The Effects of Self-Control and Self-Awareness on Social Media Usage, Self-Esteem, and

Affect

Valery Kalinin

Department of Psychology, Brandon University

82 449: Undergraduate Honours Thesis

Dr. Nukte Edguer & Dr. Nicholas Watier

April 30, 2022

Abstract

Negative effects from excessive social media usage are apparent, and with the increase in social media usage due to the COVID-19 pandemic, investigation into factors that mitigate excessive usage is warranted. Factors such as self-awareness were included in the analysis of social media usage as it leads individuals to focus on attaining personal ideal standards, begging the question as to whether high self-awareness limits the negative effects of social media usage. Self-control, a trait that is enhanced with self-awareness, was measured to examine its involvement in limiting excessive social media usage. Self-esteem and affect were also included in analyses as they have never been examined in relation to both self-awareness and social media usage. It was hypothesized that self-awareness would be negatively related to social media usage, given self-control levels are high. Furthermore, self-awareness would be positively related to self-control, self-esteem, and affect, given social media usage is low. 125 psychology students (73.6% female) completed scales on self-awareness, social media usage, self-esteem, self-control, and affect. Linear regressions with moderation were conducted. No moderation occurred but it was found that self-control explained the relationship between self-awareness and social media usage. Self-awareness was positively related to self-esteem, self-control, and positive affect. Social media usage was not significantly related to self-esteem, positive affect, or negative affect. Self-control acted as a mediator in numerous analyses involving self-awareness and social media usage, highlighting how beneficial it is that self-awareness promotes self-control. Future research should focus on cultivating and improving self-awareness and the consequent self-control to help avoid the negative outcomes associated with social media usage (e.g., reduced self-esteem).

Keywords: self-awareness, social media usage, self-control, self-esteem, affect

The Effects of Self-Control and Social Media Usage on Self-Awareness, Self-Esteem, and Affect

Although there is not a consensus on the relationship between social media usage and wellbeing, individuals whose social media usage negatively affects their wellbeing are not guaranteed to lessen their use of social media (Błachnio et al., 2016). Studies have shown that increased social media usage is associated with negative affect, lowered self-esteem, and lowered life satisfaction (Bergagna & Tartaglia, 2021; Błachnio et al., 2016). But in general, social media usage is not strongly negatively associated with wellbeing (Huang, 2020). There is a negative relationship between wellbeing and social media usage when usage is excessive though (Du et al., 2021). Given that social media usage is likely to negatively relate to wellbeing, self-esteem, and affect when usage is excessive, it would be interesting to investigate factors that prevent excessive use.

One of these factors is self-awareness. Self-awareness is defined as "the capacity of becoming the object of one's own attention. In this state, one actively identifies, processes, and stores information about the self." (Morin, 2011, p. 4). There is a self-regulatory aspect to self-awareness whereby, when an individual focuses on oneself, they are reminded of their personal and ideal standards (Morin, 2011). This focus on ideal standards serves to remind an individual if they are experiencing discrepancies between their current state and ideal standards. As there is this self-regulatory benefit to self-awareness whereby an individual is likely to alter any problematic behaviour to align with ideal standards, research into whether self-awareness is related to decreased social media usage should be conducted. Moreover, self-control, an outcome of self-awareness, is negatively associated with social media usage (Błachnio & Przepiorka, 2015). This leads me to question whether highly self-aware individuals are more likely to control

their social media usage, something which has garnered little attention in research. The

relationship between self-esteem, affect, and self-awareness have also received little research

attention. Since social media usage, self-esteem, and affect have been heavily researched, it

would be interesting to investigate how self-awareness impacts this relationship. Therefore, self-

awareness and social media usage will be the focus of this study as well as how self-control, self-

esteem, and affect are involved in this relationship.

Literature Review

Social Media

Social media usage has increased exponentially in the past decade and the COVID-19

pandemic has worsened any addiction to social media for many (Zhao & Zhou, 2021). Shi et al.

(2014) defined social network sites as "web-based services that allow individuals to construct a

profile and share connections with a certain list of other users." (p. 12). Although it is

understandable why many turned to social media during the pandemic, in the broader image,

social media still poses a threat to one's mental health (Huang, 2020). For example, individuals

can be influenced to feel a certain way depending on the emotional content that they receive on

social media (Kramer et al., 2014). When people reduce positive expressions on social media,

people reduce positive posts and increase negative social media posts, demonstrating how social

media can create an emotional contagion amongst users (Kramer et al., 2014). Altogether,

considering how pervasive social media is, research into the effects of its use is necessary and

justified.

Social Media and Affect

Although social media is generally associated with negative effects, the effect is not

necessarily strong and universal for users. Positive affect "reflects the extent to which a person

feels enthusiastic, active, and alert" whereas negative affect is "a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states." (p.1) (Watson et al., 1988). Meta-analyses indicate a small negative relationship between problematic social media usage and well-being as well as a moderate positive relationship between problematic social media use and distress (Huang, 2020). These relationships were still present when controlling for factors like publication status and instruments used. Further meta-analyses do not find any dramatic negative effects from social media, only small associations between the intensity of social media use and self-reported depression and loneliness (Appel et al., 2019). Since research indicates variability in the effects of social media, research into factors (such as self-awareness) that affect this variability is warranted (Beyens et al., 2020).

Social Media and Self-Esteem

Self-esteem is defined as the negative or positive evaluation of the self (Bergagna & Tartaglia, 2018). Research pertaining to social media has focused on how social media usage affects self-esteem since social media heavily involves presenting oneself in an idealistic manner (Bergagna & Tartaglia, 2018).

It is often found that individuals with high self-esteem report positive experiences with social media as it enhances their social connectivity whereas people with lower self-esteem are at a higher risk of becoming addicted to Facebook (Bergagna & Tartaglia, 2018). In a study by Bergagna and Tartaglia (2018), three modalities of Facebook use were identified (250 university students participated): stimulation, search for relations, and social interaction. Self-esteem was negatively associated with time spent on Facebook, but only for males. For females, there was a positive relationship between using Facebook for social interaction and self-esteem. Furthermore, for males and females, self-esteem was negatively correlated with social

comparison orientation (comparing oneself to others) which predicted more time spent on Facebook. Therefore, females with low self-esteem spend more time on Facebook to compare themselves to others to enhance their self-esteem. Thus, social media usage is associated with lowered self-esteem for females and males expect for when social media is used for social interaction by females (Bergagna & Tartaglia, 2018).

In addition, Błachnio et al. (2016) found a direct relationship between self-esteem and social media use in their cross-sectional study on the association between Facebook addiction, life satisfaction, and self-esteem. Participants (381 Facebook users) were classified as "ordinary", "problematic", or "addicted" Facebook users. Facebook intensity was negatively related to life satisfaction. Furthermore, scores on life satisfaction were lowest among addicted Facebook users. As for self-esteem, the addicted and problematic Facebook users had low self-esteem whereas the ordinary Facebook users had highest self-esteem. All in all, Błachnio et al. (2016) found negative relationships between self-esteem, life satisfaction, and problematic and addicted Facebook use.

