Thinking fast and slow: a revised SOR model for an empirical examination of impulse buying at a luxury fashion outlet

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Abstract

Purpose - Despite the extensive stimulus-organism-response (SOR) literature, little attention has been paid to the role of marketing activity as a key environmental stimulus, and there is a dearth of research examining the interplay between emotions and cognition on consumer behaviour, as well as the sequential effects of emotions on cognition. To address these gaps, this study aims to develop a revised SOR model by incorporating Kahneman's fast and slow thinking theory to investigate the impulse buying of Affordable Luxury Fashion (ALF).

Design/Methodology/Approach - We use outlet stores at Bicester Village (BV) in England as the research context for ALF shopping. Partial least square structural equation modelling (PLS-SEM) was employed to analyse a survey sample of 633 consumers with a BV shopping experience.

Findings - We find that impulse buying of ALF arises from the interplay of emotional and cognitive factors, as well as a sequential and dual process involving in-store stimuli affecting on-site emotion and in-store browsing.

Research implications - This study reveals that *brand connection* significantly and negatively moderates the relationship between *on-site emotion* and *in-store browsing*, advancing the SOR paradigm and reflecting the interactive effect of human emotion and reasoning on the impulse buying of ALF items.

Practical implications - Insights into consumers' impulse buying offer practical implications for luxury brand management, specifically for ALF outlet retailers and store managers.

Originality/Value - Our results suggest a robust sequential effect of on-site emotion towards in-store browsing on impulse buying, providing updated empirical support for Kahneman's theory of System 1 and System 2 thinking.

Keywords: Affordable luxury fashion (ALF); Impulse buying; Stimulus-Organism-Response (SOR); In-store browsing; Brand connection; On-site emotion; Retail outlet.

1. Introduction

The Stimulus-Organism-Response (SOR) model (Mehrabian and Russell, 1974) suggests that an environmental stimulus directly affects human emotion (S→O), and that affective emotion causes behavioural responses (O→R). The model has been widely used, for example, in a retailing context (e.g., Donovan and Rossiter, 1982; Mattila and Wirtz, 2001), to explain how psychological and emotional factors influence behavioural responses to environmental stimuli. However, a number of key issues remain under-explored. First, existing studies have tended to overlook the role of marketing activity as one element in the set of possible environmental stimuli. Second, the extant literature largely ignores the interactive effect of emotion and cognition on impulse buying, including the sequential effect of emotion on cognition. We address these issues by developing a revised SOR model drawing on dual processing theory, or fast and slow thinking (Kahneman, 2013). Our revised SOR model for empirical analysis of impulse buying of affordable luxury fashion items investigates the integrative influence of environmental affective emotions and cognitive processing on impulse buying of affordable luxury fashion (ALF); it also addresses the sequential influence of Kahneman's fast thinking (i.e., affective emotions) and slow thinking (i.e., cognitive reasoning) on the act of impulse buying.

Impulse buying is defined as a "sudden, often powerful and persistent urge to buy something immediately"; it "may stimulate emotional conflict … with diminished regard for its consequences" (Rook, 1987, p.191). The predictors of impulse buying have been summarised into three categories (Amos et al., 2014): dispositional (e.g., psychographics and dispositional motivational forces), situational (e.g., retail environment, social influence, and product characteristics), and socio-demographic (e.g., gender, age, ethnicity and income). The interaction between dispositional and

situational variables provides a powerful explanation for impulse buying behaviour (Amos et al., 2014). Iyer et al. (2020) find that the impact of emotions and feelings induced by environmental stimuli on impulse buying is inconsistent; the inconsistency is due to variation in the context of consumption. Also, research acknowledges that impulse buying varies by product attributes such as prices, features, and quality (Bellenger et al., 1978). Further research is therefore required to address the limitations of the extant literature regarding impulse buying behaviour relating to different categories of products in various retail contexts.

In particular, the topic of impulse buying behaviour in relation to ALF is currently under-researched. The term ALF refers to luxury fashion brands that offer substantially discounted prices to general consumers (Kapferer and Laurent, 2016; Kastanakis and Balabanis, 2012; Danziger, 2019). ALF is a distinctive concept within the luxury brand landscape, differing from superb luxury fashion in terms of affordable pricing, yet similar to superb luxury in terms of fashionable styles with high quality and luxury looks (Lewittes, 2018). ALF represents a recent and growing trend (Murphy, 2018; Lewittes, 2019), contributing significantly to global growth in luxury fashion consumption (Berg et al., 2016; Berg et al., 2018; Lewittes, 2018; 2019). ALF is no longer the preserve of the wealthiest customers alone. It is now significantly associated with a wider segment of the market, i.e., middle-class consumers (Kapferer and Laurent, 2016; Murphy, 2018). An awareness of this association is fundamental to understanding consumers' impulse buying of ALF. This particular segment of customers is likely to have a certain amount of flexible shopping budget for ALF; yet, at the same time, their purchasing power is undoubtedly constrained. In this situation, ALF consumers tend to buy impulsively subject to external stimuli, e.g., discounted prices and promotions.

This study therefore builds and tests a revised SOR model, drawing on fast and slow thinking to enhance our understanding of consumers' impulse buying of ALF items. We use outlet stores at Bicester Village (BV) as a particular instance of the wider research context for ALF shopping. Outlet marketing is a nascent field of research in consumer behaviour; retail outlets provide a unique sales environment for studying impulse buying of ALF and the behaviours of its associated market segments.

The study contributes to the existing literature in a number of ways. First, the study offers an enhanced understanding of impulse buying behaviour in the context of complex processes engaging environmental stimuli. We develop a revised SOR model by introducing both the role of marketing activity as a potential source of environmental stimulus, the interactive effect of emotion and cognition, and the sequential effect of emotion on cognition. Second, the findings from an updated empirical test of dual processing theory (Kahneman, 2013) are presented. Third, the study addresses a gap in the extant literature regarding the purchase (in particular, impulse buying) of ALF items in the context of outlet stores. The insights generated contribute to the marketing literature, specifically impulse buying associated with affordable luxury fashion brands, while also providing strategic and practical implications for luxury brand marketers and store managers in developing the affordable luxury market.

The paper continues with a systematic review of the relevant literature and develops a conceptual model for the study. An articulation of the research methods follows. We then present the empirical findings and discussion of the results and their implications for theory and practice. The paper ends with conclusions and suggestions for a future research agenda.

2. Theoretical Grounds and Conceptual Model

2.1. Conceptual model

The SOR paradigm is grounded in environmental psychology (Mehrabian and Russell, 1974); it suggests that an environmental stimulus directly affects human emotion (S→ O). The affective emotion causes behavioural responses, i.e., approach or avoidance (O → R). The SOR paradigm explains and predicts how psychological and emotional factors influence behavioural responses to environmental stimuli. SOR is, therefore, an appropriate choice for this study investigating the impulse buying of ALF, as consumer emotions and impulse buying are intensely engaged within the in-store environment (Park et al., 2006).

Key literature on impulse buying and SOR was therefore reviewed to understand the contributions and limitations of seminal studies. Table 1 presents the results. Donovan and Rossiter (1982) were the first scholars to introduce the SOR paradigm to a retail setting, and the results suggest that store atmosphere-engendered emotional states are significant determinants of intended shopping behaviours within the store. Although retail stores were used as the setting for the experiment, other stimuli associated with the store environment (such as marketing stimuli) were not examined in the study.

