Running head: DETERMINANTS OF SOCIAL MEDIA FATIGUE AMONG INDIVIDUALS WITH OCD SYMPTOMS

**Fear of missing out and compulsive social media use as mediators between OCD symptoms and social media fatigue**

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**Abstract**

Alongside positive outcomes associated with social network sites, individuals can experience negative consequences from excessive use. The present research explores the tendency for individuals with nonclinical obsessive-compulsive symptoms (OCD) to experience greater social media fatigue via fear of missing out and compulsive social media use. In Study 1, 339 participants (*M*age = 22.29, *SD* = 5.64) completed the Obsessive-Compulsive Inventory–Revised, the Bergen Social Networking Addiction Scale, and a social media fatigue measure. In Study 2, 260 participants (*M*age = 24.24, *SD* = 6.79) completed the prior measures in addition to the fear of missing out scale. Individuals with higher levels of OCD symptoms experienced greater fear of missing out, which predicted compulsive social media use, which predicted social media fatigue. Practical implications and directions for future research are discussed.

*Keywords:* social media; social network sites; social media fatigue; compulsive social media use; obsessive compulsive disorder; fear of missing out

Social media use has become a popular global phenomenon. OCD symptoms are prevalent in the general population and OCD symptoms predict compulsive social media use. The present study found that social media users from the general population with nonclinical OCD symptoms experienced greater fear of missing out on social information, which predicted compulsive social media use and social media fatigue, which is associated with reduced well-being. Therefore, individuals with nonclinical OCD symptoms may benefit from online tools to avoid compulsive social media use and corresponding negative consequences.

**Fear of missing out and compulsive social media use as mediators between OCD symptoms and social media fatigue**

The use of social network sites (SNS; also referred to as social media) such as Facebook and Instagram has proliferated over the past decade. Facebook now has 1.71 billion monthly active users, out of which 1.12 billion are daily active users (Smith, 2016), and university students can spend eight to 10 hours daily on SNS (Wood, 2015). Advancements in technology and the distribution of smartphones has increased the accessibility and popularity of SNS, as well as the continuous development of online social media features and related services (Dhir et al., 2018). With so many individuals engaging with SNS, online content has been growing exponentially (Bright et al., 2015). Such developments have produced numerous positive outcomes for users, including psychological wellbeing (Islam & Patil, 2015). However, individuals are simultaneously experiencing negative consequences from excessive use of SNS, such as information overload, which reduce the frequency of active users (Zhang et al., 2016). Consequently, interest in excessive use of social media is growing.

In describing excessive SNS use, various terms have been used interchangeably, including problematic use (Bányai et al., 2017), addicted use (Pontes, 2017), pathological use (Holmgren & Coyne, 2017), and compulsive use (Dhir et al., 2018). Problematic social media use is typically defined as spending too much time on social network sites, and involving an excessive mental dependence on usage which can trigger psychological distress and physical discomfort (Moreau et al., 2015). Addicted use similarly involves spending too much time on SNS, but additionally focuses on addiction symptoms, including generosity (SNS usage continues to increase) and withdrawal (unpleasant feelings with suspension of SNS usage) (Choi & Lim, 2016). Compulsive social media use is characterised by an abnormality in the control of behavioral consumptions, with individuals being incapable of rationally managing routine behaviors (Klobas et al., 2018).

The present study focuses on a nonclinical population, thus avoiding the terms pathological and addicted use. To highlight the specific unregulated behavior that is being measured, the present study utilises ‘compulsive use’ but includes literature that uses the different terms to represent important theories and findings across the field.

**Compulsive Social Media Use and OCD**

Regarding social media platforms, compulsive use refers to an inability to control time spent on them or how frequently they are used (Klobas et al., 2018), and a growing body of research  suggests a number of factors can increase the likelihood of developing such behavioral patterns, including demographic factors (age and gender) and mental health symptoms (Andreassen et al., 2016). Scholars have linked compulsive SNS use with several psychological and physical problems, including emotional exhaustion, interpersonal conflict, and deterioration of working performance (James et al., 2017; Lin et al., 2013; Quinones & Griffiths, 2017).

Compulsive social media use (CSMU) has been associated with Obsessive-Compulsive Disorder (OCD) symptoms (Andreassen et al., 2016). OCD is a common disabling clinical condition that can persist throughout a person’s life, with a spectrum ranging from mild to severe (Abramowitz et al., 2009). OCD can be conceptualised as having five main subtypes: contamination obsessions (with consequent washing and cleaning rituals), concerns about harming others (with consequent checking compulsions and reassurance seeking), symmetry obsessions (with consequent ordering and counting rituals), repugnant obsessions regarding sex, violence, and religion, and lastly hoarding (with consequent concerns about acquiring and retaining objects) (McKay et al., 2004). Compulsive use is characterised by the occurrence of senseless and distressing obsessions (recurrent and persistent intrusive thoughts, mental images, or impulses), and compulsions (unnecessary and unrealistic repetitive ritualised behaviors or mental acts that the affected individual feels compelled to perform to alleviate the anxiety caused by an obsession) (Abramowitz et al., 2009).

