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Ahmet Durmaz, Mehmet Yuksel, Nilsah Cavdar Aksoy, Ebru Tumer Kabadayi

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Role of parasocial interaction and planned behaviour theory in consumption restriction intentions

Ahmet Durmaz* and Mehmet Yuksel

Gebze Technical University, 41400, Gebze, Kocaeli, Turkey Email: ahmetdurmaz@outlook.com Email: yuksel149@hotmail.com *Corresponding author

Nilsah Cavdar Aksoy

Galatasaray University, 34349, Ciragan, İstanbul Email: ncaksoy@gsu.edu.tr

Ebru Tumer Kabadayi

Gebze Technical University, 41400, Gebze, Kocaeli, Turkey Email: tumer@gtu.edu.tr

Abstract: Parasocial interaction (PSI) which defines relationships between influencers and consumers, is also a determiner of successful marketing initiatives. In essence, it contradicts environmental and societal concerns of communities regarding inordinate buying behaviours of consumers. This conundrum represents a rarely studied research area and constitutes the main motivation of the present paper that seeks to reveal how PSI and theory of planned behaviour (TPB) impact consumption restriction intentions. Drawing from social cognitive theory, this study identifies the PSI and TPB as exogenous and endogenous factors, and investigates their impact on consumption restriction intentions of consumers. Results aver that TBP is a rudimentary element for consumption restriction intention. Contrary to expectations, PSI demonstrated insignificant effect on intention. But it is also found that isolated PSI negatively impacts consumption restriction intentions on low media/celebrity influence condition. This study paves a new path for PSI-behavioural intention studies by exclusively focusing on proenvironmental intentions.

Keywords: parasocial interaction; PSI; social cognitive theory; theory of planned behaviour; TPB; consumption restriction; social media.

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Biographical notes: Ahmet Durmaz is a PhD candidate in Gebze Technical University studying Business Administration. His research interests are focused on supply chain management, logistics management, marketing management and research. His research has been published in many international and national peer-reviewed journals.

Mehmet Yuksel is a PhD candidate of Marketing in Gebze Technical University. His research interests focus on consumer behaviour, supply chain management and logistics management. His research studies have been published in numerous scholarly journals.

Nilsah Cavdar Aksoy is an Assistant Professor of Marketing at Galatasaray University. She received her PhD in Marketing from Gebze Technical University in 2021. Her research interests include consumer behaviour, digital marketing, and tourism marketing. Her research has been published in *Journal* of Marketing Management, Appetite, Tourism Economics, and in numerous Turkish-language scholarly journals.

Ebru Tumer Kabadayi is a Professor of Marketing at Gebze Technical University. She obtained her PhD in Marketing from Gebze Technical University in 2001. Her research interests focus on brand management, consumer behaviour, and relationship marketing. Her research studies have been published in *Journal of Business Research, Journal of Marketing Management*, and in numerous Turkish language scholarly journals.

1 Introduction

Marketing discipline has undergone constant change and evolution over the decades. Particularly with the advent of each and every technological advancement, the discipline gained an invigorated impetus. Introduction of new media platforms has been no doubt a major instigator of brand-new perspectives and marketing initiatives, ultimately evolving the pillars of marketing for both academicians and implementors (Kumar, 2015). Within this perspective, the appearance of social media as a new type of media has brought about intrinsic changes in how consumers receive marketing messages and has become a rudimentary way of communication. Many firms have employed media-based marketing campaigns to enhance their promotion capabilities due to their high efficiency (Zhuang, 2018). Social media influencers and celebrities are increasingly becoming the centre of these marketing campaigns owing to the success they deliver to companies (Jin et al., 2019). Moreover, this robust effect has been tested and confirmed in many studies (Acikgoz and Burnaz, 2021; Supotthamjaree and Srinaruewan, 2021).

For academicians, this transition period constitutes a critical point for marketing discipline wherein the term parasocial interaction (PSI henceforth) has gained new definitions and purposes. Originally, PSI was introduced by Horton and Wohl (1956) to explicate the one-way relationship between media consumers and the media personae. Thus, traditional PSI research focused on personae-audience relationship in broadcast media such as television or radio until the 1990s. After the introduction of new media platforms, the way celebrities interact with their audience has gone through fundamental changes. Today celebrities, influencers, politicians, and many others prefer using these platforms to establish bonds with their fans because PSI is more consequential than their

predecessors (Gong and Li, 2017). Hence, marketing communities that are interested in PSI have diverted their focus to researching and identifying this unique type of connection and its effect on consumer behaviours and intentions (Labrecque, 2014; Tsay-Vogel and Schwartz, 2014; Jarzyna, 2020). Congruently, many studies have investigated PSI and reported that it is strongly correlated with consumer purchase behaviours and intentions (Gong and Li, 2017; Stever, 2017). The salience of investigating PSI's role in the new era of social media is immense, as suggested by Stever (2017) and Zhuang (2018).

However, there is also the other side of the coin. As prominent as they may be from the perspective of practitioners, the concept of excessive consumption is considered a threat by many organisations and academic communities on account of its environmental impact. The ever-rising consumption levels have raised public awareness and made it an important subject for societal agendas (Mont and Plepys, 2008). Hence, tools that promote consumption essentially conflict with the environmental and societal concerns of communities such as academia or NGOs. Aware of the danger that excessive and uncontrolled consumption poses, many GOs and NGOs have deployed various initiatives to foster sustainable consumption (Dawkins et al., 2019). Yet, restricting over-consumption behaviours with the help of these programs does not entirely resolves the predicament. The factors that affect intentions, attitudes, or behaviours are diverse. Concordantly, a multidisciplinary approach is often needed to comprehend the process in its entirety (Peattie, 2010). Despite its immense gravity, how consumption restriction behaviours and intentions of consumers are affected by consumption-promoting tools have been rarely studied (Santor et al., 2020). As for PSI, there is no study that examines this domain of consumption behaviours. The present paper seeks to cover this gap by uniquely combining PSI and theory of planned behaviour (TPB henceforth) in the context of social cognitive theory (SCT henceforth).

