

# HOW DOES SELF-CONTROL OPERATE? A FOCUS ON IMPULSE BUYING

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## HOW DOES SELF-CONTROL OPERATE? A FOCUS ON IMPULSE BUYING

¿CÓMO FUNCIONA EL AUTOCONTROL? UN ANÁLISIS DE LA COMPRA POR IMPULSO

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### RESUMEN:

Existe abundante evidencia en la psicología social que atestigua el autocontrol como moldeador del comportamiento humano. Sin embargo, todavía hay margen para llevar a cabo más exploraciones sobre la interacción entre el sistema de autocontrol y el comportamiento del consumidor, en concreto sobre la compra por impulso. Esta investigación busca arrojar luz sobre la importancia del estudio de la compra por impulso que, como en cualquier otro ámbito de la vida humana, se ve como resultado del proceso de autocontrol. Este artículo considera diferentes tipos de fracaso de autocontrol que resultan de normas contradictorias, del punto hasta el que las personas monitorizan su comportamiento y del agotamiento de recursos autorregulatorios. A esto le sigue una explicación de los actuales enfoques sobre el estudio del autocontrol en estudios que versan sobre la compra por impulso. De manera adicional, a través de la integración de diferentes modelos de auto control, el presente artículo ofrece un marco general del proceso de autocontrol con especial énfasis en la compra por impulso. Este marco integra componentes de impulsos, el conflicto, la resistencia y el resultado del autocontrol, los cuales deberían ser tenidos en cuenta de manera conjunta al analizar fenómenos de autocontrol.

**PALABRAS CLAVE:** Autocontrol, Compra por impulso, Comportamiento del consumidor, Marco integrador..

### ABSTRACT:

Abundant evidence in social psychology attests that self-control shapes human behavior. However, there is still room for further explorations of the interplay between the self-control system and consumer behavior, especially regarding impulse buying behavior. This research aims to shed light on the importance of impulse buying study, like any other spheres of human life, as an outcome of self-control process. This paper considers different types of self-control failure resulting from conflicting standards, the degree to which people monitor their behavior, and the depletion of self-regulatory resources. This is followed by explaining the current self-control approaches in impulse buying studies. In addition, integrating different self-control models, the present paper provides a general framework of self-control process with a focus on impulse buying. The framework integrates the components of impulses, conflict, resistance, and self-control outcome that should be considered jointly when analyzing self-control phenomena.

**KEYWORDS:** Self-control, Impulse buying, Consumer behavior, Integrative framework..

Studies in everyday life show that people resist against impulses that tempt them to go back to sleep, eat delicious snack foods, engage in inappropriate sexual behavior and impulse buying (Baumeister, Vohs, & Tice, 2007; Hagger, Wood, Stiff, & Chatzisarantis, 2010; Vohs & Faber, 2007). “From a self-control researcher’s perspective, one challenge is to make sure that the research does indeed address how people deal with temptation, successfully or unsuccessfully” (Hofmann & Kotabe, 2012, p. 711). Much progress in this field has been made by the application of theories from social psychology (see Hagger et al., 2010; Hofmann, Friese, & Wiers, 2008a). In this regard, consumer psychology also can be considered as an appealing sphere

because many purchases and consumption decisions involve an interpersonal conflict and consumers attempt to control their unwanted consumption impulses (see Baumeister, Sparks, Stillman, & Vohs, 2008). It is based on the premise that, “an important goal for consumer psychology is to understand when and why consumer behavior is driven by impulses versus rational decisions” (Hofmann, Strack, & Deutsch, 2008b, p. 22). However, consumer psychology has not received enough attention in this respect (Baumeister et al., 2008). More especially, in spite of existing significant role of self-control in all the areas of life, we still know little about the influence of self-control on spending behavior, such as impulse buying behavior [1] (Roberts & Manolis, 2012).

To address the abovementioned concern, this paper firstly highlights the importance of self-control as the main part of impulse buying definition. Second, self-control and its ingredients are described to identify which factors systematically diminish the strength of self-control. Then, the current self-control approaches in impulse buying studies are explained. Finally, a general framework of self-control, with a special interest in impulse buying, is proposed.

