Examining Self-Presentation Efforts to Create Instagram Posts

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Abstract

Research suggests that individuals engage in effortful behaviours to self-present when posting on Instagram. However, these Instagram preparatory behaviours (IPB) (e.g. editing, photo-selection, asking friends for feedback), have not yet been examined in detail. The aims of the study were to (1) describe the diverse range of IPB individuals may engage in and (2) investigate the psychological processes that may be associated with IPB. Goffman's (1990) impression management (IM) theory was employed to conceptualise IPB as a process whereby users attempt to control others' perceptions of their Instagram profiles. A convenience sample of 135 participants completed an online survey investigating IM, gender, contingent self-worth (appearance and others' approval), perfectionistic self-presentation and perfectionistic hiding effort. Unexpectedly, the results showed that men and women did not differ significantly in terms of IPB. IPB was positively correlated with all independent variables apart from gender. A multiple regression found that IM and perfectionistic self-presentation were significant positive predictors of IPB. The findings provide support for Goffman's (1990) theory of "backstage" effortful behaviours in pursuit of IM "front stage" and suggest that perfectionism is implicated in IPB. These findings propose that IPB may become problematic when undertaken excessively for self-image goals and perfectionistic striving.

Keywords: Instagram, self-presentation, effort, impression management, perfectionism

Declaration

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Examining Self-Presentation Efforts to Create Instagram Posts

Social media is one the fastest growing industries worldwide, enabling people to share content and interact with billions of others across the globe (Meikle, 2016). Since Facebook's acquisition of Instagram in 2012, the social media platform's growth and popularity has skyrocketed (Hershman, 2017), seeing over one billion monthly active users in 2018 (Statista, 2018). Instagram is distinct from other social media as it is centred on photo and video sharing rather than messaging functions and is consequently used for self-promotion and self-expression more than connection (Jackson & Luchner, 2018). For example, users can employ various editing features to their photos, add captions and engage with other users by "liking" or commenting on their posts.

Psychology research is interested in how the massive uptake of social media may have implications for how people self-present and perceive themselves and others. Social media enables users to be highly selective of information used to represent one's image (Gonzalez & Hancock, 2011) and there tends to be a positivity bias in this process, which has been termed the "highlight reel" (Reinecke & Trepte, 2014). Some researchers argue that social media has encouraged a 'self-absorbed' generation (e.g. Twenge, 2006). Others contend that people experience incredible pressure to appear 'perfect' (e.g. successful, attractive, popular) and thus become extremely selective in curating their profiles to exude these characteristics (e.g. Freitas, 2017). Profiles are sources of highly managed information (Steers, Wickham & Acitelli, 2014) that may influence other users' first impressions (Bacev-Giles & Haji, 2017) and success in real-world domains including social areas (e.g. dating) and employment (Keep & Attrill-Smith, 2017).

While the majority of the online self-presentation literature has focussed on completed profiles (i.e. the 'finished product'), other researchers have begun to focus on the

efforts behind posts (e.g. Yau & Reich, 2019). Instagram was the focus of the present study because it is the most popular image-based platform yet has limited psychological research (Jackson & Luchner, 2018) and inadequate understanding of these effortful behaviours (Yau & Reich, 2019). In Yau and Reich's (2019) study with focus groups, adolescents reported time-consuming behaviours such as editing, asking friends for assistance and planning to post in "high-traffic" hours prior to posting to their Instagram profile. Compared to face-to-face interaction, the online environment readily facilitates this effortful behaviour as there is time to privately prepare and edit self-presentation (Walther, 2007). Effort is an important aspect of social media use to consider because it provides a measure of the time and resources (e.g. money) that users put into their profiles (Yau & Reich, 2019). Hereafter, these effortful behaviours will be referred to as Instagram preparatory behaviours (IPB), which encompasses a wide range of self-presentation efforts undertaken to capture and prepare a post for one's profile. Current knowledge of these IPB is limited in regard to: (1) the extent to which people tend to engage in IPB and which types of IPB might be more common; and (2) the psychological processes that may be associated with IPB (Yau & Reich, 2019).

Investigating IPB may contribute to understanding the sequence of behaviours that lead to the negative consequences of social media use (Huang, 2010). At certain levels, it may be that IPB become stressful, obsessive, detract from positive experiences (Barasch, Zauberman, Diehl & Johar, 2018) or become excessively time-consuming (Yau & Reich, 2019). The effort people put into IPB may negatively affect relationships and wellbeing (Crocker & Canevello, 2012; Gosnell, Thomas & McKibben, 2011).

There are several plausible reasons why individuals may engage in IPB. Research suggests that motivations for posting on Instagram include archiving photos for personal memories, escapism, a creative outlet, self-expression and social networking (Lee, Lee, Moon & Sung, 2015). IPB may be related to maintaining a highly stylised profile or what is

known simply as the "Instagram aesthetic" (Barbour, Lee & Moore, 2017). Another explanation is that IPB is related to impression management (IM) (Goffman, 1990). IM is a cognitive process referring to *awareness* of how others might perceive oneself and the *intention* to control others' perceptions (Keep & Attrill-Smith, 2017). Several researchers propose that individuals have IM goals for social media (e.g. they intend to control others' perceptions of them as attractive, likeable or interesting) (e.g. Manago, Graham, Greenfield & Salimkhan, 2008). Thus, it is possible that IPB are engaged in to prepare photos that will control others' perceptions of one's profile.

An advantage of Goffman's (1990) theory is that it outlines a model that conceptualises the covert nature of these IPB, which may be both commonly engaged in and commonly downplayed. Research suggests there is pressure to be both perfect and authentic on Instagram (Reinecke & Trepte, 2014). Extensive IPB may be considered overly effortful and thus inauthentic. This may create a situation where IPB are commonly engaged in to create positive images yet not acknowledged so that images are believable (Borges-Rey, 2015). Next, Goffman's (1990) theory will be explained and applied to Instagram as a novel way to understand these behaviours. The study will then consider other psychological processes and individual difference factors that may be associated with engagement in IPB. Finally, the potentially problematic nature of these efforts will be discussed.

Goffman's Impression Management Theory

Goffman's (1990) model understands public life as "front stage" where individuals are motivated to create and control positive impressions of themselves. One way people convey impressions is through *expressions given* (Goffman, 1990) where people intentionally adjust, accentuate and suppress certain aspects of themselves such as behaviour, physical appearance and language. Another way is via *expressions given off* (Goffman, 1990) where the impression conveyed is accidental or undesired, for example, body language that suggests

disinterest to another. Goffman (1990) suggests that individuals are motivated to learn and adhere to the norms and values of the group in order to create a positive impression and earn approval (e.g. adhering to the dress-code at work).

According to Goffman (1990), this process of IM in public life requires a lot of work behind the scenes. Goffman's (1990) "backstage" refers to private life where people are less bound by social obligations, changing into relaxed clothes and using informal language. Backstage, people also practice certain behaviours to prepare for an upcoming front stage performance, such as rehearsing an upcoming conversation, practicing a handshake for a job interview or doing make-up for the day ahead. Therefore, even backstage, people are influenced by social norms (Goffman, 1990). However, backstage efforts to create positive impressions for front stage are played down or hidden altogether, so that the performance appears genuine (Goffman, 1990).

Goffman's Theory Applied to Social Media and Instagram

Front stage. Goffman's (1990) depiction of front stage where people are motivated to convey positive impressions and are influenced by social norms can be compared to Instagram profiles. Goffman's (1990) *expressions given* are especially relevant because self-presentation on Instagram can be highly selective, unlike face-to-face interaction (Ellison, Heino & Gibbs, 2006) where there is more opportunity for *expressions given off* (Goffman, 1990) (i.e. slip-ups). Online contextual and social norms have been found to inform engagement and self-presentation on profiles (e.g. McLaughlin & Vitak, 2011; Uski & Lampinen, 2016). For example, there is a restrained nature of posting on Instagram because excessive posting is generally disapproved of (O'Donnell, 2018) and this encourages posting only one's best photos (Yau & Reich, 2019).

Positive self-portrayal is considered more socially acceptable than mundane or highly emotional posts, which acquaintances generally perceive as uncomfortable, uninteresting and

inappropriate (Mclaughlin & Vitak, 2011). Siibak's (2009) survey ($N = 713$) identified that young adults clearly understand the qualities a person must display in order to be popular on social media (i.e. good looks, editing skills, large social network) and that there are norms for posing in photos. Similarly, Young's (2013) survey of 18-25-year-old Australians ($N = 752$) found that a widely understood norm is to post attractive photos to Facebook. People are generally aware of what their audience finds appealing and the social norms of the platform (O'Donnell, 2018). The likes and comments on a post quantifies the level of approval received (Li et al., 2018).

Backstage. Goffman's (1990) depiction of preparing for one's front stage performance while backstage can be compared to IPB undertaken prior to posting on Instagram. While crafting one's post, one may remain consciously or unconsciously aware of the norms of the platform and their IM goals (e.g. for others to perceive them as likeable) (Goffman, 1990; Yau & Reich, 2019). The nature of online self-presentation means that IPB can be undertaken privately, in one's own time, without others knowing the lengths one may go to (Walther, 2007). These extensive efforts may be hidden such that others perceive one's post as authentic, resulting in downplaying IPB (Goffman, 1990; Reinecke & Trepte, 2014).

Instagram preparatory behaviours. The literature suggests that there may be numerous efforts to capture and prepare social media posts. One important aspect of preparing a post is an understanding of one's audience which guides the user in knowing what is appropriate to post (Marwick, Boyd, Lincoln & Robards, 2014). Participants in Yau and Reich's (2019) focus groups categorised preparing posts as hard work, comprising efforts such as editing, planning to post at certain times of the day and liking others' posts before posting their own. They also found that adolescents enlisted the help of friends to decide whether their photo and accompanying caption was suitable. A limitation of their study was their small sample size ($N = 51$) and that their study was conducted in a narrow region of the

U.S, so these efforts may not be generalisable to other populations. However, the interviews provide a helpful starting point to further consider effort on Instagram.