A cross-sectional survey involving 23,533 adults revealed that OCD symptoms predicted compulsive social media use (Andreassen et al., 2016). Individuals with OCD that use social media can suffer from SNS addiction, (James et al., 2017). Individuals with OCD symptom may perform addictive behaviors as a coping/escape mechanism for OCD symptoms, or as an OCD-related behavior that in time becomes addictive (Lieb, 2015). Both OCD and compulsive internet-related behaviors are characterised by high impulsivity and poor inhibitory control (e.g., Littel et al., 2012; Zermatten & Van der Linden, 2008). Moreover, OCD can be associated with a strong need for control (Lee, V-K., et al., 2014).

**Compulsive Social Media Use and Fear of Missing Out**

Fear of missing out (FoMO) refers to “a pervasive apprehension that others might be having rewarding experiences from which one is absent”, which can increase “the desire to stay continually connected with what others are doing” (Przybylski et al., 2013, p. 1). Because social media platforms allow individuals to seek multiple social connections and to witness others’ virtual interactions on a much larger scale than would be possible with contact social interactions, those with higher levels of FoMO might feel compelled to check their social media more in order to stay updated with friends’ activities (Fuster et al., 2017). The plethora of information available on modern technological devices in the form of possibilities for interaction can trigger or increase this FoMO, and in turn, can encourage and increase excessive checking and obsessing over using such devices (Fuster et al., 2017; Przybylski et al., 2013). Therefore, FoMO could result in CSMU (e.g., Blackwell et al., 2017; Dhir et al., 2018; James et al., 2017). However, there are longitudinal studies that suggest the predictive role of FoMO on compulsive smartphone use (e.g., as a means of browsing and communicating on social media) is still a matter of debate. For example, Coco et al. (2020) found that problematic smartphone use and FoMO were positively related at two different time points. However, no cross-lagged associations between them were supported longitudinally.

**Compulsive Social Media Use and Social Media Fatigue**

Research shows fatigue to be a consequence of excessive and compulsive behaviors. For example, Lin et al. (2013) found that compulsive internet use, as a means for social interaction and information retrieval, led to elevated emotional fatigue Dhir et al. (2018) found that compulsive social media use (CSMU) can significantly trigger social media fatigue (SMF), defined as social media users’ tendency to experience mental exhaustion from using online social media platforms excessively, due to perceiving there are too many sites, too many pieces of content, and too many friends and contacts,. Using a repeated cross-sectional research methodology, Dhir et al. found that the relationship between CSMU and SMF was consistent/stable over time in a group of adolescents. Other psychological determinants of SMF include psychological distress (Chen & Lee, 2013).

Social media fatigue can have considerable negative implications for both users and business and service operators (Shin & Shin, 2016).  SMF negatively affects users’ mental and physiological wellbeing, increasing their likelihood of developing unhealthy behaviors (Choi & Lim, 2016; Shin & Shin, 2016). For businesses and service operators, the detrimental effects of SMF on users can lead to withdrawal from service use, resulting in lower profits and more negative attitudes toward their services.

**Theoretical Framework of Social Media Fatigue**

According to the limited capacity model for message processing (LC4MP), people have limited cognitive resources to process information (Lang, 2000). Whether adjusting to the latest Facebook updates or dealing with a backlog of tweets, this can help explain why social media users are experiencing information overload and SMF (Bright et al., 2015). LC4MP suggests that information consumers must make compromises and decisions regarding their attention, and technology leaders recognise that users have reached a point where there is simply no more time or capacity to process information. Individuals with OCD symptoms generally experience more pronounced compulsions to check things repeatedly (Abramowitz et al., 2009)). Therefore, social media site pages loaded with information may overwhelm individuals with OCD symptoms, driving a need to check and recheck the page to ensure they have processed every possible piece of important information, which can exceed available cognitive capacities (Matthes et al., 2020).

In addition to the limited availability of cognitive resources to deal with information, LC4MP also includes the role of motivation in the application of those resources. Social media sites provide social information as well as emotional support (e.g., “likes” and positive comments from friends). Therefore, OCD compulsions to check things repeatedly may be associated with an enhanced fear that OCD individuals may miss out on both important social information and emotional support from their friends when temporarily leaving the social media site (Liu & Ma, 2018), in the same way an individual may fear that they have left the door unlocked or stove burner on when leaving home. Anxiety aroused by such persistent thoughts would enhance compulsions to repeatedly check the sites to ensure they avoid any potentially dreaded events in the future, such as missing out on an important social interaction or an element of emotional support, and this can increase the likelihood of information overload. Therefore, an enhanced fear of missing out via repeated social media site checking may be leading to compulsive social media use, which would exhaust cognitive resources and coping mechanisms, eventually resulting in social media fatigue.