## IMPULSE BUYING

Interestingly, it has been estimated that 90% of people purchase on impulse at least occasionally (Hausman, 2000). In this regard, past research has shown that impulse purchases generate a substantial proportion of retail industry sales (Ek Styvén, Foster, & Wallström, 2017; Kacen, Hess, & Walker, 2012) and even airport purchases (Geuens, Vantomme, & Brengman, 2004). Recent industry research also supported the fact that impulse buying accounts for a sizable percentage of all purchases (Amos, Holmes, & Keneson, 2014).

Impulse buying has been defined as a “sudden and immediate purchase with no pre-shopping intentions .... The behavior occurs after experiencing an urge to buy, and it tends to be spontaneous and without a lot of reflection (i.e., it is “impulsive”)” (Beatty & Ferrell, 1998, p. 170; see also Rook, 1987). In this regard, Baumeister (2002) conceptualized impulse buying as a battle between desire and self-control. Therefore, “it makes much sense to apply the self-regulation perspective on impulse buying” (Verplanken & Sato, 2011, p. 205). As stated by this stream of research, impulse buying can be outlined as either “heart vs. mind” or “desire vs. willpower” conflict (i.e., affective state overcomes cognition), in which the influence of cognitive deliberation on impulse buying is small (Coley & Burgess, 2003; Herabadi, Verplanken, & Van Knippenberg, 2009; Hoch & Loewenstein, 1991). In essence, even the most impulsive buyers also may experience a need to resist making an impulsive purchase (Rook & Fisher, 1995). Thus, it is essential to identify which factors systematically diminish the strength of self-control.

## SELF-CONTROL AND ITS INGREDIENTS

Self-control is an important key to success in life referring to the self's capacity to alter its own states and responses (Baumeister, 2002; Baumeister et al., 2007). In other words, self-control is a capacity or personality process seeking to override one's thoughts, emotions, impulses, appetites and automatic or habitual behaviors (Baumeister, Gailliot, DeWall, & Oaten, 2006; John, Pervin, & Robins, 2008). Moreover, self-control is a complex mechanism, and there are different types of self-control failure (Baumeister & Heatherton, 1996; Hofmann & Kotabe, 2012).

Generally speaking, self-control has three major ingredients, including standards, monitoring process and self-regulatory resources [2] (Baumeister, 2002; Baumeister & Heatherton, 1996). In this regard, standards (e.g., exiting particular purchasing goal in the consumer's mind) have been conceived as rational influences on behavior, and hence consumers without clear goals are more likely to have laps in self-control (Roberts & Manolis, 2012). On the other hand, self-monitoring refers to the fact that consumers can track their behavior

by monitoring their behavior, including how much they spent (Baumeister, 2002). Put simply, individuals must monitor themselves to compare the actual state of self to the standards (Baumeister & Heatherton, 1996). For instance, it has been demonstrated that people with high self-monitoring are less likely to do impulse buying (Sharma, Sivakumaran, & Marshall, 2010). Nevertheless, people often fail to detect a conflict between their actual behavior and their standards, and hence behave in a manner that is inconsistent with their long-term goals (Hofmann & Kotabe, 2012; Roberts & Manolis, 2012).

However, having clear goals and close monitoring is not enough to perform necessary actions (Baumeister, 2002; Roberts & Manolis, 2012). Therefore, people need self-regulatory resources (i.e., an inner pool of resources) that enable them to progress from their current state to a desirable state (Hedgcock, Vohs, & Rao, 2012; Vohs & Faber, 2007). According to the strength model, self-control operates like a muscle that needs some strength or energy resource to control one's behavior (see Baumeister et al., 2006; Baumeister et al., 2007; Muraven & Baumeister, 2000; Muraven, Collins, Shiffman, & Paty, 2005). However, self-regulatory resources are finite (i.e., consumable resources), so that they become temporarily depleted or fatigue (like a muscle) by situational self-control demands, such as thought suppression, emotion suppression and attention control tasks (Muraven & Baumeister, 2000; Vohs & Faber, 2007). In other words, this limited resource becomes depleted when people engage in an initial self-control task (Hedgcock et al., 2012; Vohs & Faber, 2007). Therefore, immediately after this depletion, they are less capable of regulating their behavior, such as following their long-term goals (at least for a short time). A review by Vohs (2006) also showed that self-regulatory resource depletion [3] affects different domains, including overeating, impulse buying, and logical thinking.