Additional studies support the observations detailed in Yau and Reich (2019). For example, Ringrose (2011) found that adolescent girls experimented with angles, lighting, posing and editing to prepare their pictures for social media. Editing photos is now commonplace (Guest, 2016) but the mode of editing may vary, such that some may use filters on Instagram, while others may use external applications like "FaceTune" that alter facial features and body shape (Tait, 2018). Participants in Siibak's (2009) study considered aesthetic aspects like photo quality and processing effects as important factors in image selection for one's profile. Clothes and make-up are important methods for self-presentation (König, 2008) and Instagram influencer advertising is prevalent (i.e. micro-celebrities promoting brands) (Khamis, Ang & Welling, 2017) so it is possible that individuals may also buy items or choose to wear clothing specifically for their posts.

While IPB may include actions like editing, considering aesthetics and photo-selection, effort may also be salient while participating in daily life. Barasch et al. (2018) interviewed participants at a tourist site ($N =135$) and 52% reported that their main goal of capturing an image was to post it on their social media profile. Thus, an IPB may be to go to certain places or events in anticipating or intentionally creating an opportunity to capture an image. For example, "Instagram worthy" food is popular (i.e. elaborate and aesthetically appealing) and people dine at particular restaurants to capture photos of these creations for their profiles (Levin, 2017). In line with Goffman's (1990) theory, these backstage efforts may be done with the intention of controlling others' perceptions front stage. If so, IM will be positively associated with engagement in IPB. Figure 1 presents the hypothesised process.
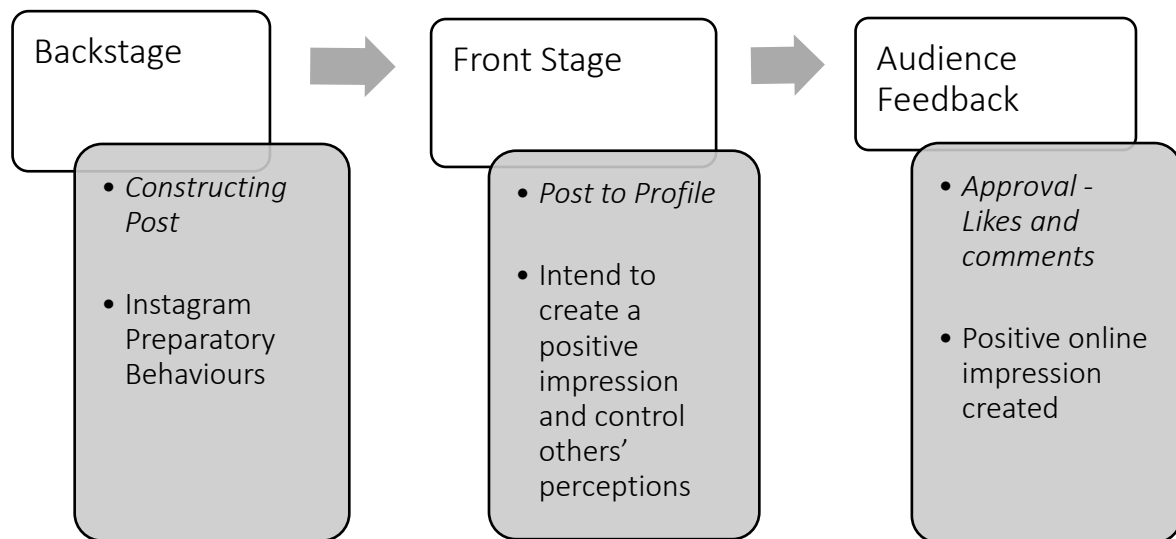
Figure 1. *Impression Management Theory Backstage and Front Stage.*

Alternative Factors Influencing Engagement in Instagram Preparatory Behaviours

Siibak (2009) notes that one limitation to Goffman's (1990) theory is that not all

people are motivated to control others' perceptions because they do not perceive self-

presentation norms nor IM goals as worthwhile or relevant to them. Yau and Reich (2019)

suggested considering other psychological processes that may make individuals more attuned

to social norms for self-presentation and motivated to make positive impressions. Individuals

who highly value norms and for whom external validation is particularly salient may ardently

engage in IPB. Thus, other factors potentially related to engagement in IPB were considered:

gender, contingent self-worth (CSW) (approval and appearance), perfectionistic self-

presentation (perfectionism-SP) and perfectionistic hiding effort (perfectionism-HE).

Gender. Social media literature predominately suggests that societal expectations for

women may result in greater engagement in IPB. In Yau and Reich's (2019) focus groups,

adolescent girls displayed more self-conscious processing and preparation of photos for

Instagram than boys and expressed the need to look attractive. Other studies support this

finding, also ascertaining that girls were more likely to effortfully edit and select photos (Manago et al., 2008; Ringrose, 2011). Li et al. (2018) suggest that women strive to meet cultural beauty norms that are salient on social media. Women have also been found to be more likely to engage in interdependent online behaviours and focus on group identity (Strano, 2008) so they may engage more in IPB like asking friends for assistance and advice on their posts compared to men (Yau & Reich, 2019). However, Keep and Attrill-Smith (2017) suggest that while men's IM goals may differ (e.g. to appear interesting rather than attractive), they equally intend to manage the way they are perceived online. Thus, it is possible that IPB could be similar between genders, yet in the pursuit of different IM goals. Although literature primarily suggests that women may be higher in IPB, more research into gender variation is needed.

Contingent self-worth. Findings from social media literature suggests that CSW is a psychological process that may explain individual differences in social media use (e.g. Lee et al., 2012; Patrick, Neighbors & Knee, 2004). CSW affirms that individuals are motivated to achieve in the contingencies on which they have based their self-worth (Crocker & Wolfe, 2001). The contingencies focused on for this study are "others' approval", referring to staking self-worth on others' positive perceptions of oneself and "appearance", referring to staking self-worth on self and other evaluations of one's appearance (Rui & Stefanone, 2013). In their survey of students ($N = 458$), Rui and Stefanone (2013) found that those high in CSW-approval were familiar with social norms on Facebook in order to receive positive feedback from others. They engaged more in self-protective behaviours (e.g. removing unwanted photo-tagging) as they assigned more weight to others' judgements. In addition, those high in CSW-appearance were motivated to protect their physical appearance online (e.g. untag themselves from self-perceived unattractive photos). Several researchers reinforce these

findings that individuals who highly value social acceptance carefully manage their online image (e.g. Binder, Howes & Sutcliffe, 2009; Tokunaga, 2011).

Failing to receive the desired number of likes has been found to signify a self-validation failure for individuals with CSW and to elicit depressive moods (Stapleton, Luiz & Chatwin, 2017). Thus, it is possible that individuals with CSW engage more in IPB, as an effortful way to manage their online-image and reduce anticipated threats to their self-worth and negative emotions. However, because these studies have focussed on maintaining a positive image on Facebook and profile monitoring rather than IPB, it is unclear whether CSW will also affect the preparation of images for Instagram. Research has found that these external contingencies are strongly linked with poor psychological wellbeing (Crocker et al., 2003) and thus a relationship between them and IPB may suggest the problematic nature of IPB.

Perfectionistic self-presentation and perfectionistic hiding effort. Research on perfectionism-SP and perfectionism-HE suggest that these factors may influence IPB. Perfectionism-SP (Hewitt, Flett, Sherry, Habke & Parkin, 2003) is the interpersonal expression of perfectionism, involving the need to appear perfect and hide imperfections. Perfectionism-HE (Flett, Nepon, Hewitt, Molnar & Zhao, 2016) is supplementary to perfectionism-SP and highlights the perfectionist behaviour of concealing perfectionistic self-image efforts. Previous perfectionism-SP literature focusses on offline contexts, however, may also be relevant to the online context. The central finding of Nepon, Flett and Hewitt's (2016) seminal studies on the self-image goals of perfectionists ($N = 930$) was that people high in perfectionism-SP are chronically absorbed by self-image goals to pursue unmet needs for self-validation. They have a need to create and receive external validation for their self-image and are highly attuned to social norms. In addition, those high in perfectionism-HE strive to seem effortlessly perfect yet engage in a great deal of rumination on their self-image.

Nepon et al. (2016) suggest that perfectionists function with an over-activated egosystem and engage in compulsive striving to pursue their ideal self in domains such as friendships, academics and self-improvement. The striving of perfectionists to compulsively pursue their ideal self under immense pressure is corroborated in wider perfectionism literature (e.g. Flett, Hewitt, Blankstein & Gray, 1998; Hewitt & Genest, 1990). However, a limitation of these studies is that they have not examined the behaviours perfectionists engage in to portray their ideal self (Nepon et al., 2016).

The lack of replication of these findings in an online context prevents generalisability yet provides a solid basis for considering how this perfectionistic pursuing of an ideal self-image and external validation may correspond to high engagement in IPB in the present study. It should be noted that some researchers assert that there are general perfectionistic expectations on social media that pressure individuals into portraying perfect lives (Freitas, 2017) and that these pressures result in the common portrayal of ideal selves (Siibak, 2009). However, perfectionism-SP specifies the compulsive pursuit of this perfect image (Nepon et al., 2016).