Table 1: Summary of a critical review of key literature on impulse buying and the SOR framework

Reference	Stimulus factor	Organism factor	Response factor	Contributions	Limitations
Donovan and Rossiter, 1982 (JOR)	--	*(Emotional)* Pleasure; arousal; dominance	*(Shopping behaviours)* Approach-avoidance; affect; time; spend; affiliation	The first study to apply SOR in a retail setting. The results suggest that store atmosphere-engendered emotional states are significant determinants of intended shopping behaviours within the store.	The experiment is set in retail stores, yet no store environmental stimuli variable is examined in the model.
Donovan et al., 1994 (JOR)	--	(Cognitive) Perceived quality; variety; specials; value for money (Emotional) Pleasure; arousal	*(Impulse behaviour)* Extra time; unplanned spending	Both emotional and cognitive aspects are examined.	No store environmental variable is investigated in the model. Inconsistent results about cognitive and emotional effects on impulse buying call for further empirical investigation.
Sherman et al., 1997 (P&M)	*(Store environment)* Social; overall image; design; ambience	*(Emotional)* Pleasure; arousal	*(Shopping behaviours)* Time spent; number of items; liking; money spent	One of the earliest studies to explore multiple dimensions of store environments.	The study implies that a higher-order construct measuring a multidimensional store environment may represent the overall store atmosphere.
Beatty and Ferrell, 1998 (JOR)	*(Situational)* Availability of time and money *(Individual difference)* Shopping enjoyment; impulse buying tendency	Positive affect; negative affect; browsing activity; urge to buy impulsively.	Impulse purchase	In-store browsing receives noticeable attention; it is studied as a mediator between antecedents and "felt the urge to buy impulsively" in the impulse buying process.	A regional shopping mall was used as a setting; the model did not examine the marketing environment. It calls for further research into the effect of browsing on impulse buying.
Dholakia, 2000 (P&M)	Impulsivity trait	Cognitive evaluation	Consumption impulse enactment vs dissipation	The study highlights two impulse conditions (ICs): consonant and dissonant. It suggests that the impulsivity trait is a more significant predictor in the consonant IC, while cognitive evaluation is a more powerful predictor in the dissonant IC.	The results lead to an exciting yet unexplored question about the interactive effect of emotion and cognition on impulse buying in the study.

Mattila and Wirtz, 2001 (JOR)	*(Store environments)* Ambient scent; background music	*(Emotional)* Arousal; pleasure.	Approach-avoidance; impulse buying; satisfaction	The combined matching of scent and music, as store stimuli that determine consumer responses to the environment, is a unique contribution of this study.	Marketing stimuli remain unexplored, although they might provide more insights into consumer behaviours.
Wang et al., 2011 (JOR)	*(Perceived web aesthetics)* Aesthetic formality; aesthetic appeal	*(Cognitive)* Online service quality *(Affective);* satisfaction; arousal	Purchase; consultation; search; revisit	The moderation effect of the shopping task suggests that environmental stimuli primarily stimulate task-free behavioural tendencies of consumers. In contrast, consumer behaviour is goal-directed and purposeful when specific tasks are completed.	The effect of store marketing stimuli remains unexplored. Cognitive and affective mediation variables are examined whilst their interactive effect on consumption behaviour remains unknown.
Huang, 2016 (JBR)	*(Social capital)* Social bridging; social bonding. *(Content attractiveness)* Subjective involvement; vividness	Peer communication, browsing activities; urge to buy	Impulse buying	In the online shopping setting, peer communication and (online) browsing are induced behavioural responses by environmental stimuli, and these subsequently create the urge to buy, including impulse buying.	This study inspires further research into a different sequence of responses and their interactive effect on impulse buying.
Streicher et al., 2021 (JCR)	Attention breadth	In-store exploration	Unplanned purchasing (impulse buying)	This paper adopts mindset theory, suggesting that "shoppers' attentional breadth" is the key to explaining shopping exploration and, ultimately unplanned purchasing or impulse buying.	Grocery shopping is usually undertaken with specific purchase plans. Also in this context, shopping budget may not be a big concern. These aspects may differ in the context of luxury consumption, due to shoppers' different mindsets.
The current study	In-store stimuli • Store atmosphere • Store marketing	Brand connection; On-site emotion • Pleasure • Arousal	In-store browsing; impulse buying	This study addresses the under-explored role of store marketing as part of environmental stimuli and investigates the unexplored interactive and dual effect of emotion and cognition on impulse buying.	The study calls for further research to explore when and how this shift from fast thinking to a slow thinking process happens and how it influences impulse buying.

Note: We searched SCOPUS for original scholarly articles published in English, between 1980 to 2021, following a systematic process: (1) keywords used: "impulse/ impulsive" AND "shopping" / "buying" / "purchase" AND "store"/ "environment"/ "atmosphere" in "Title, Keyword, and Abstract"; (2) Subject areas in "Business, Management and Accounting", "Social Sciences" and "Psychology"; (3) articles published in top-ranked ABS journals including Journal of Retailing (JOR), Journal of Consumer Psychology, Journal of Consumer Research (JCR), Journal of Business Research (JBR), and Psychology & Marketing (P&M); (5) Nine of the 216 articles were selected after reading the Abstracts and further filtering using inclusion criteria: SOR paradigm, retail or marketing setting; impulse buying behaviour or intention as an explained variable; empirical study.

Since Donovan and Rossiter's study (1982), the SOR paradigm has been applied in many shopping or impulse behaviour studies in retailing or marketing settings. The main contributions and limitations of the literature are summarised below.

The literature has explored stimulus factors, including 1) individual stimuli such as attention breadth (Streicher et al., 2021) and impulsivity traits (Dholakia, 2000); 2) social stimuli such as social bonding and social bridging (Huang, 2016); 3) situational stimuli such as availability of time and money (Beatty and Ferrell, 1998); 4) store atmosphere such as ambience, scent and music (Mattila and Wirtz, 2001). Although multiple dimensions of store environments, e.g., social, overall image, design, and ambience, have been explored (Sherman et al., 1997), marketing activities as part of the set of possible environmental stimuli are under-explored.

Regarding organism factors, both emotional and cognitive influences on impulse buying have been examined, although some studies focus only on emotional factors (e.g., Sherman et al., 1997; Mattila and Wirtz, 2001), some focus only on cognitive ones (e.g., Dholakia, 2000) and some on both (e.g., Donovan et al., 1994; Wang et al., 2011). However, the literature has little understanding of the interactive effect of emotion and cognition on impulse buying and the sequential effect of emotion on cognition, both of which could be explained by Kahneman's (2013) System 1 and System 2 Thinking.

In his book "*Thinking, Fast and Slow"* (2013), Nobel-prize-winning economist Daniel Kahneman explains how human brains process and act upon external stimuli with two systems. Fast thinking (System 1) is spontaneous, effortless, almost without thinking, and often refers to quick and emotional processing to make a decision. It comes naturally before any slow thinking (System 2), which requires more cognitive effort, time and attention to analyse and act upon a more complex situation or problem.

Drawing on the relevant literature, we develop this study's conceptual model (Figure 1), where the so-called dual processing theory (Kahneman, 2013) provides an appropriate theoretical ground. Impulse buying decisions, made at an ALF outlet store, result from a complex interplay of consumer emotion and cognition. The environmental marketing stimuli of the store can induce an emotional response in consumers. With affective emotion, consumers may spontaneously engage in impulse buying of ALF or browse for unplanned purchases. The traditional SOR paradigm (Mehrabian and Russell, 1974) reflects Kahneman's fast thinking but not the slow thinking process. Slow thinking requires both an information feed and the relevant cognitive process, contributing to any behavioural decision. In this sense, in-store browsing is a buffer activity, representing the time to assess available products and promotions information before making a buying decision. Therefore, in our conceptual model (Figure 1), in-store browsing reflects a cognitive process in line with Kahneman's slow thinking. To the best of our knowledge, this cognitive process comprising slow thinking has not been explicitly studied in the existing impulse buying literature.