It has repeatedly been demonstrated that social media usage, when excessive or used for comparing oneself to others, can be associated with lowered self-esteem. Research into factors that are associated with unproblematic (moderate and social interaction oriented) social media usage is therefore warranted. For example, self-awareness, a trait which leads to the reassessment of current versus ideal standards, could prevent or mitigate the potential for problematic social media usage and therefore lowered self-esteem. Furthermore, whether self-control is involved in the relationship between self-awareness and social media usage is justified as self-control is positively associated with self-awareness and negatively associated with social media usage.

Social Media and Self-Control

As mentioned, self-control is often researched in relation to social media usage. Self-control is defined as the control over one's behaviours, desires, and emotions (Cudo et al., 2020). Self-control failure is conceptualized as something that emerges because of limited resources, resulting in poorer self-control performance (Alberts et al., 2011). Self-control failure caused by social media usage may account for 35% of the time that people spend on social media (Du et al., 2021), highlighting the importance of assessing self-control's role in the relationship between social media usage and self-awareness.

It has been found that individuals with higher self-control are less susceptible to Facebook addiction (Błachnio and Przepiorka, 2015). Furthermore, a longitudinal study examined the relationship between social media self-control failure, wellbeing, and mindfulness (Du et al., 2021). Mindfulness, similar to self-awareness and characterized as the capability of acting and behaving with awareness to ongoing experiences in a non-judgemental fashion, is positively associated with self-control (Du et al., 2021). Wellbeing was defined by Du et al. (2021) "as the presence of positive emotions, low levels of negative emotions, and the positive judgment of one's life in general." (p. 4). The longitudinal study involved administering life satisfaction, subjective vitality, social media self-control failure, and mindfulness measures three times to 270 participants. In line with the authors' hypotheses, self-control failure, as caused by social media usage, was related to lowered wellbeing and mindfulness over time.

In conclusion, self-control is negatively related to social media usage. As self-control can prevent problematic social media usage (and the consequent reduced self-esteem), the question of what leads to self-control arises. Is there a trait, such as self-awareness, that can be enhanced and therefore help minimize or prevent the occurrence of problematic social media usage? To my knowledge, there has not yet been a study that has examined how self-awareness impacts social

media usage. Consequently, self-awareness will be discussed to assess its potential relationship to social media usage.

Self-Awareness

Used synonymously with self-focused attention, self-awareness refers to being the object of one's own attention and engaged in a state where one actively acknowledges, processes, and stores information regarding oneself (Morin, 2011). The concept differs from consciousness as self-awareness goes further by incorporating reflection when perceiving and processing stimuli. Self-awareness entails private self-aspects like emotions and thoughts as well as public self-aspects like physical appearance and behaviour.

One of the most beneficial aspects to self-awareness is that it enhances self-regulation. Self-awareness leads an individual to assess how they are doing compared to some ideal standard that they have personally set for themselves (Alberts et al., 2011; Duval & Wicklund, 1972). Self-awareness increases the saliency of this standard, thereby forcing an individual to evaluate how they compare to the standard and make any adjustments to their behaviour to achieve the personal standard (Alberts et al., 2011). Furthermore, research has demonstrated that, when self-awareness is heightened, individuals will attribute more meaning to their choices (Dishon et al., 2018).

Additionally, the benefits associated with self-awareness were exemplified in a study conducted by Kreibich et al. (2020). Kreibich et al. (2020) sought to assess how self-awareness is involved in the process of identifying obstacles when achieving certain goals as self-awareness has previously been implicated in goal achievement. It was found that individuals with higher situational and dispositional self-awareness identified more obstacles in relation to personal idiosyncratic goals. It was also discovered that participants with higher levels of situational and

dispositional self-awareness were able to identify more obstacles within the assigned task. Altogether, self-awareness is implicated in the identification of obstacles that hinder goal achievement as well as the attribution of meaning to decisions, demonstrating how self-awareness is valuable (Kreibich et al., 2020).

There are maladaptive aspects to self-awareness too as rumination can occur (Morin, 2011). Ruminative self-focus involves anxiously thinking about oneself and comparing oneself to a standard that they have set, yet they do not meet this standard (Morin, 2011). This effect is enhanced in individuals who are highly self-aware. Furthermore, in a study conducted by Sutton (2016), more evidence for the ruminative factor of self-awareness was discovered. The results showed that self-awareness was most associated with self-reflection, insight, rumination, and mindfulness (Sutton, 2016). Self-reflection and insight predicted beneficial outcomes whereas rumination predicted increased costs and reduced benefits associated with self-awareness, demonstrating the maladaptive aspect to self-awareness (Sutton, 2016). Highly self-aware individuals who ruminate are more likely to experience depression, anxiety, and neurotic tendencies (Morin, 2011; Silvia & O'Brien, 2004). On the other hand, individuals who do meet their personal standards do not engage in rumination. Instead, they either engage in reflection that will lead them to either change their ideal standard or change themselves to meet their ideal standard (Morin, 2011). Therefore, self-awareness can either result in reflection or rumination (Silvia & O'Brien, 2004).

Altogether, individuals who are highly self-aware and who address self-discrepancies are likely to have increased self-control, enhanced self-esteem, and increased positive affect. On the other hand, highly self-aware individuals who ruminate can potentially experience decreased self-esteem, increased negative affect, and an increased risk of anxiety and depression.

Self-Awareness and Social Media Usage

Although social media has been examined in relation to a plethora of other variables (e.g., self-esteem), there is a dearth of studies that have examined the relationship between self-awareness and social media use. Of the few studies that have examined self-awareness in relation to social media usage, it was discovered that individuals with higher narcissism (an inflated self-concept) increased their public self-awareness (awareness of oneself from others' perspectives) after browsing Facebook (Qiu et al., 2010).

As exemplified by this study, there has not been a lot of attention to how self-awareness affects social media use usage and patterns. Although this study involved self-awareness, it focused on public self-awareness (awareness of oneself from other's attention) instead of self-awareness as it is typically defined (e.g., being the object of one's attention). Furthermore, there has not been a study that has assessed the relationship between self-awareness, self-control, self-esteem, and affect and if social media usage moderates these relationships. As self-awareness involves a self-regulation mechanism that make personal standards salient, resulting in the alteration of problematic behaviour, it would be interesting to examine how self-awareness relates to social media usage, a problematic behaviour for many (Du et al., 2021).

Self-Awareness and Affect

The relationship between affect and self-awareness relies on an individual's perception of the discrepancy between their actual versus ideal self (Phillips & Silvia, 2005). Objective self-awareness theory predicts that higher self-awareness strengthens the relationship between emotions and self-discrepancies (Phillips & Silvia, 2005). This aligns with the previous discussion on the connection between self-awareness and self-regulation. As previously stated, self-awareness causes an individual to revaluate their current state and compare it to their ideal

standards (Silvia & O'Brien, 2004). When a discrepancy between current state and ideal standards occurs, an individual can either adjust their behaviour to align with the ideal standards, change the ideal standard to align with their current state, or outright avoid the discrepancy. Regardless of what an individual chooses to do with the discrepancy, the initial acknowledgement of the discrepancy can initiate negative emotions (Phillips & Silvia, 2005).