If perfectionism-SP is implicated in IPB, this may highlight the problematic nature of these efforts. Perfectionism is a transdiagnostic process associated with several mental illnesses (Egan, Wade & Shafran, 2011), burnout (Hill & Curran, 2015) and suicide (O'Connor, 2007). In addition, the perfectionistic social disconnection model (PSDM) (Chen et al., 2012) posits that perfectionism-SP develops as a result of failed attempts to feel connected with others, such that individuals develop the cognition that if they appear perfect, they will be accepted socially. Conversely, the egocentricity associated with perfectionism-SP engenders further disconnection and problematic relationships (Nepon et al., 2016). Therefore, if perfectionism-SP is associated with IPB, it may indicate that these efforts are related to negative outcomes.

Instagram preparatory behaviours as problematic. In investigating the nature of IPB, it is important to consider the potential negative impact on individuals. Barasch et al. (2018) found that when the decision to take and share a photo on social media was salient during an experience, individuals were less engaged and enjoyed the experience less than if the intent was to take photos for memories. This novel study has not been replicated; however, the study was well-executed and undertaken in both laboratory and natural settings with high ecological validity. Their findings suggest that there are costs to IPB for social media that affect areas central to wellbeing, such as deep engagement in valuable experiences (Csikszentmihalyi,1997) and hedonic enjoyment (Diener, 1979).

Research has also documented negative interpersonal outcomes of IM goals (Crocker & Canevello, 2012; Gosnell et al., 2011). For example, a longitudinal study ($N = 204$) of college students over a 10-week period found that weekly IM goals predicted conflict and loneliness because individuals tended to focus on their own needs and being recognised for having desirable qualities, even at the expense of others. These findings suggest that if IM is associated with IPB, the actions may be detrimental to relationships due to over-focus on self-image. Importantly, while this study notes the negative outcomes of IM goals, they do not describe the behaviours these individuals are doing day-to-day in pursuit of these goals. Therefore, if there is a strong association between IPB and IM, the present study may indicate specific behaviours that individuals engage in to pursue their IM goals for social media.

Aims and Hypotheses

There is limited understanding of IPB in social media literature because these efforts have not been described in detail and the associated psychological processes have not yet been investigated (Yau & Reich, 2019). Extending knowledge of IPB may contribute to understanding how certain behaviours related to social media use lead to negative consequences (Huang, 2010). The first aim of this study was to describe the diverse range of

IPB. The second aim was to examine the psychological processes and factors associated with IPB: impression management in line with Goffman's (1990) model and the influence of gender, contingent self-worth (others' approval and appearance), perfectionistic self-presentation and perfectionistic hiding effort. The following hypotheses were proposed:

Hypothesis one: Women will score higher than men on overall engagement in Instagram preparatory behaviours.

Hypothesis two: Impression management, contingent self-worth (approval and appearance), gender (women), perfectionistic self-presentation and perfectionistic hiding effort will be positively correlated with Instagram preparatory behaviours.

Hypothesis three: Impression management, contingent self-worth (approval and appearance), perfectionistic self-presentation and perfectionistic hiding effort will positively predict scores of Instagram preparatory behaviours.

Method

Participants

The study recruited a convenience sample of 135 participants, including 26 men (19.3%), 108 women (80%) and one non-binary person (0.7%). Participants were aged between 18-57 years old ($M = 22.70$, $SD = 7.02$). Participants were recruited from the University of Adelaide (UoA) first-year psychology pool and Facebook advertising. Participants from the psychology cohort accessed the survey via the UoA Research Participation System and participants from Facebook accessed the survey via University Facebook groups (e.g. University of Adelaide Students). UoA students received course credit for participation. Eligibility requirements included: (1) having an active Instagram account (i.e. a photo posted in the past 6 months or less), (2) to have posted photos of themselves on Instagram and (3) a minimum age of 18 years-old and adequate English comprehension.

Materials

Participants accessed the survey hosted on the online survey software *SurveyMonkey*. A pilot study was conducted on a small sample of 10 participants to identify any difficulties in comprehension or technical issues. Feedback from the pilot study prompted minor formatting changes. Pilot participants reported good readability and comprehension, and an approximate survey time of 20 minutes. The survey consisted of background information and three standard measures. An additional checklist to measure IPB was created for the purposes of this study. SPSS Statistics® Version 25 was used to analyse the data.

Demographic Information

The survey collected demographic information including age, gender identification, highest level of education completed, student or employment status and ethnicity.

Social Media Use and Instagram

Social media use information was collected, including number of social media platforms used, daily time spent and frequency of posting. Information specific to Instagram use was also collected: privacy settings, daily time on the platform and frequency of posting.

Instagram Preparatory Behaviours Checklist

This 20-item checklist was devised for the purposes of this study to identify specific IPB that are involved in capturing and preparing a typical post (e.g. editing, photo-taking, thinking of a caption). Items for the checklist were generated by a process of reviewing the literature on social media use (e.g. Manago et al., 2008; Ringrose, 2011; Yau & Reich, 2019) and incorporating feedback from pilot study participants on the relevancy of items. The checklist was intended to capture the level of engagement in IPB. Respondents indicated the extent to which they engaged in the behaviours on a 5-point Likert scale ranging from 1 "Never" to 5 "Always". For example, seeking help from friends for captions (Yau & Reich, 2019) was measured by the item "*I consult friends to check that the caption I thought of is suitable*". The use of face and body altering editing applications such as FaceTune (Tait, 2018) was measured by the item "*I use applications that alter my face and body shape (e.g. FaceTune)*". Appendix A presents the complete list of IPB. Items were summed to compute a total score and higher scores indicated higher levels of engagement in IPB. The checklist demonstrated high internal consistency, Cronbach's α=.88.

Impression Management

IM (i.e. the degree to which an individual intends to control others' perceptions of them online) was measured using the 12-item Perception Control Scale (Keep and Attrill Smith, 2017). This scale measures IM on social media and includes items such as "*I'm mindful of how others may perceive me*" and *"I like to control the way others see me"*. Respondents indicated the degree to which the item was characteristic of themselves on a 5-

point Likert scale from 1 "Not at all" to 5 "Extremely". Three items that referred to "social media" were replaced with "Instagram" so that focus remained on the Instagram platform. Items were summed to compute a total score and higher scores indicated increased intentionality to control others' perceptions online. An advantage of this scale is that it includes self-awareness of how the individual manages their self-presentation, a key element of IM that prior scales have lacked (Keep & Attrill-Smith, 2017). The scale has strong psychometric properties including content validity and has reported high internal consistency (α = .90) (Keep & Attrill-Smith, 2017).

Contingent Self-Worth

The CSW scale (Crocker & Wolfe, 2001) is a 35-item scale that measures the degree to which one's self-esteem is contingent on 7 domains: appearance, others' approval, competition, academic competence, virtue, family support and God's love. Respondents indicated their level of agreement to statements on a 7-point Likert scale ranging from 1 "Strongly Disagree" to 7 "Strongly Agree". For example, items included are: *"My self-esteem depends on the opinions others hold of me"* (others' approval subscale) and *"When I think I look attractive, I feel good about myself"* (appearance subscale). In this study, the "God's love" subscale was excluded. Several studies utilising the CSW scale (e.g. Collins & Stukas, 2008) have chosen to do this, given that this subscale may not be relevant to all respondents. Items with the word "academic" were adjusted to read "academic/professional" to account for participants in professional roles. This scale is widely used and has reported robust psychometric properties, including high internal consistency (alphas for subscales range from α=.82 –.96) and test-retest reliability (α=.68-.92 for a 3-month test interval) (Crocker, Luhtanen, Cooper & Bouvrette, 2003). Items from subscales were summed and then divided by five with higher scores indicating higher CSW.

Perfectionistic Self-Presentation

The perfectionism-SP scale (Hewitt et al., 2003) is a 27-item scale that measures the relational expression of perfectionism comprising of perfectionistic self-promotion, nondisplay of imperfection and nondisclosure of imperfection. Respondents indicated the degree to which they agree with the statements on a 7-point Likert scale ranging from 1 "Strongly Disagree" to 7 "Strongly Agree". An example item is "*I strive to look perfect to others*" (perfectionistic self-promotion). Strong psychometric properties have been reported for this scale, including high internal consistency (alpha values range between α= .78 -.86 for subscales) and test-retest reliability with Cronbach's alphas above α= .74 for a one-month test-interval, indicating a high level of stability (Hewitt et al., 2003). Items were summed to compute a total score and higher scores indicate higher perfectionism-SP.

Perfectionistic Hiding Effort

The perfectionism-HE scale (Flett et al., 2016) is supplementary to the perfectionism-SP scale, measuring the projecting of a perfectionistic self-image by hiding effort. With regard to the present study, the scale refers to concealing IPB undertaken in pursuit of a perfectionistic self-image so that it appears effortless. A strength of this scale is that it draws attention to this key aspect of perfectionistic behaviour that is partly accounted for in the perfectionism-SP scale (Hewitt et al., 2003). Measurement of an individual's self-presentational tendency to strive to appear perfect while hiding effort is captured in a brief 4-item scale. Respondents indicate their level of agreement on a 7-point likert scale from 1 "Strongly disagree" to 7 "Strongly agree" on items such as *"I would like to seem or appear perfect without others knowing the lengths I will go to achieve it"*. Construct validity, convergent validity with perfectionism-SP and a Cronbach's alpha level of α= .84 has been reported for this supplementary scale (Flett et al., 2016). Items were summed to compute a

total score and higher levels of the scale indicate higher tendency to strive to seem perfect by hiding effort.

Optional Questions

Four optional questions were included at the end of the survey. These were designed to allow participants the opportunity to expand and give context to findings, for example: "*What kinds of pressures do you feel on Instagram?*".