**Present Research**

The constructs in the present research are nonclinical OCD symptoms in the general population, fear of missing out, compulsive social media use, and social media fatigue. The aim of the present research is to render a deeper understanding of how the individual difference variables relate to the social media use behaviors.

Based on the predictions made from the LC4MP, we hypothesized that OCD symptoms would predict higher levels of fear of missing out (FoMO), which would predict higher levels of compulsive social media use (CSMU), which would predict higher levels of social media fatigue (SMF). These constructs are sufficiently distinct from one another to warrant investigation. For example, although OCD symptoms may involve social factors (e.g., finding it difficult to touch an object touched by certain people), they generally have been conceptualized as focusing on non-social entities (e.g., objects, numbers, unpleasant thoughts, etc.). In contrast, FoMO focuses on social contexts, manifesting as a concern one is missing out on rewarding social experiences. CSMU shares conceptual overlap with OCD symptoms in that they both include compulsive behavior. However, CSMU focuses on a social phenomenon, namely social media. FoMO shares conceptual similarities with CSMU in that they both focus on social aspects of life. However, FoMO involves an emotional concern that one may miss out on valuable social experiences, whereas CSMU is a behavioral variable focused on social media use. .

With respect to our hypotheses, existing research supports each part of our prediction individually. Fear of missing out FoMO can predict compulsive social media use (CSMU) (Blackwell et al., 2017; Dhir et al., 2018; James et al., 2017), and CSMU can consequently result in social media fatigue (SMF) (Dhir et al.). Therefore, FoMO may indirectly result in SMF via CSMU, especially considering the conceptual relations between OCD symptoms (e.g., checking compulsions and reassurance seeking), FoMO (e.g., perceiving the potential to miss out on a valuable experience), and CSMU.

There is limited research on the direct relationship between OCD and compulsive social media use (CSMU), and on CSMU and social media fatigue (SMF). To better understand the mechanisms of these relationships, Study 1 will explore CSMU as a mediator between OCD symptoms and SMF for the first time. Consistent with research showing that OCD symptoms predict CSMU, and CSMU predicts SMF (Dhir et al., 2018), we predicted that people with higher levels of OCD symptoms would be more likely to experience SMF via CSMU.

To further explicate the mechanisms of the relationship between OCD symptoms and social media fatigue (SMF), Study 2 will seek to replicate the effect found in Study 1, and will explore fear of missing out (FoMO) and compulsive social media use (CSMU) as serial mediators between OCD symptoms and SMF for the first time. Based on previous research, we predicted that people with higher OCD symptoms would experience higher levels of FoMO, and the increased FoMO would predict CSMU, which would predict higher levels of SMF.

Considering the popularity of social media use around the world, and the established relationship between OCD symptoms and compulsive social media use (Andreassen et al., 2016), it is important to examine the direct relationship between OCD symptoms and social media fatigue (SMF). Many individuals in the general population experience OCD symptoms that would not reach threshold for a clinical diagnosis. With SMF predicting lower levels of well-being (e.g., Dhir et al., 2018), it is important to understand how certain individual difference factors as common as OCD symptoms in the general population can make people more prone to experiencing SMF.

The findings of this research could raise awareness and initiate methods to aid users in learning how to manage and cope with their maladaptive behaviors related to social media usage. At the same time, the findings could encourage businesses to adapt their social media policies and features to handle, organize, and prevent the detrimental effects associated with social media fatigue, and help promote sustained healthy social media usage.

**Study 1 - Methods**

**Participants**

Respondents were recruited online using social media and from a Psychology Research Participation Scheme at a UK University. Respondents were recruited through convenience and snowball sampling, by encouraging participants to share the online study link with friends/social media followers. Respondents recruited via the university received course credit for participation.

The survey received 488 responses. However, some responders closed the study during or after the consent form. Due to incomplete responses, 339 were eligible for analysis. Among remaining respondents, 68 came from the research participation scheme and 271 from social media. Ages ranged from 18 to 68 years (*M* = 22.29, *SD* = 5.64). Among respondents, 22% were male (*n* = 71) and 78% female (*n* = 253), and were predominantly Caucasian (*N* = 269 [83%]), with the remaining being from other ethnic backgrounds. Six percent were currently married/in a civil partnership (*n* = 19) and 92% were not (*n* = 301). Ethics approval for both studies was granted by the University Research Ethics Committee.