We primarily sought to establish our theoretical model where we could obtain data from followers of influencer(s) who promote(s) pro-environmental behaviours. Because reaching and acquiring enough data would be impracticable since the number of influencers or celebrities promoting such behaviours are scarce, we rather focused on followers of influencers who actually endorse products or services to find evidence of a possible negative link. While building the theoretical structure of the research model, we benefitted from the TPB (Ajzen and Fishbein, 1980) and SCT (Bandura, 1986). SCT is chosen since it is one of the most common learning theories (Arkkukangas et al., 2021) which posits that human behaviour occurs under the influence of internal and external factors. On the other hand, TPB, as a widely accepted behaviour theory took its place along with PSI as two independent variables (internal and external factors, respectively) of the SCT framework.

2 Literature review

2.1 Social cognitive theory

SCT is a learning theory that postulates that people learn by observing and imitating others. The concept of SCT started to gain renown in 1970s while the focus of academia had been shifting from behaviour to cognition (Luszczynska and Schwarzer, 2015). Traditional behavioural theories which argued that behaviour occurs by observing and

reacting to the environment were at the forefront until 1970s. They assume that human behaviour is affected by personal factors and internal tendencies. However, behaviour is a complicated process that can be influenced by both internal and external factors (Linder et al., 2021). Other researchers assert that external factors are the primary influence on human behaviour, with internal processes serving merely as a behaviour transmitter (Nabi and Prestin, 2017).

Starting from the fact that human is not a passive creature that only reacts to environmental influences, Bandura put forward the social learning theory, which maintains that the individual's internal factors also affect behaviour (Bandura, 1977). According to this theory, human behaviour was influenced by both external and internal factors. In his later studies, Bandura determined that the internal factors which affect behaviour, include cognitive elements. Bandura (1989) does not draw an explicit framework of internal factors by underlining the plasticity of human nature, articulating that "... plasticity, which is intrinsic to the nature of humans, depends upon specialized neurophysiological mechanisms and structures that have evolved over time..." However, he proposes several distinctive constituents for his framework such as generative symbolisation self-efficacy, forethought or evaluative self-regulation. Many studies that adopted SCT framework, investigated various internal factors such as attitudes (Zhou et al., 2020) or self-efficacy and control (Yang, 2020). His broadly accepted triadic and reciprocal model of SCT is depicted in Figure 1 (Bandura, 1986).





SCT accentuates that human behaviour is formed and controlled by personal cognition in a social environment. Through the processes of interaction among these three determinants, people tend to retain, change, or solidify their thoughts and actions (Khang et al., 2014). Social environments are certified agents for building up change within human behaviours and intentions (Beauchamp et al., 2019) in SCT. That being said, new societal structures that are gradually being established on online platforms (Lin and Rauschnabel, 2016) will indisputably bring about a fresh perspective to how we regard social environments. In other words, traditional social environments are being replaced by their digital counterparts and it undoubtedly necessitates us to reconsider how we operationalise SCT.

2.2 Parasocial interaction

PSI is a term used for unilateral relationships which are contingent upon various intrinsic attributes of the individuals. This relationship is essentially an imaginary and non-reciprocated experience but is perceived as bilateral by the content consumers (Labrecque, 2014). Although the term was coined by the study of Horton and Wohl (1956) to describe the connection between audience and media figures, the phenomenon has received similar delineations in different disciplines namely; imaginary social relationship, parasocial attachment or secondary attachment. Parasocial relationship, on the other hand, is considered as a protraction of this one-sided relationship towards outside of actual interaction time (Stever, 2017).

Horton and Wohl (1956) argue that a new type of performer (which they call personae) are being utilised via media channels to directly address audiences and create a certain type of intimacy. Their argument primarily focuses on the personae and conditions of establishing this interaction (Konijn and Hoorn, 2017). In traditional studies, the intimacy is created on a one-way basis because personae usually do not have the knowledge of the content consumer or the consumption process (Johnson, 2015). Even though interaction is not reciprocated, personae play a vital role in establishing the connection on occasions via movies, news, or talk shows.

Traditional PSI research focused on personae-audience relationship in broadcast media such as television or radio until the 1990s. The advent and exponential dissemination of internet after 1990s opened new fronts for research into the relationship between digital figures and their audiences on new digital platforms. This line of research has gradually revised the Horton and Wohl's definition of personae (Johnson, 2015). These studies indicate that digital personae can extend their influence and foster PSI through messages in online platforms that are aimed at bringing viewers closer to a mediated persona (Labrecque, 2014). This elevated involvement with the influencer affects not only followers' perception of the influencer and but also the nature of this relationship. Frequent posts and updates from the influencers' life or other activities, even the ability to interact with them, create a sense of close but illusionary friendship within the minds of viewers (Gong and Li, 2017).

2.3 Theory of planned behaviour

TPB, indicated in Figure 2, is one of the most widely accepted theories among behavioural theories and it is an extension of theory of reasoned action (TRA). According to TRA, humans predictably show behaviour based on their intention because behaviours are volitional and controlled by intention (Ajzen and Fishbein, 1980). That is, people have a high degree of volitional control over their decision processes and therefore make logical choices between alternatives. According to TRA, behavioural intention is a function of both attitude of person toward a specific behaviour and subjective norm of the individual (Fishbein and Ajzen, 1975).