Procedure

The current study was approved by the University of Adelaide Human Research Ethics Subcommittee (Approval Number: 19/22). Prior to participating in the study, participants were provided with a brief description of the study and eligibility requirements were advertised on the Facebook groups and in the RPS system for the UoA Psychology students. Participants were then directed to *SurveyMonkey*, where they were presented with the participant information sheet and consent form outlining the aims, rationale and requirements of the survey. Participants were informed that participation in the survey was completely voluntary, anonymous and confidential and were asked to respond truthfully to all items, to reduce potential for social desirability bias. Participants were informed that they could withdraw from the survey at any time with no repercussions. Participants indicated consent by clicking "next" and continuing the survey and took on average of 20 minutes to complete the survey. Students provided their RPS code to receive course credit. Contact details of researchers, the ethics committee and counselling services were provided to participants. The survey was active online from May to August 2019.

Results

Data Screening and Descriptive Statistics

Data were analysed using SPSS Statistics® Version 25. First, the data were screened for missing cases, invalid values, erroneous responding and outliers. Incomplete ($n = 27$) and erroneous ($n = 1$) responses were removed from the dataset. After exclusions, a total of 135 respondents remained in the dataset. Participants were aged between 18 and 57 ($M = 22.70$, $SD = 7.02$) and 82% of participants were aged between 18-24 years old. Cronbach alpha values over 0.70 were achieved for all scales, demonstrating sufficient internal consistency (Nunnally, 1978). Tables 1, 2 and 3 present demographic information, social media characteristics and descriptive statistics of predictors, respectively.

Power Analysis

An a priori power analysis was conducted using G*Power 3.1.9.2. To achieve a power level of 0.80 with a significance criterion of $\alpha = 0.05$ and medium effect sizes, the following sample sizes were required: $n = 51$ for each group in an independent samples t-test, $n = 67$ for a bivariate correlation model and $n = 55$ for a multiple regression model with four predictors. All sample sizes required were fulfilled apart from the sample size required for the independent t-test, as $n = 26$ men and $n = 108$ women.

Table 1

Demographics and social media use of the current sample (N = 135)

Variable	Characteristic	*n*	%
Gender	Man	26	19.30
	Woman	108	80.00
	Non-Binary	1	0.70
Highest level of education completed	Completed Some High School	9	6.70
	Graduated High School	82	60.70
	Certificate/Diploma	8	5.90
	Bachelor's Degree	31	23.00
	Master's degree	5	3.70
Employment status	Student	119	88.15
	Employed, Full-Time	11	8.15
	Employed-Part-Time	2	1.48
	Self-Employed	2	1.48
	Not Employed	1	0.74
Ethnicity	Caucasian	113	83.70
	Indigenous or Torres Strait Islander	3	2.20
	Asian	15	11.10
	Indian	4	3.00
Privacy setting for Instagram	Public	49	36.30
	Private	86	63.70

Note. N = Sample Size*; % =* Percentage of Sample.

Table 2

Social media characteristics of the current sample (N = 135)

Variable	Mean	SD	Min	Max
Number of social media platforms	4.66	1.30	1.00	8.00
Daily time spent on social media (hours)	3.07	2.10	0.25	12.00
Daily time spent on Instagram (hours)	1.30	1.13	0.25	8.00
Instagram preparatory behaviour time for one post (hours)	0.44	0.57	0.08	5.00

Note. N = Sample Size*; SD =* Standard Deviation*;* Min = Minimum; Max = Maximum.

The behavioural patterns for posting on social media were every few months (26%), once a month (16.3%), every two weeks (27.4%), once a week (10.2%), a few times per week (10.4%), once a day (3%) and a few times per day (6.7%). For Instagram, the behavioural patterns for posting were every few months (33.4%), once a month (20.7%), every two weeks (31.1%), once a week (9.6%), a few times per week (4.4%) and once a day (0.8%).

Table 3

Descriptive statistics of predictors in the current sample ($N = 135$)

Variable	Mean	SD	Min	Max	Cronbach's α
Contingent Self-Worth (Appearance)	5.03	1.02	1.40	7.00	0.78
Contingent Self-Worth (Others' Approval)	4.34	1.15	1.40	6.80	0.79
Perfectionistic Self-Presentation	106.94	27.01	43.00	182.00	0.96
Perfectionistic Hiding Effort	14.51	5.70	4.00	28.00	0.87
Impression Management	34.64	9.22	12.00	57.00	0.92
Instagram Preparatory Behaviours	47.25	12.67	23.00	89.00	0.88

Note. N = Sample Size*; SD* = Standard Deviation*;* Min = Minimum; Max = Maximum.

Hypothesis One: Women Will Score Higher Than Men on Overall Engagement in Instagram Preparatory Behaviours

An independent samples *t*-test was used to determine if a statistically significant difference existed between the means of men ($n = 26$) and women ($n = 108$). Inspection of boxplots showed an extreme outlier in the male group (score of 89). This score was changed to the closest non-outlier value (74) (Tabachnick & Fiddell, 2007). Shapiro-Wilk tests were used to test for normality, which were normally distributed for men ($p > .05$) but not for

women ($p < .05$). Despite the violation of normality for women, visual inspection of the Q-Q plot displayed a normal distribution and the sample size for women ($n = 108$) exceeded what is recommended by the central limit theorem (i.e. the distribution will tend to be normal when $n > 30$, regardless of the shape of the data) (Ghasemi & Zahediasl, 2012).

Levene's test for equality of variances ($p = .73$) indicated homogeneity of variances for IPB scores for men and women. However, given unequal group sizes, men ($n = 26$) and women ($n = 108$), the Welch t-test was used, as recommended by Howell (2010). The Welch t-test indicated that there was no difference between total IPB scores for men ($M = 43.85$, $SD = 13.10$) and women ($M = 47.94$, $SD = 12.17$). The difference between groups was nonsignificant, $M = 4.10$, 95% CI [-1.63, 9.82], $t(36.10) = 1.45$, $p = .15$. Therefore, Hypothesis one was not supported, women did not score significantly higher on IPB scores.

A supplementary analysis was run to investigate whether gender differences existed in specific behaviours (see Figure 2). The bar graph indicates that there were gender differences in consulting friends on photo choice as women ($M = 3.09$, $SD = 1.36$) scored significantly higher than men ($M = 2.42$, $SD = 1.42$), $M = 0.67$, 95% CI [.05,1.29], $t(36.80) = 2.12$, $p = .036$. In addition, there were gender differences in effort editing photos, as women ($M = 2.94$, $SD = 1.32$) scored significantly higher than men ($M = 2.35$, $SD = 1.32$), $M = 0.61$, 95%CI [.012, 1.18], $t(37.96) = 2.06$, $p = .046$.
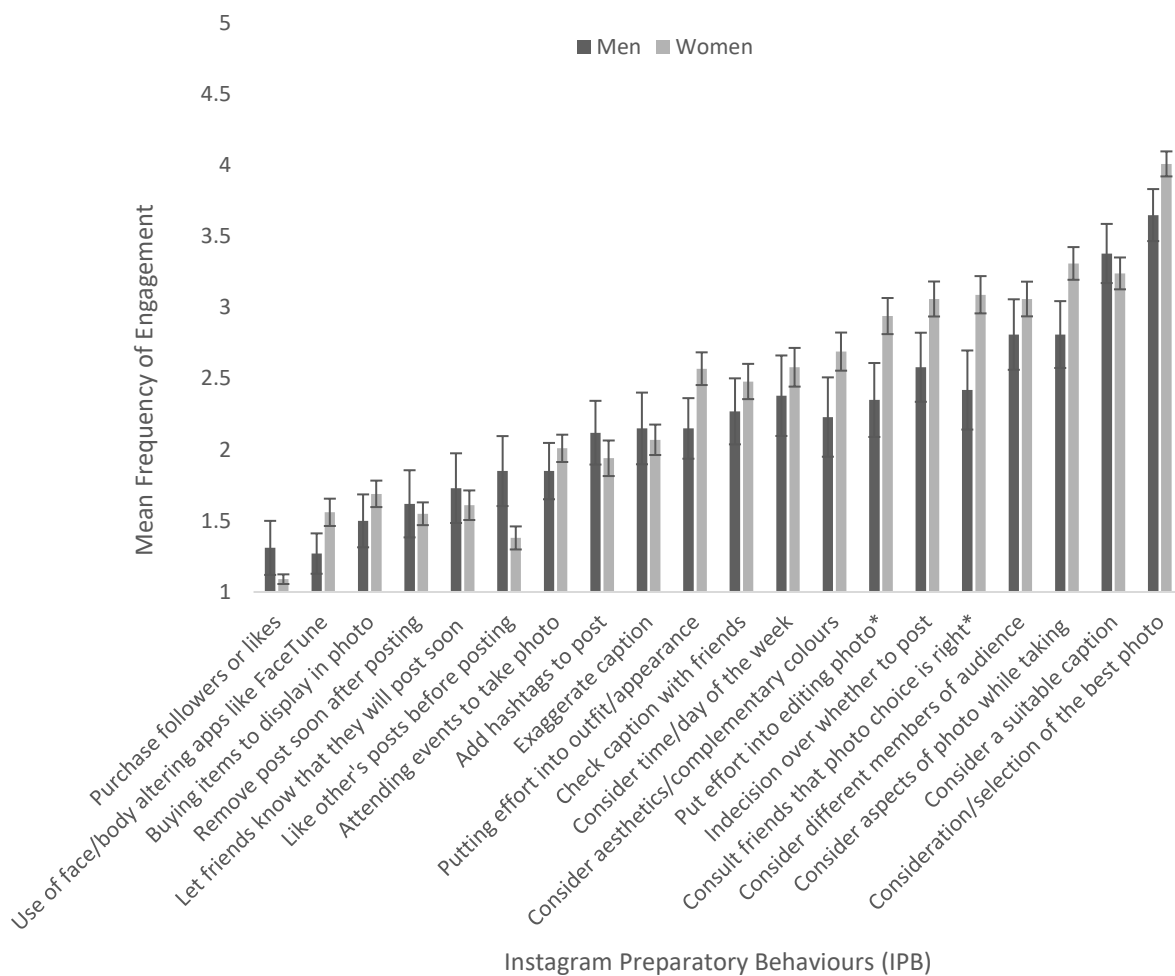
Figure 2. Note. Gender differences in specific Instagram preparatory behaviours. Presented in ascending order of frequency of engagement. Error bars represent standard errors. Mean frequency scale 1 (Never) to 5 (Always). * = *p* < .05.

