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# Keeping Up with the Joneses: Instagram Use and its Influence on Conspicuous Consumption

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### **Presenter Information**

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# Keeping Up with the Joneses: Instagram Use and its Influence on Conspicuous Consumption

Completed Research Paper

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## Abstract

*So far research in the area of social networking sites (SNS) has drawn surprisingly little attention to users' conspicuous consumption (CC), even though the constant rise of younger people's debts seems to go hand in hand with the rise of SNS. To fill this research gap, we conducted two studies based on social comparison and normative influence theory. In a preliminary study, we show that Instagram use is positively related to users' CC. In the main study, using a sample of 283 German Instagram users, we find possible explanations for this association. While norms on Instagram seem not to account for the link between Instagram use and CC, our results suggest a mediating effect of envy. We contribute to the literature by providing insights on SNS use and CC while offering first explanations for its potentially harmful economic outcomes.*

**Keywords:** Social Networking Sites, Instagram, Conspicuous Consumption, Overspending, Envy, Social Norm, Social Comparison

## Introduction

While an overwhelming number of Americans agree that “nothing makes them happier or more confident than feeling like their finances are in order” (Northwestern Mutual 2018c), the burden of debt carried by US households is jarring. Indeed, with an average American owing \$38,000 in personal debt, excluding home mortgages, the issue of overspending is more critical than ever (Northwestern Mutual 2018a). These developments are especially worrisome for younger generations, with 110,000 people under the age of 25 having filed for bankruptcy in 2017 in the US alone (Valenti 2018). In a recent study, millennials report putting 34% of their monthly income to paying down accumulated debt, which averages \$36,000 (Northwestern Mutual 2018b). This dire outlook on financial independence among younger individuals does not only affect the US alone but seems to be a relevant phenomenon in industrialized western cultures in general. Unsecured borrowing has skyrocketed among young people in the UK, with an average consumer aged between 17 and 24 carrying £12,215 in personal unsecured debt, an amount that has tripled since the last financial crisis (Baker 2016), with many other countries reporting similar trends (e.g., Diana-Rose and Zariyawati 2015).

With credit card bills accounting for 20% of the debt burden, and a whopping 41% of millennials’ income being spent towards discretionary items in US (Northwestern Mutual 2018b), “reckless spending and the pressure to obtain a luxurious lifestyle” have been identified as important contributors to the staggering levels of debt among youth, with young people trying to “outdo each other” in an act of what is commonly known as conspicuous consumption (CC) (Diana-Rose and Zariyawati 2015, p.19). Defined as “attaining and exhibiting costly items to impress upon others that one possesses wealth or status” (Sundie et al. 2011, p. 664), CC is directly linked to overspending, since it implies purchases of items that are expensive beyond considerations of the products’ quality (Veblen 1899). While research evidence remains limited (e.g., Kamal et al. 2013; Taylor and Strutton 2016), the increasing emphasis on CC among the young generation of consumers seems to go hand in hand with the soaring popularity of social networking sites (SNS) (Statista 2018b). Indeed, visual platforms like Instagram are notorious for narcissistic displays of consumer preferences, which often involve products and services that are public in nature and signal the social status of their owners (Taylor and Strutton 2016). Since the link between consumers’ media consumption (e.g., TV) and their levels of materialism is well-established in marketing and cultures studies (Ger and Belk 1999; Gorn and Goldberg 1977), it is plausible to assume that participation on SNS is also likely to sway consumer choices towards CC and, as a consequence, overspending. For example, Paul Kelash, vice president of consumer insights for Allianz, argues: For young users, “social media and the allure to spend beyond their means could have long-term negative effects on their finances if they’re not careful” (Allianz 2018), with 57% of millennials in the study of Allianz Life (2018) spending money “they hadn’t planned to because of what they saw on their social media feeds”.

Overspending can lead to financial distress, bankruptcy and consecutive major life crisis (LaRose and Eastin 2002). While a large body of research from communication and marketing science provides evidence for the importance of media in forming consumer purchasing preferences and values, especially in the context of materialistic consumption (Ger and Belk 1999; Gorn and Goldberg 1977), research investigating the role of SNS in users’ preferences towards CC and overspending remains limited (e.g. Kamal et al. 2013). So far, extant research primarily focused on word-of-mouth (Thoumrungrroje, 2014), materialism (Kamal et al. 2013) and influences of others’ ‘likes’ (Wang and Chang 2013) in the context SNS use. However, social factors inherent on SNS like the constant exposure to other users’ consumption and the endless opportunity to compare oneself to them might influence users’ own spending decisions.

The present research project seeks to fill this knowledge gap. Conducting two separate studies, we answer the research question of how the use of SNS influences users’ CC. Specifically, we are aiming to develop and empirically validate a research model that tests the relationship between SNS usage and its inherent social factors, with CC and overspending. In a preliminary study, we first explore the direct link between SNS usage and the decision to buy exclusive and thus expensive products which potentially leads to overspending. In a second study, we aim at identifying social factors like envy and social norms inherent in SNS, as well as understanding their critical role in the relationship between SNS use and CC.

Based on our research goals, we contribute to research and practice in several ways. First, we empirically test whether SNS usage is associated with users consuming products more conspicuously and therefore, being at higher risk of overspending their budget. These results can give insights on whether SNS are a

marketplace for materialistic social influences, which can cause irrational behavior and in the long-run financial distress. Second, by investigating possible explanations for this relationship, we further aim at discussing first starting points to reduce the potentially detrimental economic outcomes of SNS use.

## **Theoretical Background and Related Work**

During the last years, the luxury market has gained constant growth in sales and turnover (Deloitte 2017). With rising wealth, more and more people worldwide can afford products from exclusive brands like Ralph Lauren and Prada. The purchase of such kind of products is often labeled as CC and has been initially theoretically established and investigated in the work of Veblen (1899). As such, CC is described as showy spending (Sundie et al. 2011) which is motivated by social factors like impressing others, enhancing ones' social status and gathering prestige and not by quality considerations (e.g., Han et al. 2010). Prior literature has long recognized the impact of social factors driving individuals to conspicuously consume products (e.g., Shukla 2008). Specifically, two main factors are typically seen as drivers behind individuals' appreciation of material goods and thus their willingness to spend money on conspicuous products (Kasser et al. 2004; Kasser 2011). The first factor refers to feelings of insecurities while the second drives the orientation towards materialistic goods through the normative influence of other people's material consumption. Given the considerable theoretical and empirical overlap between CC and materialism (e.g., Podoshen and Andrzejewski 2012), we assume that these routes equally drive people to consume products conspicuously.

