

Unravelling Advertising Appeals

The Effect of Scarcity and FOMO Appeals in Social Media Advertising on Consumers' Purchase Intentions

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ABSTRACT

Many businesses have strategically incorporated scarcity and FOMO (Fear of Missing Out) appeals in their marketing efforts to influence consumer behaviour and affect purchase intentions. However, existing research remains unclear about the relationship between these appeals and consumers' purchase intentions, as well as the mediating role of perceived FOMO and the moderating role of conceptual and evaluative persuasion knowledge in this respect. Additionally, prior studies have predominantly focused on traditional and digital advertising broadly, neglecting the specific context of social media platforms, which may provide a distinct opportunity for companies to employ scarcity and FOMO appeals effectively. Therefore, this thesis poses the following research question: *To what extent does the use of scarcity and FOMO appeals in social media advertising influence consumers' purchase intentions?* To answer this question, an online experiment paired with a survey was conducted, gathering data from daily social media users ($N = 120$). The between-subjects experimental design included three levels: a social media advertisement without an appeal, one including a FOMO appeal, and one including a scarcity appeal. Data analysis was conducted with Hayes' PROCESS Macro. The results reveal that contrary to expectations, there was no relationship between scarcity appeals in social media advertising and purchase intention. In contrast, the use of FOMO appeals in social media advertising did increase consumers' purchase intention. Moreover, perceived FOMO did not mediate the relationship between scarcity appeal and purchase intention; however, it fully mediated the relationship between FOMO appeal and purchase intention. This finding suggests that FOMO appeals are more effective in eliciting an emotional response, such as perceived FOMO, than scarcity appeals. Furthermore, contrary to previous theories and findings, conceptual and evaluative persuasion knowledge did not moderate the relationships between scarcity and FOMO appeals, and purchase intention within the realm of social media advertising. Collectively, these findings provide marketing practitioners, policymakers, and consumers with valuable insights into the underlying mechanisms of these appeals and their effect on consumer behaviour.

KEYWORDS: *Scarcity Appeal, FOMO Appeal, FOMO, Persuasion Knowledge, Purchase Intention*

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1. Introduction

In the landscape of marketing and consumer behaviour, the strategic utilization of advertising appeals is considered a pivotal tool in shaping consumers' perceptions and intentions (Akbari, 2015, p. 480). These appeals, strategically crafted by marketers, drive consumer motivations for purchasing and influence their perceptions of a given product or service (Akbari, 2015, pp. 479-480; Mishra, 2009, p. 23). Among the plethora of advertising appeals, scarcity and Fear of Missing Out (FOMO) appeals stand out as recurrent and effective strategies (Hodkinson, 2016, p. 2). Scarcity appeals, which focus on the product, foster perceptions of product scarcity through assertions of exclusivity, high demand, or unique pricing (Hodkinson, 2016, p. 13). For example, a clothing brand may showcase limited stock on an item or a deal available only for a specific duration, using phrases such as "limited quantities available" or "only today" (Mukherjee & Lee, 2016, p. 256). In contrast, FOMO appeals specifically describe or suggest FOMO or 'missing out' (Hodkinson, 2016, p. 2). These appeals are consumer-focused (Hodkinson, 2016, p. 2), emphasizing the social and experiential aspects of purchasing. Examples are phrases like "Don't miss out!" or "Don't let your friends go without you" (Good & Hyman, 2020a, p. 1). Nevertheless, despite their different focal points, both appeal types effectively drive consumer action (Hodkinson, 2016, p. 2).

Extant literature has examined the impact of advertising appeals on consumer behaviour, particularly the effectiveness of scarcity appeals in driving demand and bolstering product consumption (Barton et al., 2022; Mittone & Savadori, 2009; Saavedra & Bautista, 2020; Zhang et al., 2022). For instance, Huang et al. (2020, p. 3) assert that scarcity appeals positively influence product evaluations and purchase intentions by suggesting that a product is popular or exclusive. Moreover, Shi et al. (2020, pp. 386-387) argue that individuals are more likely to purchase a product in short supply when they observe that many others have purchased it or seek to differentiate themselves by valuing products capable of communicating uniqueness, thereby influencing their purchase intentions. Nevertheless, the direct impact of FOMO appeals on consumers' purchase intentions remains largely underexplored. Although Good and Hyman (2020a, p. 9) found that FOMO appeals can drive sales primarily through impersonal means like advertisements, the precise mechanisms and extent of their influence are not fully understood.