Hypothesis Two: Impression Management, Contingent Self-Worth (Approval and Appearance), Gender (Women), Perfectionistic Self-Presentation and Perfectionistic Hiding Effort Will Be Positively Correlated with Instagram Preparatory Behaviours

Pearson's product-moment correlations and a point-biserial correlation for gender were conducted to assess the relationship between independent variables and IPB. Scatterplots showed linear relationships between IPB and continuous independent variables. Shapiro-Wilk tests were undertaken to check the assumption of bivariate normality, which was established for IM, CSW-approval and perfectionism-SP (*p* > .05). For IPB,

perfectionism-HE, CSW-appearance and gender, normality was not established ($p < .05$).

However, visual inspection of Q-Q plots displayed normal distributions. Scatterplots for IPB

and independent variables were examined for outliers; there were two evident in CSW-

appearance, one for IM and one for men which were transformed to closest non-outlier values

(Tabachnick & Fiddell, 2007). Levene's test showed homogeneity of variances for scores for

men and women ($p = .48$). There was no statistically significant correlation between gender

and IPB, $r_{pb}(132) = 0.10$, $p = .23$. There was a statistically significant, small positive

correlation between IPB and CSW-appearance, $r(133) = .25$, $p < .01$, a statistically

significant, small positive correlation between IPB and CSW-approval , $r(133) = .18$, $p < .05$,

a statistically significant, moderate positive correlation between IPB and perfectionism-HE,

$r(133) = . 43$, $p < .01$, a statistically significant, moderate positive correlation between IPB

and perfectionism-SP, $r(133) = .41$, $p < .01$ and a statistically significant strong positive

correlation between IM and IPB, $r(133) = .63$, $p < . 001$. Table 4 presents the correlations for

IPB and independent variables. Thus, Hypothesis two was partially supported, as higher

levels of each independent variable except gender were associated with higher levels of IPB.

IM and perfectionism scales showed the strongest associations with IPB.

Table 4

Pearson correlations for independent variables and IPB

	1	2	3	4	5	6
1.Instagram Preparatory Behaviours	-					
2.Perfectionistic Self-Presentation	0.41**	-				
3.Perfectionistic Hiding Effort	0.43**	0.74**	-			
4. Contingent Self-Worth Appearance	0.25**	0.50**	0.28**	-		
5.Contingent Self-Worth Others' Approval	0.18*	0.44**	0.30**	0.51**	-	
6. Impression Management	0.63**	0.50**	0.46**	0.39**	0.50**	-
7.Gender	0.10	0.06	0.01	0.05	-0.06	-0.07

Note. $* = p < .05$, $** = p < .01$.

Hypothesis Three: Impression Management, Contingent Self-Worth (Approval and Appearance), Perfectionistic Self-Presentation and Perfectionistic Hiding Effort Will Positively Predict Scores of Instagram Preparatory Behaviours

Assumption testing showed that there was evidence of multicollinearity, as perfectionism-SP and perfectionism-HE had a correlation of 0.74 (Hair et al., 2014). Because perfectionism-HE is supplementary to perfectionism-SP, specifying a concept which is already partly accounted for in the 27-item scale (Hewitt et al., 2003), it was excluded from the analysis.

The predictors entered in the multiple regression model were IM, CSW-approval, CSW-appearance and perfectionism-SP. The Durbin Watson statistic of 2.31 indicated independence of residuals and partial regression plots and a plot of studentised residuals against predicted values indicated the assumption of linearity was met. Visual inspection of a plot of studentised residuals versus unstandardized predicted values displayed homoscedascity. There was no evidence of multicollinearity, as no variables were correlated above 0.70 and tolerance values were above 0.1 (Hair et al., 2014). There was one studentised deleted residual greater than ± 3 standard deviations, however this data point was retained as further inspection indicated there were no leverage values above 0.20 (Huber, 1981) and no Cook's Distance values above 1 (Cook & Weisburg, 1982). Inspections of histograms and the Q-Q plot indicated that the assumption of normality was satisfied. The multiple regression model significantly predicted IPB, $F(4, 130) = 26.82$, $p < .001$, adj. $R^2 = .44$. Hypothesis three was partially supported. IM was the strongest positive predictor and perfectionism-SP was another significant positive predictor of IPB. Table 5 presents a summary of the regression model.

Table 5

Summary of multiple regression for variables predicting engagement in IPB

Variable	B	SE B	β
Intercept	16.76	4.56	
Contingent Self-Worth (Others' Approval)	-2.70	0.90	-0.24*
Contingent Self-Worth (Appearance)	0.46	1.01	0.04
Perfectionistic Self-Presentation	0.08	0.04	0.20*
Impression Management	0.90	0.11	0.65**
R^2	0.45		
F	26.82**		

Note. $* = p < .05;$ $** = p < .001;$ B = unstandardized regression coefficient; $SE\ B$ = Standard error of the coefficient; $β$ = standardised coefficient.

Qualitative Analysis

Three optional open-ended questions were asked at the conclusion of the survey. Salient themes were identified in the responses to these questions. Many individuals noted IPB to portray a certain self-image, for example: "*Pics need to be in keeping with my aesthetic, good lighting, modern clothing, venues, backdrops, symmetry are very important on 'the gram'. In reality I know this is not important, but I want to portray a certain image*". Respondents reported extensive thought behind posts and consideration of what others will make of it, for example: *"I try to look 'effortless' but there is quite a bit more thought put into it and the way I'll be perceived"*. Several participants acknowledged how effort for Instagram impedes daily life, including how consideration of photo-opportunities affects experiences. One participant stated: *"When I go travelling, it is not important to enjoy myself*

anymore but just keep thinking where and how to take the best photo to be posted on

Instagram".

The pressures of presenting an image of perfection were prominent. For example, one respondent affirmed that there is "*the need to look perfect, or "Insta Perfect".* The influence of celebrities on reinforcing perfectionistic goals were evident, for instance: *"the pressure of posting a perfect photo, with all the celebrities and Instagram influencers, it's almost as if there is a certain standard that I feel I have to try and reach".* Responses also indicated the theme of hiding efforts, for example, one person stated they felt pressure to: *"look pretty in photos but not too perfect and can't let people know I've edited it for hours".*

Discussion

Summary

The primary purpose of this research was to describe and investigate Instagram preparatory behaviours (IPB) to contribute to our currently limited understanding of IPB and its associated psychological processes (Yau & Reich, 2019). Although the literature suggested that women may engage more often in IPB compared to men (e.g. Ringrose et al., 2011), the present study found nonsignificant gender differences. The regression model accounted for 44% of the variance in IPB, which is comparable to the amount of explained variance that was considered significant in other recent social media self-presentation literature (e.g. Keep & Attrill-Smith, 2017; O'Donnell, 2018). Although bivariate relationships do not indicate causality, the results suggest that IM and perfectionism-SP may be mechanisms related to higher engagement in IPB. The negative outcomes associated with both variables indicate that IPB may be problematic social media behaviours relevant to target in clinical interventions. In addition, the results provide support for the utility of Goffman's (1990) IM model for explaining Instagram activities.

Critical Interpretation of Findings

Instagram preparatory behaviours and impression management.

Theoretical implications. The results indicate that the intent for individuals to control others' impressions online (i.e. IM) is a psychological process related to engagement in IPB. Examining backstage behaviour (i.e. IPB) in preparation for front stage (i.e. Instagram profiles), enables the discernment of how significant individuals perceive their IM goals to be, such that they will put in time, effort and perhaps even financial resources (e.g. purchasing clothes for Instagram). Goffman's (1990) model may also have some utility for other online behaviours that involve a public display (e.g. planning and preparation in online gaming).

Understanding effort. The review of literature (e.g. Yau & Reich, 2019; Ringrose, 2011; Tait, 2018) to synthesise IPB and the reported engagement of study participants contributes a preliminary understanding to social media literature. The most commonly engaged in IPB were careful consideration of photo-choice, a suitable caption and photo features while taking a photo. The mean total time for IPB was 26 minutes per post. Some individuals reported preparing a single Instagram post for up to five hours, indicating that IPB can be inordinately time-consuming. For those who post often to Instagram (31% of individuals reported posting every two weeks and 15% more than once a week) this could be a significant amount of time frequently dedicated to preparing a single post.

Studies on social media collect information on the time spent logged into social media platforms, however they do not ask about preparatory time. Many of the IPB in the present study are not engaged in on the platform (e.g. editing on FaceTune) thus only asking about time spent logged-in may result in insufficient estimates of the time individuals dedicate to a social media platform. Moreover, individuals may not think to include any preparatory time in their time estimates. Thus, the present study may have implications for how studies should measure social media use. Separate questions could ask participants to specify time spent preparing posts and time spent logged into the social media platform engaging in non-post related activities. The failure to ask about preparatory time may also help to explain why it is commonly found that time spent online does not correlate with social media addiction (e.g. Elphinston & Noller, 2011). The present study suggests that in some cases there may be as much time spent preparing for social media than time spent on social media itself.

