madden, 2014; O'Keeffe & Clarke-Pearson, 2011). Digital media technologies play a pivotal role in young people's experiences of friendship and identity, and online peer communication can promote important peer processes such as a sense of belonging and self-disclosure (Davis, 2012). However, not all online behaviour is positive; considerable levels of reported cyberbullying among secondary school pupils (Smith & Steffgen, 2013) and university students (Gahagan, Vaterlaus, & Frost, 2015). Whilst online exclusion is included in Li's (2007) taxonomy of seven types of cyberbullying, other research suggests that young adolescents do not spontaneously refer to ostracism when asked about types of cyberbullying (Baas, de Jong and Drossaert, 2013) and so it is unclear how such behaviour is understood by adolescents. Williams (2001) has argued that cyber-ostracism maybe more ambiguous due to technical issues such as connectivity providing an alternative explanation for non-reactance.

The current studies therefore sought to examine school and university students' perceptions of the effect of social media ostracism on their wellbeing. Whilst previous research on adults suggests that cyber ostracism has comparable effects to in-person ostracism (Hartgerink, van Beest, Wicherts, & Williams, 2015; Filipkowski and Smyth; 2012), this previous research focused respectively on participants' reactions to being excluded from virtual ball-toss games (Williams' cyberball paradigm), and an online chat room discussion. Therefore an investigation of younger children and adolescents' perceptions of the effects of social media ostracism was considered important and timely. A specific online social media platform, Facebook, was chosen in order to provide a realistic and familiar space within which participants could experience ostracism. Recent research suggests that despite the emergence of newer SNS, Facebook is still the most frequently used social networking site among today's teenagers (Fleming, Paderni, Elliott, Egelman & Glazer, 2015).

2. Williams' theory of ostracism

The threat of ostracism seems to be a widely spread if not universal social tool for increasing group cohesiveness (Gruter and Masters, 1986). Most people have experienced ostracism in one form or another (Williams 2002), it can be as subtle as avoiding eye contact, or as extreme as exile from society (Williams, Cheung and Choi, 2000). The experience of ostracism (being left out or excluded), has been shown to be hugely detrimental to mental health (Baumeister and Leary, 1995).

Williams (2009) proposes that ostracism is so damaging because it threatens four fundamental psychological needs: to belong; to have a sense of control; to experience self-esteem; and to feel one has a meaningful existence. Positive, frequent and stable interactions with others, who care about our wellbeing, are essential for maintaining these psychological needs and consequently our mental and physical health (Baumeister and Leary, 1995). When

we are ostracised, Williams (2009) suggests that these needs are threatened in a variety of ways. Disapproval from others can cue fears of social rejection and threaten our need to belong. Feeling like we are being punished for reasons unknown can lead to self-criticism and threatened self-esteem. Our sense of control can also be threatened by ostracism. This is because unlike other forms of conflict or disapproval (where we can defend ourselves, answer back, or shape the dialogue in some way), ostracism is unilateral: if the source will not engage with us, we are powerless to do anything. Finally, ostracism can threaten our sense of existential meaning, and even cue thoughts of our own death, by making us feel as though we do not matter, and that others barely notice we exist.

Williams argues that the immediate reaction to ostracism is reflexive, participants report depleted needs and negative mood, in particular sadness and anger. These immediate reactions have been shown to imitate feelings of physical pain (Eisenberger, Lieberman & Williams, 2003). They also seem impervious to moderation, (both in terms of who is ostracising us, and our individual differences). It seems we all detect ostracism quickly and feel it keenly.

The reflective stage is where people seek to rectify the situation. Williams (2007) has argued strategies typically follow one of two paths, pro or anti-social activities to fortify the threatened needs. He argues that threats to control and meaning lead to their re-assertion often through aggression, whereas threats to self-esteem and belonging are addressed through bridge building pro-social behaviour. The final stage in Williams' model concerns the long term effects of chronic ostracism, where he argues the victim becomes resigned. This is characterised by a sense of hopelessness. Research into the longer term effects of ostracism is mostly based on retrospective accounts since it is difficult to study experimentally.

2.1. Effects of cyber ostracism

The majority of research into virtual or online ostracism uses the cyberball paradigm (Williams, Cheung and Choi, 2000), as this is a relatively ethical way to manipulate inclusion and exclusion in an online game. In the original version of the experiment the participant is led to believe that they are playing with two other people also recruited online and this is used to either set up a cyber ostracism condition, or cyber inclusion. Just a short exposure to this minimal form of ostracism results in a significant decrease in participants' sense of belonging, self-esteem, control and a meaningful existence. In a review of 120 studies employing the cyberball paradigm, Hartgerink, van Beest, Wicherts, and Williams (2015) found that cyberball resulted in a large effect size for ostracism. The effects of online ostracism using the cyber ball paradigm included lower positive mood, higher negative mood and lower sense of belonging, self-esteem, meaningful existence and control (Williams, 2007). These effects were found to be generalizable across countries and gender.

Other research on the effects of cyber ostracism has compared the effect of in-person ostracism to that of virtual ostracism in an online chat room. Williams et al.(2002) found that whilst being ostracised in a chat room discussion appeared to protect participants against threats to their sense of self-esteem and control, it had similar negative effects to in-person ostracism on mood and sense of belonging. Filipkowski and Smyth (2012) compared ostracism in a chat room discussion (around a less controversial topic) to in-person ostracism, again finding that whilst chat room ostracism was less damaging to self-esteem, the two types of ostracism had comparable effects on participants' mood. Taken together, these findings suggest that whilst ostracism online and in-person may affect psychological needs differently, both types of ostracism may be similarly psychologically distressing.

2.2. Age differences in effects of cyber ostracism

Despite much of the rhetoric concerning the applied value of ostracism research to the increased understanding of its impact on adolescence (for example its application to high

school shootings), research on the effects of ostracism on children and young people is still very limited. However, adolescence may be a period during which individuals are particularly vulnerable to the effects of ostracism by peers given the increased amount of time spent with peers and increased levels of intimacy in peer friendships reported at this age (Berndt, 1982).