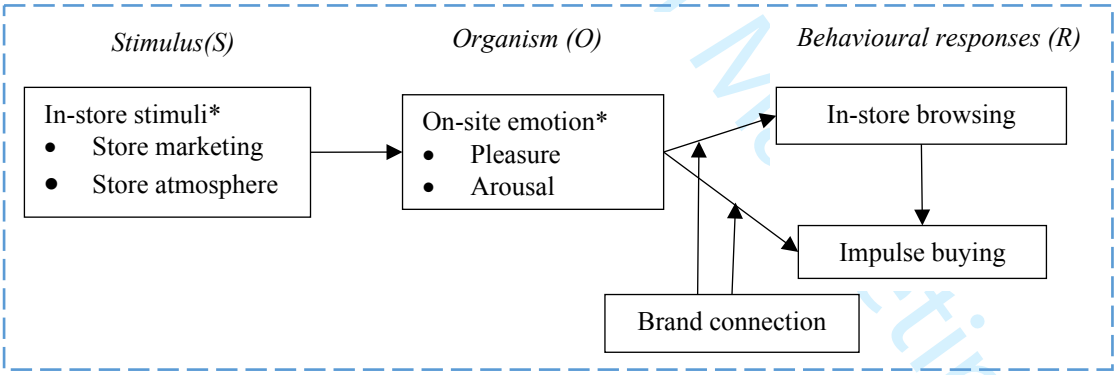


Figure1. A conceptual model for ALF impulse buying

Note: *In-store stimuli and on-site emotion are two second-order constructs. In-store stimuli are measured by store marketing and store atmosphere, and on-site emotion by pleasure and arousal.

The conceptual model examines the impact of in-store stimuli, on-site emotion, brand connection, and in-store browsing on impulse buying of ALF items inside stores

(Figure 1). In-store stimuli is a higher-order construct (HOC), reflectively measured by two lower-order constructs (LOCs) - store atmosphere and store marketing. Following Sherman et al. (1997), this study applies store atmosphere, capturing the store stimuli of a wide range of attributes e.g., unattractive vs attractive, tense vs relaxed, boring vs stimulating. Store marketing has been largely unexplored in the SOR literature (Mohan et al., 2013). To address this gap, this study includes store marketing capturing marketing stimuli, e.g., choices, styles, and discounts. Studies suggest that multidimensional measures can better represent the overall store stimuli (Sherman et al., 1997) and provide more insight into a behavioural decision (Mattila and Wirtz, 2001).

The traditional SOR literature suggests that emotional states engendered by store atmosphere are significant determinants of shopping behaviour (Donovan and Rossiter, 1982; Sherman et al., 1997; Mattila and Wirtz, 2001). Following this suggestion, we employ on-site emotional states (i.e., pleasure and arousal) to study impulse buying of ALF; this represents the proposed fast thinking process suggested by Kahneman.

Brand connection is another concept pertinent to the research context, where consumers are motivated to visit a retail outlet to shop for ALF items. However, a brand connection is developed from a consumer's prior general knowledge and experience of the brand (Park et al., 2010). According to Stern's (1962) impulse buying theory, prior knowledge of a brand and relevant experiences can influence impulse buying. Hence, we employ brand connection as a moderator to examine how a consumer's previous brand knowledge and experience can interact with on-site emotion to influence the consumer's behavioural responses, i.e., in-store browsing and impulse buying.

In-store browsing and impulse buying are proposed as behavioural responses, in line with the response taxonomy proposed by Donovan and Rossiter (1982). In this

model, the proposed effect of on-site emotion on impulse buying via in-store browsing is a slow thinking process, as described by Kahneman (further discussion in section 2.5).

2.2. In-store stimuli

In this study, we treat in-store stimuli as a combination of store atmosphere and store marketing. Kotler (1973) defines store atmosphere as the sensory aspects of a store through the four sensory channels: visual (e.g., colour and brightness), aural (e.g., volume and pitch), olfactory (e.g., scent and freshness) and tactile (e.g., temperature and softness). Literature has identified aspects of the physical atmosphere, such as in-store layout, lighting, music, scent, display and store design (Spangenberg et al., 1996; Mattila and Wirtz, 2001; Vieira, 2010; Mohan et al., 2013; Lunardo and Roux, 2015); and the social atmosphere such as employee friendliness and crowding (Peck and Childers, 2006; Mattila and Wirtz, 2008; Penz and Hogg, 2011). Extant literature has extensively examined the effect of store marketing on buying (Donovan and Rossiter, 1982; Park et al., 2012; Xiao and Nicholson, 2013). For example, impulse buying can be triggered by price (Stern, 1962), package (D'Antoni and Shenson, 1973), or product attributes (Bellenger et al., 1978; Adelaar et al., 2003; Jones et al., 2003; Park et al., 2012).

It has been argued that in-store stimuli can affect visitors' emotions (e.g., Donovan and Rossiter, 1982). Russell and Pratt (1980) suggest that environmental stimuli can explain between 84 and 86 per cent of emotional states (Russell and Pratt, 1980). Wang et al. (2011) investigated the effect of the online shopping environment on affective emotions; their results also suggest that perceived web aesthetics are significantly related to arousal and satisfaction. In contrast, an experiment exploring the effects of

media formats on the emotions and impulse buying intentions of consumers of music compact discs (CDs) found that the impact of media formats on both pleasure and arousal was insignificant (Adelaar et al., 2003). Hence, empirical results regarding the influence of in-store stimuli on emotions are inconsistent. Therefore, we propose the following hypothesis for further study:

H_1: In-store stimuli are positively related to on-site emotion

2.3. On-site emotion

On-site emotion refers to temporary emotional states experienced by customers inside a store due to environmental cues (Donovan et al., 1994). These emotions are typically classified based on three factors: pleasure, arousal, and dominance (Mehrabian and Russell, 1974). Pleasure refers to the emotional response to a stimulus, ranging from unpleasant to pleasant; arousal is the intensity of the emotional response, ranging from sleepy to wide awake; and dominance refers to the sense of control over one's actions. However, researchers such as Russell and Pratt (1980) have found that the "dominance" factor is less useful in predicting behaviour, and as such, pleasure and arousal are considered sufficient to measure emotional responses (Donovan and Rossiter, 1982; Dawson et al., 1990; Donovan et al., 1994; Sherman et al., 1997). Therefore, we use pleasure and arousal in this study to measure on-site emotion at the time of purchase in-store, and this HOC enables a better understanding of complex social phenomena (Vieira, 2013).

Previous empirical studies examining the effect of emotions on various behavioural responses have yielded mixed results (Donovan and Rossiter,1982; Donovan et al., 1994; Dawson et al., 1990; Sherman et al., 1997; Cho et al., 2021). While some studies have found a positive relationship between pleasant emotions and customers'

willingness to spend time and money in the store (Donovan and Rossiter, 1982), others have found no significant effect of pleasure on shopping behaviour (Sherman et al., 1997). Furthermore, a recent study by Cho, Oh and Chiu (2021) suggests that the COVID-19 pandemic induced negative emotions (i.e., nostalgia and boredom) were positively associated with sports consumers' browsing and impulse buying behaviour. These inconsistent results regarding emotional effects on browsing and impulse buying highlight a need for further empirical investigation (Donovan et al., 1994). Hence, this study proposes the following hypotheses.

H_2: On-site emotion is positively related to in-store browsing

H_3: On-site emotion is positively related to impulse buying

2.4. Brand connection

Brand connection is defined as "the extent to which individuals have incorporated brands into their self-concept", reflecting consumers' prior brand knowledge and brand experience (Escalas and Bettman, 2009, p.111). The effects of brand connection and its related concepts, such as brand attachment, are empirically explored and supported in some studies, such as brand engagement (Berger et al., 2018) and brand loyalty (Jani and Han, 2015). Research suggests that brand connection, as a pre-existing preference of consumers, explains purchase intention (Kaufmann et al., 2016), behavioural loyalty and willingness to pay premium prices in luxury consumption (Bahri-Ammari et al., 2016) and impulse buying of luxury fashion brands (Chen et al., 2021).