However, exactly how the individuals in the present study spend this preparatory time requires further investigation. Participants may have totalled their IPB time differently and it is unclear for which behaviours this time is generally spent. For example, some of the IPB included were cognitive processes (e.g. considering a caption) and these may be particularly

difficult for individuals to provide a time estimate, especially because these processes may be largely unconscious (Paulhus & Vazire, 2007). Further, individuals may engage in IPB in a disjointed manner across a number of days, thus it may be difficult to adequately provide an overall time estimate. Despite these limitations, the present study provides quantitative support for Yau and Reich's (2019) qualitative study in which the time-consuming nature of effort was reported.

Problematic Instagram preparatory behaviours. Recent research suggested that preparatory behaviours for social media may have implications for people's lifestyles (Barasch et al.,2018). Qualitative responses provided support for Barasach et al.'s (2018) findings, as it was found in responses that IPB related to consideration of a post can impede on enjoyment in daily life even when one is engaging in activities unrelated to social media. This is especially evident in the following response: "*When I go travelling, it is not important to enjoy myself anymore but just keep thinking where and how to take the best photo to be posted on Instagram".* The IPB of *"attending events/places primarily to capture a photo for Instagram"* was not commonly engaged in (mean score of 1.85 for men and 2.01 for women corresponding to "rarely") yet was salient for particular individuals. It is possible that for these individuals the desire to post on Instagram dictates how and where they decide to spend their time and the quality of their experience. It may be useful to establish whether preoccupation with various IPB (i.e. cognitive and behavioural) influences functioning or focus in daily life (e.g. studying or at work).

The relationship between IM and IPB suggest that engagement in these behaviours may relate to the negative outcomes of self-image goals. In line with Crocker and Canevello's (2012) findings, it is possible that those who engage in a high level of IPB experience disharmonious relationships due to time-consuming and possibly obsessive efforts to manage other's perceptions online. It is plausible to consider that a person who spends

hours preparing one post motivated by online self-image goals may experience conflicts in interpersonal relationships. Future research could consider the consequences of IPB such as whether high engagement is associated with social disconnection, relationship satisfaction and wellbeing.

Gender differences in Instagram preparatory behaviours. Previous findings suggested that women would be more likely to be affected by cultural beauty standards (e.g. Li et al., 2018) and thus engage in IPB such as editing, posing and asking friends for assistance (Manago et al., 2008; Ringrose, 2011; Strano, 2008). However, the results indicated that there were no gender differences in total IPB scores. Gender differences were only observed in two specific behaviours: women engaged more in effortful editing of photos and consulting friends on photo-choice.

The latter findings were consistent with previous research that women use editing to strive toward beauty norms (Li et al., 2018) and engage in interdependent online behaviours (Strano, 2008). One explanation for the lack of gender differences observed in overall IPB scores could be related to Keep and Atrill-Smith's (2017) findings. They concluded that IM does not differ in strength between genders, but that men and women may vary in the image they want to portray. For example, men may strive to present masculine traits such as adventurousness while women may strive to present feminine qualities like beauty (West & Zimmerman, 1987). Tifferet and Vilnai-Yavetz (2014) support this assertion, finding that profile pictures of men and women contain normative characteristics that potential partners would consider attractive. Therefore, with regards to the finding of the present study, it may be that overall engagement in IPB is similar, yet that the efforts could be in pursuit of different IM goals. Future studies could identify whether IM goals differ between genders and whether these result in varied engagement in IPB.

Another explanation for the lack of gender differences may be related to the anonymous nature of this study reducing social desirability bias and encouraging men to feel more comfortable disclosing IPB. Yau and Reich (2019) noted that they may have overstated gender differences in IPB because the adolescent boys in their focus groups may have wanted to avoid reporting behaviours that might detract from an image of masculinity in front of their peers. In addition, recent research has indicated that young men are affected by body-image pressures for muscularity and appearance on image-based social media sites like Instagram (Griffiths et al., 2018). The present study was predominately composed of young people, so it is possible that these men experience the pressures of these gender ideals and engage in IPB accordingly.

Nonetheless, there are several other factors to consider in relation to these findings. Firstly, the large gender imbalance in our sample: 80% of participants were women and 19.3% were men. While the samples met normality assumptions for the t-test and the Welch t-test was selected to account for the sample imbalance (Howell, 2010) it is possible that the sample was misrepresented, which limits generalisability of these results. Secondly, the a priori power analysis conducted for the t-test suggested $n = 51$ for both groups, however only $n = 26$ men participated in the present study. Therefore, the current study may have lacked power to detect significant group differences in overall engagement in preparatory behaviours. As a result, these findings should be approached with caution and replication with a larger, more representative sample should be considered.

Perfectionistic self-presentation variables and Instagram preparatory behaviours. Perfectionism-SP and perfectionism-HE were considered as factors that may motivate individuals to engage in IPB in the process of striving to present an idealistic self-image. While previous research has focussed on offline contexts (e.g. Nepon et al., 2016) the results of the present study suggest that online self-image goals may also be pertinent for

perfectionists. Researchers on perfectionism have noted a limited understanding of specific behaviours that perfectionists actually engage in to pursue their self-image goals, because studies have focussed on domains (Hewitt et al., 2003; Nepon et al., 2016). The present study suggests that perfectionists may engage in IPB to pursue their perfectionistic goals online. This may assist with identification of potentially problematic perfectionistic behaviours to target in clinical interventions. For example, negative self-evaluation, uncertainty about one's self-image and compulsive striving to receive validation and meet the standards of others has been implicated in perfectionism-SP (Nepon et al., 2016). This could manifest as detrimental engagement in IPB (e.g. obsessive editing) to create the ideal image and receive external validation online. The association between perfectionism-HE and IPB suggests that individuals may try to conceal perfectionistic efforts for Instagram in an attempt to portray effortless perfection (Flett et al., 2016).

Perfectionism is a transdiagnostic process that is implicated in many problematic diagnoses such as eating disorders, anxiety disorders, obsessive-compulsive disorder (OCD) and depression (Egan et al., 2011). The implication of perfectionism in IPB suggests that engagement in these behaviours could be particularly problematic and related to other mental illness diagnoses for some individuals. In addition, in line with the perfectionistic social disconnection model (PSDM) (Chen et al., 2012), engagement in IPB may arise from a sense of disconnection. IPB could be efforts to create connection with others online through portraying the perfect self, however, the over-attention on self could alienate others. Future studies could explore the motivations and social connections of individuals high in perfectionism-SP who engage in a high level of IPB for social media.

Contingent self-worth variables and Instagram preparatory behaviours. CSW-approval and CSW-appearance were considered as factors that may motivate individuals to engage in IPB. Previous literature suggested that individuals with these contingencies learn

social norms to receive positive feedback, monitor their social media profiles and are vulnerable to perceiving an insufficient number of likes as a self-validation failure (e.g. Rui & Stefanone, 2013; Stapleton et al., 2017). However, there were only small positive associations with these contingencies and IPB. In the regression model, CSW-appearance did not emerge as a significant predictor and, unexpectedly, CSW-approval emerged as a significant predictor in a negative direction. On face value, this result suggests that those higher in CSW-approval engaged in IPB less when controlling for other variables. Indeed, it is possible that that those high in CSW-approval were less inclined to report engagement in IPB, because effort for social media could be regarded by others as socially undesirable (Reinecke & Trepte, 2014) and they may have feared the negative evaluation of the researchers viewing their responses (Vazire & Mehl, 2008).

A more likely explanation is that this result was a consequence of the exploratory study design. IPB had not been studied as a variable prior to this study and the variables in the regression model had not been studied in conjunction with each other before. There was no evidence of multicollinearity with CSW-approval (i.e. it did not correlate above 0.70 with other variables and tolerance values were above 0.1) (Hair et al., 2014) however it is possible that this variable shared similarities with IM (the two variables correlated at 0.50) in a manner that caused a suppression effect. Both variables concern valuing others' perceptions of oneself, yet IM focusses on controlling others' perceptions (Keep & Attrill-Smith, 2017) while CSW-approval focusses on approval being a significant element of one's self-worth (Crocker et al., 2003). Nevertheless, it is possible that the overlap was sufficient enough to make inclusion of CSW-approval and IM in the same model redundant. The small correlation results with both CSW variables in comparison to IM and perfectionism variables suggest that the contingency variables may simply not be appropriate variables to consider in relation to IPB. It could be that CSW is more relevant to behaviours to do with monitoring one's

profile as per previous research (e.g. Rui & Stefanone, 2013) rather than behaviours undertaken prior to posting, because the threat to one's self-worth is anticipatory rather than immediate.

Moreover, while the CSW scale has been widely used and regarded as a reputable, psychometrically sound scale (Crocker et al., 2003) recent research suggests that the scale may have significant flaws (Vonk, Radstaak, De Heus & Jolji, 2019). Vonk et al.'s (2019) experimental study via email ($N = 3764$) found contradictory effects of feedback on CSW; individuals who reported that their self-worth was not dependent on approval experienced increases in self-esteem after receiving positive feedback and decreases with negative feedback. The researchers suggest that self-reported contingencies are subjective because individuals have limited insight into their internal psychological processes, and they propose that CSW may not be reflective of real psychological contingencies. This could help to explain how, despite sound reasoning, we found small correlations and the variables did not positively contribute in the regression model. The regression model was exploratory as to investigate the strength of the predictors against one another, however the significant beta value for CSW-approval would have contributed to the overall explained variance. Future research should exclude these variables so that explained variance is attributable to positive predictors in the model.