Figure 2 Theory of planned behaviour



Although TRA is a successful theory in explaining the behaviours under the volitional control of individuals, it is insufficient in explaining the external factors that can affect the behaviour. The applicability of TRA has been questioned since a person's behaviour may also depend on non-volitional factors (Park, 2003). TPB removes this shortcoming of TRA by using a new variable known as perceived behavioural control (PBC) as an additional indicator of both intention and action. PBC is the belief about how easy or difficult the behaviour is likely to be (Ajzen, 2002).

TPB has been used successfully to explain and predict behaviour in a multitude of behavioural domains, from physical activity to recycling, from technology adoption to consumer behaviour, from health to online behaviour, and from investing to consumer complaints (Ajzen, 2011). Today, as a widely accepted and utilised theory, it is also a subject of interest for the new media applications. Digital developments in mass media and birth of social media have created paradigm shifts in individual behavioural patterns (Kilian et al., 2012). Naturally, TPB has become a prominent instrument for many studies investigating social media – intention relationships (Chopra et al., 2021), particularly as a component of SCT (Paul et al., 2016).

2.4 PSI and TPB as the antecedents of social cognitive theory

As mentioned before, SCT is based on the grounds that social, cognitive, and behavioural factors interact with each other. While social factors express the components related to the external environment of the individual, cognitive factors express the internal characteristics of the individual such as value, moral, attitude, psychology, opinion, etc. (Bandura, 1986). SCT avers that the behaviour of individuals can be shaped by monitoring, memorising, and imitating the behaviours of others in their social environment (Tatlioglu, 2021). Contrary to traditional media, today's individuals can follow their close friends and relatives or other people regardless of the location, thanks to the convenience social media proffers. In this contemporarily formed environment, borders between social and parasocial relationships fade. A recent study presents evidence that PSI becomes an alternative to its social counterpart (Bond, 2021). Hence, users of social media experience an environment where they can parasocially interact with and be affected by others. In line with this reasoning, PSI can be deemed as an external (environmental) factor of SCT that may affect viewers' behaviours and intentions.

According to TPB, individuals' attitudes, subjective norms and PBCs are the three main factors that influence their intentions. Attitude is defined as favourable or unfavourable evaluation of an individual towards a specific behaviour; subjective norm can be described as the perceived social pressure for engaging in the behaviour; and PBC refers to the personal assessment of the feasibility of executing the behaviour (Ajzen, 1991). These inner qualities that TPB proposes possess proven associations with intentions and behaviours in the context of SCT (Rhodes and Courneya, 2005; Fila and Smith, 2006). Thereby, researchers frequently resort to TPB when studying intentions and behaviours owing to its robust explaining power. Indeed, TPB is described as a process through which mental activities can lead to action (Fishbein and Ajzen, 1975; Sussman and Gifford, 2019). As an inference from this view, in our study, TPB is utilised to predict the intentions of individuals with regard to internal cognitive aspect of SCT.

The antecedents of PSI incorporated into the theoretical model are intrinsically the source-related factors that are considered to be affecting the PSI. We also utilised perceived influence construct as a moderator variable to obtain a deeper insight into the relationship between PSI and intentions. The finalised conceptual model is depicted in Figure 3.



Figure 3 The conceptual model (see online version for colours)

2.5 Hypothesis development

2.5.1 Antecedents of PSI as source qualities

Attractiveness is a rudimentary source-related factor for building relationships (Burgoon et al., 1997) and refers to the individuals' perception of the endorser in terms of their appeal in evoking interest (Joseph, 1982). Although some studies treated attractiveness as a dimension of the source credibility (e.g., Choi and Rifon, 2007; Knott and James, 2004), others treated it as an independent variable within the media communication context (Joseph, 1982; Pornpitakpan, 2004). According to source model view,

attractiveness defines the efficacy of endorsement as a major source feature (Gong and Li, 2017). On the other hand, an extensive scale comparison study by Ohanian (1990) avows that it is a distinct unidimensional construct contingent upon factors such as similarity or likability.

Studies report that the perceived attractiveness of a media celebrity is positively related to PSI (Kyewski et al., 2018). Liu and colleagues (2019) examine attractiveness of digital media figures under two dimensions (physical and social) and report that both are salient antecedents of PSI. Lee and Watkins (2016) also found that social and physical attractiveness are important predictors of PSI. However, their effectiveness on the PSI varies as per the context of the media (Purnamaningsih and Rizkalla, 2020; Sokolova and Kefi, 2020).

Attractiveness also has an effect on the viewers' perceptions of the endorser. Consumers tend to develop a positive connection to media characters whom they find attractive. As a chain reaction, this connection promotes media character endorsement effectiveness (Gong and Li, 2017). Schramm and Knoll (2015) accentuate the indirect chain-relationship between attractiveness and PSI through the level of interaction. They contend that attractiveness stimulates viewers to more frequently interact with the media celebrity, subsequently boosting their PSI for the celebrity (Sakib et al., 2020).

Similar to source attractiveness, source expertise and trustworthiness are important predictors of PSI. Literature provides evidence that source attractiveness, trustworthiness and expertise directly impact PSI (Zhang et al., 2020). In addition, source expertise and trustworthiness are two dimensions of source credibility (Erdogan, 1999) which is also a prominent constituent of PSI (Sakib et al., 2020).

Expertise denotes audience's perception of the authoritativeness or competence of the endorser regarding the subject of endorsement. Trustworthiness refers to viewers' perception of the media celebrity's honesty, believability, and integrity (Gong and Li, 2017). These two determinants signify the endorser's amount of knowledge about the domain s/he approves. Numerous studies have reported that consumers have proclivity to prefer products that media characters have endorsed (Ko and Wu, 2017).