**Materials and Procedure**

A questionnaire was administered online via Qualtrics software (Qualtrics, 2018; XM). The questionnaire was pilot tested on a small group of participants to ensure questions were clearly worded. The questionnaire contained an information sheet, consent form, and debrief form, whereby participants were informed of their right to withdraw, confidentiality, and anonymity. Participants were able to complete the web-based cross-sectional survey via computers, tablets, or smartphone devices. Following consent, participants answered the following subscales in order, while reflecting on their experiences during the last three months.

 **OCD.** The Obsessive-Compulsive Inventory-Revised (OCI-R) is a short version of the OCI and assesses six prevalent OCD symptoms across 18 items (Foa et al., 2002). The six symptoms, which load onto one single factor, are labelled hoarding(e.g., “I collect things I don’t need”), checking (e.g., “I repeatedly check doors, windows, drawers, etc.”), ordering(e.g., “I get upset if others change the way I have arranged things”), neutralizing(e.g., “I feel I have to repeat certain numbers”), washing (e.g., “I sometimes have to wash or clean myself simply because I feel contaminated”), and obsessing(e.g., “I am upset by unpleasant thoughts that come into my mind against my will”). All items are answered on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*extremely*). Scores are generated by adding all item scores across the six symptoms. Evaluations of the OCI-R suggest it is a reliable and valid measure (e.g., Wooton et al., 2015). Both the OCI and OCI-R test scores were originally validated with samples of patients diagnosed by experts as having OCD and other anxiety disorders, as well as with nonclinical controls. It has excellent internal consistency and satisfactory test-retest reliability for symptom frequency in both individuals with OCD and in nonclinical controls. Therefore, the OCI and OCI-R are both applicable to the general population in assessing nonclinical obsessional thoughts and behaviors. Cronbach’s alpha for OCI-R scores in the present study was .90, indicating good internal consistency. Higher scores indicate higher levels of OCD symptoms.

 **Compulsive social media use.** CSMU has been measured in the past using the Bergen Social Networking Addiction Scale (BSNAS) (e.g., Dhir et al. 2018) which was adapted from the Bergen Facebook Addiction Scale (BFAS) (Andreassen et al., 2012). The only difference is the replacement of the word “Facebook” with “social media”, with social media being defined as “*Facebook, Twitter, Instagram, and the like*”. The measure comprises six items, each answered on a 5-point Likert scale ranging from 1 (*very rarely*) to 5 (*very often*). An item example is “How often during the past three months have you spent a lot of time thinking about social media or planned use of social media?” The BFAS has demonstrated acceptable psychometric properties across studies (e.g., Andreassen et al., 2012). Internal consistency of BSNAS scores was good in the present study, α = .84. Higher scores indicate higher levels of CSMU.

 **Social media fatigue.** Social media fatigue was measured using a five-item scale adapted from a 2010 study by Gartner (Technopedia, 2011). All items are answered on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). An example item is ‘‘I am frequently overwhelmed by the amount of information available on social media sites’’. The scores for the SMF scale achieved good reliability in the present study, α = 0.81. Higher scores indicate higher levels of SMF.

Lastly, participants specified the number of hours per day they dedicate to social media on average, along with sociodemographic information, including gender, age, race/ethnicity, and marital status. Participants then saw a debrief form, which included details of how to contact the researcher or professional mental health support if required. For a full list of the items and instructions used in the present study see Supplemental Material.

**Data analysis**

Both studies utilized IBM SPSS 23.0 and PROCESS 3.3 (Hayes, 2017) for data analysis. Descriptive statistics including means and standard deviations were calculated. A simple mediation analysis (Model 4) was employed to explore whether the relationship between OCD and social media fatigue was mediated by compulsive social media use. Preliminary analyses were run, and results ensured that assumptions of normality and homogeneity of variance were each met.

**Results**

**Validation Check**

A Pearson product-moment correlation coefficient was computed to assess the relationship between compulsive social media use and one’s average hours per day dedicated to social media. Two participants reported spending 24 hours per day on average on social media. Due to this not being possible for an extended period of time, these responses were excluded from this analysis. Removing the two responses did not change the overall pattern of results. Overall, participants who spent more hours per day on social media indicated that they used social media compulsively, *r* = .439, *n* = 324, *p* < .001, thus, providing criterion-related validity for of the CSMU scores.

**Simple Mediation Analysis**

Means and standard deviations for the main variables are as follows: OCD (*M* = 21.20, *SD* = 13.00), compulsive social media use (*M* = 15.56, *SD* = 5.32), and social media fatigue (*M* = 18.11, *SD* = 6.11). See Table 1 for correlations between variables.