According to Kahneman (2013), fast thinking tends to draw on emotions and, at the same time, a brief search of available memory (e.g., any past brand connections) in order to make a decision, for example, while browsing in-store. Due to in-store stimuli, consumers may experience happiness and excitement while connecting with previous brand memories and shopping experiences. For instance, Akamatsu and Fukuda (2022)

found that a previous purchase of a branded item increased consumers' preferences for repeat impulse buying. The interaction between affective emotions and brand connection can impact consumer behaviour in various ways. For instance, it could lead to impulsive buying decisions at the store, triggered by seeing attractive merchandise displayed in the shopping environment. Alternatively, it may result in a browsing decision where consumers enjoy exploring new products and experiences, leading to a state of flow (Barta et al., 2022) and potentially encouraging impulse purchases. However, the interactive effect of cognitive and affective variables on consumption behaviour remains under-explored in the extant literature (Wang et al., 2011). Also, previous studies have called for further research into different sequences of consumer responses and their interactive effects on impulse buying (Huang, 2016). Hence, we propose the following hypotheses:

H_4: Consumers' brand connection is positively related to in-store browsing

H_5: Consumers' brand connection is positively related to impulse buying

H_6: Consumers' brand connection moderates the effect of on-site emotion on in-store browsing

H_7: Consumers' brand connection moderates the effect of on-site emotion on impulse buying

2.5. In-store browsing and impulse buying

Browsing is a concept based on information search theory, which considers behavioural and social aspects of information science. According to Bates (2007), browsing is an active process that involves glimpsing at objects, which may or may not lead to a closer examination and acquisition. The typical browsing process involves four main elements: glimpse, select, examine, and acquire. Hjorland (2011) adds that browsing behaviour is influenced by individual psychology and how information, objects, or

external stimuli are presented. This study defines in-store browsing as consumers' exploratory activities, which involve constantly evaluating information while searching for new needs.

The relationship between in-store browsing and impulse buying is not well-explored in the literature. While some studies have examined the connection between online browsing and impulse buying, the literature on in-store browsing is limited, especially in the context of ALF stores. Early research by Beatty and Ferrell (1998) identified individual and situational factors as key drivers of in-store browsing, which can lead to the urge to buy impulsively. More recent studies by Verhagen and Dolen (2011), Huang (2016), and Shahpasandi et al. (2020) have found that online browsing can indirectly influence impulse buying through mediating variables, such as the urge to buy. Park et al. (2012) found that product attributes affect web browsing, which can directly impact online impulse buying.

However, the current literature leaves a gap in understanding the relationship between in-store browsing and impulse buying, especially in ALF stores, where middle-class consumers are the target market. While these consumers may have a budget for purchasing ALF, they may not have planned to buy specific items (Danziger, 2019; Kapferer and Laurent, 2016). Therefore, the more time they spend browsing inside an ALF store, the more likely they are to develop an urge to buy impulsively (Kimiagari and Asadi Malafe, 2021; Cho et al., 2021). Thus, we posit the following hypothesis:

H_8: In-store browsing is positively related to impulse buying

3. Research Methods

3.1. Data collection and analysis method

The target respondents were consumers who had shopped at BV, an internationally famous luxury fashion outlet in the UK. BV was selected as the research context because it is one of the most popular shopping outlets for ALF in the UK, providing a highly relevant setting for this study on impulse buying of ALF. The data collection was facilitated by Qualtrics, one of the world's leading survey service companies. Qualtrics sent the questionnaire to their online panels. Qualtrics panels are customised based on specific demographics or characteristics. The survey's sampling selection criterion was controlled with an online survey screening question asking participants, "Have you shopped for a luxury fashion brand item at BV?" Participants who did not qualify based on the criterion were automatically screened out. Potential respondents were randomly selected, and email invitations with an anonymous link to the survey were sent, informing potential respondents that the resulting data would be used for research purposes only.

Additional techniques were used in the Qualtrics survey distribution setting to ensure data quality and validation. First, a "forced response" validation option was used, so no question could be skipped without an answer. Second, a "logic" item was added to each of the three constructs for additional attention checks to ensure the respondents were engaged with the survey. For instance, the "logic" item added to one of the constructs stated, "This is an attention filter. Please select 'Strongly disagree' for this statement." If "Strongly disagree" was not selected, the screen automatically skipped to the end of the survey, resulting in an incomplete response, which was filtered out of the usable dataset.

An initial 971 respondents participated in the survey. 312 of the 971 respondents were screened out, either because of non-engagement during the survey (i.e., they were ruled out by the three attention filters) or because they did not qualify as a participant (i.e., they had not visited BV). As a result, 659 complete responses to the survey were analysed further. For data quality control, the industry standard removes responses where the survey duration is less than one-third of the median survey duration (Qualtrics, 2014). In this study, time spent completing the survey ranged from two to twelve minutes, with seven minutes being the median; therefore, any response completed in less than 2.3 minutes was deemed to have potential data quality problems. Twenty-six responses fell into this range and were removed from the dataset. A sample of 633 individual responses was used for the final statistical analysis. SmartPLS 4 was utilised for model building and testing (Ringle et al., 2022). The PLS algorithm was used to test the model's relevance, and bootstrapping was carried out with 5,000 samples to test the significance of the results.

3.2. Description of the sample

Of the 633 usable responses, 50.1 per cent were from males and 49.1 per cent from females. Ninety per cent of respondents were British; the rest were Europeans (4.8 per cent), Asians (2.2 per cent), Americans (1.9 per cent) and others (1.1 per cent). Table 2 shows other demographic indicators such as age, annual income, and shopping budget. The respondents' age structure was roughly balanced between the age groups (18 to 70 years). The majority (57.2 per cent) had an annual income between £15,000 and £45,000, which is representative of the general population of Britain regarding GDP per capita according to the International Monetary Fund's 2016 data (IMF, 2017). The distribution of planned shopping budget was skewed to the left: more than 60 per cent of the respondents had a shopping budget below £200; fewer than 29 per cent had a

shopping budget between £201 and £500; around 11 per cent chose the budget level of £501 and over.

Table 2. Sample statistics (n = 633)

Indicator	Category	Per cent
Age	18-27yrs	20.1
	28-37yrs	19.7
	38-47yrs	20.2
	48-57yrs	20.1
	58-70yrs	19.9
Gender	Male	50.1
	Female	49.9
Nationality and region	British	90
	European	4.8
	Asian	2.2
	American	1.9
	Others	1.1
Annual income	£15,000 and below	19.9
	£15,001-£30,000	34.6
	£30,001-£45,000	22.6
	£45,001-£60,000	9.3
	£60,001 and above	8.1
	Prefer not to say	5.5
Shopping budget	£200 and below	60.3
	£201-£500	28.6
	£501-£800	7.3
	£801-£1,100	2.2
	£1,101 and above	1.6

3.3. Measures and measurement

A survey instrument was designed, inviting respondents to visualise a specific luxury fashion brand store relevant to their shopping: "Please respond to the following questions while thinking about a particular luxury fashion brand store where you made a purchase during your most recent visit to Bicester Village". The instrument is used to collect data for the empirical study of impulse buying behaviour in ALF outlet stores.

Measures and measurement items of the five constructs - *in-store stimuli, on-site emotion, brand connection, in-store browsing,* and *impulse buying* - were mainly adapted from prior literature.

In-store stimuli is a second-order construct, reflectively measured by store marketing and atmosphere (Hair et al., 2010). *Store marketing* scales were adapted from Spangenberg et al.'s (1996) study. The scales were adapted to fit affordable luxury-fashion retail stores (Lunardo and Dominique, 2015). For instance, "Quality: low/high" was changed to "Diversity of style: uniform/variety", as luxury items usually have fewer quality issues, but styles vary among luxury brands. *Store atmosphere* scales were adapted from Sherman et al. (1997). *On-site emotion* is a second-order construct, which is reflectively measured by *pleasure* and *arousal*. The five measurement items of *pleasure* and the five measurement items of *arousal* were adapted from Donovan et al. (1994). Each construct was initially measured by six items; one item was removed from each construct to achieve parsimony of the measurement model. The paired item "Pleased/annoyed" was removed from *pleasure*, given its semantic synonym with the existing pair "Happy/unhappy"; "Jittery/dull" was removed from *arousal* as it was considered to be semantically close to the current pair, i.e., "Stimulated/relaxed". The five-item measurement of *Brand connection* is adopted from Park et al. (2010). *In-store browsing* is measured by five items, an original design for this study. The development of the questionnaire items is based on the primary attributes of the browsing process, as discussed in the previous literature review. The primary attributes of *in-store browsing* include "explore my interest", "expect to achieve something", "seek opportunities to buy", "search for things that fit my interests and values", and "search extensively without necessarily having a plan to buy anything in particular". The four-item measurement of *impulse buying* was adapted from Park et al. (2012). The

adaptation aligns with Rook's (1987) definition of impulse buying as an unplanned, unreflective, immediate, and spontaneous response to stimuli. Pleasure, arousal, store marketing and store atmosphere are measured on 7-point bipolar adjective pairs scales; all the other constructs are measured on a 5-point Likert scale.