Source trustworthiness and expertise are significant determiners of PSI. Some studies provide evidence its role in changing attitudes and intentions (Zhang, 2020; Özbölük and Akdoğan, 2022). A study of PSI among audiences of a radio program found a robust connection between perceptions of the talk show host as a credible source of information and parasocially established relationships (Thorson and Rodgers, 2006). In another study, a high-expertise endorser is reported to have a positive influence on consumers' attitudes and intentions for purchasing endorsed products (Goldsmith et al., 2000).

There is an abundance of evidence that affirms the significant role of source attractiveness, trustworthiness and expertise (Gong and Li, 2017; Zhang et al., 2020) in terms of endorsement effects. Thus, we set forth the following hypotheses.

- H1 Overall attractiveness of personae is positively related to PSI of content consumers in social media context.
- H2 Perceived trustworthiness of personae is positively related to PSI of content consumers in social media context.
- H3 Perceived expertise of personae is positively related to PSI of content consumers in social media context.

2.5.2 The effect of PSI on consumption restriction intentions

PSI studies in marketing field often focus on behaviour, intention and attitude changes that might stem from both affective and cognitive PSI factors. This line of investigation may seem propitious since studies show that in targeted contexts, PSI produces substantial alterations in feelings, thinking, and behaviour of consumers who are engaged in such interactions (Stever, 2017). Although some studies postulate that PSI does not moderate the message transmittal processes into alteration of certain behaviours (Oschatz and Klimmt, 2016; Shen, 2020), many others found positive links to intentions or behaviours (Thorson&Rodgers, 2006; Sakib et al., 2020; Ye et al., 2021).

One of the most imperative aims of a marketing process is undoubtedly persuasion. Research on persuasion of behaviour, attitudes and intentions has been dominated by dual-route models (Haugtvedt et al., 2018). When it comes to persuading individuals, the elaboration likelihood model (ELM) by Petty and Cacioppo (1981) constitutes a cornerstone for theory building. According to ELM, degree of change in targeted aspect of consumers is contingent upon the intensity of elaboration of message content. What Petty and Cacioppo (1981) posit is that change can also occur with relatively low elaboration (low need for cognition) transpiring through peripheral cues (Haugtvedt et al., 2018). In the context of PSI, this peripheral route is specifically important in social media environment because persuasion eventuated with implicit cues is highly important (Sokolova and Kefi, 2020). This mindset is also underlined by Dunn (2018) where she asserts that PSI essentially decreases resistance to messages to increase the effectiveness of persuasion. Alteration of attitudes, behaviours, and intentions as a result of such persuasion endeavors in online platforms has been documented in various studies (Thorson and Rodgers, 2006; Knoll et al., 2015; Gong and Li, 2017; Gong, 2020; Zhang, 2020).

PSI is also frequently examined through the lens of information-based models such as uses and gratifications theory. According to this theoretical association, PSI is regarded as a means for media consumers to deliberately meet or satisfy their needs through acquisition of information (Stever, 2017), rather than a latently overwhelming contrivance which also in a sense renders PSI an instrument for uncertainty reduction theory wherein individuals' affective reactions are elevated in response to information acquired (Johnson, 2015). However, via manipulation of information, PSI can also be transformed into a tool for building or changing intentions for different contexts. Celebrity endorsement exemplifies such a process. Gong and Li (2017) found that intensity of PSI towards a celebrity strongly affects the intentions for endorsed object or activity.

Another important aspect that may impact the fabric of the PSI is the media consumers' intrinsic qualities. Through formation of what literature terms 'identity', PSI may alter the very perceptions of the audiences (Tsay-Vogel and Schwartz, 2014). In this modified reality that viewers perceive, how they assess and consider the celebrity also changes because viewers themselves, in nature, change in the direction of the influencer they want to be like. Stever (2017) contends that media consumers may desire to be like the influencer they follow. Gradually, this interaction transforms into a robust link through which the influence of the celebrity extends. Tian and Hoffner (2007) report that PSI is highly associated with media viewers' not only inherent attributes such as personality or values but also ephemeral qualities such as lifestyles or appearances. Since

values and personalities are related to intentions (Pradhan et al., 2016), it can be deduced that PSI may be a source of intention development.

In congruence with the preceding arguments, it is imperative to highlight that how these theoretical associations intercept often depends on the type (social media, mass media, etc.) and context (intention influence, consumption stimulation, building environmental behaviours, etc.) of marketing application. As mentioned, literature provides mixed results. However, particularly social media-based *persuasion attempts* implemented through PSI on which the present study essentially focuses seemingly have a substantial impact PSI in changing pro-environmental behaviours and intentions (Park, 2020). Since the predictor (PSI) and the dependent variable (intention for consumption restriction) in this model are designed to be inversely related, we set forth the following hypothesis:

H4 The intensity of perceived PSI of a product endorsing persona is negatively related to consumption restriction intentions of the content consumers in the social media context.

2.5.3 The effect of antecedents of TPB on consumption restriction intentions

Ajzen's (1991) TPB asserts that an individual's behaviour is predicted by their intention which is composed of three fundamental antecedents: the individual's attitude towards the behaviour, their subjective norms and their PBC. Copious studies have adopted his model to predict and examine behavioural intentions. It also applies to the domain of consumption, where there is abundance of studies which report that TPB is a true predictor of behaviours and intentions. In a study conducted on 205 women in the USA, it was revealed that the attitude towards soy products, social norms and PBC have significant effects on consumers' soy consumption intention (Rah et al., 2004). Similarly, in another study conducted on reducing food consumption, it was found out that consumer attitude has a significant and positive effect on the intention to reduce meat consumption although social norms and PBC do not (Lentz et al., 2018). In the research conducted to investigate energy saving intentions, it was observed that attitude, norm and behavioural control perceptions of the Chinese participants had a positive effect on their energy saving intentions (Liu et al., 2020).