Normative influence has indeed been pointed to as a major determinant of individuals' conspicuous consumer behavior (O'Cass and McEwen 2004). As such, normative influence refers to the impact of other people on one's own behavior (e.g. Cialdini et al. 1990). Following this theoretical reasoning, individuals do not entirely act following their attitudes and values but are also influenced by the behavior of other individuals and therefore by the social norms present in their environment (Ajzen 1985, Cialdini et al. 1990). Literature most commonly distinguishes between two types of norms: descriptive and injunctive norms. Descriptive norms refer to individuals' perception of what significant others in their environment are doing (Cialdini et al. 1990, White et al. 2009). Injunctive norms, on the other hand, refer to individuals' perception of what behaviors others in their environment would approve of (Cialdini et al. 1990) and thus signal potential rewards or punishments for engaging in or refraining from specific behaviors. Hence, observing or perceiving what others are doing and what actions they would approve of or refrain from hence seem to play a considerable role in forming one's own behavioral intentions. The two constructs of descriptive and injunctive norms have been frequently included in research studies either embedded in the theory of planned behavior (Ajzen 1985) or investigating the predictive power on individuals' intentions on their own (e.g., Cialdini et al. 1990). Extant results suggest that both norms influence several types of individuals' behavior such as their antisocial or health behavior (Cialdini et al. 1990, Conner and McMillan 1999) and also information systems related outcomes such as individuals' intention to comply with organizations' information security policy (Bulgurcu et al. 2010). Importantly, first empirical evidence indicates that normative influence predicts individuals' intention to engage in CC as well (e.g., Riquelme et al. 2012; Solnick and Hemenway 2009). These findings suggest that individuals' decision to spend money on things to impress others is indeed partially driven by the perception that significant others are doing the same or at least would approve of such behavior.

The second route describes an emotion-based path towards individuals' materialistic consuming behavior. Theorist argue that not only feelings of literal physical insecurities or self-threats such as hunger (Briers et al. 2006) or facing economic hardship (Sheldon and Kasser 2008) but also psychological threats such as self-doubt (Chang and Arkin 2002) or feelings of inferiority (Van de Ven et al. 2011) lead people to place higher values on material goods (Kasser 2011). Indeed, additional support from the area of consumer research shows that a significant number of participants bought products due to feelings like frustration or discontentment (Rook and Gardener 1993). Observing the consumption behavior of others might create feelings of inferiority as individuals might become aware of what others can afford. Several other authors specifically argue that perceptions of self-threat stemming from such unfavorable upward social comparisons (Twenge et al. 2007) can result in envy and thereby fuel people's materialistic purchase intentions as a way to restore their threatened sense of self-worth (Van de Ven et al. 2011). In general, individuals often compare their opinions, emotions and personality traits with others (Festinger 1954). It takes place routinely in everyday life as information about others is available by interacting with them or

observing them for instance on media (Lee 2014). Comparing oneself with a superior other (e.g., in case of economic status) has been shown to foster feelings of envy (Salovey and Rodin 1984) and can result in several unfavorable outcomes such as feelings of inferiority (Parrot and Smith 1993), frustration (Van de Ven et al. 2009) or self-regulatory depletion (Hill et al. 2011). Besides other behavioral strategies, research indicates that self-enhancement represents a possible way to cope with the unpleasant emotional condition of envy and to avoid its bespoke adverse outcomes (Yoshimura 2010; Salovey and Rodin 1988). Self-enhancement is referred to as a strategical boost of one's favorable qualities (e.g., Leary and Kowalski 1990; Krasnova et al. 2015). Considering the social signaling function of CC, we assume that CC may be likewise a way to self-enhance in the face of experienced envy. Scientific results indeed suggest that envy fuels people's intention to pay more for a prestigious product to close the perceived gap between oneself and the envied other (Van de Ven et al. 2011; Agarwal et al. 2018).

While available research in the context of CC offers several insights regarding the drivers behind this behavior in offline settings, only a few studies investigated the role of SNS in the context of overspending in general, and CC in particular. However, the arrival of SNS has revolutionized the exposure to consumption behavior of others, as well as has been recognized as vital revenue platforms for companies (Statista 2015). On SNS, users can follow, search and respond to information from a tremendous number of sources (Kamal et al. 2013) and with various others from all over the world. Particularly, they consume thousands of updates about products, places, events and people. Thus, SNS have emerged as a platform that creates and influences social and cultural values (Kraidy 2007). SNS such as Instagram, are increasingly utilized by companies to promote their products. One commonly used way is by paying Instagram influencers (i.e., accounts with a high number of followers) for sharing pictures with a certain product displayed. In this vein, companies use the popularity of influencers to distribute information about their products to their specific target group via a third-party channel with rising advertisement spending (Statista 2018a). Not only companies promote products but also its users share pictures voluntarily in order to present themselves in front of others in an act termed as impression management (Kim et al. 2016). In addition, Instagram offers functionalities like filters and photo-editing tools to construct a desirable image. Given these findings, it seems plausible to assume that SNS use and particularly users' tremendous exposure to product-related information on these platforms plays an essential role in increasing their CC.

As literature is limited in the context of SNS and CC, we will continue describing how the two factors of normative influence and envy might unfold in the context of SNS and therefore, influence users' tendency to conspicuously consume products leading to problematic spending behavior.

### ***The Role of Normative Influence on SNS***

Considering that social norms mostly influence individuals' behavior when being salient (e.g., through the observation or interaction with other individuals) (Cialdini et al. 1990), we assume that norms are equally prevalent on SNS due to their social nature. On these platforms, users can easily connect with thousands of other users and are constantly exposed to information shared by them. A considerable amount of content shared on these platforms evolves around the consumption of products (e.g., in the form of pictures of users' latest showy purchases, latest restaurant visits or vacation trips) (Chen and Marcus 2012; Mehdizadeh 2010). Observing other users spending their money on such products or services might thus lead to the perception of what is considered to be normal (descriptive norms) or at least what is approved of in the social group of other Instagram users (injunctive norms).