To examine if the relationship between OCD and social media fatigue is mediated by compulsive social media use, a simple mediation analysis was conducted following the procedure outlined by Hayes (2017). Within PROCESS, OCD was input as the predictor variable, SMF as the outcome variable, and CSMU as the mediator. In addition, age and gender were entered simultaneously as covariates to control their potential impact on the relationship between OCD, CSMU, and SMF. Gender was input as a dichotomous variable dummy coded with female participants coded as 0 and male participants coded as 1.

A bootstrapping analysis (Boot = 5,000) revealed that without the mediating variable, participants with higher OCD symptoms experienced significantly higher SMF, *b* = 0.14, 95% CI [0.10, 0.19], *t* = 5.95, *p* < .001. More importantly, there was also a significant indirect effect of OCD on social media fatigue via compulsive social media use, b = 0.049, 95% BCa CI [0.026, 0.075], when controlling for age and gender (see Figure 1). As predicted, participants with higher levels of OCD had significantly higher levels of CSMU, *b* = 0.15, 95% CI [0.11, 0.19], *t* = 6.96, *p* < .001.



The effect of age on CSMU was marginally significant, *b* = -0.09, 95% CI [-0.19, 0.00], *t* = -1.87, *p* = .06, indicating that younger people had marginally higher levels of CSMU than older people. Gender significantly predicted CSMU, *b* = 1.61, 95% CI [0.31, 2.92], *t* = 2.44, *p* = .02, indicating that female participants experienced higher levels of CSMU than male participants.

 In turn, participants exhibiting greater compulsive social media use had significantly higher levels of social media fatigue, *b* = 0.33, 95% CI [0.21, 0.44], *t* = 5.56, *p* < .001. The effect of age on SMF was significant, *b* = 0.22, 95% CI [0.12, 0.33], *t* = 4.33, *p* < .001, indicating that older people experienced higher levels of SMF than younger people. Gender also significantly predicted SMF, *b* = 2.56, 95% CI [1.17, 3.94], *t* = 3.63, *p* < .001, showing that female participants experienced higher levels of SMF than male participants.

When removing age and gender as covariates, the same pattern of results emerged and all significant paths remained significant (all *p*’s <.05). Furthermore, no differences in the outcomes of this study were found between participants that were incentivized for partaking (those who received course credit) and participants who were not (those who opted-in through social media) (all *p*’s > .05).

**Discussion**

Study 1 explored OCD as a predictor of social media fatigue via compulsive social media use for the first time. As hypothesized, compulsive social media use mediated the relationship between OCD and social media fatigue. People with higher OCD symptoms used social media more compulsively, and in turn experienced greater SMF.

We designed Study 2 to strengthen confidence in our findings via replication, and to explore fear of missing out as further potential psychological mechanism for the relationship. Therefore, Study 2 was designed to test the hypothesis that FoMO would mediate the path between OCD symptoms and CSMU, leading to SMF.

**Study 2 - Method**

**Participants**

A new sample of participants was recruited online using social media and snowball sampling, and via the same university’s Psychology Research Participation Scheme. However, this involved different year cohorts, and therefore different students to those who took part in the first study.

 As with Study 1, some ineligible responders closed the study during or after the consent form and thus 31 incomplete survey responses were excluded from analysis, leaving 260 responses to be analyzed. Among the remaining respondents, 31 came from the research participation scheme and 229 came from social media. Respondents ranged in age from 18 to 69 years (*M* = 24.24, *SD* = 6.79).Among respondents, 28% were male (*n* = 72) and 71% were female (*n* = 185). The respondents were predominantly White/Caucasian (*n* = 193 [74%]), with the remaining being from other racial/ethnic backgrounds. Twelve percent were currently married/in a civil partnership (*n* = 31) and 86% were not (*n* = 223).

**Materials and Procedure**

The same materials and procedure used in Study 1 were used in Study 2. Cronbach’s alpha for the scores of the measures used in Study 2 were as follows: Obsessive-Compulsive Inventory-Revised (OCI-R) (α = .92), demonstrating excellent internal consistency, and Bergen Social Networking Addiction Scale (BSNAS) (α = .89) and social media fatigue scale (α = .88), demonstrating good internal consistency.

Participants in Study 2 also completed the fear of missing out scale (Przybylski et al., 2013), where fear of missing out is assessed via 10 items answered on a 5-point Likert scale ranging from 0 (*not at all* *true of me*) to 4 (*extremely true of me*). An example item is “I get anxious when I don’t know what my friends are up to”. Overall, the scale scores demonstrated excellent internal consistency (α = .92). Higher scores indicate higher levels of FoMO. For a full list of items and instructions see Supplemental Material.