Although much of the research that adopts TPB grounds their research on consumption-stimulating applications, relatively fewer studies focus on the consumption-restriction domain. However, number of these studies is on the rise because consumers are increasingly changing their buying intentions towards sustainable alternatives (De Moura et al., 2012). For instance, Yang et al. (2018) and Paul et al. (2016) report that TPB, fuelled by pro-environmental concerns significantly affects purchase intentions towards the same direction. In her study about reducing clothing consumption, Joanes (2019) found that personal norms have a significant effect on the intention to reduce clothing consumption. It is patent that TPB has a clear-cut impact on consumption reduction intentions. Thereby, we put forward the following hypothesis:

H5 Attitude is positively related to intention for consumption restriction.

H6 Subjective norm is positively related to intention for consumption restriction.

H7 PBC is positively related to intention for consumption restriction.

2.5.4 Moderating effect of perceived influence on PSI – intention for consumption restriction relationship

Many influencers exert their influence on their followers via social media in sectors such as fashion, health, food or technology (Sokolova and Kefi, 2020). Research shows that they are generally successful in creating a shift in consumer behaviours or intentions (Labrecque, 2014). What's more, while this influence exerted by the influencers or opinion leaders differs in strength, it also applies to a variety of domains. For example, they can alter product choices (Bao and Chang, 2014), service adoption intentions (Kim and Han, 2009), or even lifestyle preferences (Vaterlaus et al., 2015). In another study, it is reported that level of involvement with bloggers seems to determine the degree of change in purchase intentions of the blog users (Wu and Lee, 2012). Similarly, according to the study carried out by Gräve (2017) with 590 participants, the higher the influence and closeness between influencers and followers, the more likely the followers are to accept influencers' suggestions.

These studies demonstrate that while influence exerted upon media viewers changes their behavioural intentions, the level of influence is also a prominent factor in defining this change. Considering this issue and the mixed results that the extant body of research provides about PSI (Shen, 2020; Ye et al., 2021), it was decided that incorporating perceived influence of media viewers as a moderating variable into the research would be a prudent step to take while finalising the conceptual model. Because we anticipate causality to be negative from PSI to intention for consumption restriction, the expectation from the moderation effect is to further increase this negativity. Thus, we set forward the following hypothesis:

H8 For participants with higher perceived influence, PSI more considerably reduces consumption restriction intentions in comparison with participants with lower perceived influence.

3 Materials and methods

3.1 Data collection and sample

The sample of the study was selected from the people who live in Turkey via convenience sampling method. Target population of this research consists of people who use at least one social networking service (SNS) and follow any social media influencer on their account(s). An online survey was applied using convenience sampling. Attendants were required to answer 51 (*six are removed after validity test*) context questions according to 5-point likert-type scale, ranging from '1-strongly disagree' to '5-strongly agree'. Afterwards, participants were requested to input certain personal data, excluding any identifying information. This procedure was followed to prevent possible social desirability bias contamination (Durmaz et al., 2020) since consumption restriction is a sensitive subject (Dursun et al., 2019).

The data collection process was two-fold. In the first stage, pilot research was conducted with 75 participants to determine any inarticulate expressions. In the light of the data obtained in the pilot study, some linguistic adjustments were made to survey items. During the second phase, the updated survey was disseminated through online social networking applications. Through a produced link, participants were able to fill out

an online questionnaire form. In total, 733 surveys were gathered as a result of two-month effort. After discarding outliers and improperly responded surveys, 665 observations remained and were subjected to analysis. The sample size is considered adequate following the suggestion that sample size should be at least 10 times greater than the number of items for regression type of analysis to be carried out (Hair et al, 2010).

3.2 Measures

The antecedents of PSI that consist of Source Attractiveness, Source Trustworthiness and Source Expertise were adopted from Lou and Yuan (2019). For PSI measure, we adapted the items from the study of Gong and Li (2017). The scales of TPB and the dependent variable were adapted from Santor et al. (2020). Perceived influence which is the moderator variable of the study was transcribed from Jiménez-Castillo and Sánchez-Fernández (2019).

3.3 Procedure

After the collection process, data were checked for missing values, outliers using SPSS statistics program. There were no missing values owing to survey rules enforced by the online survey application. Nonetheless, significant numbers of outliers were present in the sample. Outlier cases were determined by Mahalanobis distances and through itembased investigation. Additionally, we monitored standard deviations, skewness, kurtosis values, VIF scores and goodness of fit indices derived from WarpPls statistics program to ensure the normality and linearity of the data, and also that multi-collinearity is not present amongst the constructs.

Following the data screening and cleaning process, we conducted reliability and validity tests in line with Hair et al. (2010) and Mertens et al. (2017). Finally, after the affirmations obtained from reliability and validity analyses, we proceeded with structural equation, hierarchical regression, and moderation tests to verify the hypotheses. To perform these analyses, we employed both Lisrel and SPSS statistics programs. Covariance-based comparison technique was utilised to conduct structural equations modelling (SEM) test. We harnessed the power of maximum likelihood estimation method to derive the relationship parameters. On the other hand, we used least-squares technique to identify the equation coefficients and residuals within the hierarchical regression constructs.

4 Results

4.1 Sample characteristics

According the demographic characteristics of the observations obtained, 55.3% of the participants are female and 90.4% are between ages 18 and 45. Most of the respondents are single and have more than 5000 Turkish Liras $(\textcircled{b})^1$ family income. 77.7% of the respondents have bachelor's or higher education degrees. Most of the respondents spend 1 to 5 hours a day on social network sites (71.7%) and generally prefer Instagram, YouTube, and Twitter (86%).