Given that users are confronted with the information shared by others on SNS on a daily bases, they might try to conform to the lifestyle, product choices and beliefs of others in their network. Research indeed has provided evidence that the behavior of other users on SNS influences individuals' own behavior (e.g., in the case of drinking behavior; Perkins et al. 2010). Particularly, individuals' choice to buy certain products seems to be at least partially driven by normative influence in the form of positive word-of-mouth (Thoumrunroje 2014).

### ***The Role of Envy on SNS***

Besides positive consequences of SNS use such as increases in users' self-esteem (Toma and Hancock 2013) or social capital (Burke et al. 2010), also negative emotions such as envy are evenly frequently

discussed as primary feelings of users encountering SNS (Wu and Srite, 2014; Krasnova et al., 2015; Tandoc et al. 2015). Several authors argue that SNS use triggers unfavorable upward social comparison thereby resulting in unpleasant affective states such as low self-esteem (e.g., Wang et al. 2017) in general and envy (Krasnova et al. 2015; Wenninger et al. 2019) in particular.

Research on SNS participation has shown that SNS leverage the fact that users compare themselves with others (Lee, 2014; Fox and Moreland, 2015; Krasnova et al., 2015). Motivated by impression management and self-enhancement, SNS users usually present themselves in a positive way (Mehdizadeh 2010). They show their latest achievement, their newest possessions or simply their happiness in order to establish a desired social image that might not conform with their real self (Wallace et al. 2017). Moreover, with the constant rise of influencer marketing (Statista 2018a) which is also used in the luxury segment (Statista 2017a) users are additionally confronted with promoted costly products often masked as personal recommendations by paid influencers. Thus, SNS serve as a fertile ground especially for unfavorable upward comparisons due to others' often positively skewed self-presentation (Vogel et al. 2014). A vast body of studies has demonstrated a positive link between Facebook intensity and exposure to social comparison information (e.g., Lee 2014; Vogel et al. 2014). Further, authors could establish a link between Facebook usage frequency (Tandoc et al. 2015) and especially passive use of SNS and feelings of envy (Krasnova et al. 2015).

Feelings of envy are mostly associated with adverse outcomes such as decreases in life satisfaction (Smith et al. 1999) for those experiencing it. In the context of SNS, scientific results indicate that feelings of envy towards other users of these platforms are associated with harmful outcomes such as decreases in cognitive and affective well-being (Krasnova et al. 2015), as well as negative effects on users' body image (Slater et al. 2017). In this vein, previous research was rather focused on emotional states and perceptions as outcomes of envy while in this study, we postulate that users' envious feelings lead to concerning buying behavior. Indeed, first results indicate that envy in the context of SNS not just leads to harmful emotional consequences but may further trigger behavioral responses serving to improve users' threatened self-concept by the envy inherent feeling on inferiority (Krasnova et al. 2015; Wenninger et al. 2019). These self-enhancing behavioral consequences of coping with experienced envy can, for instance, lead to the careful selection of desirable and self-promoting content shared on SNS (Hum et al. 2011; Peluchette and Karl 2009) in order to reduce the gap between oneself and the envied other. Considering the findings reported in the offline-domain (e.g., Van de Ven et al. 2011), envy on SNS could hence likewise trigger CC with the purpose of defending one's threatened financial self-concept and signaling it to others in return.

### ***The Specific Role of Instagram Use***

The popularity of Instagram has tremendously grown in the last years, reaching a whopping 1 billion monthly active users in 2019, up from 800 million in September 2017 (Statista 2018b). In fact, Instagram has outcompeted Facebook and Twitter among adolescents in the US (Statista 2018c). However, Instagram differs from Facebook in its main usage motivation. While Facebook is used mainly to connect with friends and acquaintances, the latest trend report of Facebook reveals that 66% of its respondents use Instagram because it allows interaction with brands and influencers (Facebook 2019). Particularly, luxury brands have gained popularity among Instagram users with Chanel, Louis Vuitton and Gucci among the ten brands with the highest number of followers (Statista 2017b), while Valentino generated the most reactions per post (Statista 2017a). Based on a study among 2,000 Instagram users, 72% reveal that they purchased a product because they saw it on Instagram (Business Insider 2017), highlighting Instagram's potential to shape users' consumer behavior. In view of these findings, we decided to focus on Instagram use in our study.

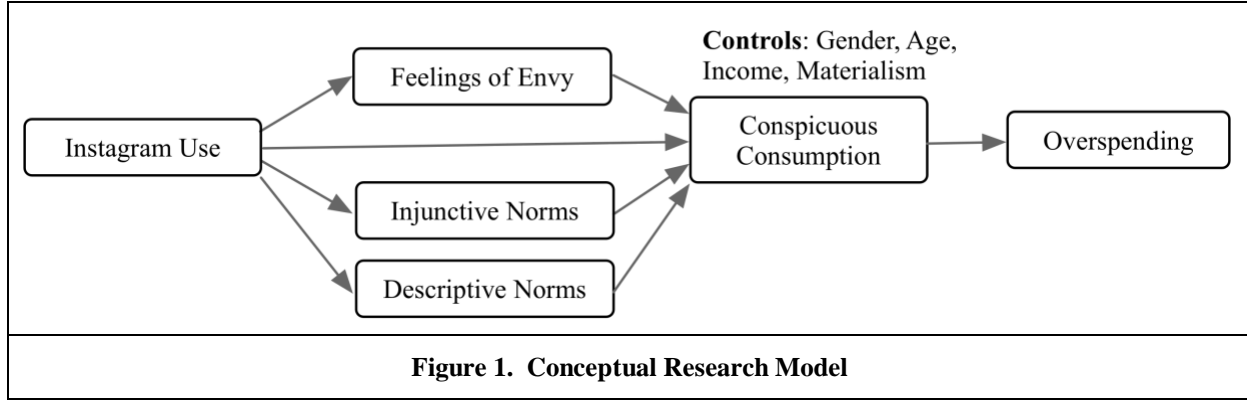
### ***Proposed Research Model and Hypotheses***

In the following paragraph, we will summarize previous findings as well as derive hypotheses for our proposed research model (Figure 1).