**Data analysis**

Przybylski et al. (2013) stated that fear of missing out can arise from situational deficits in psychological need satisfactions. Consistent with previous studies, FoMO was conceptualised as a state variable and analysed as a mediating variable (e.g., Long et al., 2019). Using the same software as Study 1, a serial mediation analysis (Model 6) explored whether the relationship between OCD and social media fatigue was mediated by FoMO, and in turn compulsive social media use. Preliminary analyses were conducted which ensured that assumptions of normality and homogeneity of variance were each met.

**Results**

**Validation Check**

A Pearson product-moment correlation coefficient was computed to assess the relationship between compulsive social media use and one’s average hours per day dedicated to social media. Overall, participants who spent more hours per day on social media indicated that they used social media more compulsively, *r* = .44, *n* = 260, *p* < .001. Thus, as with Study 1, this is an indicator of criterion-related validity for CSMU scores.

**Serial Mediation Analysis**

Means and standard deviations for the main variables are as follows: OCD (*M* = 41.78, *SD* = 14.10), fear of missing out (*M* = 24.32, *SD* = 9.48), compulsive social media use (*M* = 14.37, *SD* = 5.93), and social media fatigue (*M* = 18.64, *SD* = 7.17). See Table 2 for correlations between variables.



To examine if the relationship between OCD and social media fatigue is mediated by fear of missing out, and in turn, compulsive social media use, a serialmediation analysis was conducted following the procedure outlined by Hayes (2017). Within PROCESS, OCD was entered as the predictor, FoMO as the first mediator, CSMU as the second mediator, and SMF as the outcome variable. In addition, age and gender were entered simultaneously as covariates in the analysis in order to control their potential impact on the relationship between OCD, FoMO, CSMU, and SMF. Gender was input as a dichotomous variable, dummy coded with female participants coded as 0 and male participants coded as 1.

A bootstrapping analysis (Boot = 5,000 samples) revealed a significant direct effect of OCD on social media fatigue, *b* = 0.13, 95% CI [0.06, 0.20], *t* = 3.69, *p* < .001. Therefore, participants with higher OCD levels tended to have higher SMF levels.

More importantly, there was also a significant indirect effect of OCD on social media fatigue via fear of missing out, *b* = 0.51, 95% BCa CI [0.001, 0.11], a significant indirect effect of OCD on SMF through compulsive social media use, *b* = 0.02, 95% BCa CI [0.006, 0.05] (Ind2), and a significant indirect effect of OCD on SMF through both FoMO and CSMU, *b* = 0.05, 95% BCa CI [0.02, 0.09] (Ind3), when controlling for age and gender.

As predicted, participants with higher levels of OCD had significantly higher levels of fear of missing out, *b* = 0.42, 95% CI [0.35, 0.49], *t* = 12.41**,** *p* < .001. . There was no significant effect of age (*b* = -0.03, 95% CI [-0.17, 0.11], *t* = -0.45, *p* = .65) or gender (*b* = -0.69, 95% CI [-2.27, 0.88], *t* = -0.87, *p* = .38) on FoMO.

Compulsive social media use was significantly predicted by OCD, *b* = 0.08, 95% CI [0.03, 0.12], *t* = 3.32, *p* = .001, and fear of missing out, *b* = 0.40, 95% CI [0.33, 0.46], *t* = 1.98, *p* < .001. Participants with higher levels of OCD and FoMO had significantly higher levels of CSMU. There was no significant effect of age (*b* = 0.05, 95% CI [-0.03, 0.12], *t* = 1.25, *p* = .21) or gender (*b* = 0.04, 95% CI [-0.80, 0.88], *t* = 0.08, *p* = .93) on CSMU.

Social media fatigue was significantly predicted by OCD, *b* = 0.13, 95% CI [0.06, 0.20], *t* = 3.69, *p* < .001, fear of missing out, *b* = 0.12, 95% CI [0.00, 0.24], *t* = 1.98, *p* = .05, and compulsive social media use, *b* = 0.32, 95% CI [0.13, 0.50], *t* = 3.40, *p* < .001. As predicted, participants with higher levels of OCD had higher levels of FoMO, who in turn had high levels of CSMU, who in turn had significantly higher levels of SMF (see Figure 2).



The effect of age on SMF was significant, *b* = 0.12, 95% CI [0.01, 0.23], *t* = 2.18, *p* = .03, indicating that older people experienced higher levels of SMF than younger people. There was no significant effect of gender on SMF, *b* = -0.40, 95% CI [-1.66, 0.85], *t* = -0.63, *p* = .53.

When removing age and gender as covariates, the same pattern of results emerged and all significant paths remained significant (all *p*’s <.05). Furthermore, no differences in the outcomes of this study were found between incentivized participants (those who received course credit) and participants who opted-in through social media (all *p*’s > .05).