The Stimulus-Organism-Response (S-O-R) model (Mehrabian & Russell, 1974) suggests that external stimuli can influence an individual's mental state, which in turn prompts a response,

shaping behaviour (Chen & Yao, 2018, p. 2). Considering advertising appeals (e.g., scarcity and FOMO appeals) as external stimuli influencing purchase intentions, an interesting and underdeveloped research avenue relates to the mediating effect of perceived Fear of Missing Out (FOMO) in this respect. FOMO encapsulates the anxiety of being excluded from others' experiences or possessions (Hodkinson, 2016, p. 3; Przybylski et al., 2013, p. 1841). Despite the divergent focal points of scarcity and FOMO appeals (product-focused vs. consumer-focused), several studies suggest that both appeal types can induce perceived FOMO (Good & Hyman, 2020a; Good & Hyman, 2020b; Hodkinson, 2016; Zhang et al., 2021; Khetarpal & Singh, 2024). For example, Zhang et al. (2021, p. 8) and Hodkinson (2016, p. 2) assert that scarcity and FOMO appeals heighten consumers' anxiety about missing out on a product or the experiences it provides, thereby driving purchases. While there is evidence that perceived FOMO acts as a mediator, most prior research has predominantly treated FOMO as a *self-initiated* behaviour (Baker et al., 2016; Elhai et al., 2016; Fabris et al., 2020; Riordan et al., 2023; Scott & Woods, 2018) rather than an *externally-driven* one (Hodkinson, 2016, p. 1). These findings leave a significant gap in understanding how perceived FOMO, influenced by external stimuli such as advertising appeals, impacts consumer behaviour.

Furthermore, the effectiveness of scarcity and FOMO appeals on consumers' purchase intentions may vary depending on their level of persuasion knowledge (Eisend & Tarrahi, 2022, p. 2). Persuasion knowledge is the extent to which consumers understand the persuasive goals, tactics, and mechanisms used by marketers to influence their purchasing decisions (Eisend & Tarrahi, 2022, p. 4; Friestad & Wright, 1994, p. 1). Research suggests that as consumers become more attuned to these persuasive appeals, their decision-making processes are influenced (Aguirre-Rodriguez, 2013; Eisend & Tarrahi, 2022, p. 4; Hibbert et al., 2007). For instance, Eisend and Tarrahi (2022, p. 4) argue that higher persuasion knowledge enables consumers to critically evaluate marketers' advantages against their benefits and develop negative intentions and behaviours when they witness potentially deceptive tactics. However, the majority of these studies have treated persuasion knowledge as a general construct, overlooking its conceptual (recognition and comprehension) and evaluative (critical perspective) dimensions (Boerman et al., 2018, p. 673). Making this distinction is crucial for a more nuanced understanding of how consumers identify marketers' intentions to sell products and their tendency to question advertisements (Boerman et al., 2018, pp. 674-675).

The above findings indicate significant research gaps regarding the relationship between scarcity and FOMO appeals and consumers' purchase intentions. Moreover, existing research has predominantly focused on traditional and digital advertising broadly, neglecting the specific context of social media platforms. These platforms offer continuous social information streams about others' possessions and experiences (Fridchay & Reizer, 2022, p. 257; Milyavskaya et al., 2018, p. 726; Przybylski et al., 2013, p. 1841), which may present a unique opportunity for companies to employ scarcity and FOMO appeals effectively. Additionally, the dynamic nature of social media may make the accuracy of both appeals harder to verify, potentially enhancing their impact (Tutaj & Reijmersdal, 2007, p. 8). Hence, the following research question is posed: *To what extent does the use of scarcity and FOMO appeals in social media advertising influence consumers' purchase intentions?*

This study aims to fulfil these research gaps, drawing on the S-O-R model, by (1) examining to what extent the use of scarcity and FOMO appeals in social media advertising influence consumers' purchase intentions and (2) investigating how perceived FOMO and conceptual and evaluative persuasion knowledge play a role in this relationship. Using an experiment paired with a survey, this study examines the impact of scarcity and FOMO appeals on consumer purchase intentions via the mediating role of perceived FOMO and the moderating role of conceptual and evaluative persuasion knowledge. Overall, this study contributes to understanding scarcity and FOMO appeals by unravelling new insights into their effectiveness on purchase intention in the social media advertising context.