The measurement models and construct validity and reliability were examined before the model and hypothesis testing. After the first-round factor analysis, one item (i.e., Browse5: 0.549) was eliminated because the loading was lower than the acceptable threshold value of 0.7 (Hair et al., 2010). Results of the second-round algorithm calculation showed that the loading issue was resolved; all loadings ranging from .721 to .922 were deemed satisfactory. Table 3 displays each item's loading, mean and standard deviation (SD). Two reflective-reflective HOCs, i.e., in-store stimuli and on-site emotion, are specified using a repeated indicators approach (Sarstedt et al., 2019). That is, all indicators of LOCs are assigned to its HOC.

Table 3. Construct Measurement, Loadings, Means, and Standard Deviations

Construct and Measurement	Mean*/SD	Loadings
In-store stimuli		
Store atmosphere		*0.963***
(SA1) Unattractive/Attractive	5.79/1.18	0.794
(SA2) Tense/Relaxed	5.26/1.47	0.807
(SA3) Depressing/Cheerful	5.40/1.34	0.895
(SA4) Boring/Stimulating	5.09/1.34	0.874
(SA5) Dull/Bright	5.25/1.37	0.831
Store marketing		*0.935***
(SM1) Fashion: Outdated/Up to date	5.47/1.38	0.821
(SM2) Choice: Inadequate/Adequate	5.30/1.40	0.892
(SM3) Style: Uniform/Variety	5.34/1.32	0.842
(SM4) Extra discount: No offering/offerings	4.93/1.44	0.740
On-site emotion		
Pleasure		*0.944***
(Pleasure1) Unhappy/Happy	5.59/1.33	0.921
(Pleasure2) Dissatisfied/ Satisfied	5.48/1.40	0.919

(Pleasure3) Despairing/ Hopeful	5.21/1.30	0.872
(Pleasure4) Bored/ Relaxed	5.32/1.40	0.893
(Pleasure5) Melancholic / Contented	5.34/1.36	0.922
Arousal		*0.870***
(Arousal1) Sluggish/ Frenzied	4.41/1.20	0.721
(Arousal2) Unaroused/ Aroused	4.40/1.25	0.768
(Arousal3) Relaxed /Stimulated	4.59/1.34	0.769
(Arousal4) Calm/ Excited	4.60/1.46	0.799
(Arousal5) Sleepy/ Wide awake	5.27/1.29	0.800
In-store browsing		
(Browse1) I explore my interests by browsing inside the store.	3.97/0.85	0.805
(Browse2) I expect to achieve something by browsing inside the store.	3.83/0.88	0.792
(Browse3) I browse inside the store to seek opportunities to buy.	4.06/0.83	0.868
(Browse4) I search inside the store for things that fit my interests and values.	4.12/0.75	0.848
Brand connection		
(BC1)To what extent is (brand name) part of you?	3.03/1.14	0.894
(BC2)To what extent does (brand name) say something to other people about who you are?	3.08/1.06	0.909
(BC3)To what extent do you think about (brand name)?	2.99/1.13	0.894
(BC4)To what extent does the word (brand name) automatically evoke many good thoughts about the past, present, and future?	3.19/1.13	0.876
Impulse buying		
(IB1) I buy things I have no plan to purchase during browsing.	3.36/1.04	0.747
(IB2) I buy things without considering the consequences.	2.87/1.12	0.800
(IB3) When I find something I like, I purchase it immediately.	3.35/1.09	0.820
(IB4) When I spot something I like, I am excited and buy it.	3.70/1.02	0.847

Note: *Pleasure, arousal, store marketing and store atmosphere are measured on a 7-point bipolar adjective pairs scale; all the other constructs are on a 5-point Likert scale; italics are used for HOC values and their significance at 0.05 and relevance of outer weights.

Table 4 shows the construct reliability and validity, including Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha. AVE scores range from .589 to .820; Composite Reliability (CR) scores range from .880 to .958; Cronbach's alpha values range from .819 to .945. These results indicate that the measurements of the constructs are reliable and convergent according to suggested thresholds, e.g., AVE > 0.5; Cronbach's α > 0.7; CR > 0.7 (Ringle et al., 2022).

Table 4. Construct reliability and validity: AVEs, CR, and Cronbach's α

Construct	**AVE**	**CR**	**Cronbach's α**
On-site emotion	*0.589*	*0.934*	*0.919*
Arousal	0.596	0.880	0.832
Brand connection	0.798	0.940	0.915
Impulse buying	0.647	0.880	0.819
In-store browsing	0.687	0.898	0.848
Pleasure	0.820	0.958	0.945
Store atmosphere	0.707	0.923	0.896
Store marketing	0.681	0.895	0.842
In-store stimuli	*0.630*	*0.938*	*0.925*

Note: HOC values are in italics.

Construct discriminant validity was also checked for possible collinearity issues; all variance inflation factors values (VIF) were below the threshold value of 5 (Appendix 1), confirming no collinearity issues (Hair et al., 2017). Construct discriminant validity was examined by checking the Heterotrait-Monotrait Ratio (HTMT) report in Table 5 (Henseler et al., 2015). Results suggest that HTMT scores are acceptable based on the threshold value 0.90 (Ringle et al., 2022). We have exceptions with HTMT scores higher than the suggested value, which indicates a potential discriminant problem according to the HTMT .90 criterion. However, the confidence intervals (Cis), CI [0.861; 0.941] and CI [0.888, 0.954], as shown in Table 4, are between [2.5%, 97.5%], suggesting that these relevant constructs have no significant issue with discriminant validity. The results regarding the Fornell-Larcker criterion consistently confirm good discriminant validity of constructs (Appendix 2).

Table 5. Discriminant validity: HTMT and CI

Construct	1	2	3	4	5	6	7
1 Arousal	***0.773***						
2 Brand connection	0.487	***0.893***					
3 Impulse Buying	0.539	0.589	***0.804***				
4 In-store browsing	0.590	0.481	0.662	***0.769***			
5 Pleasure	0.725	0.391	0.441	0.591	***0.906***		

6 Store atmosphere	0.689	0.408	0.421	0.570	0.904 [.861,.941]	***0.841***	
7 Store marketing	0.714	0.399	0.437	0.580	0.859	0.923 [.888,.954]	***0.826***

Notes: Diagonal shows square roots of the AVE values. HOCs are excluded in the discriminant validity, as a violation of discriminant validity between HOCs and their LOCs is expected because of indicators of redundancies in the HOCs with their corresponding LOCs. HOC values in italics are higher than the threshold, 0.9.

3.4. Common method variance

The potential Common Method Variance (CMV) may be a concern when a single data source is used. CMV may deflate or inflate actual relationships. A high CMV, e.g., 70% or more, may indicate common method bias (Fuller et al. 2016). Since this study involves consumers' psycho-cognitive behaviour, it is difficult in practice to avoid reliance on a single data source. However, recommendations by Chang et al. (2010) and Podsakoff et al. (2003) were followed to address CMV. In the ex-ante research design stage, different scale types (namely, Likert scales and semantic scales) were used for the questionnaire items to reduce the likelihood of CMV. In the model design stage, overly simple models were avoided, e.g., HOCs were used to reduce the likelihood of CMV (Chang et al., 2010). In the data collection stage, the respondents were encouraged to answer the survey questions honestly; respondents were assured of anonymity and the confidentiality of the data collected (Podsakoff et al., 2003). Post hoc statistical analysis was used to check and report whether the study was affected by CMV. Some ex-post statistical techniques can be applied as CMV tests, such as the marker variable test, Harmen's one-factor test, and common latent factor methods (Lindell and Whitney, 2001; Chang et al., 2010). In this study, the most commonly used method, Harmen's one-factor test, was applied. Results indicate that 44 per cent of the variance was explained by the one factor extracted, suggesting that CMV is not a significant issue in this instance (Chang et al., 2010). Additionally, the full collinearity assessment approach was also applied, and the results show that all variance inflation

factors (VIFs) are below the suggested value of 3.3 (Appendix 1), suggesting that all latent variables in the model are free of CMV (Kock and Lynn, 2012).