This initiation of negative affect does not occur for individuals with low self-awareness as Phillips and Silvia (2005) found that, when self-awareness was not induced, self-discrepancies had nonsignificant and weak relations to emotions. Therefore, self-awareness is associated with negative affect when there is an apparent discrepancy between one's current state and their ideal standards. It is believed that this occurs because self-awareness increases the emotional consequences of self-standard discrepancies to heighten the motivation to achieve congruency between one's current state and their ideal standards (Phillips & Silvia, 2005). Aside from this acute negative affect from the acknowledgement of self-discrepancies, self-awareness is associated with positive affect. Self-awareness is related to positive affect as reflection results in improved mental health due to improving one's understanding of their emotions, thought processes, attitudes, values, etc. (Morin, 2011). Therefore, the emotional consequences, whether they be negative or positive emotions, of self-awareness are adaptive, propelling an individual to achieve congruency between their current and ideal standards.

Self-Awareness and Self-Control

The adaptiveness of self-awareness is also exemplified with its effects on self-control. Silvia and O'Brien (2004) state that "self-awareness enables people to internalize standards of conduct, appraise whether or not they are meeting them, and reflect upon their actions in light of broader principles." (p. 5). Consequently, self-awareness leads to the reassessment of one's

actions and analyze whether one is meeting their ideal standard of conduct, increasing self-control. Altogether, the self-reflective aspect to self-awareness results in self-control, benefitting individuals (Silvia & O'Brien, 2004).

In addition, self-awareness is associated with self-control even after ego depletion has occurred. Ego depletion is the gradual depletion of resources after exerting self-control. Therefore, ego depletion is the process whereby self-control failures are more likely to occur (the basis for the strength model of self-control). A study conducted by Alberts et al. (2011) showed that individuals who had high ego depletion and were primed for self-awareness outperformed the participants on the self-control task who had high ego depletion but were not primed for self-awareness. This result can be explained by the self-regulatory aspect to self-awareness because self-awareness made their personal standard for self-control salient, inducing self-control in their behaviour.

In sum, self-control and self-awareness are positively related as self-awareness makes the personal standard of self-control salient, causing one to alter their behaviour (Alberts et al., 2011). Since self-awareness is strongly related to self-control, this study will examine how self-awareness and self-control interact and the consequent effects on social media usage, self-esteem, and affect.

Self-Awareness and Self-Esteem

In addition to the previously discussed variables, self-awareness will be examined in relation to self-esteem as self-esteem is affected both by self-awareness and social media usage. Self-awareness may be related to either reduced or enhanced self-esteem depending on whether the individual with high self-awareness meets whatever standard they have set for themselves or if they handle the discrepancy in a healthy manner (Cheng et al., 2012; Silvia & O'Brien, 2004).

Handling the discrepancy in a healthy manner entails addressing the discrepancy whereas a problematic approach involves avoiding the discrepancy (Cheng et al., 2012).

Silvia and Duval (2002) examined the relationship between self-awareness and self-esteem and considered how information about probability for improvement would affect this relationship. Results indicated that highly self-aware individuals who were told that there was a high probability of improvement experienced lowered state self-esteem whereas highly self-aware individuals who were told that they have a low probability of improvement experienced heightened self-esteem (Silvia & Duval, 2002).

In another study on self-awareness and self-esteem, Cheng et al. (2012) assessed how inducing self-awareness in individuals with either congruent or incongruent implicit and explicit self-esteem can affect their emotions. Self-esteem is described as both the explicit (how one presents oneself) and implicit (how one thinks of oneself) self-evaluations that individual's use for themselves. One can have an incongruent self-esteem (e.g., low implicit, high explicit self-esteem). As self-awareness can initiate negative affect by enhancing focus on the discrepancy between ideal standards and oneself, the authors wanted to investigate how self-esteem congruency relates to negative affect.

Results demonstrated that individuals with high implicit and low explicit self-esteem exhibited increased negative affect after the self-awareness manipulation (mirror placed in front of the participant). Individuals with congruent self-esteem (high implicit and explicit) did not experience any significant changes in negative affect after experiencing heightened self-awareness. Altogether, this study aligned with previous studies that demonstrated that self-awareness can initiate negative affect in individuals who fail to meet personal standards (due to incongruent self-esteem).

Another study on self-awareness and self-esteem involved showing images of various female and male facial expressions (happy, disgusted, and angry) (Kim et al., 2019). The participants were asked about which face most closely resembled their face as well as which face most closely resembled the face of someone looking at you, inducing self-awareness.

It was discovered that a high number of participants in the low self-esteem group selected the disgusted and angry faces in comparison to the high self-esteem group, demonstrating a negative self-evaluation. Furthermore, the high self-esteem group selected happy faces far more frequently than the low self-esteem group, exhibiting a positive self-evaluation. Therefore, when self-awareness is induced, individuals with high self-esteem will evaluate themselves positively and individuals with low self-esteem will evaluate themselves negatively, underlining the complex relationship between self-awareness and self-esteem.

In sum, the relationship between self-awareness and self-esteem is complicated by whether personal standards are met. Failure to meet personal standards (exemplified by an incongruent self-esteem) can result in negative affect amongst the highly self-aware (Cheng et al., 2012). Lastly, inducing self-awareness for individuals with high self-esteem leads them to evaluate themselves positively but negatively for those with low self-esteem (Kim et al., 2019). As self-awareness and self-esteem do not exemplify a clear positive or negative relationship, further investigation into factors (e.g., self-control) that moderate this relationship is necessary. Furthermore, as self-esteem is often negatively related to social media usage, it would be interesting to see how self-awareness interacts with social media usage and its impact on self-esteem.

The Present Study

The present study will seek to investigate the potential connection between social media use and self-awareness. In addition, self-control, self-esteem, and affect will be measured. As discussed, induced self-awareness has a self-regulatory mechanism, leading individuals to evaluate their ideal and personal standards, identify goal obstacles, and attribute meaning to personal choices (Dishon et al., 2018; Kreibich, 2020; Morin, 2011). Although this regulatory aspect sounds purely beneficial, it can lead to either self-reflection or rumination. Rumination involves avoiding the discrepancy while self-reflection involves attending to and resolving the discrepancy. Self-control is believed to be an indication of the alteration of behaviours to align with ideal standards in the sense that, when an individual experiences a discrepancy, it is expected that their self-control would increase to resolve the discrepancy (Alberts et al., 2011; Silvia & O'Brien, 2004). Therefore, it could be that self-control is involved in whether self-awareness is negatively or positively related to social media usage. In addition, although research indicates that social media usage negatively impacts self-esteem (Bergagna & Tartaglia, 2018), it would be enlightening to understand how self-awareness and self-control are involved in this relationship.

Altogether, research indicates a negative relationship between social media usage, self-esteem, and self-control. As for the relationship between affect and social media usage, the consensus is not as clear, but findings point to a slightly negative relationship. Studies show self-control and self-awareness are positively related. Furthermore, the relationship between self-esteem and self-awareness is dependent on ideal standards being met.