Abrams, Weick, Thomas, Colbe and Franklin (2011) simplified the cyberball paradigm so that it was appropriate for children as young as eight years old. These researchers compared ostracism effects for children aged between 8-9 years, children aged 13-14 years and young adults (20 year-old university students). This research used a number of cyberball stages to explore whether prior inclusion trials had an impact on subsequent exclusion trails. They also made sure that all participants' last experience of the game was an inclusion version. This was to safeguard against lasting effects of ostracism. Abrams et al. found that cyberball had a negative effect on all of their participants' needs, however, the type of effect it had was different depending on age group. Ostracism affected younger children's self-esteem more than it did the other needs, whereas for the teenagers it was their sense of belonging that ostracism targeted. Additionally these researchers compared the effect for gender of participant and gender of cyberball players (source of inclusion or exclusion), and this had no effect. Abrams et al. (2011) interpret their results as indicating that younger children have less of a frame of reference to draw positive esteem from. Similarly, they argue that belonging needs are more crucial to teenagers than they are to university students who can draw social resources from a number of areas (such as university friends, friends from school, work, romantic relationships).

Examining age effects among older participants, Pharo, Gross, Richardson, and Hayne (2011) found stronger effects of ostracism via cyberball among adolescents (13-17 years) and emerging adults (18-22 years) compared to young adults (23-27 years). They interpret this as being related to the relative importance of the peer group at these ages.

7

However, not all research has reported age effects. A recent meta-analysis of research using cyberball among participants aged 10 to 32 years found no effect of age on ostracism (Hartgerink et al., 2015).

3. Social networking sites and cyberbullying

The focus of the current research was online ostracism in the context of social media use. Online social networking is one of the most popular activities of today's adolescents, with the majority of young people reporting using social networking sites (SNS) (Duggan, Ellison, Lampe, Lenhart, & Madden, 2014, O'Keeffe & Clarke-Pearson, 2011). Digital media technologies play a pivotal role in adolescents' experiences of friendship and identity, and online peer communication can support identity development during adolescence by promoting important peer processes such as a sense of belonging and self-disclosure (Davis, 2012). Research has shown students' motivations for using SNS include expressing classic identity markers of emerging adulthood (Pempek, Yermolayeva & Calvert, 2009); getting in contact with new people, keeping in touch with existing friends and general socialising (Brandtzæg & Heim, 2009); presenting, managing and forging identity and managing relationships (Dunne, Lawlor & Rowley, 2010). For older adolescents, keeping in touch with existing friends was citing as the most important reason for using SNS (Pempek et al., 2009).

However, the flip side is that cyberbullying is the most common online risk for all teens (O'Keeffe & Clarke-Pearson, 2011). Although secondary school has been a focus for much research into cyberbullying, reporting considerable levels of involvement among adolescents in a variety of different countries (Smith & Steffgen, 2013), recent studies have found that university/college students also report experiencing cyberbullying (Gahagan, Vaterlaus, & Frost, 2015). According to Gahagan et al. (2015), 19% of college students (aged 18-25 years) reported experiencing cyberbullying via SNS. Furthermore, cyberbullying

involvement (as a perpetrator or victim) has been found to be related to depression among female college students (Selkie, Kota, Chan, & Moreno, 2015).

4. Rationale for the current research

The current studies sought to examine perceptions of social media ostracism among school and university students. Whilst previous research on adults suggests that online ostracism is both perceived and experienced as psychologically damaging (Hartgerink, van Beest, Wicherts, & Williams, 2015; Filipkowski and Smyth; 2012), this previous research focused respectively on participants' reactions to being excluded from virtual ball-toss games (Williams' cyberball paradigm), and an online chat room discussion. The use of SNS is a qualitatively different context within which to examine students' perceptions of ostracism. Since manipulating social media ostracism raises serious ethical issues for younger participants, in the present studies, participants were randomly assigned to read a vignette describing either inclusion or exclusion on social media, and asked to estimate their psychological responses after imagining they were the person in that scenario.

Rather than chat room discussions, the current studies sought to focus on social media ostracism, specifically Facebook interactions, because of their high relevance for present day teenagers. This also highlighted different elements of the exclusion situation: previously, chat room studies have introduced new people to the participant, whereas in the current studies, the use of vignettes allowed us to explore how participants understand ostracising behaviour from existing friends and acquaintances. Research on emerging adults' use of social networking sites (Subrahmanyam, Reich, Waechter & Espinoza, 2008) shows that there is an overlap between participants' online and offline networks, with participants frequently using SNS to connect and reconnect with friends and family members. Emerging adults report using SNS to strengthen different aspects of their offline connections, potentially making this a medium with more social significance and higher stakes than the more anonymous

encounters with faceless strangers typical of chat room discussions or games of cyberball. Conversely, the ambiguity of online contexts more generally, due to technical issues such as connectivity providing an alternative explanation for non-reactance (Williams, 2001) may buffer some of the deleterious effects of online ostracism. Factors unique to SNS such as the ability to modify notification settings, message alerts and news feed display may present further ambiguity in social media ostracism situations.

The unique nature of SNS plus its special significance for students' presentation, formation and management of identify and relationships (Dunne, Lawlor & Rowley, 2010) therefore calls for research into the effects of ostracism specifically on this platform. Considering secondary school and university students' heavy use of SNS (Duggan, Ellison, Lampe, Lenhart, & Madden, 2014; O'Keeffe & Clarke-Pearson, 2011) and their vulnerability to cyberbullying (Gahagan, Vaterlaus, & Frost, 2015; Smith & Steffgen, 2013) which can include virtual ostracism or exclusion (Li, 2007), investigation of younger children and adolescents' perceptions of the effects of social media ostracism was considered important and timely.

5. Study 1: school students' perceptions of social media ostracism

Study 1 aimed to examine perceptions of online social media ostracism among secondary school pupils. Participants were randomly assigned to read a vignette describing either inclusion or exclusion on social media, and asked to estimate their psychological responses after imagining they were the person in that scenario. It was hypothesised that school students would perceive social media ostracism as threatening to their psychological needs for self-esteem, belonging, control and a meaningful existence. Furthermore, it was predicted that the anticipated impact of social media ostracism would be more pronounced on adolescents' need to belong in line with Abrams et al.'s (2011) findings for this age group.

6. Study 1 method

6.1. Design

An independent experimental design was used to compare students' anticipated wellbeing scores across social media vignettes (ostracism vs. inclusion).

6.2. Participants

An opportunity sample of students was recruited from a selective, independent secondary school in South-East England during their psychology class. Students were self-selecting (they were given information about the study and then volunteered to take part). Whilst ethnicity and socio-economic status were not recorded, students from white ethnic backgrounds and higher socio-economic groups tend to be over-represented in fee-paying school populations. Sixty-one 16-18 year olds (50% female; M age = 16.98, SD = .77) volunteered to take part out.