**Discussion**

In Study 1, OCD significantly predicted both compulsive social media use (CSMU) and social media fatigue (SMF), and CSMU predicted SMF. In Study 2, the serial mediation confirmed this relationship, while also revealing that OCD predicts CSMU and SMF through fear of missing out. As hypothesized, OCD significantly predicted SMF, FoMO, and CSMU. FoMO predicted CSMU, which in turn both predicted SMF.

**OCD and Social Media Fatigue**

 Participants with higher OCD levels had higher social media fatigue levels. This is the first finding in the literature to provide a direct relationship between OCD symptoms and SMF. Therefore, any assumptions concerning the nature of this relationship are difficult to establish. One could conjecture that people with OCD symptoms are more likely to experience SMF due to psychological distress (a determinant of SMF) (Chen & Lee, 2013) caused by their obsessions (Abramowitz et al., 2009). Furthermore, in accordance with the LC4MP model, the recurrent and persistent intrusive thoughts or images caused by OCD may further limit people’s mental resources to process the information on social media, and therefore increase the chances of information overload and SMF.

**OCD, Fear of Missing Out, Compulsive Social Media Use, and Social Media Fatigue**

The serial mediation analysis revealed that participants with higher levels of OCD experienced greater fear of missing out, which predicted compulsive social media use. This is the first finding in the literature to provide evidence for this relationship. The strong need for control associated with OCD symptoms (Lee, V-K., et al., 2014), combined with the high volume of content constantly uploaded onto social media, may lead to a fear of missing out. As a result, those with higher levels of FoMO may be more likely to obsess over their social media sites, perhaps looking carefully over sites to ensure they haven’t missed any important information, and would be more likely to experience consistent urges to check for new information and updates (Fuster et al., 2017; Przybylski et al., 2013). Therefore, this is in line with previous research suggesting that FoMO leads to CSMU (Blackwell et al., 2017; Dhir et al., 2018; James et al., 2017).

As hypothesized, participants with higher levels of OCD exhibited more compulsive social media use, consistent with Andreassen et al. (2016). Individuals with OCD symptoms may perceive the use of social media as a coping/escape mechanism for their obsessions, and as a result, they engage in social media use as a compulsion (Abramowitz et al., 2009; Lieb, 2015). Another potential explanation for this finding could be that individuals with OCD symptoms engage in CSMU due to their high impulsivity and poor inhibitory control (e.g., Littel et al., 2012; Zermatten & Van der Linden, 2008). Further research is required to establish such relationships. The present research also found that participants with greater fear of missing out and compulsive social media use experienced more social media fatigue, consistent with Dhir et al. (2018).

In Study 1, younger female participants exhibited more compulsive social media use, consistent with Andreassen et al. (2016). Regarding age, the prior could be explained by younger generations having greater exposure to social media and thus being more prone to experiencing CSMU. With regards to gender, women may be more susceptible to experiencing CSMU than men, because they would be more drawn towards activities involving social interaction and co-operation such as social media use (Andreassen et al., 2012).

No gender or age differences were found for OCD or fear of missing out. In Study 1, female participants experienced more compulsive social media use and social media fatigue; however, Study 2 found no gender effect. Further research would be needed to determine whether the gender difference in Study 1 would replicate. Furthermore, older people in Studies 1 and 2 were more susceptible to SMF, but not higher levels of CSMU. These findings are the first to outline a difference in SMF between different age groups. Cognitive processing tends to decline with age, which consistent with the LC4MP, can partly explain why older people experience greater SMF at the same levels of CSMU.

**Theoretical Implications**

Our findings are consistent with predictions made by the LC4MP model. Individuals with OCD symptoms were at a higher risk for exceeding their cognitive resources via an enhanced fear of missing out on important social information, which predicted more compulsive social media use and social media fatigue. Future research could examine whether CSMU indeed occurs via posited behavioral mechanisms, such as users repeatedly revisiting parts of the same social media site at the detriment of cognitive resources and well-being.

Within the framework of the LC4MP, individual differences are thought to operate at almost every level of interaction between a mediated message and a media user, and certain factors will elicit orienting responses differently across individuals. Individual differences in OCD symptoms were shown to enhance this interaction, along with the desire to approach the communication message, via a fear of missing out. According to LC4MP, aspects of the individual’s goals, the message content, and the message structure are continuously resulting in automatic and controlled allocation and reallocation of limited resources to encoding, storage, and retrieval. When the message requirements and the user’s goals result in greater call for resources than available, cognitive overload occurs. As a result of compulsive social media use, performance on the three subprocesses can deteriorate, and the individual can suffer SMF.