1.1 Managerial and Societal Relevance

This study on scarcity and FOMO appeals also holds critical managerial and societal relevance for contemporary businesses, policymakers, and consumers. Businesses need to understand the impact of scarcity and FOMO appeals on consumers' purchase intentions in order to strategically implement these appeals in their social media advertisements and increase demand. Although businesses extensively use FOMO-inducing advertising appeals already within current commercial markets, there is insufficient understanding regarding consumers' reaction mechanisms driving the commercial success of FOMO (Hodkinson, 2016, p. 2). Therefore, this study aims to investigate to what extent scarcity and FOMO appeals influence purchase intention and how perceived FOMO mediates this relationship. These insights could guide managers in

optimizing their advertising expenditures, along with suggestions on effectively incorporating scarcity and FOMO appeals in marketing strategies to enhance consumer retention and boost purchases. Additionally, investigating the moderating role of conceptual and evaluative persuasion knowledge in this relationship lies in comprehending consumers' awareness and scepticism of persuasive attempts in social media advertisements (Boerman et al., 2018, p. 673). By understanding how conceptual and evaluative persuasion knowledge moderate the impact of scarcity and FOMO appeals on purchase intention, businesses can optimize and tailor their message delivery accordingly.

For policymakers, the insights from this study can be instrumental in shaping regulations and guidelines around advertising practices. As social media advertising grows, ensuring these practices do not exploit consumers' vulnerabilities becomes crucial (Hodkinson, 2016, p. 17). Policymakers can potentially use the findings to develop standards that balance effective marketing with consumer protection, promoting ethical advertising practices. For consumers, it is essential to recognize that the prevalence of scarcity and FOMO appeals in advertising can significantly influence their purchasing behaviours and psychological well-being. By learning more about these persuasive tactics, consumers can make more informed decisions and potentially reduce the negative psychological impacts of perceived FOMO (Hodkinson, 2016, p. 17).

1.2 Outline of The Chapters

This study is structured into several chapters. Chapter two will offer the theoretical framework, explaining the relationship between scarcity and FOMO appeals and purchase intention. Additionally, this chapter will examine how perceived FOMO mediates this relationship and how conceptual and evaluative persuasion knowledge moderate it. The third chapter will outline the methodology, including the research design, sample description and sampling strategy, operationalization, data processing and analysis, validity and reliability, and ethical considerations. Following this, the fourth chapter will present the results by scrutinizing the data and assessing the hypotheses. Chapter five will discuss the key findings comprehensively, examine their theoretical and practical implications, and acknowledge any limitations. Finally, chapter six will conclude this research by addressing the research question.

2. Theoretical Framework

This chapter reviews the existing literature about scarcity and FOMO appeals, perceived FOMO, conceptual and evaluative persuasion knowledge, and purchase intention. The Stimulus-Organism-Response (S-O-R) model will serve as the guiding framework of this study, offering a structured approach to exploring these relationships. First, the direct relationship between scarcity and FOMO appeals in social media advertising and purchase intention will be explored. Second, the mediating role of perceived FOMO in this relationship is elucidated. Finally, the chapter investigates the moderating role of conceptual and evaluative persuasion knowledge in this relationship.

2.1 The Stimulus-Organism-Response (S-O-R) Model

The Stimulus-Organism-Response (S-O-R) model, proposed by Mehrabian and Russell (1974), is a foundational theory in understanding how external cues influence consumer behaviour (Djafarova & Bowes, 2021, p. 3). It posits that external variables can function as stimuli influencing an individual's mental state, which in turn prompts a response, shaping behaviour (Chen & Yao, 2018, p. 2).