4. Results and Analysis

The results of the SmartPLS 3 algorithm and bootstrapping running 5,000 samples are displayed in Table 6 and Figure 2. Seven hypotheses were tested for statistical significance (Table 6). In-store stimuli are strongly related to on-site emotion with a high effect size (H1: β = .834). On-site emotion is significantly related to in-store browsing with a medium to high effect size (H2: β = .467) and impulse buying with a small effect size (H3: β = .130). These empirical results are consistent with the theoretical expectations of the SOR paradigm (Mehrabian and Russell,1974; Russell and Pratt, 1980; Rook,1987). Furthermore, in-store browsing significantly explains the final impulse buying decision (H8: β = .337). This additional path in the model indicates that when the affective emotion has been considered, in-store browsing represents a further cognitive process impacting consumers' final decision making (and this is statistically confirmed).

Table 6. Algorithm and Bootstrapping test of hypothesis and model

Hypothesis	Coefficient	T Value
H1: In-store stimuli -> On-site emotion	0.834***	37.091
H2: On-site emotion -> In-store browsing	0.467***	13.498
H3: On-site emotion -> Impulse buying	0.130**	3.174
H4: Brand connection -> In-store browsing	0.211***	5.838
H5: Brand connection -> Impulse buying	0.315***	8.339
H6: Brand connection*On-site emotion -> In-store browsing	-0.078**	2.076
H7: Brand connection*On-site emotion -> Impulse buying	-0.019	0.777
H8: In-store browsing -> Impulse buying	0.337***	7.789

Note: **ρ <0.05(two-tailed); ***ρ <0.001(two-tailed); SRMR = 0.084

Also, brand connection is significantly related to in-store browsing (H_4: β = .211) and impulse buying (H_5: β = .315). Brand connection has a significant and negative influence on the relationship between on-site emotion and in-store browsing (H_6: β = -.078**) with a medium moderation effect size (f^2 = 0.013). However, the interactive effect of on-site emotion and brand connection on impulse buying is statistically insignificant (H_7: β = -.019).

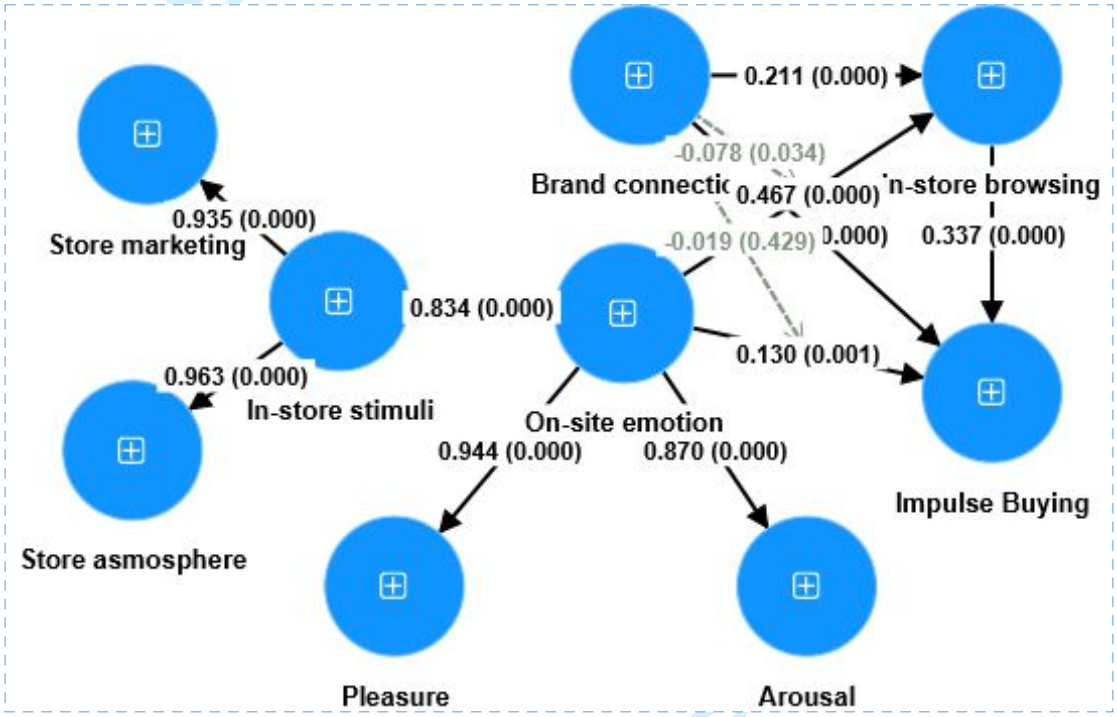


Figure 2. Algorithm and bootstrapping results
Note: Both path coefficients and p-values are shown (the latter in brackets).

The model explained 40.9 per cent of the variance in impulse buying, the final behavioural response (Appendix 3). The R square result of the final behavioural response, i.e., impulse buying, is much higher than reported in some previous studies, e.g., 11 to 18 per cent by Donovan et al. (1994) and 20 per cent by Beatty and Ferrell (1998). Also, 69.5 per cent of the variance in on-site emotions can be explained by in-store stimuli. The R square values further indicate that this is a valid and reliable model in explaining and predicting impulse buying of ALF in the context of outlet stores. The PLSpredict method was applied to generate a predictive power assessment in

SmartPLS4. The result shows that all Q square values are above zero (Appendix 4), suggesting a good predictive relevance of the PLS path model (Ringle et al., 2022).

5. Discussion and Conclusion

This study sets out to build an enhanced SOR model drawing on fast and slow thinking (Kahneman, 2013) to strengthen our understanding of impulse buying of ALF in an outlet store environment. Our evidence supports the hypothesis that three key determinants – brand connection, in-store browsing, and on-site emotions – significantly explain ALF impulse buying. We find that impulse buying of ALF arises from the interplay of emotional and cognitive factors, as well as a sequential and dual process involving in-store stimuli affecting on-site emotion and in-store browsing. Additionally, within ALF outlet stores, the influence of a consumer's on-site emotion on in-store browsing is negatively moderated by the consumer's prior brand connection. The interactive effect of emotion and brand connection on in-store browsing is an original finding in this study and one that calls for further investigation in future research.

5.1. Theoretical contributions

This study offers several theoretical contributions. First, we address the under-explored role of marketing activity as part of the possible set of environmental stimuli by demonstrating that in-store stimuli, as represented by store atmosphere and store marketing, effectively generate positive emotions in ALF consumers, influencing their behavioural responses such as in-store browsing and impulse buying. This both supports and extends the SOR paradigm, aligning with prior research and providing updated empirical support for the paradigm (e.g., Rook, 1987; Sherman et al., 1997; Mattila and Wirtz, 2001; Huang, 2016; Errajaa et al., 2022).

Second, we investigate the interactive effect of emotion and cognition on impulse buying, including the sequential impact of emotion on cognition. This study thus advances our understanding of the interaction between fast-thinking and slow-thinking (Kahneman, 2013) during in-store browsing and decision-making in ALF consumers.

Furthermore, this study extends the SOR model to incorporate System 1 fast-thinking and System 2 slow-thinking (Kahneman, 2013). Specifically, we found that emotion (System 1) can spontaneously trigger impulse buying in luxury fashion consumers. However, slow thinking (System 2) can also be involved in impulse buying through in-store browsing. Browsing allows consumers to assess available products and promotions information, which can influence their subsequent purchase decisions.