6.3. Procedure

Participants were randomly assigned to conditions where they were asked to read a social media (Facebook) newsfeed in which a person was either ostracised or included. They were asked to imagine how they would feel if this happened to them, before completing the dependent variable measures of need threat. All participants were then fully debriefed.

6.4. Measures

6.4.1. Need Threat

Threat to four psychological needs was measured using Williams' (2009) need threat scale comprising four five-item subscales. Items measured belonging (e.g. "I feel I belong to a group"), self-esteem (e.g. "I feel good about myself"), control (e.g. "I feel I have control") and meaning (e.g. "I feel important"). Participants were instructed: "After reading the Facebook scenario and imagining that this is happening to you, please read each statement and indicate the number that best describes how you feel at this moment". They responded on a scale ranging from 1 (Disagree strongly) to 5 (Agree strongly). Reliability coefficients

in the current study were α= .95 for belonging, α=.88 for self-esteem, α=.93 for meaning and α=.80 for control.

6.5 Social media vignettes

5.5.1. Ostracism

In this condition, participants were asked to read a short story and imagine that they were the main character. They were asked to think carefully about how they would feel in this situation:

> A little while ago you started to notice that people weren't talking to you as much on Facebook anymore. To start with you think that this is because some of your friends have left Facebook altogether because they are no longer in your list of friends. But then you notice one of them comment on somebody else's post. You investigate a bit further and find out that three of your friends have de-friended you but are still using Facebook regularly to chat to other friends. You try to participate more and update your status more regularly with comments you think are funny and some video clips but nobody reacts to any of them. You also notice that when you comment on other people's threads your comments are ignored like this.

Participants were then shown a fake Facebook newsfeed that had been created by the researchers using free online software (see appendix A for text), after which they read the following:

> You think maybe you're being paranoid so you keep track of things and notice that even though you write stuff every day, nobody has messaged you, commented or liked anything you've added and they don't react to the things you write on other people's profiles. You try to do something about it so you set up an event- you invite all your friends, but none accept the invitation. You message them about it but get no reply from anyone.

5.5.2. Inclusion

In this condition, participants were asked to read a short story and imagine that they were the main character. They were asked to think carefully about how they would feel in this situation:

> A little while ago you started to notice that you haven't been on Facebook as much as before and wonder if it is becoming out-dated. You decide to participate more and update your status more regularly with comments you think are funny and some video clips and you find that people you haven't spoken to in a while get back in contact with you. You also notice that when you comment on other people's threads people usually reply and often 'like' what you have written.

Participants were then shown a fake Facebook newsfeed that had been created by the researchers using free online software (see appendix B for text), after which they read the following:

> You remember how fun it can be to discuss things with friends online and find that the more messages you send, the more that you get back. You learn about what friends you haven't seen for a while are getting up to and get included in more group discussions that can be really funny. You set up an event and find that more people than you had expected reply to you and want to come along.

6.5.3. Manipulation check

Participants were asked to rate two statements ("If I was the person in this story I would feel included" and "If I was the person in this story I would feel left out") on a scale ranging from 1 (Disagree strongly) to 5 (Agree strongly).

7. Results

7.1. Manipulation check

As a manipulation check the participants were asked the extent to which they would feel included and left out if they were the person described in the Facebook scenario. Results showed that the participants in the imagined ostracism condition (M=1.41, SD=0.68) reported that they would feel significantly less included than those in the control condition (M=4.23 SD=0.99), $t(58)$=12.72, $p<0.001$. Participants in the imagined ostracism condition also reported that they would feel significantly more left out (M=4.28, SD=0.96) than those in the control condition (M=1.87, SD=0.85), $t(58)$=10.31, $p<0.001$.

7.2. Need threat

MANOVA was conducted with social media vignette (ostracism vs. inclusion) as the independent variable and perceived effects on the four needs of belonging, self-esteem, meaning and control as the dependent variables. Descriptive statistics are shown in table 1.

Table 1
Mean (SD) need scores across social media vignettes

				Needs	
	N	Belonging	Self-esteem	Meaningful existence	Control
Ostracism	29	2.27 (1.31)	2.63 (1.15)	2.70 (1.32)	2.50 (1.04)
Inclusion	32	3.82 (1.02)	3.50 (0.83)	3.68 (0.80)	3.08 (0.70)
Total		3.08 (1.40)	3.09 (1.08)	3.22 (1.18)	2.80 (0.92)

There was a significant multivariate effect of social media vignette on students' anticipated threats to the four needs (Pillai's Trace=.36, $F(4, 56)$=7.77, p=.00). Univariate analyses revealed that compared to being included on social media, students perceived social media ostracism as significantly more threatening to their sense of belonging ($F(1, 59)$=26.74, p=.00), meaning ($F(1, 59)$=12.42, p=.00), self-esteem ($F(1, 59)$=11.65, p=.00), and control ($F(1, 59)$=6.45, p=.01). Effect sizes indicated a moderate anticipated effect of social media ostracism on sense of belonging (μ=.31) and small anticipated effects on meaning (μ=.17), self-esteem (μ=.17) and control (μ=.10).

8. Study 1 discussion

As predicted, secondary-school pupils perceived social media ostracism as threatening to their psychological needs for self-esteem, belonging, control and a meaningful existence. Anticipated effects of social media ostracism appeared to mimic the pattern of actual effects found by Williams et al. (2000) using the cyberball paradigm. Furthermore, the heightened anticipated effects of social media ostracism on belonging are in line with previous findings that cyber ostracism disproportionately affects teenagers' need to belong. Abrams et al. (2011) found differences between teenagers' and young adults' responses to cyber ostracism in a virtual ball-toss game, with the former age group reporting a stronger threat to their need to belong. They argued that their findings may reflect fundamental differences between the school and university environments. Whereas university students have opportunities to choose their group affiliations from a wide range of sources including ex-school friends and romantic partners, secondary-school students have a smaller pool of potential friends at their disposal, and are thus more reliant on the acceptance of their school-age peers and more vulnerable to threats to their need to belong (Abrams et al., 2011). However, findings that university students report using social media primarily for keeping in touch with existing friends (Pempek et al., 2009) suggest that whilst they may have a larger pool of potential friends than school students, they may also be more reliant on SNS for maintaining and managing their friendships. Thus compared to school students, university students may be more vulnerable to ostracism when it involves SNS, and may be expected to report more negative perceptions of the effects of ostracism on this specific platform. These speculations led to the question of how school and university students' perceptions of social media ostracism would compare to one another.