## IMPULSE BUYING AND SELF-CONTROL

Regarding impulse buying, mainly, the most important question should be whether the person can muster up whatever is needed to resist the temptation to buy (Baumeister, 2002). In this sense, there have been two main approaches for exploring the influence of self-control on impulse buying:

1) Following the logic of the strength model, one stream of research investigated the impact of self-regulatory resource depletion on impulsive buying behavior. This body of knowledge argued that depleting consumers of their self-regulatory resources by having them engage in an initial self-control task subsequently leaves people less able to resist the impulses to buy (Vohs, 2006; Vohs & Faber, 2007). In addition, it has been argued that, like strengthening a muscle, self-control can get stronger through exercise (Baumeister et al., 2006; Muraven & Baumeister, 2000). In this respect, Sultan, Joireman, and Sprott (2012) demonstrated that repeated physical and cognitive self-control exercises over time reduced impulse buying urges.

2) Another stream of research emphasized that "although all individuals are vulnerable to state depletion of self-control resources, individuals are proposed to differ in their overall self-control capacity" (Hagger et al., 2010, p. 500). For instance, some authors have tried to develop a trait scale measuring individual differences in self-control (e.g., Tangney, Baumeister, & Boone, 2004). In few words, this view acknowledged the role of stable individual differences in trait self-control (Sultan et al., 2012). In this regard, previous studies have shown that trait self-control is negatively associated with impulse buying (Roberts & Manolis, 2012; Youn & Faber, 2000).

## PROPOSED MODEL

We largely concur with the stream of research claiming that impulse buying is still without a clear framework and it seems challenging to frame impulse buying with the prevalent models of behavior (Amos et al., 2014; Verplanken & Sato, 2011). This can be partially attributed to the fact that impulse buying is a

complex phenomenon, and hence it is virtually impossible to address all factors influencing impulse buying (Hausman, 2000; Verplanken & Sato, 2011). In this sense, the literature has recently conceptualized impulse buying as a process and outcome (see Xiao & Nicholson, 2011; Xiao & Nicholson, 2013). However, the existing self-control approaches, as mentioned above, do not outline impulse buying as a process. In this respect, we concur with Hoch and Loewenstein (1991), who argued that “the best way to make progress in understanding impulse buying is to be specific about the behavior in question” (p. 504). Therefore, this research aims to shed light on the importance of impulse buying study, like any other spheres of human life, as an outcome of self-control process. Furthermore, the current trend in the field seems to be toward a comprehensive approach that includes impulse formation (i.e., how desire emerges), how people identify conflict, and how people resist impulses (see Hofmann & Kotabe, 2012). In spite of this fact, relatively little is known about these three components regarding impulse buying. Our model helps in this regard.

To this end, integrating different self-control models (see Baumeister & Heatherton, 1996; Baumeister et al., 2007; Dholakia, 2000; Hoch & Loewenstein, 1991; Hofmann, Baumeister, Forster, & Vohs, 2012; Hofmann, Friese, & Strack, 2009; Hofmann et al., 2008a; Hofmann & Kotabe, 2012; MacInnis & Patrick, 2006; Strack & Deutsch, 2004), the present paper provides a general framework of self-control process with a focus on impulse buying. Our inclusion criterion for gathering these models was based on the fact that all these models share some common denominators. Building on this fact, our model assumes that (a) self-control is a psychological process (i.e., a complex mechanism) and not a unitary phenomenon, (b) self-control represents the effortful capacity to resist temptations, and (c) self-control in tempting situations can be framed as a psychological conflict between immediate impulses on the one hand and resistance on the other.