With these results in mind, the aim of this study is to examine if the relationship between self-awareness and social media usage is moderated by self-control. Given that self-awareness is associated with increased self-esteem and increased positive affect (when ideal standards are

met), it would be expected that increased self-awareness and self-control along with decreased social media usage would be related to increased self-esteem and positive affect. Therefore, the first hypothesis is that the relationship between self-awareness and social media usage is negative if self-control levels are high. In this case, self-control will moderate the relationship between social media usage and self-awareness. Self-awareness will be the predictor variable while social media usage will be the outcome variable. The other hypotheses state that self-awareness and self-control will have a positive relationship with self-esteem and positive affect, given social media usage is low. Therefore, social media usage will be the moderating variable. Self-awareness and self-control will be the predictor variables while self-esteem and positive affect will be the outcome variables (Bergagna & Tartaglia, 2018; Błachnio et al., 2016; Du et al., 2021).

Method

Participants

Participants were recruited on a voluntary basis through introductory psychology courses. There were 125 participants recruited. Participants were 73.6% female, 20.8% male, and 0.8% nonbinary. The majority were first year university students (44%) with a M_{uni}= 2.06. The age ranged from 18-58 with a M_{age} = 21.55. Lastly, white/European was the most listed ethnicity (60.8%). The rest were Asian (13.6%), black/African (10.4%), Indigenous (10.4%), and Hispanic (4.8%). Table 1, at the end of this paper, demonstrates demographic information for the sample.

Based off a G-Power A Priori analysis for a linear multiple regression model, 110 number of participants were to be recruited to achieve a 0.95 power and 0.10 effect size. A small effect size was assumed considering there has never been a study that has assessed the relationships between self-awareness, self-control, affect, and self-esteem in the context of social media usage.

Materials

All the materials were presented in a randomized fashion on Microsoft Forms. Participants were asked to identify their age, gender, years in university, and ethnicity.

The revised, short-form *Self-Reflection and Insight Scale* (SRIS) was used to measure self-awareness (Silvia, 2021). There are 12 items in the short-form SRIS with two subscales. The first subscale measures self-reflection and has 6 items. The second subscale measures insight and has 6 items. The self-reflection section has a Cronbach's α = .87 and the insight section has a Cronbach's α = .83. Furthermore, the scale has strong reliability, no differential item functioning for genders, as well as strong convergent validity with scales that measure private self-consciousness (Grant et al., 2002; Silvia, 2021). The items are scored on a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree) (e.g., *I don't often think about my thoughts)*. Higher scores on the scale indicate an increased tendency to self-reflect and engage in insight. Although the scale is called the SRIS, it is commonly used to measure self-awareness (Silvia, 2021).

The *Brief Self-Control Scale* was used to measure self-control (Tangney et al., 2004). It has a Cronbach's α = .85, good convergent validity with other self-control scales, and has strong test-retest reliability (Cudo et al., 2020). There are 13 items on the scale (e.g., *I have a hard time breaking bad habits*). Items are scored on a 5-point Likert scale (1 = not at all like me, 5 = very much like me). Higher overall scores reflect poorer self-control.

Self-esteem was measured using the *Rosenberg Self-Esteem Scale* (Rosenberg, 1965). It has a Cronbach's α = .85, moderate construct validity, and has excellent reliability (Bergagna & Tartaglia, 2018). The scale contains 10 items (e.g., *I feel that I have a number of good qualities*). Items are scored on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree). Higher scores indicate higher self-esteem.

Affect was measured using the *Positive and Negative Affect Scale* (PANAS) (Watson &

Tellegan, 1988)*.* It has excellent convergent and discriminant validity, strong reliability, and it's

Cronbach's α = .84–.90 (Watson et al., 1988). The PANAS has 20 items and two subscales. The

first subscale measures positive affect and has 10 items. The second subscale measures negative

affect and contains 10 items. Participants are scored on a 5-point Likert scale (1 = slightly or not

at all, 5 = extremely) on emotions such as interest and hostility. Higher scores on the positive

affect items reflect increased positive affect whereas higher scores on the negative affect items

reflect increased negative affect.

The *Social Network Sites Usage Questionnaire* was used to measure social media usage,

Cronbach's α = .82 (Shi et al., 2014). Shi et al. (2014) state that the questionnaire demonstrated

strong validity and reliability in their Chinese population. Although there are two subscales (one

that measures usage and one that measures affective experience), only the subscale that measures

social media usage will be used for this study. There are 13 items in the usage subscale, 10 of

which measure frequency of usage on a 7-point scale (1 = never, 7 = multiple times a day) (e.g.,

how frequently do you check others' comments or message on your profile?). The other 3 items

measure duration of time on social network sites (1 = less than 15 minutes, 7 = more than four

hours), number of friends (1 = 1-50, 7 = over 500), and the constitution of friends (1 = all are real

life friends, 7 = all are strangers in real life). Higher scores on all the items indicate increased

social media usage.

Each scale demonstrated acceptable Cronbach's alphas for this study and were relatively

normally distributed, as demonstrated by Table 2.

Procedure

A brief description of the study was presented to introductory psychology students over Zoom at the beginning of their classes. The scales included in the study were listed. The students were given access to the researcher's and advisor's emails if they had any further questions after the presentation. The purpose of the study was not revealed to students until they consented to participation and completed the scales. They received a 1% bonus to their introductory psychology mark for participation. Students were be informed that anyone can participate, regardless of gender, race, etc. There was a requirement that participants be 18 years old and over.

Students accessed the study through a URL link that was presented. In addition, the professor was provided with the URL and presentation script so that they could post it on Moodle for students to access it. This URL led them to Microsoft Forms. Once the participant completed the consent form and scales, they were provided with a debrief and thanked for their participation.

Given there were other Honours students who were completing their studies and this study required a larger sample size, the study had to be presented to five different introductory psychology classes as well two second-year psychology classes.

Design

The study will have a correlational design and moderation analyses will be conducted for each hypothesis. For the first hypothesis, self-awareness will be the independent variable and social media usage will be the dependent variable. Self-control will be the moderating variable. For the following hypotheses, self-awareness and self-control will be the independent variable while affect and self-esteem will be the dependent variables. Here, social media usage will be the moderating variable.

Results

Once the survey was closed, the data was transferred to an Excel document. In Excel, a

number was attributed to each answer (e.g., strongly disagree = 0) to prepare the data for analysis

on IBM's SPSS software. Once the data was entered into SPSS, some analyses on reliability and

descriptive statistics were done. Table shows descriptive statistics for each scale, found at the

end of this paper. Additionally, Table 4 demonstrates correlations between the variables. Each

hypothesis involved a moderation analysis which was done using Hayes (2012) PROCESS

macro (Model 1) for SPSS. Additionally, mediation analyses were done using the same Hayes

(2012) PROCESS macro (Model 4). This PROCESS macro centered the variables, established if

there were any main effects, and provided significance coefficients for the interactions. Each

hypothesis met all assumptions required to conduct linear regressions with moderation and

mediation. For hypothesis 4, 3 outliers (< 3 standard deviations) had to be removed.

Hypothesis 1

To test the first hypothesis that self-control would moderate the relationship between self-

awareness and social media usage, a simple linear regression with moderation was conducted.