9. Study 2: comparing school and university students' perception of social media ostracism

The primary aim of study 2 was to compare school and University students' views of social media ostracism, by investigating the effects of institutional environment on students' anticipated reactions to being excluded or included on social media. Students at school in their late teens were compared to students at university in their late teens and early 20s. In addition to measuring students' anticipated need threat, measures of anticipated positive and negative effect were also administered to further explore participants' perceptions of social media ostracism. A further aim was to replicate the findings of study 1 whilst controlling for students' technological familiarly with the SNS platform (Facebook) used in the social media vignettes.

To sum up, study 2 sought to investigate the effects of educational environment on students' perceptions of social media in relation to a wider range of wellbeing measures, whilst controlling for social media use. It was hypothesised that students would perceive social media ostracism as threatening to mood and the four psychological needs, and that the ostracism experience would have a more pronounced anticipated effect on participants' need to belong compared to the other needs. It was also predicted that anticipated reactions to ostracism would differ across students' educational environment.

10. Study 2 method

10.1. Design

A 2 x 2 independent quasi-experimental design was used to compare students' anticipated wellbeing scores across vignettes (ostracism vs. inclusion) and educational environment (school vs. university) whilst controlling for Facebook use.

10.2. Participants

An opportunity sample of students was recruited from a state-funded secondary school and a New University in London during psychology classes. Students were self-selecting (they were given information about the study and then volunteered to take part). Whilst ethnicity

and socio-economic status were not recorded, the ethnic and socio-demographic background of these populations is more diverse than that of study 1. At the school as a whole, 8% of pupils have a first language other than English and 20% qualify for free school meals (above the current national average). At the University as a whole, 50% of students are from white ethnic backgrounds and most students (80%) are British. Eighty-six school students (61% female, *M* age=16.26, *SD*=.56) and eighty-six university students (87% female, *M* age=19.08, *SD*=.91) volunteered to take part.

10.3. Procedure

Participants were then randomly assigned to conditions where they were asked to read a social media (Facebook) newsfeed in which a person was either ostracised or included. They were asked to imagine how they would feel if this happened to them, before completing the dependent variable measures of need threat and mood, and reporting their Facebook use. All participants were then fully debriefed.

10.4. Measures

10.4.1. Need threat

Need threat was measured with the same scales as in study 1 (see section 6.4 above). Reliability coefficients for the current sample were α=.94 for belonging, α=.90 for self-esteem, α=.84 for meaning and α=.80 for control[1], α=.79 for positive affect and α=.86 for negative affect.

10.4.2. Mood

This was measured using the 20-item Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988) which lists 10 positive moods (e.g. "Interested", "Excited", "Strong") and ten negative moods (e.g. "Distressed", "Upset", "Irritable"). Participants were instructed: "Again, thinking back to the facebook scenario and imagining

---

[1] After removing one item "I feel I am unable to influence the action of others"

the person described was you; please indicate how you would feel using the scale below".

They responded on a scale ranging from 1 (Very slightly or not at all) to 5 (Extremely).

Reliability coefficients for the current sample were α=.79 for positive affect and α=.86 for

negative affect.

10.4.3. Facebook use

Participants were asked to self-report their frequency of Facebook use with the question "how

often do you use the social networking site Facebook" on a scale ranging from 1 to 5

(1=never, 2=not often, 3occasionally, 4=often, 5= all the time).

10.5. Social media vignettes and manipulation check

Participants were randomly assigned to a social media ostracism or inclusion condition using

identical materials to those used in study 1. The same manipulation checks from study 1

were also used (see section 6.5 above).

10. Results study 2

10.1 Manipulation check

Participants in the imagined ostracism condition reported that they would feel significantly

more left out (*M*=4.45, *SD*=.97) than those in the control condition (*M*=2.11 *SD*=1.20),

t(163.74)=13.97, *p*<0.001. Participants in the imagined ostracism condition also reported that

they would feel significantly less included (*M*=1.48, *SD*=.10) than those in the control

condition (*M*=3.72, *SD*=.13), *t*(156.95)= ⁻13.57, *p*<0.001. Furthermore, both school and

university participants reported highly significant differences across conditions in feeling left

out or included (all *p*s <.001).

10.2. Facebook use

Self-reported Facebook use was significantly higher for university students (*M*=4.13,

SD=.89) than it was for school students (*M*=2.62, *SD*=1.22, *t*(26.92)=5.83, *p*=.00). School

students' average response to the question "how often do you use the social networking site

Facebook) fell between "3=not often" and "4=occasionally", whereas university students'

average response fell between "4=often" and "5=all the time". However due to an oversight

in questionnaire design there was a poor response-rate to this question among university

students (17% of university students compared to 99% of school students responded).

10.3. Need threat and mood

A 2 x 2 MANOVA[2] was conducted with the independent variables of condition (ostracism

vs. inclusion) and education environment (school vs. university). The dependent variables

were students' anticipated effects on their sense of belonging, self-esteem, meaning, control,

positive affect and negative affect. Descriptive statistics are shown in Table 2 below.

Multivariate effects showed a significant main effect of social media vignette (Pillai's

Trace=.41, $F(6, 155)$=18.13, p=.00), and a significant interaction effect of social media

vignette and educational environment (Pillai's Trace=.09, $F(6, 155)$=2.58, p=.02) on

students' anticipated threats to their wellbeing. Univariate analyses revealed that compared to

being included on social media, students perceived social media ostracism as significantly

more threatening to their sense of belonging ($F(1, 160)$=104.22, p=.00), self-esteem ($F(1,

160)$=56.97, p=.00), meaning ($F(1, 160)$=56.05, p=.00), control ($F(1, 160)$=38.06, p=.00),

negative affect ($F(1, 160)$=11.96, p=.00) and positive affect ($F(1, 160)$=17.20, p=.00).

Social media vignette interacted with educational environment to predict students' anticipated

threats to their sense of belonging ($F(1, 160)$=8.29, p=.01), self-esteem ($F(1, 160)$=9.22,

p=.00), meaningful existence ($F(1, 160)$=9.38, p=.00), control ($F(1, 160)$=6.67, p=.01) and

positive affect ($F(1, 160)$=8.02, p=.01). Effect sizes for the main effects were small to

moderate (μ ranged from .10 to.39) with the strongest effect on sense of belonging. Effect

sizes for the interaction effects were small (μ ranged from .04 to.06).