Third, the research has added depth to the meaning of impulse purchasing within the ALF context by demonstrating that it is a complex process that can be influenced by fast and slow thinking. Previously, impulse purchasing was often seen as purely impulsive behaviour, driven by System 1 fast-thinking. However, the research shows that System 2 slow-thinking can also play a role in impulse purchasing, particularly through the process of in-store browsing. ALF outlet stores provide a unique research context, where consumers may be motivated to make "self-indulgent" choices such as impulse buying of ALF clothes for daily wear, by the store's promotional activities or social environmental stimuli (System 1 fast thinking). However, ALF consumers are also likely to consider their budget constraints when making their purchase decisions, meaning that they also experience System 2 slow thinking. Hence, we reveal that ALF consumers may operate under dissonant conditions, where cognitive evaluation becomes a stronger predictor than affective emotion (Holloway, 1967; Dholakia, 2000). This addresses the research gap in examining the interactive effects of cognitive and emotional factors on consumption behaviour (Wang et al., 2011).

Fourth, our study examines the interactive effect of on-site emotion and brand connection on in-store browsing, an area that has yet to be explored in previous research. We find a significant and negative moderation effect of brand connection on the relationship between on-site emotion and in-store browsing, shedding light on the emotional and cognitive interactive impact on impulse buying in the ALF context.

In addition to the theoretical contributions, this study introduces methodological innovations to the SOR model, which can serve as a foundation for future research. We propose a new approach to measuring in-store stimuli with a specific commercial measure (store marketing) and a general non-commercial measure (store atmosphere). Furthermore, we use two reflective-reflective HOCs in the revised SOR model, enhancing our understanding and prediction of complex social phenomena. In addition, in-store browsing was operationalised in this study; new scale development was based on existing definitions of browsing (Bates, 2007; Hjorland, 2011) while also reflecting the research context of ALF outlets.

5.2. Managerial implications

In addition to theoretical contributions, this study provides valuable practical insights for luxury brand marketers and outlet store managers. Managing in-store stimuli to entice consumers to visit, stay, and browse is a multifaceted challenge. To succeed, retailers and marketers of ALF should focus on both commercial (i.e., store marketing) and physical (i.e., store atmosphere) aspects of in-store environmental stimuli. Store managers must create a pleasant atmosphere and employ effective store marketing strategies for the visitors, as customers may be motivated to visit a store due to brand connection. Enhancing these aspects can encourage in-store browsing and impulse buying.

Furthermore, this study highlights the significant role of in-store browsing in ALF impulse purchasing, which surpasses the influence of affective emotions. While impulsive behaviour can be emotional, it is not necessarily irrational. As such, ALF in-store management must facilitate a more deliberate thinking process, enabling consumers to make more rational purchasing decisions. For instance, ALF outlets can display product prices alongside regular retail prices and offer limited-time discounts to bolster consumers' cognitive evaluation and enhance decision-making rationality. By focusing on effective communication during the browsing process via multiple channels, ALF in-store management can instil confidence in consumers' cognitive evaluation and rational decision-making.

Lastly, on-site emotions and brand connection are critical drivers of impulse buying behaviour. Consequently, ALF management should prioritise fostering consumers' brand connections and supporting rational impulse buying. Instead of solely concentrating on product sales, ALF stores can create unique in-store shopping experiences and provide consistent brand services. As seen in some ALF brands, adopting loyalty card programs and maintaining a high staff-to-consumer ratio can facilitate immediate brand connections and positive emotions, encouraging customers to shop or browse further.

5.3. Limitations and future research

Our study has several limitations, which lead to suggestions for future research directions. We acknowledge that post-purchase data collection, particularly through a self-report survey methodology, is subject to memory error or post hoc attributions (Donovan et al., 1994). We argue that this error can be minimised by large sample sizes (Brewer and Sindelar, 1988), as achieved in this study. Nevertheless, different data

collection methods (such as experiments, face-to-face, and in-store data collection) could be undertaken in future studies to address this limitation.

In addition to store atmosphere and store marketing, other factors are worthy of further investigation in the future, e.g., a broader sociocultural situation such as shopping with others (e.g., Luo, 2005; Xiao and Nicholson, 2013), social interactions (e.g., Huang, 2016; Chen et al., 2019), and cultural influence (e.g., Kacen and Lee, 2002; Lee and Kacen, 2008); as well as factors associated with personality such as impulse buying tendency (Fenton-O'Creevy and Furnham, 2020; Parsad et al., 2021). Including these factors in future studies may increase the model's power in predicting behavioural responses.

The study offers new insights into impulse buying, resulting from a shift from fast thinking to a slow thinking process. We call for further research to explore when and how this shift happens and how it influences impulse buying of ALF items.

Acknowledgement

We thank Nottingham Trent University and Coventry University for supporting this project.

Appendices

Appendix 1: Collinearity Statistics (VIF)

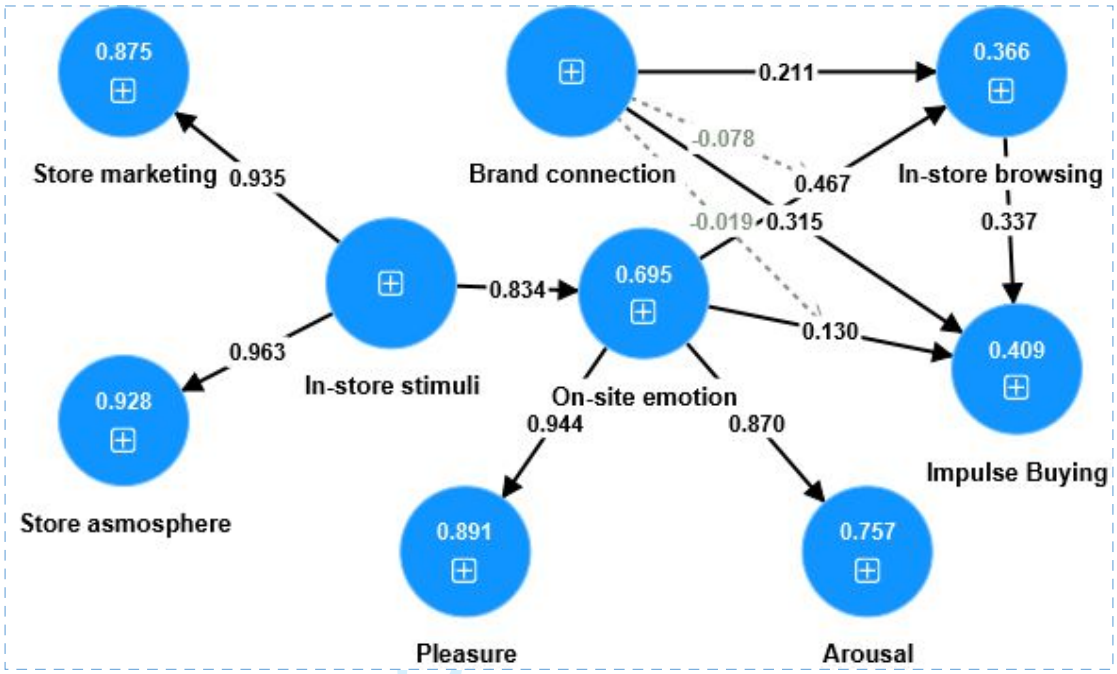
	Arousal	BC Moderatio...	BC Moderatio...	Brand connect...	Impulse buying	In-store Stimuli	In-store browsi...	On-site emotion	Pleasure	Store atmosph...	Store marketing
Arousal											
BC Moderation...							1.020				
BC Moderation...					1.034						
Brand connecti...					1.311		1.240				
Impulse buying											
In-store Stimuli								1.000		1.000	1.000
In-store browsi...					1.578						
On-site emotion	1.000				1.565		1.221		1.000		
Pleasure											
Store atmosph...											
Store marketing											

Appendix 2: Discriminant validity - Fornell-Larcker criterion

	1	2	3	4	5	6	7
1 Arousal	**0.773**						
2 Brand connection	0.427	**0.893**					
3 Impulse buying	0.451	0.516	**0.804**				
4 In-store browsing	0.500	0.423	0.547	**0.769**			
5 Pleasure	0.659	0.363	0.393	0.524	**0.906**		
6 Store atmosphere	0.607	0.370	0.366	0.490	0.829	**0.841**	
7 Store marketing	0.608	0.351	0.364	0.485	0.767	0.806	**0.826**

Notes: The diagonal shows square roots of the AVE values, which are as expected, higher than correlations of relevant constructs, suggesting good discriminant validity.