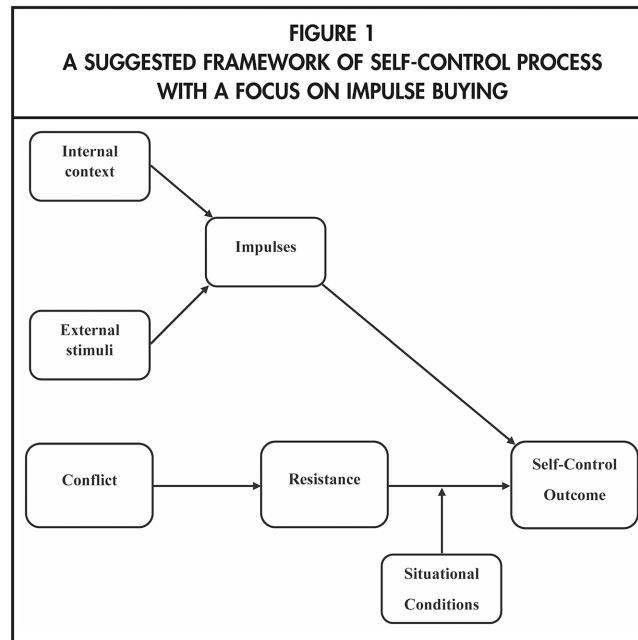
Following Hofmann et al. (2012) and Hofmann and Kotabe (2012), our framework integrates the components of impulses, conflict, resistance, and self-control outcome that should be considered jointly when analyzing self-control phenomena (see Figure 1). A detailed description of each of the four components is described in this section. We will also discuss how the logic of other self-control models may be combined to outline a unique model of self-control that focuses on impulse buying. We consider the proposed model as a starting point for communication between different self-control models.

## Impulses

Impulse formation is the starting point of several self-control models (see Dholakia, 2000; Hofmann et al., 2012). Impulses (i.e., the power of the temptation) are conceived to be undesired behavioral tendencies and are supposed to be triggered in the so-called “impulsive system” (see the Reflective-Impulsive Model [RIM]; Hofmann et al., 2009; Strack & Deutsch, 2004). Based on this stream of research, impulses emerge through the activation of the associative cluster in long-term memory in close interaction with perceptual stimulus input, such as seeing a cake (Hofmann et al., 2009; Hofmann et al., 2008b; Strack, Werth, & Deutsch, 2006). Otherwise stated, this system activates a series of schemata (including urges, desires, and impulses) that rest underneath threshold and stimulation by aspects of the environment (like an interesting snack) will push them toward the threshold (Vohs, 2006). To conceptualize this system, Hofmann et al. (2009) explained the chocolate eating behavior as an example in which “through repeated experience with chocolate, an associative cluster may be formed that links (a) the concept of chocolate, (b) positive affect generated by the organism, and (c) the behavioral schema that has led to the positive affect” (Hofmann et al., 2009, p. 164-165). As a consequence, when the person faces the chocolate in a future situation (e.g., in a party), the chocolate cluster might be activated, so that a similar impulse will be automatically triggered (see Hofmann et al., 2008a). More specially, impulses are driven by internal context (personality, homeostatic dysregulations and habit) and external stimuli (see Dholakia, 2000; MacInnis & Patrick, 2006; Strack et al., 2006).