Self-awareness was entered as the independent variable (IV), self-control as the moderator, and

social media usage as the dependent variable (DV). The interaction between self-awareness and

self-control could not statistically significantly predict social media usage, $\beta = -.007$, $p = .517$,

95% CI [−.031, .016]. Therefore, the first hypothesis was rejected. A linear regression was

conducted and found that self-awareness could not statistically significantly predict social media

usage, $R^2 = .00$, $F(1, 116) = .478$, $\beta = -.070$, $p = .491$, 95% CI [−.272, .131]. However, a linear

regression demonstrated that self-awareness could significantly predict self-control, $R^2 = .23$,

$F(1, 114) = 34.0$, $\beta = .514$, $p < .001$, 95% CI [.339, .688].

Since moderation did not occur, a mediation analysis, using Hayes (2012) PROCESS macro (Model 4), was done with self-control as the mediator (IV: self-awareness, DV: social media usage). It found that self-control fully mediated the negative relationship between self-awareness and social media usage (*indirect effect* = −0.17, 95% CI [-.30, -.05]). Figure 1 demonstrates the mediation analysis. Therefore, although the first hypothesis was rejected, a mediation analysis found that self-control significantly mediated the relationship between self-awareness and social media usage.

Hypothesis 2

For the second hypothesis, a simple linear regression with moderation was conducted to assess if social media usage moderated the relationship between self-awareness and self-esteem. Self-awareness was entered as the IV, social media usage as the moderator, and self-esteem as the DV. The relationship between self-awareness and self-esteem, moderated by social media usage, was insignificant, β = -.000, p = .904, 95% CI [-.011, .010]. Therefore, the second hypothesis was not supported. But a linear regression found that self-awareness could significantly predict self-esteem, R^2 = .20, $F(1, 115)$ = 28.7, β = .278, $p < .001$, 95% CI [.176, .381]. In addition, the interaction between self-control and social media usage could not statistically significantly predict self-esteem, β = -.000, p = .885, 95% CI [-.009, .011]. A linear regression was also run and found that self-control could statistically significantly predict self-esteem, R^2 = .37, $F(1, 116)$ = 69.4, β = .385, $p < .001$, 95% CI [.293, .476].

As self-awareness, self-esteem, and self-control were all positively related, a mediation analysis was conducted with self-control as the mediator (IV: self-awareness, DV: self-esteem). The mediation found that self-control partially mediated the relationship between self-awareness

and self-esteem, (*indirect effect* = 0.13, 95% CI [.07, .20]). Figure 2 shows the mediation

analysis. Therefore, although the moderator was insignificant, self-awareness and self-control

were positively related to self-esteem. Furthermore, self-control partially mediated the

relationship between self-awareness and self-esteem.

Hypothesis 3

A simple linear regression with moderation was run to assess if social media usage

moderated the relationship between self-awareness and positive affect. Self-awareness was the

IV, social media usage as the moderator, and positive affect as the DV. The interaction between

self-awareness and social media usage could not statistically significantly predict positive affect,

β = -.013, p = .127, 95% CI [-.029, .004]. Thus, the third hypothesis was rejected. However, a

linear regression found that self-awareness could statistically significantly predict positive affect,

R^2 = .12, $F(1, 118)$ = 16.4, β = .312, $p < .001$, 95% CI [.159, .464]. As for self-control, the

interaction between self-control and social media usage could not statistically significantly

predict positive affect, β = -.001, p = .897, 95% CI [-.017, .015]. A linear regression

demonstrated that self-control could statistically significantly predict positive affect, R^2 = .16,

$F(1, 117)$ = 22.8, β = .358, $p < .001$, 95% CI [.209, .506]. Altogether, the moderator was

insignificant, but self-awareness and self-control positively related to positive affect.

A mediation analysis was conducted (IV: positive affect, DV: social media usage) and

discovered that self-control fully mediated the relationship between positive affect and social

media usage (*indirect effect* = −0.18, 95% CI [-.30, -.06]). Furthermore, a mediation analysis

with self-control as the mediator (IV: self-awareness, DV: positive affect) found that self-control

partially mediated the relationship between self-awareness and positive affect (*indirect effect* =

0.12, 95% CI [.04, .21]). Figure 3 demonstrates the mediation analysis. Therefore, moderation

did not occur, but self-control was a significant mediator between self-control, positive affect,

and social media usage.

Hypothesis 4

A simple linear regression with moderation was run to examine if social media usage

moderates the relationship between self-awareness and negative affect. Here, self-awareness was

the IV, social media usage as the moderator, and negative affect as the DV. The interaction

between self-awareness and social media usage could not statistically significantly predict

negative affect, β = -.007, p = .321, 95% CI [-.022, .007]. Consequently, the fourth hypothesis

was rejected. But a linear regression found that self-awareness could statistically significantly

predict negative affect, R^2 = .20, $F(1, 115)$ = 28.6, β = -.369, $p < .001$, 95% CI [-.505, -.232]. In

addition, the interaction between self-control and social media usage could not statistically

significantly predict negative affect, β = -.000, p = .990, 95% CI [-.015, .015]. However, a linear

regression indicated that self-control statistically significantly predicted negative affect, R^2 = .18,

$F(1, 114)$ = 24.7, β = -.336, $p < .001$, 95% CI [-.470, -.202]. All in all, the fourth hypothesis was

rejected but it was discovered that self-awareness and self-control negatively related to negative

affect.

A mediation analysis was also conducted with self-control as the mediator (IV: self-

awareness, DV: negative affect). It was discovered that self-control partially mediates the

relationship between self-awareness and negative affect (*indirect effect* = −0.10, 95% CI [−.19,

−.02]). The mediation is demonstrated by Figure 4. Therefore, self-control partially mediated the

relationship between self-awareness and negative affect.

Discussion

As per the literature review, it was hypothesized that self-control would influence the relationship between self-awareness and social media usage. The current study also expected that self-awareness would be negatively related to social media usage. However, results indicated that self-control was not a significant moderator nor was self-awareness significantly related to social media usage. But since self-awareness was positively related to self-control and self-control was negatively related to social media usage, a mediation analysis was conducted. This mediation analysis uncovered that self-control fully explained the relationship between self-awareness and social media usage. Thus, although mediation was not a part of the initial hypotheses and there has not been a study that has assessed self-control as a mediator between self-awareness and social media usage, this result is understandable considering prior studies.

These prior studies have found that self-awareness enhances self-control by emphasizing self-discrepancies (in current and ideal standards) and therefore highlighting the need to change and control one's behaviour (Alberts et al., 2011). It is also well known that self-control is negatively related to social media usage as individuals with higher self-control are less susceptible to excessive social media usage (Błachnio & Przepiorka, 2015). Therefore, these results demonstrate how important self-control is in producing the negative relationship between self-awareness and social media usage. Increased self-awareness prompts increased self-control, consequently reducing social media usage. This result is unlikely to occur if self-awareness resulted in rumination and therefore no prompt for increased self-control. Furthermore, perhaps the hypothesis for moderation did not occur because COVID-19 stress was not controlled for. For example, it could have been that individuals with high self-awareness and self-control had moderate social media usage instead of low social media usage. In this case, social media usage

could have been at a moderate level even with high self-awareness and self-control due to the COVID-19 pandemic, something that exacerbated social media usage for many (Thygesen et al., 2022).