---

[2] A 2 x 2 MANCOVA was also conducted with the same independent and dependent variables but controlling for Facebook use. All significant main effects and interaction effects held when students' self-reported Facebook use was entered as a covariate in the analysis. However, results of MANOVA are reported here due to missing data in the intended covariate (Facebook use).

Figure 1 suggests that compared to school students, university students perceived social media ostracism as more threatening and inclusion as more beneficial to their needs and mood. Follow-up t-tests confirmed that university students anticipated more threats to belonging ($t(77)=2.14$, $p=.02$) and (marginally) self-esteem ($t(78)=1.84$, $p=.07$) following ostracism, whereas they anticipated more benefits to self-esteem ($t(89)=-2.33$, $p=.02$), meaning ($t(77.89)=-2.60$, $p=.01$), control ($t(88)=-3.12$, $p=.00$) and positive affect ($t(86.38)=-3.55$, $p=.00$) following inclusion.

Table 2
Mean (SD) need and affect scores across independent variables

				N	Meaning	Belong	SE	Control	PA	NA
Social Media Vignette	Ostracism			80	2.54 *(1.20)*	2.08 *(1.10)*	2.24 *(1.07)*	2.35 *(.94)*	1.80 *(.62)*	2.75 *(1.01)*
	Inclusion			92	3.79 *(.89)*	3.80 *(.99)*	3.44 *(.93)*	3.24 *(.75)*	2.50 *(.98)*	2.10 *(.99)*
Educational Environment	School			86	3.10 *(1.15)*	3.00 *(1.29)*	2.80 *(1.03)*	2.62 *(.78)*	1.94 *(.67)*	2.51 *(1.09)*
	University			86	3.24 *(1.25)*	2.99 *(1.38)*	2.90 *(1.22)*	2.89 *(1.01)*	2.27 *(.96)*	2.36 *(1.03)*
Social Media Vignette:	Ostracism	Educational Environment:	School	42	2.78 *(1.16)*	2.43 *(1.20)*	2.49 *(1.00)*	2.37 *(.97)*	1.91 *(.54)*	2.75 *(1.01)*
			University	38	2.34 *(1.18)*	1.83 *(1.01)*	2.05 *(1.10)*	2.17 *(1.08)*	1.86 *(.55)*	2.72 *(.90)*
	Inclusion		School	44	3.42 *(1.05)*	3.55 *(1.14)*	3.11 *(.98)*	2.79 *(.75)*	2.03 *(.67)*	2.20 *(.90)*
			University	48	3.93 *(.79)*	3.90 *(.93)*	3.57 *(.90)*	3.34 *(.89)*	2.60 *(.86)*	2.21 *(.85)*

Note. Belong = Belonging, SE = Self Esteem, PA = Positive Affect, NA = Negative Affect.

Figure 1. Graphs to show interaction of social media vignette and educational environment on participants' anticipated needs and mood when controlling for Facebook use
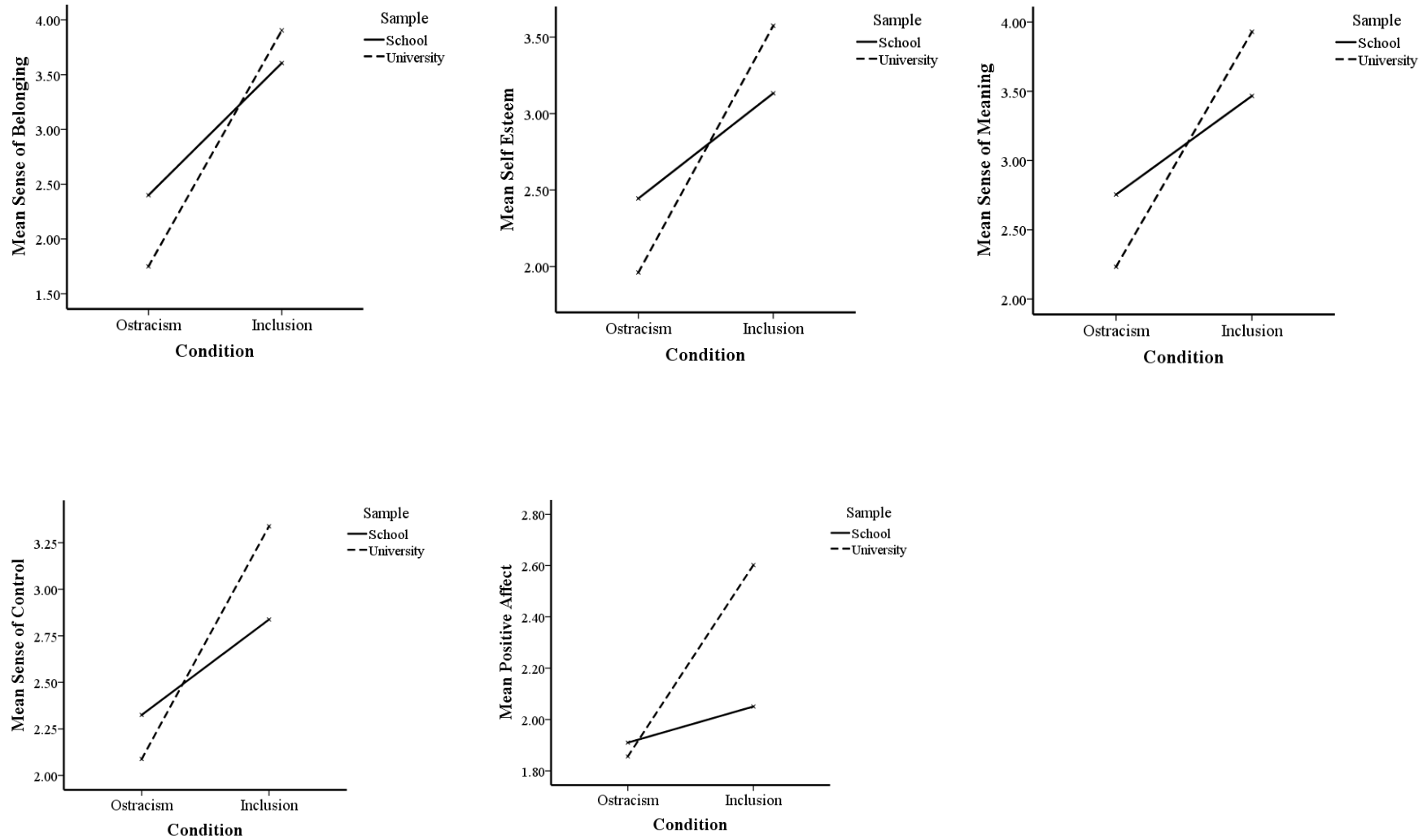
11. General discussion