The large body of research in the field of communication and marketing science supports the assumption that media plays a vital role in shaping people's values and purchase intentions especially towards material goods (e.g., Ger and Belk 1999; Gorn and Goldberg 1977). Extant scientific results further

indicate that SNS might equally influence their users' intention to consume products to impress others and to signal their status (Kamal et al. 2013; Thoumorongroje 2014). Building on these first results, we thus hypothesize that:

*H1: Instagram use has a positive relationship with users' CC.*



However, considering that CC is mainly driven by the two factors of self-threat and normative influence (Kasser 2011), we further propose that it is not Instagram use per se but rather these two factors inherent on Instagram that explain this relationship. First, passively consuming information shared on SNS has been shown to influence negative feelings such as envy (Wang et al. 2017) given that users' mainly share positively skewed information about themselves (Peluchette and Karl 2009) and thereby triggering unflattering upward social comparisons. This is leading us to our second hypothesis:

*H2: Instagram use has a positive relationship with feelings of envy towards other users.*

Additionally, existing prior research provides first evidence that feelings of envy on SNS trigger behavioral responses aiming at reducing the perceived gap between oneself and the envied other (Krasnova et al. 2015; Wenninger et al. 2019). Buying exclusive products to signal ones' status can thus be interpreted as such a behavioral attempt (Van de Ven et al. 2011) to self-enhance. We therefore hypothesize:

*H3: Envy experienced while using Instagram has a positive relationship with CC.*

Second, passively consuming information shared on Instagram may similarly influence the perception of a norm. Observing other users of Instagram consuming exclusive products, spending a large amount of money on luxurious vacation trips or restaurant visits (e.g., Mehdizadeh 2010) might both lead to the assessment of what behaviors others engage in (i.e., descriptive norms; Cialdini et al. 1990) and also to the perception of what actions others on Instagram approve of or what is socially acceptable on these platforms (i.e., injunctive norms; Cialdini et al. 1990). We therefore hypothesize:

*H4: Instagram use has a positive relationship with the perception of the descriptive norm of CC on Instagram.*

*H5: Instagram use has a positive relationship with the perception of the injunctive norm of CC on Instagram.*

Norms have been shown to be a strong predictor of people's behavior (e.g., Cialdini et al. 1990). Individuals for instance not just base their intention to engage in specific health or risk behavior or specifically in CC on their attitudes but are also influenced by the actions of other people in their social environment (e.g., Conner and McMillan 1999). Likewise, we assume that the observation of other users who engage in CC fuels users' own intention to consume in a similar way. Leading us to the following hypotheses:

*H6: The perception of the descriptive norms of CC on Instagram has a positive relationship with users' own CC.*



*H7: The perception of the injunctive norms of CC on Instagram has a positive relationship with users' own CC.*

We further propose that it is not Instagram use per se that drives people to engage in CC but rather feelings of envy and additionally, the perception of both injunctive and descriptive norms that explain this relationship. We thus hypothesize that:

*H8: Feelings of envy and the perception of injunctive and descriptive norms, fully mediate the relationship between Instagram use and CC.*

As individuals engage in CC to show their wealth and status, it is expensive in nature. People who put more emphasis on CC spend an enormous amount of their budget on materialistic items, which might lead to financial distress (Agarwal et al. 2018). Especially when being not part of the wealthy class, showy consumption can cause severe budget constraints and in the long-run bankruptcy. Therefore, we postulate that CC can lead to a concerning overspending tendency of SNS users.

*H9: CC of Instagram users positively affects their overspending.*

We test our proposed research model (Figure 1) in two independent studies. In a preliminary study, we first try to establish the direct effect between Instagram use and CC using a behavioral paradigm aiming at capturing individuals' preference towards conspicuous products (H1). In a subsequent main study, we then continue replicating the results found in the pre-study using a self-report measure of CC while additionally analyzing the mediating effect of envy and the two types of norms between Instagram use and CC. Considering the already established link between materialism and CC (Podoshen and Andrzejewski 2012; Wong 1997), we further decided to control for materialism in addition to sociodemographics.

## **Preliminary Study**

In a preliminary study, we explored the link between Instagram usage frequency and CC in the form of buying prestige and thus expensive products. We conducted an online survey targeted at German users of Instagram. The URL to the online survey was distributed via Instagram and various other forums.  $N=182$  ( $M_{Age}= 23.97$ ,  $SD_{Age}= 8.80$ ) participants took part in the online survey, with the majority being students (59.3%) followed by employees (28.6%). 59.3% of the sample were females, while the rest were males.

We operationalized SNS use by instructing participants to indicate how frequently they use Instagram on a 5-point response scale ranging from "less than 10 minutes per day" to "more than 2 hours per day". We additionally captured participants' CC using a behavioral paradigm. We showed participants 6 dyads of different products. Each dyad contained a picture of a prestige (branded) product while the other picture showed a non-brand version of the same type of product. Participants were instructed to indicate which product of the dyad they would chose more likely. We used the total amount of chosen branded products across all dyads as our dependent variable of CC. The six products were chosen based on a semi-structured analysis of product pictures shared on Instagram. In line with the approach of Slater et al. (2017), we searched for products typically shared on Instagram by using popular hashtags like #picoftheday, #happyday, #selfie and #love. Thereby, we were able to trace typical products shared within pictures by Instagram users. As a result, we retrieved 6 product types: wristwatches, headphones, smartphones, ice cream, shirts, energy drinks. Alcohol bottles were also frequently shared but have been excluded from our product list due to ethical reasons.

We estimated the path coefficient between Instagram use frequency and CC using the software smartPLS (Ringle et al. 2015) and assessed its level of significance applying a bootstrap procedure with 5,000 bootstrap samples. Results indicate that Instagram use frequency positively influences participants' propensity to buy prestige products (H1 is supported,  $\beta = .277$ ;  $p < .05$ ). We further controlled for gender, age and income. Age and gender are significantly linked to CC. Younger adults tend to buy more prestige products than older adults ( $\beta = -.166$ ;  $p < .05$ ) while women are more likely to conspicuously consume ( $\beta = -.125$ ;  $p < .05$ ).