Constantot	Alaba valiabilitu	Easton loadinae	AVE values				Pearson cc	orrelations			
	aipina remonity	r action touantes	Coniny 7 AV	ATR	TRU	EXP	ISd	INF	NOR	IIV	PBC
ATR	0.897	.777–.853	0.764	0.874							
TRU	0.961	.754863	0.898	0.634	0.948						
EXP	0.915	.528838	0.798	0.634	0.808	0.893					
ISd	0.942	.765859	0.716	0.703	0.768	0.779	0.846				
INF	0.888	.804823	0.818	0.675	0.738	0.757	0.840	0.904			
NOR	0.758	.785812	0.592	-0.069	-0.031	0.017	-0.057	-0.059	0.769		
ATI	0.769	.599716	0.537	-0.154	-0.134	-0.119	-0.191	-0.176	0.350	0.733	
PBC	0.828	.585782	0.501	0.266	0.203	0.199	0.325	0.312	-0.195	-0.308	0.708
Intention	0.794	.524735	0.503	-0.101	-0.132	-0.075	-0.141	-0.156	0.300	0.594	-0.285
Notes: Model Diagor	fit statistics: $\chi^2/df = 3$ ally placed italic num	023.16/909 = 3.33, p bers show the square-	= 0.00001, GFI = root of AVE value	0.82, CFI = (es for each ve	0.97, NNFI = ariable.	0.97, RMSE.	A = 0.062, SI	RMR = 0.063			
ATR: , ATI: A	Attractiveness, TRU: ⁷ ttitude, PBC: Perceive	Frustworthiness, EXP 3d Behavioural Contre	: Expertise, PSI: P ol	arasocial Inte	eraction, INF	: Perceived I1	ifluence, NO	R: Subjective	Norm,		

Source: Derived from Research Data

Table 1CFA statistics

4.2 Validity and reliability tests

For assessment of internal consistency of the constructs, Cronbach alpha (CRA) values were examined. To evaluate the validity, we examined both discriminant and convergent validity of the constructs with the help of confirmatory factor analysis (CFA), tools such as factor loadings, average variance extracted (AVE) values and Fornell and Larcker criterion.

CFA not only enables researchers to assess measurement properties of the scales and contributions of each item but also evaluates to what degree a theoretical model conforms to reality (Hair et al., 2010). CFA was conducted on nine constructs and 51 items (*six are removed after validity test*) by using Lisrel program to evaluate the validity of the model, measurement capability of the scales and the overall fit of the model. In total, six fit indices (chi-square/degrees of freedom, RMSEA, GFI, CFI, NNFI and SRMR) were used to assess the model in line with Hair and colleagues (2010). CFA fit statistics along with AVE, Alpha reliability values and factor loadings of variables are shown in Table 1.

Fit indices are at acceptable levels (Hair et al., 2010; Mertens, 2017) except GFI. Even though it is close to the acceptable level, we excluded GFI from analysis and data confirmation indices following MacCallum and Hong (1997) and Hu and Bentler (1995). After CFA analysis, we removed six survey questions from the model due to inadequate loading scores that might cause convergent validity to deteriorate. Item 1, 2 and 6 from 'attitude' variable, item 5 and 6 from 'subjective norm' variable and item 4 from 'intention' variable are excluded before the structural equation analysis. Reliability values are above acceptable levels (Bagozzi and Yi, 1988). As for validity, we monitored AVE values and factor loadings for convergent validity and we examined the conformity of our results to the Fornell and Larcker criterion for ascertaining discriminant validity. Results in Table 1 demonstrate that AVE scores are between 0.501-0.898 and factor loadings are between 0.524-0.863 and over threshold value of 0.5 (Hair et al., 2010). Square root of AVE values of all variables are above all their inter-correlations (Fornell and Larcker, 1981), confirming the validity of the model. The cogent multi-collinearity scores were also checked to ascertain that variance inflation is not an issue in this study, particularly for the antecedents of the 'intention' variable. For all independent variables, variance inflation factors (VIF) should be lower than 3 to claim an inflation-free structure [Hair et al., (2010), p.200]. VIF values derived show that they are under the threshold value. Resultantly, reliability and validity of the data were confirmed, and we proceeded to structural equation analyses.

4.3 Summary of direct and moderating effects

The SEM was processed with Lisrel statistical program utilising covariance-based structural equation modelling (CB-SEM) method. Direct and moderating effects along with fit indices obtained from CB-SEM estimation are demonstrated in Table 2 and Figure 4. Fit statistics derived from the analysis are within tolerable limits (Hair et al., 2010).

According to preliminary results, all hypotheses are accepted but H4 and H8. To further examine the hypothesis H4, we attempted to adopt a different approach rather than performing a single SEM test, considering the theories governing the model. Congruently, we investigated the isolated effect of PSI with hierarchical regression analysis to monitor the change in estimations along with the direction of the moderating effect of influence for both high and low influence cases. The cut-off point between high and low cases is designated as the mean value of *Influence* variable. Change in the values of the beta coefficients along with R^2 change scores are given in Table 3 as well as depicted in Figure 4.