In study 1 it was hypothesised that school students would perceive social media ostracism as threatening to their psychological needs for self-esteem, belonging, control and a meaningful existence. Furthermore, it was predicted that the anticipated impact of social media ostracism would be more pronounced on these adolescents' need to belong. These predictions were confirmed, suggesting that anticipated effects of social media ostracism appear to mimic the pattern of actual effects found by Williams et al. (2000) using the cyberball paradigm. The heightened effect of the manipulation on participants' need to belong is also in line with Abram et al.'s findings for teenagers when using a simplified cyberball game designed for children. Abrams et al. (2011) suggested that heightened belonging threat following ostracism may reflect UK secondary school pupils' precarious social networks resulting from assignment to multiple classes whose membership changes from class to class, depending on the topic being taught. This context may lead to a heightened need to belong (and sensitivity to threat) on this platform in an age group for whom not only is social connection and belongingness crucial (Harris, 1995) but for whom online communication, internet disclosure and closeness to friends are closely linked (Valkenburg and Peter, 2007). Whilst participants in study 1 were slightly older teenagers (mean age = 16 years) compared to the 13-14 year-olds of Abrams et al.'s sample, their educational environment shared many of the features suggested to contribute to the importance ascribed to membership of peer networks and social cliques in adolescence.

Study 2 sought to replicate and extend these findings by comparing school and university students' perceptions of social media ostracism in relation to a wider range of wellbeing measures, whilst simultaneously controlling for Facebook use. It was hypothesised that students would perceive social media ostracism as threatening to mood and the four psychological needs, and that the ostracism experience would have a more pronounced

anticipated effect on participants' need to belong compared to the other needs. It was also predicted that anticipated reactions to ostracism would differ across students' educational environment. The first prediction was confirmed by a main effect of social media vignette on participants' anticipated need threat and mood. As predicted the largest effect was on participants' anticipated need to belong. Perceptions of social media ostracism also significantly differed across institutional environment. Compared to school students, university students perceived social media ostracism as more threatening to their sense of belonging and self-esteem, and social media inclusion as more beneficial to their sense of self-esteem, meaning, control and positive affect. That the university students were more sensitive to social media ostracism than the school students may appear contrary to the developmental importance of peer-group socialisation in childhood and adolescence (Harris, 1995). However the findings are more likely reflecting the environmental context of the older cohort. The university students (mean age=19 years) were in their first term of their first year of an undergraduate degree. They were attending multiple seminar classes where membership changes across each taught subject, a situation which Abrams et al. (2011) suggests may contribute to precarious social networks and heightened belonging threat. In addition to this, many first-year students have left home for the first time, perhaps leaving behind parents, siblings, romantic partners or ex-school friends. Research has highlighted the importance of social support for first-year undergraduates (Tao, Dong, Pratt, Hunsberger, & Pancer, 2000). They may rely on online social networking sites to keep in touch with ex-school friends or to help establish new peer networks at university, both of which could explain their heightened sensitivity to being included or left out on this platform. Thus the results for this cohort are consistent with findings that first-year university students are in a relatively unstable and transitional period of their lives, where issues of belonging, peer

acceptance, friendship formation and maintenance are paramount, and where reliance on social media to meet these needs is high (Stuart, Lido, Morgan, Solomon, & May, 2011).

11.1. Limitations

There are a number of limitations to consider when interpreting these findings. Firstly, measuring students' anticipated reactions rather than actual reactions to social media ostracism, whilst ethically preferable does introduce a level of complexity that could be problematic. Although there is a precedence for measuring anticipated reactions to ostracism (Filipkoski & Smyth, 2012; Over & Askul, 2016) the social media vignettes may have been more difficult for younger participants to fully grasp. Imagining reactions to ostracism requires a level of emotional intelligence and perspective-taking, so school and university students' different perceptions of social media inclusion could feasibly reflect age differences in empathy sophistication. However, school and university students shared similar perceptions of the effects of social media ostracism and inclusion on needs and mood, suggesting that both cohorts sufficiently understood and engaged with the social media vignettes.

A second limitation of measuring students' anticipated reactions rather than actual reactions to social media ostracism concerns the phenomenon of affective forecasting (Gilbert, 1998) whereby participants consistently over-estimate the psychological effects of future unpleasant events. Previous research comparing virtual ostracism in an internet chat room to in-person ostracism found that participants did over-estimate some of the effects of ostracism, perhaps because there is often a state of affective numbing immediately following real-life ostracism (Filipkoski & Smyth, 2012). Therefore it is important to note that the actual effects of social media ostracism may be slightly smaller than the anticipated effects reported in the current study.

It should be noted that the control condition was not neutral, asking participants to imagine a scenario on Facebook in which they were included. Therefore the present findings may be in part reflecting positive supportive effects of inclusion as well as the negative effects of ostracism. It could also be argued that the social media vignettes, which focused on inclusion and exclusion on Facebook specifically, could have been more relevant to older students more familiar with this platform. However, a specific social media newsfeed was considered preferable in order to make the vignettes more realistic, and Facebook was chosen in light of school and university students' heavy use of this particular SNS (Pempek, Yermolayeva & Calvert, 2009). Students' familiarity with Facebook (measured by self-reported Facebook use) was controlled for in study 2. Whilst the usefulness of this covariate was somewhat compromised by missing data, the same pattern of findings was found both with and without controlling for facebook use (see section 10.3 above). School students reported using facebook less than university students, suggesting they were less technologically familiar with this platform. Future research into younger students' perceptions of social media ostracism should investigate newer and emerging social media platforms such as What'sapp, Telegram, Instagram or Snapchat, which may be more readily adopted by younger adolescents.