As for the lack of relationship between self-awareness and social media usage, the relationship between self-awareness and boredom needs to be assessed. It has been found that self-awareness increases the effects of boredom because self-awareness emphasizes the need to deal with boredom more pressing when one examines their current state versus their ideal standards (Moynihan et al., 2017). Furthermore, boredom increases feelings of meaninglessness, enhancing the need to resolve boredom for individuals with high self-awareness. Thus, although high self-awareness is related to self-control, self-awareness could be positively related to impulsiveness for individuals who are bored and experience a heightened sense of meaninglessness. These individuals with high self-awareness who deal with self-discrepancies using avoidance and who resort to impulsiveness are perhaps more at risk of excessive social media usage (Moynihan et al., 2017). Impulsiveness can perhaps serve as a distraction from self-discrepancies, avoiding the negative affect that self-discrepancies cause (Cheng et al., 2012). Altogether, the positive relationship between self-awareness and boredom is perhaps the result of avoidance of self-discrepancies whereas the positive relationship between self-awareness and self-control is the result of addressing self-discrepancies. In conclusion, although the hypothesis for moderation was not supported, self-control was a significant mediator for the negative relationship between self-awareness and social media usage, aligning with previous studies on the three variables.

For the other hypotheses, no moderation was found. But numerous statistically significant relationships were found that aligned with previous studies, as shown in Table 4. Additionally, mediation analyses discovered that self-control served as a significant mediator for relationships between numerous variables. For example, a mediation analysis was conducted and found that self-control partially mediated the relationship between self-awareness and self-esteem. Thus, as previous studies found that high self-awareness can be associated with either high or low self-esteem, this study found that self-control partially explained why self-awareness is positively related to self-esteem. This positive relationship can likely be explained by the effect that self-awareness and self-control have on one's behaviour as they emphasize personal standards (self-awareness) and the alteration of behaviour to meet those standards (self-control) (Morin, 2011). Consequently, knowing what standards one would like to achieve and acting on the achievement of those standards would likely result in higher self-esteem.

In addition, a mediation analysis found that self-control fully mediated the negative relationship between positive affect and social media usage. Therefore, self-control can explain the negative relationship between positive affect and social media usage. This once again aligns with other studies that found that increased self-control was related to moderate social media usage and therefore increased wellbeing (Du et al., 2021). The positive relationship between self-awareness and positive affect is likely because introspection (due to self-awareness) is associated with improved mental health and a better understanding of one's emotions, thought processes, attitudes, values, etc. (Morin, 2011).

Another mediation analysis found that self-control partially mediated the relationship between self-awareness and positive affect. Therefore, self-control partially explains why self-

awareness is positively associated with positive affect. This is understandable considering self-control can lead to positive affect as it diminishes self-discrepancies, a catalyst for negative affect (Cheng et al., 2010). This study also found a statistically significant positive relationship between self-control and positive affect. Furthermore, this sample could have been higher in self-awareness and more likely to self-reflect as opposed to ruminate, explaining the increased positive affect.

Lastly, a mediation analysis was also done and found that self-control partially mediated the negative relationship between self-awareness and negative affect. This outcome is similar to prior studies as self-awareness, when related to self-reflection, is associated with reduced negative affect since it promotes one to address self-discrepancies (a cause of negative affect) (Morin, 2011). Furthermore, self-control explains the negative relationship between self-awareness and negative affect because self-control minimizes self-discrepancies and therefore reduces the negative affect from the acknowledgement of self-discrepancies. Additionally, perhaps this sample did not demonstrate a positive relationship between self-awareness and negative affect because they are more likely to self-reflect instead of ruminating, leading to reduced negative affect.

Altogether, to my knowledge, there has not been a study that has demonstrated how self-control mediates the relationship between self-awareness and social media usage. In addition, self-control was a significant mediator for numerous relationships between other variables, emphasizing the importance of self-control as a consequence of self-awareness. Some future implications of this outcome indicate that perhaps people would benefit from self-reflection as it could lead to improved self-control and therefore reduced social media usage. Furthermore, as

demonstrated by this study, enhanced self-awareness and self-control could result in increased

self-esteem and positive affect, along with reduced negative affect. Future research should focus

on how to cultivate and improve self-awareness. Specifically, research should focus on how to

cultivate self-awareness at younger ages so that individuals can reap the benefits of self-

awareness earlier in life and learn how to maintain healthy self-reflection. Studies have already

demonstrated how mindfulness mediation is associated with enhanced self-awareness, perhaps

indicating that mindfulness mediation is a viable way of improving self-awareness (Lutz et al.,

2016; Nyklíček, 2020). Furthermore, Lutz et al. (2016) demonstrated how mindfulness mediation

was associated with reduced activation of brain regions associated with rumination, exemplifying

the benefits of mediation.

There are a few limitations in this study. First, the Self-Reflection and Insight scale

(Grant et al., 2002), although reliable, could not provide insight into whether an individual was

self-aware with a tendency to ruminate versus reflect. The strong association between self-

awareness, self-control, positive affect, and self-esteem in this study potentially signals that this

sample was more prone to reflect instead of ruminate. Secondly, the impact of COVID-19 on

individuals was not measured or included as a covariate in this study. COVID-19 stress could

have resulted in increased social media usage, increased negative affect, reduced self-esteem,

and perhaps increased self-awareness and rumination (Zhao & Zhou, 2021). Therefore, COVID-

19 stress should have been controlled for as it could have impacted peoples' scores on all the

scales used in this study. Thirdly, gender differences in self-awareness were not examined nor

how gender and self-awareness impact social media usage. Previous studies have demonstrated

that women are more prone to problematic social media usage (Bergagna & Tartaglia, 2018) yet

some studies find women score higher on self-awareness (Van Velsor et al., 1993). Therefore,

the interaction between gender, social media usage, and self-awareness should have been examined.

All in all, future research should focus on developing a scale that can provide insight into whether the participant is more likely to ruminate or reflect if they are highly self-aware. COVID-19 should also be included as a covariate considering it could have an impact on self-control, self-awareness, self-esteem, affect, and social media usage. Additionally, gender differences should be examined as differences in self-awareness and social media usage have previously been discovered (Bergagna & Tartaglia, 2018; Van Velsor et al., 1993). Lastly, as previously mentioned, future research should focus on how to cultivate self-awareness in younger populations so they can reap the benefits earlier in life and learn how to maintain healthy self-reflection.

Table 1

Demographic Information	Full sample	
	n	*%*
Gender		
Female	92	73.6
Male	26	20.8
Nonbinary	1	.8
Missing	6	6.4
Age		
18 - 20	72	57.6
21 - 23	23	18.4
24 - 26	8	6.4
27 - 58	14	11.2
Missing	8	6.4
Years in University		
1 year	55	44.0
2 years	26	20.8
3 years	20	16.0
4 years	12	9.6
5 – 11 years	4	3.2
Missing	8	6.4
Ethnicity		
White/European	76	60.8
Indigenous	13	10.4
Hispanic	6	4.8
Asian	17	13.6
Black/African	13	10.4

Note. $N = 125$. Participants were on average 21.5 years old.