Duodistaur	Depend	dent (PSI)	Dependent (Intention)		
Frediciors	ß	t	ß	t	
Attractiveness	0.3	8.79***			
Trustworthiness	0.15	4.26***			
Expertise	0.43	13.80***			
PSI			0.04	1.78	
Subjective norm			0.22	4.06***	
Attitude			0.17	2.91**	
PBC			0.18	4.08***	
Influence*PSI			0.32	10.65***	
Influence*Norm			0.11	2.71**	
Influence*Attitude			0.04	1.03	
Influence*PBC			0.06	2.01*	

 Table 2
 Structural equation results

Notes: t value > *1.96 (p<0.05), **2.58 (p<0.01), ***3.29 (p<0.001),

Model Fit Statistics: $\chi^2/df = 15.48/7 = 2.21$, p = 0.03, AGFI = 0.97, CFI = 1.00,

RFI = 0.99, NNFI=1.00, RMSEA=0.043, SRMR=0.0071, R² = 0.71

Source: Derived from Research Data

Figure 4 Change in the direct effect stemming from moderating variable (see online version for colours)



According to the final results, all the hypotheses are accepted except H8. Antecedents of PSI has significant beta coefficients; attractiveness β : 0.3(p < 0.001), trustworthiness β : 0.16(p < 0.001) and expertise β : 0.43(p < 0.001), respectively. H1, H2, and H3 are supported. On the other hand, antecedents of intention also have substantial scores except for PSI. However, after an in-depth analysis (mentioned in the previous paragraph) to

isolate the effect of PSI, particularly in low influence condition H4 transforms into an acceptable state owing to its significant negative impact on intention. The effects derived from SEM are as follows; PSI β : 0.04(p > 0.1), Norm β : 0.22(p < 0.001), Attitude β : 0.17(p < 0.001), PBC β : 0.18(p < 0.001). The alternative result derived from hierarchical regression analysis for PSI in low influence condition is β : -0.187(p < 0.01). Hence, H5, H6 and H7 are supported, H4 is partially supported. Finally, moderating effect of perceived influence displayed a significant effect with β : 0.32(p < 0.001). However, on the contrary of the hypothesis set forth, the direction of the effect is positive in both CM-SEM and hierarchical regression analysis. Thus, H8 is not supported.

		PSI	NORM	ATTITUDE	PBC	R^2 change	Р
1st model	Low	-0,187**				0,035**	0,001
2nd model	influence	-0,009	0,114**	0,600**	-0,024	0,401**	0,001
1st model	High	0,091				0,008	0,118
2nd model	influence	0,071	0,015	0,507**	-0,141**	0,311**	0,001

 Table 3
 Hierarchical regression analysis and moderating effect of influence

Note: Influence cut-off point: 2.43; Dependent variable: Intention; ** p < 0.01.

5 Discussion

The implications inferred from the results are thoroughly discussed in this section. Firstly, it can be safely acknowledged that the significant proportion (%68.6) of variance produced by PSI can be attributed to perceived attractiveness, trustworthiness, and expertise. Their beta values directed on PSI are notably high (p < 0.01) with confidence levels lower than 0.01. These results corroborate the previous studies such as Knoll et al. (2015), Xiang et al. (2016), Kyewski et al. (2018) and Zhang et al. (2020), confirming hypotheses H1, H2 and H3.

Second and in our opinion the most prominent theoretical contribution of this study is the atypical relationship between PSI and consumption restriction intentions. Preliminary SEM analysis results show that PSI has insignificant impact on consumption restriction intentions even though several studies provide evidence of considerable relationships (Gong and Li, 2017; Fu et al., 2019; Sakib et al., 2020). Our first deduction was inverse causation towards intention may not be possible for PSI in the context of persuasion-based marketing applications. Because in our model, whereas dependent variable comprises items about consumption restriction intentions, PSI variable is essentially based on the influencers who actually promote consumption. Without giving up, we decided to conduct more rigorous analyses to identify a significant variance. Comparing groups according to their demographic features (age, marital status, type of social media platform or daily social media usage intensity) yielded no concrete results. Finally, hierarchical regression analysis with perceived influence controlled for produced promising results. Followers' PSI was substantially and negatively affecting their consumption restriction under low influence condition (β : -0.187, p < 0.01).

This result peculiarly contradicts our anticipations at two levels. First, our H4 hypothesis is only partially supported owing to its distinct status in terms of causal coefficients. More interestingly, the latter is about the direction of perceived influence where effect of PSI becomes significant (*low influence:* -0.187, p < 0.01; *high influence:*

0.071, p > 0.1). One may expect that elevated influence that followers perceive from the influencers they follow might increase not only the PSI they experience but also the other indirect causal impacts stemming from it such as intentions, choices or even attitudes (Gräve, 2017; Sánchez-Fernández and Jiménez-Castillo, 2021). But in this case, the significant impact that PSI exerts on intention is realised only under low influence condition. This finding contradicts the similar studies wherein direct effects of PSI on pro-environmental intentions were successfully observed (Park, 2020). This unexpected result may subsist in a couple of factors. First of all, consumers today are truly more inquisitive and knowledgeable than ever before. Hence, in the context of uncertainty reduction and uses and gratification theories, they may be benefiting from the information that influencers supply only to reduce uncertainty by obtaining information (Stever, 2017) but not to opt for constituting an intention. They do their research about the product or service they are interested in, but not omitting the fact that many influencers and celebrities today disseminate false information (Lewandowsky et al., 2017). An additional reason for this result might be that the inversely established causal model, in this case, may not be suitable for specific observation. In light of the preceding arguments, we conclude that further investigation is needed to discover role of PSI in modifying inverse-conditioned behavioural intentions.

As expected from the studies in the literature (Sweeney et al., 2014; Wu and Lee, 2012), it was also seen that the perceived influence has a moderator effect on the PSI-Intention for Consumption Restriction relationship. After the SEM analysis, it was determined that PSI did not have a significant effect on individuals' intentions for limiting their consumption. But when PSI was moderated by perceived influence, it was observed that PSI showed a significant effect on intention (β : 0.32 p < 0.01). The hierarchical regression analysis produced similar results. Participants with higher perceived influence have their consumption restriction increased through PSI. On the contrary to expectations, influence positively fosters the causal link between PSI and intention. The notable effect of the moderating variable is logical since PSI is composed of dimensions similar to that of influence namely, perceived homophily, message type or strength (Sweeney et al., 2014), but the direction is unanticipated because contexts were formatted inversely. Such a result may be due to participants' failure to perceive the inversely constructed structure. Another possible reason can be attributed to the existing non-consistent influence effects from different research studies (Shen, 2020; Ye et al., 2021). Hence, more studies or different approaches are required to understand influence - PSI relationship regarding intention studies.