The generalisability of these findings is limited by the use of self-selecting opportunity samples of students from two secondary schools and one university. Students from minority ethnic backgrounds and lower socio-economic groups were under-represented in study 1's school population; however findings were replicated in study 2 which recruited from populations where students from non-white and lower socio-economic backgrounds were over-represented. More research is needed to examine the impact of minority experience on the effects reported here. For example, students who are marginalised in terms of gender, sexuality, poverty or ethnic background may be more affected by inclusion or

Taken together, the current studies provide valuable insight into students' perceptions of social media ostracism. These findings point to positive supportive effects of social media inclusion as well as negative effects of social media ostracism, and add to the growing literature on different forms of online ostracism (Kassner, Wesselmann, Law, & Williams, 2012). This has implications for supportive interventions, particularly for those new to Higher Education. Findings highlight the vulnerability of first-time university students and point to the importance of future research investigating ways to best support them. Compared to school students, university students perceived social media inclusion more positively and social media ostracism more negatively, leading to the possibility that social media inclusion could form the basis of successful support interventions for those making the transition to University.

Williams (2007) argues that people typically attempt to reassert thwarted control and meaning needs through aggressive behaviour, emphasising a theoretical link between peer group ostracism and anti-social, aggressive or even violent behaviour such as high-school shootings. The current finding that both school and university students perceive effects of social media ostracism on these particular needs therefore has implications for understanding and preventing anti-social or aggressive student behaviour. Research points to a high prevalence of aggressive behaviour on university campuses (Koss, Gidycz& Wisniewski, 1987). Furthermore, in UK the intensifying marketisation across higher education may have served to amplify the expression of narcissistic or aggressive tendencies that sometimes underpin student 'satisfaction' and 'dissatisfaction' (Nixon, Scullion & Hearn, 2016). Therefore, social media inclusion may offer a potential and timely solution for improving student wellbeing and reducing aggressive behaviour.

Finally, imagining social media ostracism or inclusion in this way may also be relevant for cyberbullying intervention and prevention work. Recent studies suggest that cyberbullying is a serious issue for school students (Smith & Steffgen, 2013) and university/college students with 19% of college students (aged 18-25 years) reporting experiencing cyberbullying via SNS (Gahagan, Vaterlaus, & Frost, 2015) and cyberbullying involvement (as a perpetrator or victim) being found to be related to depression among female college students (Selkie, Kota, Chan, & Moreno, 2015). Perspective-talking vignettes such as those used in the current studies may contribute to these programmes by raising awareness of the potential effects of social media ostracism/inclusion and enhancing empathy towards the victims of cyberbullying.

12. Conclusions

In summary, these two studies provided valuable insight into young people's perceptions of the effect of social media ostracism. Students' anticipated effects of being ostracised and included on social media appeared to mimic the pattern of effects found in previous research on being ostracised in virtual ball-toss games (Williams, 2007). Social media ostracism was perceived by both university and secondary-school students as threatening to mood and psychological need fulfilment (particularly the need to belong). Study 2 showed that this effect was even more pronounced in a first year university sample, indicating that these students are potentially more sensitive to inclusion and exclusion on this platform. These findings suggest that there are potential benefits of interventions that promote social media inclusion to both student wellbeing and behaviour.

References

Abrams, D., Weick, M., Thomas, D., Colbe, H., & Franklin, K. M. (2011). On-line ostracism
affects children differently from adolescents and adults. *British Journal of
Developmental Psychology*, *29*(1), 110-123. doi: 10.1348/026151010X494089.

Baas, N., de Jong, M. D., & Drossaert, C. H. (2013). Children's perspectives on
cyberbullying: Insights based on participatory research. *Cyberpsychology, Behavior,
and Social Networking*, *16*(4), 248-253. doi:10.1089/cyber.2012.0079.

Baker, H. S., & Baker, M. N. (1987). Heinz Kohut's self-psychology: An overview. *The
American Journal of Psychiatry*, 144, 1-8. doi: 10.1176/ajp.144.1.1.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal
attachments as a fundamental human motivation. *Psychological Bbulletin*, *117*(3),
497. doi: 10.1037/0033-2909.117.3.497.

Brandtzæg, P. B., & Heim, J. (2009, July). Why people use social networking sites. In
International Conference on Online Communities and Social Computing (pp. 143-
152). Springer Berlin Heidelberg.

Berndt, T. J. (1982). The features and effects of friendship in early adolescence. *Child
Development, 53,* 1447-1460. doi: 10.2307/1130071.

Davis, K. (2012). Friendship 2.0: Adolescents' experiences of belonging and self-disclosure
online. *Journal of Adolescence*, *35*(6), 1527-1536. doi:
10.1016/j.adolescence.2012.02.013.

Detrick, D. W. (1985). Alterego phenomena and alterego transferences. In A. Goldberg (Ed.),
Progress in Self Psychology (pp. 240-256). NewYork: Guilford Press.

Duggan, M., Ellison, N. B., Lampe, C., Lenhart, A., & Madden, M. (2015). *Frequency of
social media use.* Pew Research Center. Retrieved from
http://www.pewinternet.org/2015/01/09/frequency-of-social-media-use-2/.

Dunne, Á., Lawlor, M. A., & Rowley, J. (2010). Young people's use of online social networking sites-a uses and gratifications perspective. *Journal of Research in Interactive Marketing*, *4*(1), 46-58. doi: 10.1108/17505931011033551.

Fleming, G., Paderni, L.S., Elliott, N., Egelman, W. & Glazer, L (2015). Facebook (still) dominates teens' social usage. Forrester Report accessed 09/08/2016 from https://www.forrester.com/report/Brief+Facebook+Still+Dominates+Teens+Social+U sage/-/E-RES128802.

Filipkowski, K. B., & Smyth, J. M. (2012). Plugged in but not connected: Individuals' views of and responses to online and in-person ostracism. *Computers in Human Behavior*, *28*(4), 1241-1253. doi: 10.1016/j.chb.2012.02.007.

Gahagan, K., Vaterlaus, J. M., & Frost, L. R. (2016). College student cyberbullying on social networking sites: conceptualization, prevalence, and perceived bystander responsibility. *Computers in Human Behavior, 55,* 1097-1105. doi: 10.1016/j.chb.2015.11.019

Gruter, M., & Masters, R. D. (1986). Ostracism as a social and biological phenomenon: An introduction. *Ethology and Sociobiology*, *7*(3), 149-158.doi: 10.1016/0162-3095(86)90043-9.