These preliminary results provide first evidence that SNS use is indeed associated with participants' CC. To ensure that these findings are not solely based on the operationalization of CC used in this study and to further explore the mechanisms driving the found correlation, we conducted our main study.

## Main Study

### Method

#### Procedure

To test our research model, we conducted an online survey distributed to a panel from a marketing agency as recommended by Lowry et al. (2016). Similar to previous studies (e.g., Taylor and Strutton 2016), we decided on using a sample from a western industrialized country, namely Germany. The survey was hence specifically targeted at active German Instagram users between the age of 18 and 35, representing the most common user group on Instagram (Statista 2019). Participants meeting these criteria were invited via mail to participate in the online survey. To reduce demand characteristics, we introduced the survey as research about general consumer behavior. The marketing agency paid each participant a small expense allowance. The online survey was hosted on Questback, and data collection took part in April 2019. Six participants had to be removed from the dataset due to unrealistically fast responses (< 2 minutes) or unreasonable response patterns, resulting in a final dataset of  $N=283$  ( $M_{Age}= 26.53$ ,  $SD_{Age}= 4.59$ ). 55.1% of the sample was female, with most of the participants reporting to be employed (56.9%).

#### Measures

Self-report measures were used to operationalize the constructs of our research model (Table 1). We operationalized Instagram use in three different ways. For the main analyses, we measured participants' amount of *passive Instagram use* by applying four items that assess common passive behaviors on SNS (e.g., clicking through different content) ( $\alpha = .71$ ). The items were inspired by Krasnova et al. (2015) and adapted to the context of Instagram use. For supplementary analyses, we additionally assessed Instagram use on a more general level and instructed participants to indicate how much time they spent on Instagram in the last three hours before participating in our survey ( $M= 10.66$  minutes;  $SD= 14.55$  minutes). We used this measure of *prior Instagram exposure* as a proxy for their general usage time (Kross et al. 2013). To use another more objective type of data source, we additionally assessed participants' actual *objective amount of time spent on Instagram* by utilizing the feature *My Activity* that Instagram introduced in 2018. Participants were hence instructed to examine their Instagram profile and the respective *My Activity* option on their smartphone and to report the displayed amount of time spent on average per day in the last week on Instagram ( $M= 41.63$  minutes;  $SD= 42.64$  minutes).

We captured feelings of *envy* on Instagram using an adaption of the *envy on SNS scale* (Krasnova et al. 2015) that was developed in the context of Facebook use. After adopting the original items to the context of Instagram, we additionally added three more items to specifically capture envy on Instagram towards the consumption of others ( $\alpha = .89$ ). The dependent variable of participants' *CC* was operationalized using a self-developed scale ( $\alpha = .91$ ). After carefully reviewing previous operationalizations of *CC* (e.g., Eastman et al. 1999), we derived an initial pool of items based on the definition of *CC* (Veblen 1899).

Following the suggestion of Ajzen (2002), the items measuring injunctive and descriptive norms were developed in accordance with the items of our *CC* scale, thereby resembling each assessed *CC* behavior. In case of *descriptive norms*, seven items assessed the perception of participants about how much others on Instagram engage in *CC* behavior ( $\alpha = .94$ ). In case of *injunctive norms*, seven items assessed participants' perception of how much others on Instagram would approve of *CC* behavior ( $\alpha = .92$ ). We measured *overspending* using three adapted items (Urbany et al. 1996) and five self-developed items capturing how often participants find themselves spending more money than expected ( $\alpha = .92$ ).

To control for *materialism*, we applied a validated German version (Müller et al. 2013) of the *materialistic value scale* (Richins 2004). Specifically, we decided only to consider the *happiness* subscale of this instrument, as the other dimensions (i.e., *centrality* and *success*) show a large conceptual overlap with *CC* (Podoshen and Andrzejewski 2012) potentially leading to a high decrease in leftover variance to be explained by our proposed predictors. The scale consists of five items (e.g., "Buying things gives me a lot of pleasure."; "I have all the things I really need to enjoy life." - reversed) and answers were given on a 5-point Likert scale (response options ranging from "strongly disagree" to "strongly agree"). Due to the scale's already established reliability and validity (Richins 2004; Müller et al. 2013), we decided to use its sum score as a control variable ( $M= 17.08$ ;  $SD= 3.74$ ). In addition, we included the marker variable of

participants' attitude towards the color blue following the guidelines of Rönkkö and Ylitalo (2011) to test for common method bias (Podsakoff et al. 2003).

<p><b>Passive Instagram Use</b> (inspired by Krasnova et al. (2015), 5-point rating scale from “never “ to “very frequently”)  <u>On Instagram, how often do you...</u> (1)... click through different content (e.g., photos, videos, stories)? (2)...follow what others are sharing? (3)... read comments on posts? (4)... browse through other profiles?</p>
<p><b>Envy on Instagram</b> (adopted from Krasnova et al. (2015), 5-point rating scale from “never “ to “always”)  <u>When using Instagram, how often are you thinking the following:</u> (1) Most of the people on Instagram have it better than I do. (2) I don't know why, but I usually seem to feel myself as an underdog on Instagram. (3) It is somewhat annoying to see how successful some others are on Instagram. (4) It is somewhat disturbing to see how popular some others are on Instagram. (5) It is somehow disturbing when I see on Instagram how many things others can afford. (6) I feel like I could never afford as much luxury as some on Instagram. (7) I wish I could buy as many beautiful things as others on Instagram.</p>
<p><b>Conspicuous Consumption</b> (5-point rating scale from “never“ to “always”)  <u>How often are you doing the following:</u> (1)...you buy certain things that make a good impression on others. (2)...you pay more for products to signal your status. (3)...you buy certain things that can impress others. (4)...you spend money on things that represent an exclusive lifestyle. (5)...you spend money on things to set yourself apart from others. (6)... you buy certain products to show your success in life. (7)...you buy products that some would consider as luxury.</p>
<p><b>Descriptive Norms</b> (self-developed following the suggestion of Ajzen (2002), 5-point rating scale from “others on Instagram would not agree at all” to “others on Instagram would strongly agree”)  <u>How often do you think people on Instagram do the following:</u> (1)...they buy certain things that make a good impression on others. (2)...they pay more for products that signal their status. (3)...they buy certain things that can impress others. (4)...they spend money on things that represent an exclusive lifestyle. (5)...they spend money on things to set themselves apart from others. (6)...they buy certain products to show their success in life. (7)...they buy products that some would consider as luxury.</p>
<p><b>Injunctive Norms</b> (self-developed following the suggestion of Ajzen (2002), 5-point rating scale from “others on Instagram would not agree at all” to “others on Instagram would strongly agree”)  <u>How much do you think would others on Instagram agree with the following statements:</u> (1)...one should buy things that make a good impression on others. (2)...it's fine to pay more for products to signal one's status. (3)...it's good to buy certain things that can impress others. (4)...one should spend money on things that represent an exclusive lifestyle. (5)...one should spend money on things to set oneself apart from others. (6)...one should buy certain products to show one's success in life. (7)...it's fine to buy products that some would consider as luxury.</p>
<p><b>Overspending</b> (partly self-developed, 5-point rating scale from “never“ to “always”)  <u>How often does it happen to you that...</u> (1)...you check your bank account and find that you have spent more than you actually planned. (2)...you saved less money than you originally planned. (3)...you catch yourself thinking that you need to cut on spending money. (4)...you try to save money but fail to do so. (5)...you have the feeling that you lose control over your spending. (6)...you have problems at the end of the month making ends meet (Urbany et al. 1997). (7)...your budgeting at the end of the month is tight (Urbany et al. 1997). (8)...you spend more money than you have available (Urbany et al. 1997).</p>