The model comprises three components: stimulus (S), organism (O), and response (R) (Djafarova & Bowes, 2021, p. 2; Zhang et al., 2022, p. 2). According to Chang et al. (2011, p. 235), the traditional S-O-R model defines a *stimulus* as an element that impacts the mental state of the individual, essentially serving as a trigger that prompts a response. These stimuli originate externally from the individual and encompass various factors such as marketing mix elements or environmental inputs (Chang et al., 2011, p. 235; Zhang et al., 2022, p. 3). The *organism* refers to the internal conditions of an individual, encompassing their emotional states (Zhang et al., 2022, p. 3). It is regarded as internal mechanisms and structures that operate as a mediator between the external stimuli and the individual's ultimate actions, reactions, or responses (Chang et al., 2011, p. 235). The last component of the S-O-R model, *response*, stands for the ultimate results and choices of an individual, which may include approach or avoidance behaviour (Chang et al., 2011, p. 236; Zhang et al., 2022, p. 3; Vieira, 2013, p. 1421).

Applying the S-O-R model, this study seeks to understand how specific advertising appeals (i.e., scarcity and FOMO appeals) (S) affect consumers' internal states (O) and how these internal states subsequently influence their purchase intentions (R).

2.2 Advertising Appeals (S) and Purchase Intention (R)

This study identifies advertising appeals as the ‘stimulus’ and purchase intention as the ‘response’ within the S-O-R model. Purchase intention is indicative of the extent to which consumers are inclined and willing to buy a good or service (Lin & Lu, 2010, p. 20). Advertising appeals are strategic endeavours crafted to ignite consumer motivations for purchasing and to shape their perceptions of a given product or service (Akbari, 2015, pp. 479-480; Mishra, 2009, p. 23). This study distinguishes between two types of advertising appeals: scarcity appeals and FOMO appeals. The following sections will examine these two appeal types in-depth, elucidating their mechanisms and effects on consumers’ purchase intentions.

2.2.1 Scarcity vs. FOMO Appeals

In the competitive realm of marketing and consumer behaviour, understanding the strategic use of advertising appeals is crucial for shaping consumer perceptions and driving purchase intentions. Among these appeals, scarcity and FOMO appeals are particularly effective yet distinct in their focal points (Hodkinson, 2016, p. 2).

Scarcity refers to the perception of a product’s restricted availability or quantity (Hodkinson, 2016, p. 13). Prior studies have repeatedly shown that scarcity improves an item’s perceived value or desirability (Chae, 2020; Eisend, 2008; Jung & Kellaris, 2004). For instance, Verhallen (1982, p. 321) and Verhallen and Robben (1994, p. 315) revealed that individuals have a stronger preference for recipe books when they perceive them as less accessible. Additionally, Rosendo-Rios and Shukla (2023, p. 6) discovered that luxury items, which are rare or scarce, tend to hold a greater value compared to items that are more common or easily accessible. Similarly, Worchel et al. (1975, p. 906) found that individuals perceived delicacies in limited quantity to be more attractive than those in abundant supply.

These consistent trends have resulted in marketers frequently leveraging a product’s scarcity in their promotional strategies to enhance its desirability to consumers (Amin, 2019, p. 184; Jung & Kellaris, 2004, p. 740). Scarcity appeals are marketing messages designed to increase the attractiveness of a product or service by implying limited availability through time-sensitive promotions or exclusivity, regardless of actual demand (Hodkinson, 2016, p. 13). For example, phrases like "Act quickly, limited stock available" or "Limited quantities" may not accurately

reflect the product demand; instead, marketers might use them arbitrarily to spark consumers' interest (Amin, 2023, p. 184).

Scarcity appeals can either be supply-based or demand-based. Supply-based scarcity appeals emphasize scarcity resulting from limited manufacturing or distribution of a product, increasing its desirability through exclusivity. In contrast, demand-based scarcity appeals highlight a shortage of a product caused by increasing demand, which makes it more desirable by creating the perception of popularity (Khosro et al., 2023, p. 53; Huang et al., 2020, p. 3). Additionally, scarcity appeals can be further categorized into Limited-Time Scarcity (LTS) appeals and Limited-Quantity Scarcity (LQS) messages (Cengiz & Şenel, 2023; Jang et al., 2015, p. 989; Song et al., 2021, p. 168). LTS messages involve setting a specific duration before the expiration of products and services, such as "Sales prices valid until Friday" (Cengiz & Şenel, 2023, p. 406; Song et al., 2021, p. 168). On the other hand, LQS messages are frequently employed to enhance a product's attractiveness, encouraging consumers to compete for limited-edition items, as seen in phrases like "Produced in limited numbers" (Cengiz & Şenel, 2023, p. 406; Song et al., 2021, p. 168). While LTS is primarily controlled by factors related to the supply side, LQS may increase due to changes in either supply or demand (Cengiz & Şenel, 2023; Ku et al., 2012, p. 541). Figures 1 and 2 provide examples of LTS and LQS messages.