Harris, J. R. (1995). Where is the child's environment? A group socialization theory of development. *Psychological review*, *102*(3), 458.doi: 10.1037/0033-295x.102.3.458

Hartgerink C. H. J., van Beest I., Wicherts J. M., & Williams K. D. (2015). The ordinal effects of ostracism: a meta-analysis of 120 cyberball studies. *PLoSONE 10(5):* e0127002. doi:10.1371/journal.pone.0127002.

Kassner, M. P., Wesselmann, E. D., Law, A. T., & Williams, K. D. (2012). Virtually ostracized: studying ostracism in immersive virtual environments. *Cyberpsychology, Behavior, And Social Networking, 15,*399-403. doi: 10.1089/cyber.2012.0113.

Kohut, H. (1984). *How does analysis cure?* New York: International Universities Press.

Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology*, *55*(2), 162. doi: 10.1037/0022-006x.55.2.162.

Li, Q. (2007). Bullying in the New Playground: Research into Cyberbullying and Cyber Victimisation. *Australasian Journal of Educational Technology*, *23*(4), 435-454.doi: 10.14742/ajet.1245.

Nixon, E., Scullion, R., & Hearn, R. (2016). Her majesty the student: marketised higher education and the narcissistic (dis) satisfactions of the student-consumer. *Studies in Higher Education*, 1-21. doi: 10.1080/03075079.2016.1196353.

O'Keeffe, G. S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents, and families. *Pediatrics*, *127*(4), 800-804. doi: 10.1542/peds.2011-0054.

Over, H., & Uskul, A. K. (2016). Culture moderates children's responses to ostracism situations. *Journal of Personality and Social Psychology*, *110*(5), 710.doi: 10.1037/pspi0000050.

Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, *30*(3), 227-238.doi: 10.1016/j.appdev.2008.12.010.

Pharo, H., Gross, J., Richardson, R., & Hayne, H. (2011) Age-related changes in the effect of ostracism, *Social Influence, 6*, 22-38. doi: 10.1080/15534510.2010.525852.

Smith, P. K., & Steffgen, G. (Eds.) (2013). *Cyberbullying through the new media. Findings from an international network.* Hove: Psychology Press.

Stuart, M., Lido, C., Morgan, J., Solomon, L., & May, S. (2011). The impact of engagement with extracurricular activities on the student experience and graduate outcomes for

widening participation populations. *Active Learning in Higher Education*, *12*(3), 203-215. doi: 10.1177/1469787411415081.

Subrahmanyam, K., Reich, S. M., Waechter, N., & Espinoza, G. (2008). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology*, *29*(6), 420-433.doi: 10.1016/j.appdev.2008.07.003.

Tao, S., Dong, Q., Pratt, M. W., Hunsberger, B., & Pancer, S. M. (2000). Social support: relations to coping and adjustment during the transition to university in The People's Republic of China. *Journal of Adolescent Research, 15,* 123-144.doi: 10.1177/0743558400151007.

Valkenburg, P. M., & Peter, J. (2007). Preadolescents' and adolescents' online communication and their closeness to friends. *Developmental Psychology*, *43*(2), 267.doi: 10.1037/0012-1649.43.2.267.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063.doi: 10.1037/0022-3514.54.6.1063.

Williams, K. D. (2002). *Ostracism: The power of silence*. Guilford Press.

Williams, K. D. (2009). Ostracism: A temporal need-threat model. *Advances in experimental social psychology*, *41*, 275-314.

Appendix A. Social Media Vignette: Inclusion

Ash Deacon
OMG did you see the state of Miss Grimshaw's hair- she looks grim for sure!
Unlike · Comment · January 13 at 12.04pm

You and 7 like this.

Alison For sure!
10 minutes ago · Like · 2

Leon Ha ha cruel but true
9 minutes ago · Like · 3

YOU Dodgy shoes too!
8 minutes ago · Like · 3

Alison Miss Grim shoes
7 minutes ago · Like · 5

YOU Ha ha!
6 minutes ago · Like · 1

Alysia Were you in maths with her?
5 minutes ago · Like · 1

Ash Deacon Yeah- style not in the equation
4 minutes ago · Like · 7

Billy That is so funny
3 minutes ago · Like · 1

YOU BUZZFeed: 10 ways to tell you're no fashionista
2 minutes ago · Like · 5

Alysia You've nailed it, number 7!
2 minutes ago · Like · 2

Leon my new profile pic...remind you of anyone?
2 minutes ago · Like · 7

YOU Her double, she just needs the hat
2 minutes ago · Like · 5

Alison Leon you genius who is that? Your mum?
2 minutes ago · Like · 3

Leon Ha ha ! Na, its You in the a.m.!!
2 minutes ago · Like · 3

Billy Guys, I'm going to wet myself- leon and Ali new comedy double act!
2 minutes ago · Like · 5

Ash Deacon Is that from the goonies? I love that film
2 minutes ago · Like · 3

Billy Old skool classic
2 minutes ago · Like · 2

Write a comment...

Appendix B. Social Media Vignette: Ostracism

Ash Deacon
OMG did you see the state of Miss Grimshaw's hair- she looks grim for sure!
Unlike · Comment · January 13 at 12.04pm

👍 You and 7 like this.

Alison For sure!
10 minutes ago · Like · 👍 2

Leon Ha ha cruel but true
9 minutes ago · Like · 👍 3

YOU Dodgy shoes too!
8 minutes ago · Like

Alysia Were you in maths with her?
7 minutes ago · Like · 👍 1

Ash Deacon Yeah- style not in the equation
6 minutes ago · Like · 👍 7

Billy That is so funny
5 minutes ago · Like · 👍 1

Leon And did you see the shoes?
4 minutes ago · Like · 👍 3

Alison Miss Grim shoes
3 minutes ago · Like · 👍 7

YOU BUZZFeed: 10 ways to tell you're no fasionista
2 minutes ago · Like

Leon my new profile pic…remind you of anyone?
2 minutes ago · Like · 👍 7

YOU Her double, she just needs the hat
2 minutes ago · Like

Alison Leon you genius who is that? Your mum?
2 minutes ago · Like · 👍 3

Leon Ha ha ! Na, its You in the a.m.!!
2 minutes ago · Like · 👍 3

Billy Guys, I'm going to wet myself- leon and Ali new comedy double act!
2 minutes ago · Like · 👍 5

Ash Deacon BUZZFeed: 10 ways to tell you're no fasionista
2 minutes ago · Like · 👍 7

Alysia Ash has nailed it, number 7!
2 minutes ago · Like · 👍 2

Write a comment…