**Table 1. Operationalizations of the Focal Constructs**

## Results

### Reliability and Validity

Considering the exploratory nature of our study, we decided on using a variance-based approach for estimating the respective parameters of our research model using the software smartPLS (Ringle et al. 2015). All considered multiple indicator constructs were modeled as reflective. All used scales were first

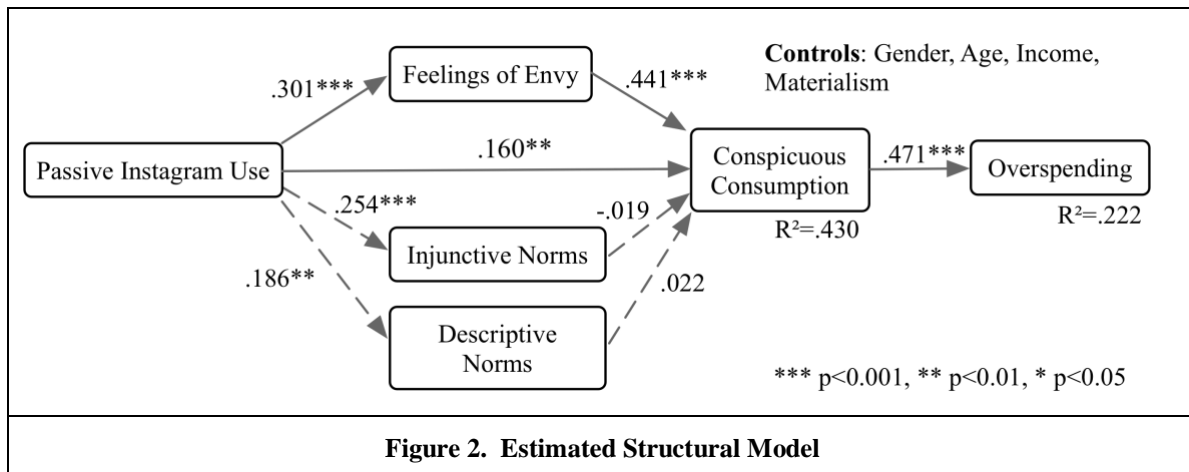
tested on their assumed unidimensionality using principal component analyses (PCA). Applying the Kaiser criterion, the analyses indicated a one-factor solution for each scale hence yielding evidence for their unidimensionality. We continued determining each scale's internal consistency by calculating its respective Cronbach's alpha as well as its composite reliability. The considered constructs showed high levels of Cronbach's alpha, all exceeding the suggested threshold of 0.7 (Nunnally 1978). Further, all constructs showed a sufficient level of composite reliability, all exceeding the suggested threshold of 0.7 (Hair et al. 2011). In the next step, we evaluated each indicators' loading on its allocated construct. Most constructs showed satisfactorily high loadings, exceeding the suggested benchmark of 0.7 (Chin 1998). Only two items of the envy measure that we originally included ("The posts of the people I follow on Instagram get more attention (e.g. "likes", comments, etc.) than mine"; "It is a bit inappropriate how some others brag with their exclusive lifestyle on Instagram.") showed low loadings (.566 and .382) which were therefore excluded from further analyses. Additionally, one item of the passive Instagram use scale that was previously included ("How often do you look through your Instagram feed?") was excluded from subsequent analyses due to insufficient loading (.468). All considered constructs showed sufficient values (>.5; Fornell and Larcker 1981) of average variance extracted (AVE) which were also higher than each constructs' correlation with other respective constructs, thereby establishing their convergent and discriminant validity. An overview of the final indicators of the constructs can be found in Table 1.

In the next step, we estimated the parameters of the structural model using the PLS algorithm applying a path weighting scheme. To assess the significance of path coefficients, we applied a bootstrap procedure with 5,000 bootstrap samples.

### Passive Instagram Use

To test hypothesis 1 and to replicate the findings of our preliminary study, we first estimated the direct path between *passive Instagram use* and *CC* while controlling for participants' *income* ( $\beta = .267; p < .05$ ), *gender* ( $\beta = .188; p < .05$ ), *materialism (happiness)* ( $\beta = .218; p < .05$ ) and *age* ( $\beta = -.111; p > .05$ ). Results show a significant ( $\alpha = 5\%$ ) positive relationship between *passive Instagram use* and reported levels of *CC* (H1 is supported,  $\beta = .294; p < .05$ ).