**Practical Implications**

Social media users should be made aware of the negative consequences of using social media in a compulsive manner, especially those at a higher risk, in order to encourage them to use social media in moderation and therefore reduce the occurrence of social media fatigue. Users should also be encouraged to regulate their own social media usage by, for example, making use of features such as Apple’s Screen Time Controls from the updated IOS 12 software.

In relation to fear of missing out and social media fatigue specifically, users could be advised to reduce the number of social connections on their social media to reduce the scale to which they can witness others’ interactions, and subsequently reduce the behavioral compulsions that may lead to SMF. From a business perspective, social media companies should adapt their policies to prevent the detrimental effects associated with SMF. Consequently, these actions will promote greater user experience and satisfaction, resulting in higher engagement and profits for the social media platforms.

Certain SNS formats may enhance compulsions among individuals with OCD symptoms to recheck parts of the sites, due to a fear of missing out on important social information. In the same way that highlighted emails in one’s inbox signal an email is unread, individuals with OCD symptoms could benefit from SNS structures that leave unvisited parts highlighted, while removing already checked parts. Instagram, for example, now alerts users that they have caught up with content once they have viewed certain feed posts, and shows new posts from then onwards; however, other sites like Twitter don’t seem to have this feature. Future research could examine whether such changes would reduce rechecking compulsions, and if so, could encourage further development of beneficial features.

**Limitations**

Methodological limitations should always be taken into account when interpreting results. Firstly, we employed a cross-sectional design, meaning participants’ reports were captured at one point in time. Therefore, we cannot confidently make assertions regarding the duration of effects. However, some effects have been consistently found across studies and across samples of participants, suggesting this problem is not short-lived. Furthermore, without experimental manipulation, conclusions concerning causality are speculative. Additionally, the use of convenience samples may limit the applicability of findings to the larger population, although, considering the size of the samples and the robust nature of the effects across two studies, it could be inferred that they are prevalent. Finally, self-report measures can compromise the accuracy of responses due to the possibility of response bias (e.g., social desirability bias), meaning that validity could be reduced. However, the validation checks increased confidence in the findings, along with the fact that such results have been consistently found across study methods and samples of participants.

In developing the OCI-R, Foa et al. (2002) calculated optimal OCD cut-scores by considering the sensitivity and specificity of various cut-scores. When comparing an OCD clinical sample with a non-anxious control (NAC) sample, the obsessing subscale was better at differentiating OCDs from NACs than the total score. In their study, non-anxious controls included randomly selected psychology students from an introductory course and the optimal obsessing subscale cut-score was 4 (sensitivity: 74.4%; specificity: 76.1%), yielding a correct classification of 160 of 215 OCs and 363 of 477 NACs.

In our samples, obsessing subscale scores ranged from 0 to 12 in both studies. Using their cutoff, in Study 1 (*M* = 4.63, *SD* = 3.57), 69.3% fell below the cutoff, and in Study 2 (*M* = 4.59, *SD* = 3.46), 68.1% fell below the cutoff. Participant numbers scoring above the cutoff in our samples were thus higher than the NAC sample in the original validation study for the OCI-R, and are higher than typical population estimates for OCD which range from 1 to 2%. Interestingly, all of the participants in both of our studies indicated they had not been diagnosed with OCD. One possibility for the discrepancy in prevalence rates between our studies and Foa et al.’s study (2002), is that our study included people with clinical levels of OCD symptoms who were not seeking help. Another possibility, not mutually exclusive from the first, is that our study attracted a relatively higher number of participants with self-recognized OCD symptoms who had not been diagnosed. To account for this, further analyses found that removing the participants who scored above the cutoff score did not change the pattern of results. Therefore, both studies found the effects across a range of OCD scores in a sample from the general population, who had not been diagnosed with OCD. Future research could add to our findings by collecting data from two distinct samples: those who hold a current OCD diagnosis and those who do not, to compare effect magnitudes between these groups.

**Future Research**

Future studies could look at the different dimensions of OCD separately rather than as a single factor, to determine whether specific dimensions are more likely to lead to compulsive social media use than others. A prudent path forward for future studies would also be to focus on the long-term effects of social media fatigue via the use of follow-up studies or longitudinal study designs, and incorporate other research methodologies, such as interview and observation exercises, to shed light on the nature of the suggested relationships and gain further insight into the underlying behavioural mechanisms involved. Moreover, experimental or longitudinal research is required to better understand whether the relationships between the variables in this study are causal, and to determine whether other variables may also account for such relationships.

**Conclusion**

The present research consolidates findings of prior studies and provides new and compelling evidence on the internet-related behaviors of those who exhibit OCD symptoms. This research demonstrates for the first time, how OCD symptoms both directly and indirectly impact social media fatigue levels via fear of missing out and/or compulsive social media use.

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