Limitations and Methodological Considerations

Further limitations and methodological considerations should be considered in relation to the findings. Firstly, participants were recruited via a convenience sample composed mainly of University psychology students. As a result, the sample was a relatively narrow cross-section of the population, which reduces the external validity and generalisability of findings. The age range was particularly narrow (82% of participants were aged between 18 and 24) which prevented investigation based on the influence that different

life stages and associated identity development (e.g. Waterman, 1982) may have on engagement in IPB. Future research could seek to recruit an evenly distributed and broad age range in order to explore the influence of age on IPB. Secondly, the study design was correlational, meaning that causal inferences cannot be made between IPB, IM and perfectionism-SP. Thirdly, the IPB described in this study's checklist were a preliminary step towards outlining these behaviours and may not be a complete representation of these behaviours. It is possible that there are other salient behaviours that warrant inclusion in the checklist or that some of the behaviours included were less relevant.

Another limitation of the present study is the reliance on self-reports which have potential complications because they are not direct measures of behaviours or thought processes (Paulhus & Vazire, 2007). While it was stated at the beginning of the survey that responses were anonymous and to prioritise honest responding, self-reports are subject to social desirability bias (Chan, 2009). This may have occurred in answers to questions individuals may have deemed socially undesirable (e.g. purchasing likes or followers). Other limitations include fabrication of responses and constraints on self-knowledge (Vazire & Mehl, 2008). Retrospective recall is a limitation of self-reports as it trusts that individuals can both accurately remember and summarise their experiences (Paulhus & Vazire, 2007). However, summaries are disproportionately influenced by factors like strong experiences, recent experiences and the respondent's current emotional state (Chan, 2009). This may have affected the accuracy of participants' responses to engagement in IPB and the other self-reported scales which relied on retrospective recall.

Nevertheless, the anonymity of the online survey may have encouraged more honest responding to sensitive questions (Cantrell & Lupinacci, 2007). A methodological consideration is that it may have been appropriate to weight IPB items, such that more effortful behaviours (e.g. purchasing clothing) be assigned greater weight than less effortful

behaviours (e.g. considering the day and time of the week) to ensure that IPB scores are reflective of the time and resources that people are putting into their Instagram posts.

Significance and Implications for Future Research

A strength of this study was the use of Goffman's (1990) theory and well-validated measures. This study focussed on types of behaviours that had not yet received direct investigation resulting in a limited understanding of the nature of these IPB and related psychological processes. The findings of the present study suggest that IM and perfectionism-SP may be psychological processes relating to engagement in IPB. These are promising findings that provide initial insight into the nature of IPB, however replication in future research is required to strengthen generalisability. IM and perfectionism-SP share characteristics of excessive focussing on self and are both linked to negative outcomes (Crocker & Canevello, 2012; Nepon et al., 2016) so it is probable that high levels of engagement in IPB may be problematic.

Future studies should seek to replicate the current study to contribute to a larger evidence base for social media effort and to establish if the results of the present study are generalisable. It is possible that these preparatory behaviours occur for several other image-based social media sites (e.g. Facebook, LinkedIn, Snapchat) but it is likely that efforts vary across platforms. For example, preparatory behaviours for LinkedIn may be related to collating information on the values of companies and presenting one's profile in a way that aligns with these values to increase the likelihood of employment. 20% of participants reported posting to social media a few times per week or more, so preparatory effort for various social media profiles may be frequent. Further, an experimental design could be employed that provides different time limits for IPB and compares the experiences of participants with little or more time to prepare their post. This would reduce the limitations

associated with relying on self-reports. In addition, samples with larger cultural and socioeconomic diversity would improve external validity (Steckler & McLeroy, 2008).

It is possible that additional variables are associated with engagement in IPB that were not included in the present study. Self-focus, implicated in IM and perfectionism-SP, is also reflected in narcissism, which may affect engagement in IPB (e.g. Sherry et al., 2014). Research comparing these variables may be valuable. Furthermore, a study with a clinical population may help to establish whether a high level of IPB is a problematic behaviour implicated in mental health disorders that could detrimentally affect relationships, wellbeing and functioning in daily life.

Conclusion

The present study suggests that IM and perfectionism-SP may be psychological processes associated with engagement in IPB. The negative outcomes associated with both variables indicates that, in some cases, IPB may be negatively reinforcing behaviours that encroach upon enjoyment, relationships and functioning in daily life. This study has implications for how researchers map the behavioural patterns associated with social media use and suggests that preparatory effort is an important element to consider when studying online behaviours. For some individuals, the time spent preparing posts may be as significant as time spent on social media. However, paradoxically, these effortful processes to produce the 'perfect' post may be hidden or undisclosed in an attempt to adhere to the Instagram userbase's ideal of authenticity. As social media continues to become embedded into modern life (Meikle, 2016), it is increasingly necessary to understand the behavioural components of social media use and which individuals may be vulnerable to problematic relationships with social media.

References

Bacev-Giles, C., & Haji, R. (2017). Online first impressions: Person perception in social media profiles. *Computers in Human Behavior, 75*, 50-57.

Barasch, A., Zauberman, G., Diehl, K., Johar, G., & Hamilton, R. (2018). How the intention to share can undermine enjoyment: Photo-taking goals and evaluation of experiences. *Journal of Consumer Research, 44*(6), 1220-1237.

Barbour, K., Lee, K., & Moore, C. (2017). Online persona research: An Instagram case study. *Persona Studies*, *3*(2), 1-12.

Binder, J., Howes, A. & Sutcliffe, A. (2009) 'The problem of conflicting social spheres: effects of network structure on experienced tension in social network sites', in *Proceedings of the 27th International Conference on Human Factors in Computing Systems*, Boston, MA, April 7 2009, eds S. Greenberg, S.E. Hudson, K. Hinckley, M.R. Morris & D.R. Olson, ACM, New York, pp. 965–974.

Cantrell, M. A., & Lupinacci, P. (2007). Methodological issues in online data collection. *Journal of advanced nursing*, *60*(5), 544-549.

Chan, D. (2009). So why ask me? Are self-report data really that bad? In C. E. Lance & R. J. Vandenberg (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences* (pp. 309-336). New York, NY, US: Routledge/Taylor & Francis Group.

Chen, C., Hewitt, P., Flett, G., Cassels, T., Birch, S., & Blasberg, J. (2012). Insecure attachment, perfectionistic self-presentation, and social disconnection in adolescents. *Personality and Individual Differences, 52*(8), 936-941.

Collins, D., & Stukas, A. (2008). Narcissism and self-presentation: The moderating effects of accountability and contingencies of self-worth. *Journal of Research in Personality, 42*(6), 1629-1634.

Cook, R.D., & Weisberg, S. (1982). *Residuals and influence in regression.* New York, NY:

Chapman & Hall.

Crocker, J., & Canevello A. (2012). Consequences of self-image and compassionate

goals. *Advances in Experimental Social Psychology, 45*, 229-277.

Crocker, J., Luhtanen, R., Cooper, M., & Bouvrette, A. (2003). Contingencies of self-worth in

college students: Theory and measurement. *Journal of Personality and Social

Psychology, 85*(5), 894-908.

Crocker, J., & Wolfe, C. (2001). Contingencies of self-worth. *Psychological Review,108*(3), 593-

623.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York, NY:

Harper & Row.

Diener, E. (1979). Deindividuation, self-awareness, and disinhibition. *Journal of Personality and

Social Psychology, 37*(7), 1160-1171.

Egan, S., Wade, T., & Shafran, R. (2011). Perfectionism as a transdiagnostic process: A clinical

review. *Clinical Psychology Review, 31*(2), 203-212.

Ellison, N., Heino, R., & Gibbs, J. (2006). Managing impressions online: Self-presentation

processes in the online dating environment. *Journal of Computer-Mediated

Communication,11*(2), 415-441.

Elphinston, R., & Noller, P. (2011). Time to face it! Facebook intrusion and the implications for

romantic jealousy and relationship satisfaction. *Cyberpsychology, Behavior, and Social

Networking, 14*(11), 631-635.

Flett, G. L., Hewitt, P. L., Blankstein, K. R., & Gray, L. (1998). Psychological distress and the

frequency of perfectionistic thinking. *Journal of Personality and Social

Psychology, 75*, 1363–1381.

Flett, G. L., Nepon, T., Hewitt, P. L., Molnar, D. S., & Zhao, W. (2016). Projecting perfection by

 hiding effort: supplementing the perfectionistic self-presentation scale with a brief self-

 presentation measure. *Self and Identity, 15*(3), 245-261.

Freitas, D. (2017). *The happiness effect: How social media is driving a generation to appear

 perfect at any cost.* New York, NY: Oxford University Press.

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-

 statisticians. *International Journal of Endocrinology and Metabolism, 10*(2), 486-489

Goffman, E. (1990). *The presentation of self in everyday life* (Penguin psychology).

 Harmondsworth: Penguin.

Gonzales, A., & Hancock, J. (2011). Mirror, mirror on my Facebook wall: Effects of exposure to

 Facebook on self-esteem. *Cyberpsychology, Behavior, and Social Networking, 14*(1-2),

 79-83.

Gosnell, C., Britt, T., & Mckibben, E. (2011). Self-presentation in everyday life: Effort,

 closeness, and satisfaction. *Self and Identity, 10*(1), 18-31.

Griffiths, S., Murray, S., Krug, I., & Mclean, S. (2018). The contribution of social media to body

 dissatisfaction, eating disorder symptoms, and anabolic steroid use among sexual

 minority men. *Cyberpsychology, Behavior, and Social Networking, 21*(3), 149-156.

Guest, E. (2016). Photo editing: Enhancing social media images to reflect appearance

 ideals. *Journal of Aesthetic Nursing,5*(9), 444-446.

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2014). *Multivariate data analysis (7th

 ed.).* Essex, UK: Pearson.