As the direct link between *passive Instagram use* and *CC* reached significance and thereby fulfilling the first condition necessary for establishing mediation (Baron and Kenny 1986) we continued estimating a second extended model including the indirect path via *envy* and two indirect paths via *injunctive* and *descriptive norms* as well as a direct path between *CC* and *overspending* (see Figure 2). Results indicate that *passive Instagram use* has a positive relationship with *envy* (H2 is supported,  $\beta = .301; p < .05$ ). Further, *passive Instagram use* is positively associated with both *descriptive* (H4 is supported,  $\beta = .254; p < .05$ ) and *injunctive norms* (H5 is supported,  $\beta = .186; p < .05$ ). Additionally, *envy* shows a positive association with *CC* (H3 is supported,  $\beta = .441; p < .05$ ) while *CC* is further positively associated with *overspending* (H9 is supported,  $\beta = .471; p < .05$ ). However, both *descriptive* (H6 is not supported,  $\beta = -.019; p > .05$ ) and *injunctive norms* (H7 is not supported,  $\beta = .022; p > .05$ ) did not significantly predict *CC*. Almost all of the above reported standardized path coefficients surpassed the suggested threshold of 0.2 (Chin 1998), hence indicating meaningful relationships. Next, we analyzed the mediating effect of *envy*, *injunctive* and *descriptive norms*. Only the indirect effect of *passive Instagram use* and *CC* via *envy* reached significance (H8 is partially supported, indirect effect = .133;  $p < .05$ ), while the indirect effects via *injunctive* (indirect effect = .004;  $p > .05$ ) or *descriptive norms* (indirect effect = -.005;  $p > .05$ ) showed to be non-significant. The direct path between *passive Instagram use* and *CC* decreased in magnitude in this model, albeit still reaching significance, suggesting that *envy*, in terms of Baron and Kenny (1986), partially mediates the relationship between passive Instagram use and *CC*. *Injunctive* and *descriptive norms* however do not seem to mediate this relationship. Further, *CC* shows a positive relationship with users' *overspending* ( $\beta = .471; p < .05$ ), thereby yielding support for H9. Similar as in the first model, the control variables of *income* ( $\beta = .254; p < .05$ ), *gender* ( $\beta = .192; p < .05$ ) and *materialism (happiness)* ( $\beta = .129; p < .05$ ) showed a significant relationship with *CC* in this model whereas *age* was not significantly associated with *CC* ( $\beta = -.098; p > .05$ ). To control for common method bias (Podsakoff et al. 2003), we followed the guidelines by Rönkkö and Ylitalo (2011). We included the marker variable *attitude towards the color blue* as a predictor for *CC* into our model. Common method bias went out to be not an issue as no regression paths became insignificant when including *attitude towards the color blue*.



## Supplementary Analyses

### Exposure to Instagram

In a supplementary analysis, we tried to replicate the findings for the independent variable of *exposure to Instagram*. The models used for this analysis were specified as in previous procedures with the only difference of using *exposure to Instagram* as an independent variable. Results indicate an identical pattern of effects for this variable. *Exposure to Instagram* directly positively predicts *CC* ( $\beta = .190$ ;  $p < .05$ ). Again, *envy* partially mediates this relationship (indirect effect =  $.190$ ;  $p < .05$ ), while the same could not be found for *injunctive* or *descriptive norms*. *CC* again positively predicts *overspending* ( $\beta = .471$ ;  $p < .05$ )

### Objective Time Spent on Instagram

We continued trying to replicate the findings described above for the independent variable of *objective time spent* on Instagram. We followed the same procedure as in previous analyses. Seventy-four participants were not able to report the *objective time* on Instagram indicated in the *My Activity* feature on their Instagram accounts. We thus decided on using a case-wise deletion procedure to treat missing values. Results indicate a positive relationship between *objective time spent* on Instagram and *CC*, although not reaching significance ( $\beta = .088$ ;  $p > .05$ ). Since the first condition to establish mediation was not fulfilled, we decided not to continue further analyses.

## Discussion

The role of SNS and especially their impact on users' attitudes, cognitions and emotions have been studied intensively in the last years (e.g., Burke et al. 2010; Krasnova et al. 2015). While research in the area of communication and marketing has so far primarily focused on the impact of SNS usage on users' purchase intention towards different types of products, research looking specifically at *CC* in the context of SNS remains scarce. Defined as the showy acquisition of exclusive and costly products to signal one's economic power (Veblen 1899, Sundie et al. 2011), *CC* has never been a phenomenon that only emerged in the recent years but has been an extensively studied research topic for more than 100 years (Veblen 1899). However, not only considering the vast amount of information shared on SNS revolving around users' latest consumption of luxury products or services, but also the constant rise of younger people's debts seemingly going hand in hand with the rise of SNS in western industrialized countries, the question arises to which amount the use of such platforms fuels peoples' *CC* and finally drives their budget constraints.

Aiming at understanding the role of Instagram use in users' consumption of conspicuous products, we conducted two separate studies. We conducted a preliminary study to first fathom the direct link between Instagram use and *CC* using a behavioral measure of *CC*. The results indicate that frequency of Instagram use indeed positively predicts the *CC* of their users, thereby strengthening previous results indicating an

association between SNS use and CC (Kamal et al. 2013; Thoumrungroje 2014). Individuals that use Instagram more frequently also showed a higher preference for buying prestigious branded products.

In order to understand the social mechanisms driving the relationship between Instagram use and CC, we conducted a second study including feelings of envy as well as perceptions of the injunctive and descriptive norm of CC apparent on Instagram. To ensure that the results of the preliminary study were not caused by the nature of the operationalization of the respective variables (i.e., self-reported frequency of Instagram use in the case of the independent and preference for prestigious branded products in the case of the dependent variables), we used different operationalizations for study 2. Measuring CC via a self-developed scale, we could again find evidence that Instagram use is positively associated with CC. While Instagram use positively predicts perceptions of the social and injunctive norm of CC on Instagram, these perceptions seem not to predict CC. This indicates that Instagram users indeed perceive other users as spending their money on exclusive products to impress others and therefore to engage in CC. Users further see others on Instagram as approving on these CC behaviors. However, these perceptions seem not to be the reason why Instagram users engage in CC, therefore, contradicting our proposed hypotheses. Given previous scientific results that stress the predictive power of social norms in individuals' behavioral intentions (e.g., Cialdini et al. 1990), these findings are surprising. However, research also suggest that the effect of normative influence on people's behavior might vary as a function of how strongly they identify with the particular group signaling a certain norm (White et al. 2009). It might be the case that users of Instagram might not identify as much with others on the platform and may thus be less prone to being normatively influenced by them. Nonetheless, as this explanation remains speculative in the context of Instagram, future research examining the moderating effect of group identification in this context is needed to shed light on the role of norms on Instagram influencing individuals' CC behavior.