1. **Personality:** Some people are more susceptible to impulse buying, and hence they do it whenever an opportunity arises (Ek Styvén et al., 2017; Verplanken & Sato, 2011). According to Hofmann et al. (2012), personality has a strong influence on the desire strength. Personality factors influencing the desire strength are impulsivity trait, trait self-control, and perfectionism. (Dholakia, 2000; Hofmann et al., 2012). In terms of impulse buying, the impulsivity trait has been conceptualized as impulse buying tendency. Interestingly, some recent studies have shown that impulse buying tendency is the most influential factor in determining impulse buying (Amos et al., 2014; Xiao & Nicholson, 2013). In this respect, it has been found that chronic impulse buyers are more likely to experience increased urges to buy almost in all shopping contexts, including traditional shopping context (Beatty & Ferrell, 1998), online buying context (Wells, Parboteeah, & Valacich, 2011), and mobile commerce (Wu & Ye, 2013). Regarding trait self-control, previous studies have shown that trait self-control is negatively associated with impulse buying (Roberts & Manolis, 2012; Youn & Faber, 2000). Perfectionism is also associated with compulsive shopping behavior (Bong, 2016).
2. **Homeostatic dysregulations:** “Deprivation of a basic need calls for a rapid reversal of the situation and thus a more specific disposition to act” (Strack et al., 2006, p. 210). In this regard, it has been discussed that perceptual inputs in close interaction with homeostatic dysregulations (e.g., hunger and thirst) can reactive associative clusters (Hofmann et al., 2008a). For instance, Bevelander, Anschutz, and Engels (2011) experimentally demonstrated that teenage girls who reported to be hungry purchased higher kilocalorie food products in general.
3. **Habit:** There is a lack of knowledge regarding habit as a central determinant of self-control (Adriaanse, Kroese, Gillebaart, & De Ridder, 2014). In this respect, Strack et al. (2006) argued that habit can strengthen the impulsive system, which means that when a motor schema is triggered more often by exposure to a certain stimulus, it is more likely to be elicited in the future. These authors concluded that “this mechanism may impulsively contribute to buying behavior by simply causing people to reach out for certain product” (Strack et al., 2006, p. 212). This is partially attributed to the fact that one of the main features of habit is automaticity (Verplanken & Orbell, 2003), which means habits are not dependent on cognitive capacity (Rothman, Sheeran, & Wood, 2009). Indeed, when a person repeats his or her previous response (behavior) in a stable context, an association can be created between the context and the response; when the person reencounters the context, this context-response association will be activated automatically (Ji & Wood, 2007). Consequently, based on this stimulus-response association, an existing stimulus in the context automatically can generate an impulse towards action (Gardner, 2015).
4. **External stimuli:** According to the Desire-Willpower Framework (Hoch & Loewenstein, 1991), the reference-point shift (resulting from physical proximity and temporal proximity) can increase consumer’s desire for non-purchased objects. In other words, reference-point shifts cause the consumer to adopt the notion of possessing or consuming the product. They also might experience a feeling of deprivation as a result of failing to consume or purchase the objects. In the same way, Dholakia (2000) also considered the physical and temporal proximities as marketing stimuli. It is based on the premise that associative links are empowered if stimuli are presented in close temporal or spatial proximity (Strack & Deutsch, 2004). Otherwise stated, the perceptual input (e.g., seeing a cake) is the simplest source of activation for behavioral elements in the impulsive system (Strack et al., 2006). In terms of impulse buying, it has been discussed that “physical proximity can stimulate sensory inputs that affect desire” (Vohs & Faber, 2007, p. 538). It is based on the premise that a latent need in some consumers can be activated by the immediate availability of a product for purchase, triggering impulse buying behavior (Xiao & Nicholson, 2013). Impulse buying is also associated with other external stimuli presented at the store environment including

promotional and visual stimuli (Kalla & Arora, 2011). The shopping environment (e.g., the store size, ambience, and design) affects the consumers' emotional states, which subsequently may lead to impulse buying inside the store (Muruganantham & Bhakat, 2013).



**FIGURE 1**  
A SUGGESTED FRAMEWORK OF SELF-CONTROL PROCESS WITH A FOCUS ON IMPULSE BUYING

## Conflict

“Whether a given desire turns into a temptation, and thus enters the sphere of self-control depends on whether the behavior implied by the desire is at odds with a person’s value system and self-regulatory goal standards” (Hofmann & Kotabe, 2012, p. 709) [4]. Therefore, conflict refers to the perception that there is some reason not to enact the desire whereby unproblematic desires can be distinguished from problematic desires (i.e., temptations) (Hofmann et al., 2012; Hofmann & Kotabe, 2012). Recent data from everyday life demonstrated that almost half of everyday desires do conflict at least somewhat with the person’s other goals and values (Hofmann et al., 2012). This conflict arises, for instance, when shoppers would like to save their money, but they would also like to purchase something in order to cheer themselves up (Baumeister, 2002). According to the logic of the RIM, personal standards and goals reside in the so-called “reflective system”, which often conflict with the impulses (Frieze, Hofmann, & Wänke, 2008). Interestingly, in feedback-loop models of self-regulation (see Baumeister & Heatherton, 1996), the self-monitoring is responsible for the identification of such inconsistencies. Finally, it has been discussed that the third step (resistance) can be triggered by a detected conflict (Hofmann et al., 2012).

## Resistance

Resistance (i.e., self-control), which depends on the degree of conflict experienced, encompasses efforts to prevent oneself from carrying out the desire (Hofmann et al., 2012). Building on the reflective-impulsive model, the reflective system is responsible for resisting immediate rewards and struggling for a more valuable future (Strack & Deutsch, 2004). However, efforts to self-control frequently fail (Vohs & Heatherton,

2000). The current framework emphasizes the situational conditions (self-regulatory resources, alcohol consumption, and cognitive capacity) as important factors in resisting temptations (see Hofmann et al., 2009).