Hershman, B. (2017, July 24). Could Facebook's purchase of Instagram be the best acquisition of

 all time? *Benzinga Newswires*. Retrieved from https://search-proquest-

 com.proxy.library.adelaide.edu.au/docview/1922465152?accountid=8203&rfr_id=info%

 3Axri%2Fsid%3Aprimo

Hewitt, P. L., Flett, G. L., Sherry, S. B., Habke, M., Parkin, M., et al. (2003). The interpersonal expression of perfection: Perfectionistic self-presentation and psychological distress. *Journal of Personality and Social Psychology, 84*(6), 1303-1325.

Hewitt, P. L., & Genest, M. (1990). The ideal self: Schematic processing of perfectionistic content in dysphoric university students. *Journal of Personality and Social Psychology, 59*, 802–808.

Hill, A., & Curran, T. (2016). Multidimensional Perfectionism and Burnout: A Meta-Analysis. *Personality and Social Psychology Review, 20*(3), 269-288.

Howell, D. C. (2010). *Statistical methods for psychology (7th ed.)*. Belmont, CA: Wadsworth.

Huang, C. (2010). Internet use and psychological well-being: A meta-analysis. *Cyberpsychology, Behavior, and Social Networking*, *13*(3), 241-249.

Huber, P. J. (1981). *Robust statistics*. New York, NY: John Wiley & Sons.

Keep, M., & Attrill-Smith, A. (2017). Controlling you watching me: Measuring perception control on social media. *Cyberpsychology, Behavior and Social Networking, 20*(9), 561-566.

Khamis, S., Ang, L & Welling, R. (2017). Self-branding, 'micro-celebrity' and the rise of social media influencers. *Celebrity Studies*, *8*(2), 191-208.

König, A. (2008). Which clothes suit me? The presentation of the juvenile self. *Childhood, 15*(2), 225-237.

Lee, J., Moore, D., Park, E., & Park, S. (2012). Who wants to be "friend-rich"? Social compensatory friending on Facebook and the moderating role of public self-consciousness. *Computers in Human Behavior, 28*(3), 1036-1043.

Lee, E., Lee, J., Moon, J., & Sung, Y. (2015). Pictures speak louder than words: Motivations for using Instagram. *Cyberpsychology, Behavior, and Social Networking, 18*(9), 552-556.

Li, P., Chang, L., Chua, T. H. H., & Loh, R. S. M. (2018). "Likes" as KPI: An examination of teenage girls' perspective on peer feedback on Instagram and its influence on coping response. *Telematics and Informatics, 35*(7), 1994-2005.

Manago, A. M., Graham, M. B., Greenfield, P. M., & Salimkhan, G. (2008). Self-presentation and gender on MySpace. *Journal of Applied Developmental Psychology*, *29*(6), 446-458.

Marwick, A., Boyd, D., Lincoln, S., & Robards, B. (2014). Networked privacy: How teenagers negotiate context in social media. *New Media & Society, 16*(7), 1051-1067.

Mclaughlin, C., & Vitak, J. (2012). Norm evolution and violation on Facebook. *New Media & Society, 14*(2), 299-315.

Meikle, G. (2016). *Social Media: Communication, Sharing and Visibility*. New York, NY: Routledge.

Nepon, T., Flett, G., & Hewitt, P. (2016). Self-image goals in trait perfectionism and perfectionistic self-presentation: Toward a broader understanding of the drives and motives of perfectionists. *Self and Identity, 15*(6), 683-706.

Nunnally, J. (1978). *Psychometric theory*. New York: McGraw-Hill.

O'Connor, R. C. (2007). The relations between perfectionism and suicidality: A systematic review. *Suicide and Life-Threatening Behavior, 37*, 698–714.

O'Donnell, N. H. (2018). Storied lives on Instagram: Factors associated with the need for personal-visual identity. *Visual Communication Quarterly, 25*(3), 131-142.

Patrick, H., Neighbors, C., & Knee, C. (2004). Appearance-related social comparisons: The role of contingent self-esteem and self-perceptions of attractiveness. *Personality and Social Psychology Bulletin, 30*(4), 501-514.

Paulhus, D. L., & Vazire, S. (2007). The self-report method. *Handbook of research methods in personality psychology*, *1*, 224-239.

Reinecke, L., & Trepte, S. (2014). Authenticity and well-being on social network sites: A two wave longitudinal study on the effects of online authenticity and the positivity bias in SNS communication. *Computers in Human Behavior*, *30*, 95-102.

Ringrose J. (2011) Are you sexy, flirty, or a slut? Exploring 'sexualization' and how teen girls perform/negotiate digital sexual identity on social networking sites. In: Gill R., Scharff C. (eds) New Femininities. Palgrave Macmillan, London.

Rui, J., & Stefanone, M. (2013). Strategic impression management online. *Information, Communication & Society, 16*(8), 1286-1305.

Sherry, S., Gralnick, M., Hewitt, L., Sherry, L., & Flett, L. (2014). Perfectionism and narcissism: Testing unique relationships and gender differences. *Personality and Individual Differences,* 61*(52).*

Siibak, A. (2009). Constructing the self through the photo selection - visual impression management on social networking websites. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *3*(1).

Stapleton, P., Luiz, G., & Chatwin, H. (2017). Generation Validation: The role of social comparison in use of Instagram among emerging adults. *Cyberpsychology and Behavioural Science Social Networking, 20*(3), 142-149.

Statista. (2018). Number of monthly active Instagram users from January 2013 to June 2018. Retrieved from https://www.statista.com/statistics/253577/number-of-monthly-active-instagram-users/

Steckler, A., & McLeroy, K. R. (2008). The importance of external validity. *American journal of public health*, *98*(1), 9–10.

Steers, M., Wickham, R., & Acitelli, L. (2014). Seeing everyone else's highlight reels: How Facebook usage is linked to depressive symptoms. *Journal of Social and Clinical Psychology, 33*(8), 701-731.

Strano M. (2008). User descriptions and interpretations of self- presentation through Facebook profile images. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*. *2*(5).

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th ed.).* Boston, MA: Allyn & Bacon/Pearson Education.

Tait, A. (2018). The FaceTune app enables us to distort our selfies. Harmless fun or the sign of a sick, narcissistic society? *New Statesman,147*(5413), 37.

Tifferet, S., & Vilnai-Yavetz, I. (2014). Gender differences in Facebook self-presentation: An international randomized study. *Computers in Human Behavior*, 35, 388-399.

Tokunaga, R. S. (2011). Friend me or you'll strain us: understanding negative events that occur over social networking sites. *CyberPsychology, Behavior, and Social Networking*, 14(7–8), 425–432.

Twenge, J. (2006). Generation me: Why today's young Americans are more confident, assertive, entitled—and more miserable than ever before. New York, NY: Free Press.

Uski, S., & Lampinen, A. (2016). Social norms and self-presentation on social network sites: Profile work in action. *New Media & Society, 18*(3), 447-464.

Vazire, S., & Mehl, M. R. (2008). Knowing me, knowing you: the accuracy and unique predictive validity of self-ratings and other-ratings of daily behavior. *Journal of personality and social psychology*, *95*(5), 1202.

Vonk, R., Radstaak, M., De Heus, P., & Jolij, J. (2019). Ironic effects of feedback on contingency of self-worth: Why self-reports of contingency are biased. *Self and Identity, 18*(2), 183-200.

Walther, J. (2007). Selective self-presentation in computer-mediated communication: Hyperpersonal dimensions of technology, language, and cognition. *Computers in Human Behavior, 23*(5), 2538-2557.

Waterman, A. (1982). Identity development from adolescence to adulthood: An extension of

theory and a review of research. *Developmental Psychology, 18*(3), 341-358.

West, C., & Zimmerman, D.H. (1987) Doing Gender. Gender & Society *1*(2), 125-151.

Yau, J., & Reich, S. (2019). "It's just a lot of work": Adolescents' self-presentation norms and

practices on Facebook and Instagram. *Journal of Research on Adolescence, 29*(1), 196-

209.

Young, K. (2013). Managing online identity and diverse social networks on

Facebook. *Webology,10*(2), 1-18.

Zhao, S., Grasmuck, S., & Martin, J. (2008). Identity construction on Facebook: Digital

empowerment in anchored relationships. *Computers in Human Behavior, 24*(5), 1816-

1836.

Appendix A

Complete list of Instagram preparatory behaviours

Instagram Preparatory Behaviours

I go to events/and or places (e.g. parties, concerts, cafes, etc.) mainly so that I can take a photo to post to Instagram.

I purchase things like clothing, shoes technology and make-up for my Instagram posts.

I put a lot of effort into my outfit and/or appearance before I go out to prepare for Instagram posts.

I put a lot of care into taking photos that I may post to Instagram and consider things like positioning, angles and photo-content.

I put a lot of consideration into selecting the best photo to post to Instagram.

I consult friends to check that the photo I've chosen is the right choice for my Instagram profile.

I put a lot of effort into editing my photo. I use filter applications or the filters and editing settings embedded in Instagram.

I use applications that alter my face and body shape (e.g. FaceTune).

I consider if the photo will fit well with the images already posted (e.g. complementary colours, filters, etc.)

I remove a post soon after posting if I'm not happy with it.

I put a lot of consideration into thinking up a suitable caption for my photo.

I exaggerate the caption.

I consult friends to check that the caption I thought of is suitable.

I spend quite a bit of time being indecisive about whether I should post the photo or not.

I consider different members of my audience (e.g. friends, family members, romantic interests, etc.)

I purchase followers or likes for my Instagram post.

I add hashtags to my post.

Before I post my photo, I like others' photos.

I let my friends know that I'm about to post a photo.

I consider the day of the week and time of the day before I post my photo.