Table 2

Cronbach's Alphas for Scales

	Mean	Std. Deviation	Cronbach's Alpha
SC	3.151	0.388	.853
PA	3.172	0.122	.873
NA	2.328	0.481	.855
SE	2.849	0.356	.898
SA	4.161	0.439	.789
SMU	2.960	1.361	.741

Table 3

Descriptive statistics for self-awareness, self-esteem, self-control, social media usage, positive affect, and negative affect.

	Minimum	Maximum	Mean	Std. Deviation	Variance
NA	10.00	46.00	23.2800	7.65864	58.655
PA	15.00	49.00	31.7200	7.59945	57.752
SA	28.00	71.00	49.9344	8.33765	69.516
SC	23.00	61.00	40.9587	8.78293	77.140
SE	11.00	39.00	28.4919	5.58088	31.146
SMU	14.00	64.00	38.4797	9.12154	83.202

Table 4

Correlations between self-awareness, self-esteem, self-control, social media usage, positive

affect, and negative affect.

Correlations

		SC	PA	NA	SE	SA	SMU
SC	Pearson Correlation	1	.404**	-.448**	.532**	.479**	-.298**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	.001
PA	Pearson Correlation	.404**	1	-.285**	.521**	.349**	.065
	Sig. (2-tailed)	<.001		.001	<.001	<.001	.480
NA	Pearson Correlation	-.448**	-.285**	1	-.513**	-.385**	.144
	Sig. (2-tailed)	<.001	.001		<.001	<.001	.115
SE	Pearson Correlation	.532**	.521**	-.513**	1	.405**	-.045
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	.627
SA	Pearson Correlation	.479**	.349**	-.385**	.405**	1	-.064
	Sig. (2-tailed)	<.001	<.001	<.001	<.001		.491
SMU	Pearson Correlation	-.298**	.065	.144	-.045	-.064	1
	Sig. (2-tailed)	.001	.480	.115	.627	.491	

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

Figure 1

Self-Control as a significant mediator between self-awareness and social media usage.
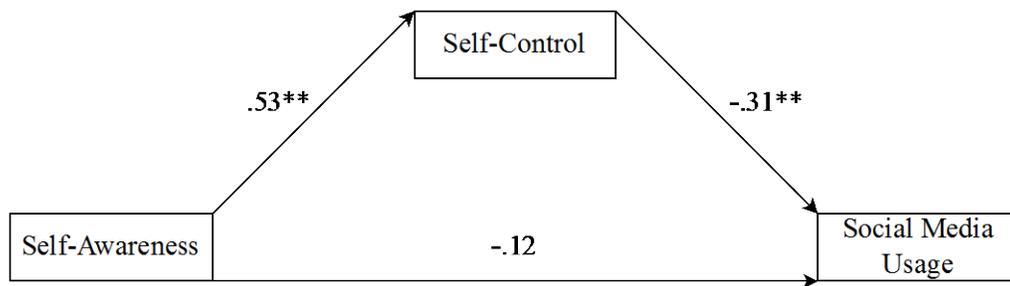
**. Correlation is significant at the 0.01 level (2-tailed).

Figure 2

Self-Control as a significant mediator between self-awareness and self-esteem.
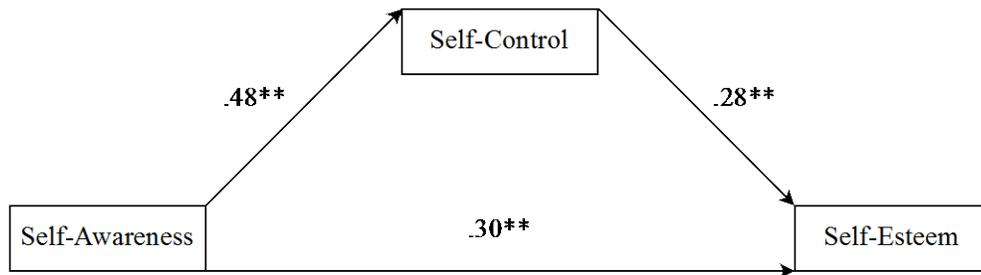
**. Correlation is significant at the 0.01 level (2-tailed).

Figure 3

Self-Control as a significant mediator between self-awareness and positive affect.

```
                            ┌─────────────────┐
                            │   Self-Control  │
                            └─────────────────┘
                      .49**                    .23**

┌─────────────────┐              .30**              ┌─────────────────┐
│  Self-Awareness │─────────────────────────────────│  Positive Affect │
└─────────────────┘                                 └─────────────────┘
```
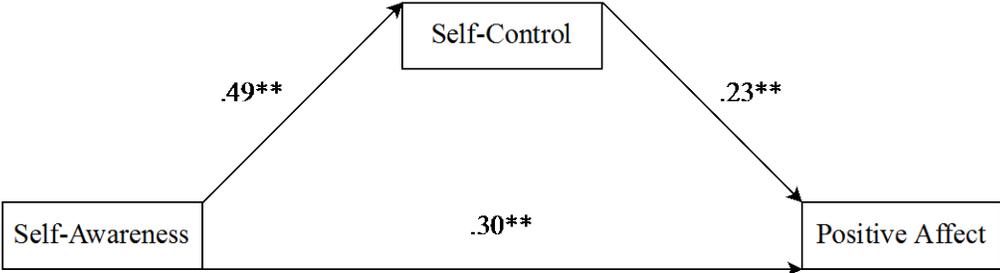
**. Correlation is significant at the 0.01 level (2-tailed).

Figure 4

Self-Control as a significant mediator between self-awareness and negative affect.

```
                            ┌──────────────┐
                            │ Self-Control │
                            └──────────────┘
                   .52**                      -.19*
        ┌────────────────┐        -.38**        ┌─────────────────┐
        │ Self-Awareness │──────────────────────│ Negative Affect │
        └────────────────┘                      └─────────────────┘
```
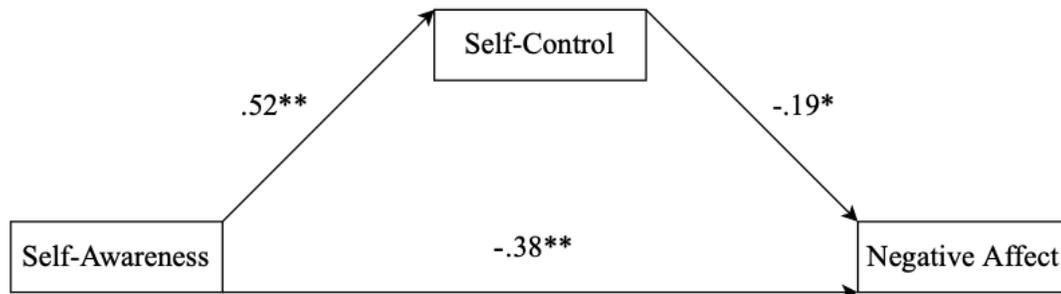
*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