On the other hand, the present research used antecedents of TPB as an internal factor of SCT to examine individual's intention for consumption restriction. The results confirmed that individual's intention for consumption restriction can be predicted by attitude towards restriction intention, subjective norm, and perceived behaviour control for this behaviour. These conclusions are consistent with previous research (Rah et al., 2004; Lentz et al., 2018; Liu et al., 2020; Joanes, 2019). Based on these findings, it can be deduced that individuals who have a positive attitude towards intention for reducing their consumption in any field, high perceived behaviour control and strong subjective norm are more likely to form the intention to restrict their consumption.

Furthermore, the results have shown that the subjective norm has more impact (β : 0.22) on intention for consumption restriction of followers compared to attitude (β : 0.17) and PBC (β : 0.18). The obtained result is intriguing because the extant literature asserts that attitude is the strongest predictor for behavioural intention in TPB studies

(Cheung et al., 1999; Aguilar-Luzón et al., 2012; Yadav and Pathak, 2016; Verma and Chandra, 2018) and attitude explains a significant variance of intention (Ajzen and Fishbein, 1977; Fazio et al., 1989). One explanation can be that subjective norms are more influential on environmental behavioural intentions than attitudes are (Wang et al., 2016; Garay et al., 2019). On the other hand, it can be attributed to the fact that particularly in collectivist countries such as Turkey (Hofstede, 2011), people give more importance to acquaintances' opinions and act as per when it comes to environmental issues. From this view, the result wherein social norms being prevalent among other TPB variables becomes more palatable.

6 Conclusions

Social media influencers and celebrities have become an unavoidable part of our lives, particularly during Covid-19 pandemic in which our socialisation opportunities have been limited dramatically. PSI, a subject of interest for marketing researchers and practitioners in the context of both traditional and new media is steadily progressing towards becoming a focal concept, specifically on social media platforms (Zhuang, 2018). Furthermore, developments in new media platforms and particularly Covid-19 pandemic have established grounds for PSI to aggrandise (Jarzyna, 2020). However, because it is frequently employed for consumption-oriented marketing purposes, in nature, this concept contrasts the environmental programs and concerns of communities of various origins. The present paper focuses on this dilemma to find out the role of PSI and TPB in consumption restriction intentions of individuals within the SCT mindset.

SCT formed the theoretical foundation of the study since it seeks to answer how human behaviour is regulated by not only internal tendencies but also by environmental agents. In our research model, PSI is regarded as an external agent and antecedents of TPB are adopted as internal constituents of intention.

The highlights of analyses results conducted on the data obtained from 665 individuals via an online survey are presented below.

- In our general model, while antecedents of TPB have a significant effect on consumption restriction intentions, the impact of PSI is unexpectedly inconsequential.
- The moderator effect stemming from perceived influence on PSI is substantial as anticipated. But the direction of moderation is peculiar since one may expect that high levels of environmental influence might cause reduction in consumption intention. Yet, the actual results posit otherwise.
- The results of the hierarchical regression analysis with both low and high influence conditions revealed more information, providing notable insight on the role of PSI. The PSI has, indeed negative impact on consumption restriction intentions, but seemingly only under low influence condition.

The results propound that TPB is a significant constituent of consumption-restriction intentions as an indigenous factor in the context of SCT. However, PSI as an exogenous factor could not predict the dependent variable with a similar significance. Although role of PSI on behaviours and intentions has been reported many times in previous studies (Gong, 2020; Zhang, 2020), acquired results do not fully support this mindset when it

comes to environmentally sensitive behaviours or intentions. The PSI may prove to be totally indifferent while constituting such alterations in this field. Verily, more research is needed to understand PSI's role and to close the gap in the literature. Suggestions about future research are discussed briefly below.

Because of contentious results derived from analyses, further research that would be conducted on samples of dissimilar cultural origins may shed light on the issue and ascertain the role of PSI on behavioural intentions. Additional research is needed to elucidate particularly inverse-conditioned relationships between PSI and behavioural intentions. Moreover, as we only deployed TPB to be the determinant of intention, other possible intention influencing intrinsic factors can be adopted to improve our understanding of the PSI. While building such a framework, prevalent theories such as interpersonal behaviour (Triandis, 1977), self-discrepancy theory (Higgins, 1987) or motivation-opportunity-ability model (Ölander and ThØgersen, 1995) can be employed to define internal sources of intention. Finally, other possible moderating sources such as demographic characteristics, degree of exposure or case-based elements such as perceived similarity or expertise should be persistently incorporated into the model to establish grounds for a more expedient model.

From the perspective of SCT, TPB and PSI are frequently examined concepts that predict human behaviours. Consonant with the SCT, our study uniquely integrates PSI as a source-related external factor and TPB as an internal factor to be the determinants of consumption-restriction intentions. The model proposed in this study is still immature and even though the initial findings provide partially promising results, more research is definitely needed to ascertain the role of PSI and TPB in building sustainable and environmental consumption intentions.

Social environments are proven agents for behaviour and intention building (Beauchamp et al., 2019) in Bandura's (1977) SCT. Rapidly changing societal structures are necessitating the research for PSIs/relations as a new type of social environment. Hence, the findings of this study might give way to more complex studies that would advance our understanding of this new medium and how PSI as a widely eventuated phenomenon impacts the critically important subjects of pro-environmental and non-consumption-based behaviours.

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Notes

1 Exchange rate during the survey application 1\$ = 7.4.