1. **Self-regulatory resources:** The classic account of self-control has demonstrated that resistance to temptation requires self-regulatory resources, and hence can be regarded as an effortful undertaking of the mind (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Hofmann & Kotabe, 2012). Based on the logic of the RIM, because the schemata in the reflective system rest below activation level, there is a need for an internal source of energy to reach the threshold for activation (Vohs, 2006). In this regard, self-regulatory resources have been introduced as the underlying energy system for the reflective system by which the schemata are pushed above the threshold when it is needed by self-guides and policies (Vohs, 2006). Interestingly, recently Hedgcock et al. (2012) empirically showed that self-regulatory resource depletion reduces the activity of the right middle frontal gyrus (located in the dorsolateral prefrontal cortex). The results of this neural approach appear to be consistent with the core idea of the current framework. In this respect, Hedgcock et al. (2012) argued that “successful self-control can only occur if people first identify the conflict and then modify their behavior” (p. 487). These authors argued that self-regulatory resource depletion does not affect the conflict monitoring, but does affect people’s abilities to implement control. In terms of impulse buying, Vohs and Faber (2007) experimentally showed that self-regulatory resource depletion left doors open for more impulse buying.
2. **Alcohol consumption:** Alcohol weakens executive functioning and impairs the power of self-control to inhibit inappropriate action tendencies (e.g., the ability to regulate attention) (Hofmann et al., 2012; Hofmann et al., 2009). It is based on the premise that “alcohol narrows the perceptual focus down to only salient and proximal cues in the environment” (Hofmann et al., 2008a, p. 122).
3. **Cognitive capacity:** The level of processing resources allocated to the task plays a crucial role in consumer decision making (e.g., choice task) (Frieze et al., 2008; Shiv, & Fedorikhin, 1999). For instance, one study showed that food choice was driven strongly by impulsive processes when processing resources were taxed (Frieze et al., 2008). Moreover, several studies have emphasized the role of cognitive capacity in impulse buying (e.g., Herabadi et al., 2009; Xiao & Nicholson, 2013). In this regard, it has been discussed that environmental stimuli (e.g., displays) or the complex shopping environment can affect impulse buying because they can reduce the cognitive capacity (Baumeister, 2002; Shiv & Fedorikhin, 1999; see also Prestwich, Hurling, & Baker, 2011).

## Self-control outcome

Based on the core idea of the Preventive-Interventive model (Hofmann & Kotabe, 2012), the endpoint of a self-control model is behavior enactment. In the case of non-tempting impulses, if there are no external constraints, enactment appears to be the natural endpoint of that process. On the other hand, in the case of tempting impulses, enactment means self-control failure or weakness of will (i.e., the person has acted in a way opposite to his/her better judgments), whereas non-enactment means fortuitous self-control (Hofmann & Kotabe, 2012). Therefore, the final outcome behavior will be determined by the three prior stages (see Hofmann et al., 2012). In the same way, the CIFE model (see Dholakia, 2000) proposed that the experience of a psychological conflict results in a thought-based evaluation of the consequences of enacting the consumer impulsiveness. If the evaluation is negative, the violation system will be activated. In this case, the consumer might use different strategies to effortfully resist the temptation such as leaving the environment (Dholakia,

2000). Similarly, according to the logic of the RIM, which distinguishes between a reflective and an impulsive system, availability of self-regulatory resources and enough cognitive capacity can determine which of the two systems will gain control over the final behavior (Hofmann et al., 2009). In this respect, recently Moayery, Narvaiza, and Gibaja Martins (2018) provided the first empirical foundation for the reflective and impulsive aspect of impulse buying behavior. While impulse buying has been considered as a product of the impulsive system (see Prestwich et al., 2011; Vohs, 2006; Vohs & Faber, 2007), Moayery et al. (2018) showed that impulse buying of unhealthy snacks can be differentially influenced by either impulsive system or reflective system as a function of the availability of self-regulatory resources.

## CONCLUSION AND IMPLICATIONS

The core idea of self-control in consumer psychology emphasizes the capacity to resist temptations and disciplining oneself to purchase essential items rather than buying on impulse that is likely to be regretted later on (Baumeister, 2002; Baumeister et al., 2008). In the same line, this paper has also emphasized the importance of impulse buying study, like any other spheres of human life, as an outcome of self-control process. In addition, this paper considered different types of self-control failure resulting from conflicting standards, the degree to which people monitor their behavior, and the depletion of self-regulatory resources. This was followed by explaining the current self-control approaches in impulse buying studies. This research also offered a general framework of self-control with a focus on impulse buying.