References

Appel, M., Marker, C., & Gnambs, T. (2020). Are social media ruining our lives? A review of

meta-analytic evidence. *Review of General Psychology*, *24*(1), 60–

74. https://doi.org/10.1177/1089268019880891

Bergagna, E., & Tartaglia, S. (2018). Self-esteem, social comparison, and Facebook

use. *Europe's Journal of Psychology, 14*(4), 831–845.

https://doi.org/10.5964/ejop.v14i4.1592

Beyens, I., Pouwels, J.L., & van Driel, I.I. (2020). The effect of social media on well-being

differs from adolescent to adolescent. *Sci Rep* 10, 10763. https://doi.org/10.1038/s41598-

020-67727-7

Błachnio, A., & Przepiorka, A. (2015). Dysfunction of self-regulation and self-control in

Facebook addiction. *Psychiatric Quarterly, 87*(3), 493–500.

https://doi.org/10.1007/s11126-015-9403-1

Błachnio, A., Przepiorka, A., & Pantic, I. (2016). Association between Facebook addiction, self-

esteem, and life satisfaction: A cross-sectional study. *Computers in Human Behavior, 55*,

701–705. https://doi.org/10.1016/j.chb.2015.10.026

Cudo, A., Torój, M., Demczuk, M., & Francuz, P. (2019). Dysfunction of self-control in

Facebook addiction: Impulsivity is the key. *Psychiatric Quarterly*, *91*, 91–101.

https://doi.org/10.1007/s11126-019-09683-8

Dishon, N., Oldmeadow, J. A., & Kaufman, J. (2018). Trait self-awareness predicts perceptions

of choice meaningfulness in a decision-making task. *BMC Research Notes*, *11*(1), 75.

https://doi.org/10.1186/s13104-018-3191-2

Du, J., Kerkhof, P., & van Koningsbruggen, G. M. (2021). The reciprocal relationships between

      social media self-control failure, mindfulness, and wellbeing: A longitudinal study. *PloS*

      one, *16*(8), e0255648. https://doi.org/10.1371/journal.pone.0255648

Duval, S., & Wicklund, R. A. (1972). *A theory of objective self-awareness.* Academic Press.

Grant, A. M., Franklin, J., & Langford, P. (2002). The self-reflection and insight scale: A new

      measure of private self-consciousness. *Social Behavior and Personality: An International*

      Journal, 30(8), 821–835. https://doi.org/10.2224/sbp.2002.30.8.821

Hayes, A.F. (2012). PROCESS: A Versatile Computational Tool for Observed Variable

      Mediation, Moderation, and Conditional Process Modeling 1. Retrieved from

      http://www.afhayes.com/ public/process2012.pdf

Huang, C. (2020). A meta-analysis of the problematic social media use and mental

      health. *International Journal of Social*

      Psychiatry. https://doi.org/10.1177/0020764020978434

Kramer, A. D., Guillory, J. E., & Hancock, J. T. (2014). Experimental evidence of massive-scale

      emotional contagion through social networks. *Proceedings of the National Academy of*

      Sciences of the United States of America, *111*(24), 8788–8790.

      https://doi.org/10.1073/pnas.1320040111

Kreibich, A., Hennecke, M., & Brandstätter, V. (2020). The effect of self–awareness on the

      identification of goal–related obstacles. *European Journal of Personality*, *34*(2), 215–

      233. https://doi.org/10.1002/per.2234

Lutz, J., Brühl, A., Scheerer, H., Jäncke, L., & Herwig, U. (2016). Neural correlates of mindful

      self-awareness in mindfulness meditators and meditation-naïve subjects

revisited. *Biological Psychology*, *119*, 21-30.

https://doi.org/10.1016/j.biopsycho.2016.06.010

Morin, A. (2011). Self-awareness part 1: Definition, measures, effects, functions, and

antecedents. *Social and Personality Psychology Compass, 5*(10), 807–823.

https://doi.org/10.1111/j.1751-9004.2011.00387.x

Morin, A. (2011). Self-awareness part 2: Neuroanatomy and importance of inner speech. *Social

and Personality Psychology Compass, 5*(12), 1004–1017. https://doi.org/10.1111/j.1751-

9004.2011.00410.x

Nyklíček, I. (2020). Aspects of self-awareness in meditators and meditation-naïve participants:

Self-Report versus task performance. *Mindfulness*, *11*(4), 1028-1037.

https://doi.org/10.1007/s12671-020-01318-5

Phillips, A. G., & Silvia, P. J. (2005). Self-awareness and the emotional consequences of self-

discrepancies. *Personality & Social Psychology Bulletin*, *31*(5), 703–713.

https://doi.org/10.1177/0146167204271559

Qiu, L., & Lin, H., & Leung, A. K. (2010). How does Facebook browsing affect self-awareness

and social well-being: The role of narcissism. *ACM International Conference Proceeding

Series,* 100–101. http://doi.org/10.1145/1971630.1971661

Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton University Press.

http://www.jstor.org/stable/j.ctt183pjjh

Shi, Y., Luo, Y. L. L., Yang, Z., Liu, Y., & Cai, H. (2014). The development and validation of

the social network sites (SNSs) usage questionnaire. *Lecture Notes in Computer Science,*

113–124. doi:10.1007/978-3-319-07632-4_11

Silvia, P. J., & O'Brien, M. E. (2004). Self-awareness and constructive functioning: Revisiting "the human dilemma." *Journal of Social and Clinical Psychology, 23*(4), 475–489. https://doi.org/10.1521/jscp.23.4.475.40307

Silvia, P. J. (2021). The self-reflection and insight scale: Applying item response theory to craft an efficient short form. *Curr Psychol.* https://doi.org/10.1007/s12144-020-01299-7

Steinsbekk, S., Wichstrøm, L., Stenseng, F., Nesi, J., Hygen, B. W., & Skalická, V. (2020). The impact of social media use on appearance self-esteem from childhood to adolescence – A 3-wave community study. *Computers in Human Behavior,* 106528. https://doi.org/10.1016/j.chb.2020.106528

Sutton, A. (2016). Measuring the effects of self-awareness: Construction of the self-awareness outcomes questionnaire. *Europe's Journal of Psychology, 12*(4), 645–658. https://doi.org/10.5964/ejop.v12i4.1178

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, *72*(2), 271–324. https://doi.org/10.1111/j.0022-3506.2004.00263.x

Thygesen, H., Bonsaksen, T., Schoultz, M., Ruffolo, M., Leung, J., Price, D., & Geirdal, A. (2022). Social media use and its associations with mental health 9 months after the covid-19 outbreak: A cross-national study. *Frontiers In Public Health*, *9*. https://doi.org/10.3389/fpubh.2021.752004

Van Velsor, E., Taylor, S., & Leslie, J. (1993). An examination of the relationships among self-perception accuracy, self-awareness, gender, and leader effectiveness. *Human Resource Management*, *32*(2-3), 249-263. https://doi.org/10.1002/hrm.3930320205

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), 1063–1070. https://doi.org/10.1037/0022-3514.54.6.1063

Zhao, N., & Zhou, G. (2021). COVID-19 stress and addictive social media use (SMU):

    Mediating role of active use and social media flow. *Frontiers in Psychiatry*, *12*, 635546.

    https://doi.org/10.3389/fpsyt.2021.635546