Appendix 3: PLS Algorithm result



Note: R square values are inside the circles.

Appendix 4: The Q square value of constructs in the PLS path model

Construct	Q^2predict
Arousal	0.399
Impulse buying	0.296
In-store browsing	0.316
On-site emotion	0.693
Pleasure	0.708
Store atmosphere	0.928
Store marketing	0.874

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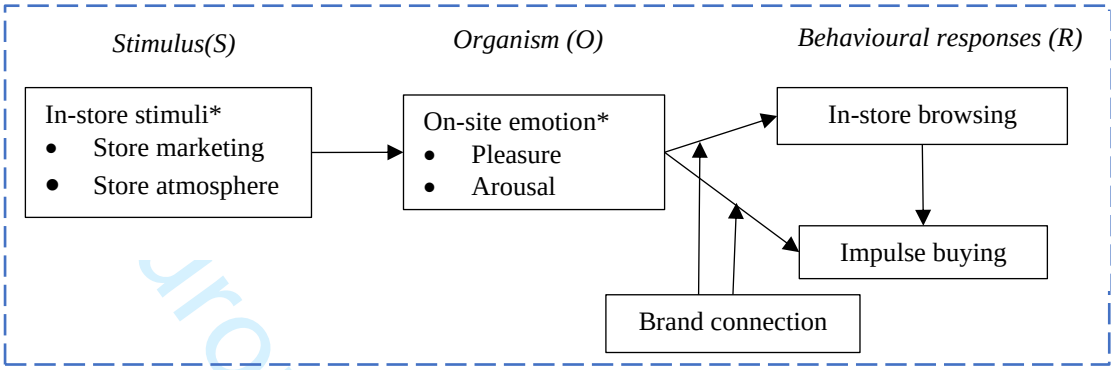


Figure1. A conceptual model for ALF impulse buying.

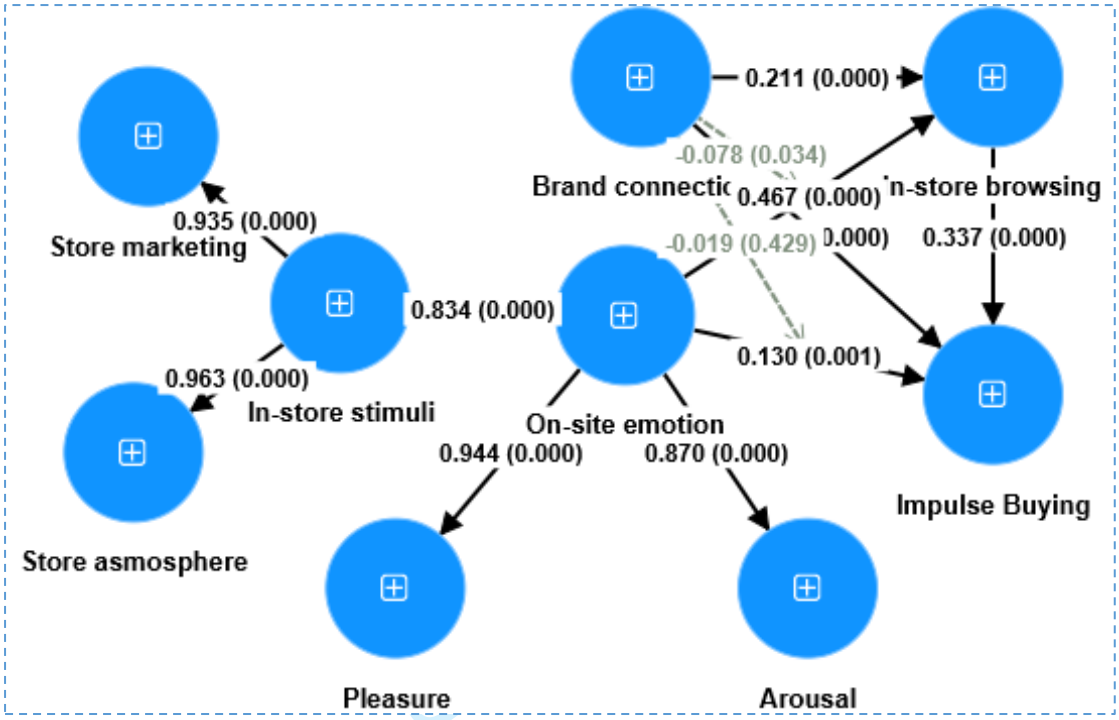


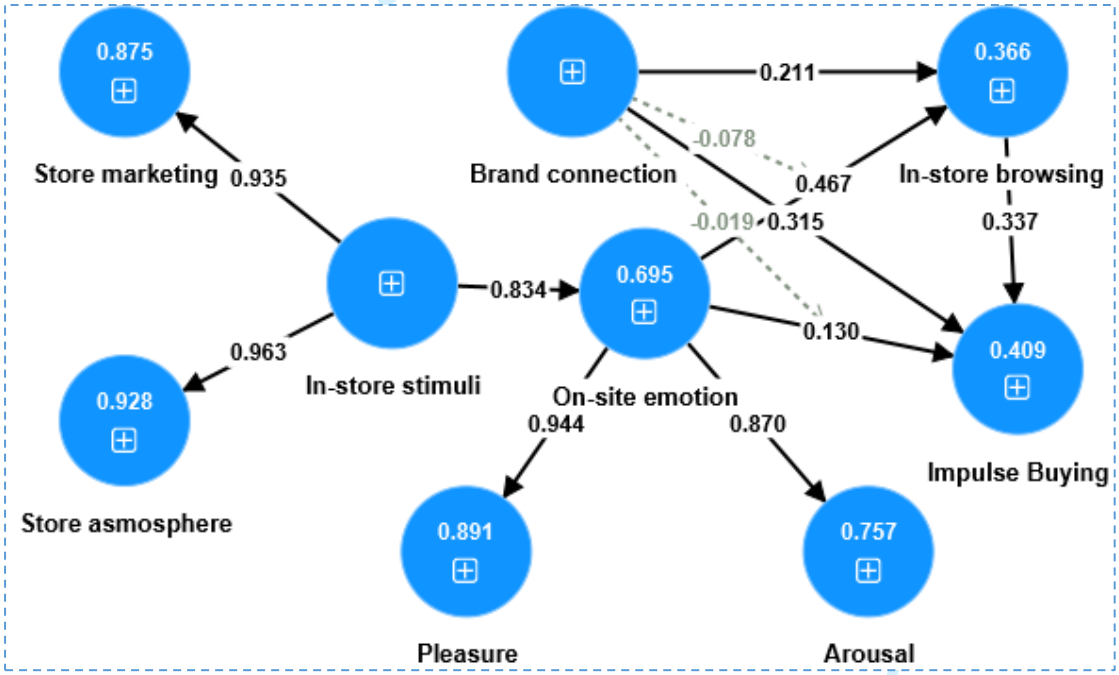
Figure 2. Algorithm and bootstrapping results

Note: Both path coefficients and p-values are shown (the latter in brackets).

Appendix 1: Collinearity Statistics (VIF)

	Arousal	BC Moderatio...	BC Moderatio...	Brand connect...	Impulse buying	In-store Stimuli	In-store browsi...	On-site emotion	Pleasure	Store atmosph...	Store marketing
Arousal											
BC Moderation...							1.020				
BC Moderation...					1.034						
Brand connecti...					1.311		1.240				
Impulse buying											
In-store Stimuli								1.000		1.000	1.000
In-store browsi...					1.578						
On-site emotion	1.000				1.565		1.221		1.000		
Pleasure											
Store atmosph...											
Store marketing											

Appendix 3: PLS Algorithm result



Note: R square values are inside the circles.