While norms seem not to account for the found relationship between Instagram use and users' CC, our results suggest a mediating effect of envy. Indeed, the use of Instagram seems to be positively related to people's feelings of envy towards other users of Instagram, thereby supporting previous results in this context (e.g., Krasnova et al. 2015). Moreover, we could show that those who reported higher levels of Instagram envy also reported higher levels of CC. Considering the signaling function of CC, these results again support previous scientific results hinting at an envy-triggered behavioral response to close the gap between oneself and the envied other (Krasnova et al. 2015; Wenninger 2019). Buying exclusive and costly products to signal one's social status might hence be seen as an additional way to cope with experienced envy on Instagram. However, our results merely indicate a partially mediating (Baron and Kenny 1986) effect of envy still not being able to fully explain the link between Instagram use and CC. Future research is needed aiming at finding additional mechanisms that explain our reported effect.

Our results further indicate that CC is positively correlated with Instagram users' overspending tendencies, meaning that the more individuals engage in CC behavior, the more they tend to spend money beyond their means. These results do not seem surprising considering the cost-intensive nature of conspicuous products that typically revolve around exclusive luxury items. Especially considering low-earning individuals, these results appear worrisome and may hint at a first explanation for the problem of immense debt burdens among adolescents.

Furthermore, we were able to detect the same pattern of results, not just for passive Instagram use but also for previous exposure to Instagram. Inspired by the work of Kross et al. (2013), we additionally operationalized Instagram use by instructing participants to indicate how much time they spent in the last three hours before participating in our survey. We assume that the time spent before participation might be a valid proxy for users' general usage time and thereby potentially reducing biases of self-report common for participants instructed to estimate durations of activities within a larger time period (e.g., in the case of self-reported sleep durations, Lauderdale et al. 2008). Our results for this independent variable hence not just strengthen our previous results but further hint at the possibility that not solely passive use but also general use of Instagram influences users' CC.

Nonetheless, as we were not able to detect a significant relationship between Instagram use and CC with regards to the objective time spent on this platform using the *My Activity* feature that objectively tracks users' average time spent per day in the last week within their own Instagram account, our results have to be interpreted very cautiously. These contradictory results might hint at the possibility that the results for our self-report operationalization of Instagram use partially stem from common method bias (Podsakoff et al. 2003). However, a substantial number of users (26.1%) were not able to report the objectively

tracked time via *My Activity* as this feature seems not to be available for every user and hence challenge the generalizability of the results found for this objective measure. Further, the objectively tracked time on Instagram might have been distorted by other unrelated but yet time-consuming actions such as chatting activities via Instagram's Direct function. Still, these explanations remain speculative and call for future studies examining the difference between self-reported and objective measures of SNS use. In view of a considerable number of previous studies relying on subjective measures of SNS use (e.g., Stapleton et al. 2017; Krasnova et al. 2015), this not only becomes of pressing importance for future studies in the context of SNS use and CC but also for research exploring other SNS use outcomes in general.

Finally, our results offer a first insight into the role of SNS use in users' CC. We thereby not only contribute to the literature by strengthening previous results hinting at an association between SNS use and CC (Kamal et al. 2013; Thoumrungroje 2014), we additionally offer first explanatory insights on the role of envy and norms apparent on Instagram. Our results suggest that not only SNS use per se but that indeed the feeling of envy towards others drives people to consume exclusive products in order to display their social status. Hence, our results additionally support the assumption that feelings of envy trigger a self-enhancing behavioral response to close the perceived gap between oneself and envied others (Krasnova et al. 2015; Wenninger et al. 2019). Further, our results suggest that these dynamics influence users' tendency to overspend their budget and therefore offer an explanation and may even hint at a primary starting point in getting a grip on the immense debt burdens especially younger generations are currently facing. Considering that the relationship between Instagram usage and CC seems to be partially explained by users' envy, reducing harmful upward social comparisons may be a first way to reduce the adverse economic impact of SNS usage.

### ***Preliminary Conclusions and Future Research***

The following limitations should be kept in mind when deriving implications from the reported results: First, as our research is entirely based on correlational analyses, the results have to be cautiously interpreted with regards to their assumed causality. While we could indeed find evidence, that SNS use is associated with CC, the reversed causality, implying a selection effect of people prone to CC also spending more time on SNS, might equally well explain our reported relationships. We, therefore, call for future research applying, for instance, experimental or longitudinal methods allowing for causal inference of the reported results.

Second, as our results are based on responses from an industrialized western country, namely Germany, we cannot ensure that the observed effects might be equally transferable to other cultures. Indeed, first scientific results hint at a cultural impact on other envy triggered behavioral responses, indicating, for instance, a more pronounced effect of envy on self-enhancement for individualistic than for collectivistic cultures (Wenninger et al. 2019). Future research, therefore, should aim at answering if CC in other cultures likewise exemplifies a way to cope with experienced envy on SNS.

Third, while we were able to detect relationships between subjectively measured SNS use and CC, we could not find the same for objectively captured time spent on SNS via Instagram's *My Activity* feature. These contradictory results might hint at the possibility that our reported effects are at least partially driven by common method variance shared between self-reported time spent on Instagram and self-reported CC. However, future research is needed to fully grasp the difference between self-report operationalizations of SNS use and objective measures and its possible distorting influence on our found results. Similarly, it would make sense to draw on further data sources in the future (e.g., by using an app that tracks people's spending behavior more objectively (Huebner et al. 2018)) to measure the other constructs of our model (e.g., *overspending*).

Aiming at identifying the relationship between SNS use and their users' tendency to consume products to impress others, we conducted two separate studies using two independent German samples of Instagram users. Our results indicate that Instagram users attempt to 'keeping up with their network'. The higher the frequency to (passively) use Instagram, the higher the propensity to conspicuously consume and in turn overspend their available budget. Additionally, we offer an initial explanation for the underlying dynamics. The link between SNS use and conspicuous consumption is mediated by envy as users on Instagram are exposed to social comparisons inherent on SNS. These results strengthen the assumption that the use of SNS could pose an enormous financial risk to their users.

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