The proposed framework extends the literature in several areas. First, the current literature fails to provide a holistic picture of impulse buying (Ek Styvén et al., 2017; Xiao & Nicholson, 2013). This failure can be attributed to the fact that the literature has not conceptualized impulse buying as a process and outcome, which has resulted in some contradictory findings (Xiao & Nicholson, 2013). For instance, on the one hand, it has been frequently mentioned in the literature that store environment can lead to momentary loss of self-control (e.g., Kalla & Arora, 2011). On the other hand, there is evidence showing that self-control can moderate the effect of store layout on impulse buying (see Lee & Johnson, 2010). To this end, this paper outlines impulse buying as an outcome of the self-control process. For example, a researcher interested in how external stimuli influence self-control should be aware that his research does not only speak to how external stimuli diminish cognitive capacity but also to how environment effects impulses.

Second, the proposed model can provide insight into the general model of self-control. Otherwise stated, although the behavior of interest in the proposed model is impulse buying, this model can be extended to a broader set of behaviors. In this regard, the proposed model keeps the logic of different models together to establish a general framework of self-control. Such a model can avoid misunderstanding resulting from communication between different models of self-control (see Hofmann & Kotabe, 2012). For instance, it has been suggested that the strength model provides only a partial explanation for self-control failure and hence it should be integrated with other models of self-control (Hagger et al., 2010). In this sense, contrary to the strength model, which has focused on the control aspect of human life (e.g., Muraven & Baumeister, 2000), our model takes into account both impulsive and controlled aspects of behavior. In addition, the proposed framework explicitly distinguishes between a reflective and an impulsive system, which is incongruent with those studies recognizing the existence of only one processing system (e.g., MacInnis & Patrick, 2006).

Third, studying habit in a self-control framework per se is an important contribution to the concept of self-control process. Although the basic premise in the proposed framework is that self-control represents the effortful capacity to resist temptations, it should be noted that self-control activities need not always be conscious (e.g., MacInnis & Patrick, 2006). For instance, Hofmann et al. (2009) call for more research that relates the logic of the RIM (as a self-control model) to the literature on the nonconscious and automatized form of self-control. In this regard, the literature suggests adopting the habit concept (as a non-conscious process) in order to form a more inclusive model of self-control (e.g., Hofmann, Friese, &

Wiers, 2011). This can be attributed to the fact that “habitual behaviors proceed without effortful cognitive mediation and are performed even under conditions of ego-depletion, when self-control and motivational energy are directed elsewhere” (Orbell & Verplanken, 2015, p. 311). Therefore, since “habit associations are represented in learning and memory systems separately from intentions or decisions” (Wood, Tam, & Witt, 2005, p.918), it is crucial to investigate the underlying mechanism through which habit influences self-control outcome. The current paper fills these gaps by integrating habit, as a psychological construct, into the self-control process. While impulse buying tendency can be regarded as a “hot” urge and desire which can contain affective components, the habitual impulses generated by habit process can be considered as “cold” impulses which might not contain affective components (see Hofmann et al., 2011; Orbell & Verplanken, 2015). Interestingly, since activated habit impulses can be inhibited prior to action (Gardner, 2015), approaches such as environmental re-engineering and stimulus control techniques can be applied as intervention strategies (Neal, Wood, Lally, & Wu, 2009). In this respect, further research should be performed to study how self-control operates through establishing adaptive habits (see Adriaanse et al., 2014).

## NOTES

1. The terms “self-control”, “self-regulation” and “willpower” have been used interchangeably by scholars (e.g., Baumeister, 2002; Hagger et al., 2010; Muraven et al., 2005).
2. The terms “self-regulatory resources”, “self-control strength” and “the capacity to change” have been used interchangeably by scholars (Baumeister, 2002; Muraven et al., 2005; Vohs & Faber, 2007).
3. The terms “self-regulatory resource depletion” and “ego depletion” have been used interchangeably by scholars (Baumeister, 2002; Vohs & Faber, 2007).
4. Conflict does not depend on desire strength which means these two factors are essentially orthogonal (Hofmann et al., 2012).

## CONFLICT OF INTERESTS

There is not conflict of interests

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