Figure 1. Example of a Limited-Time Scarcity Message (LTS) (Newbold, 2017).

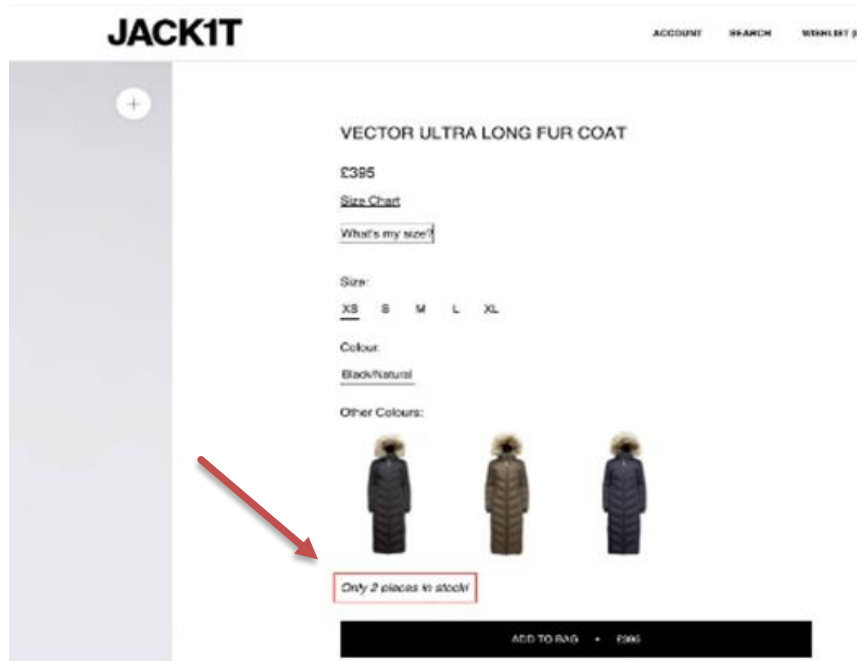


Figure 2. Example of a Limited-Quantity Scarcity Message (LQS) (Nepal, 2023).

On the other hand, FOMO appeals are marketing messages designed to increase a product or service's desirability by specifically describing or suggesting FOMO or 'missing out' (Hodkinson, 2016, p. 3). In other words, FOMO appeals are about missing out on others or an experience rather than a product. An example of a FOMO appeal is "Don't let your friends go without you" (Good & Hyman, 2020a, p. 1). FOMO appeals frequently highlight marketers' efforts to stimulate a product's use, demand, or purchase, especially among young adults (Hodkinson, 2016, p. 3; Neumann, 2023, p. 236). For instance, FOMO appeals have been employed to enhance the demand for various products, specifically targeting the younger generation. These products include beer, high-end clothing, feminine hygiene products, and real estate for young adults seeking to buy their first homes (Hodkinson, 2016, p. 2). Moreover, FOMO appeals are frequently used for services, such as promoting travel-related efforts (Hodkinson, 2016, p. 2).

FOMO appeals can be categorized into four main types (Hodkinson, 2016, p. 7). The first type is an impersonal non-commercial FOMO appeal, where a friend might use social media to extend a party invitation, emphasizing the fear of missing out. The second type is an impersonal commercial FOMO appeal, such as an advertisement creating a sense of missing out, conveyed through impersonal communication. The third type is an in-person commercial FOMO appeal

involving sales personnel. Lastly, the fourth type is an in-person non-commercial FOMO appeal originating from important individuals like close friends, parents, and family members. This study particularly focuses on the impersonal commercial FOMO appeal observed in advertisements due to their widespread, but underexplored influence on consumer behaviour (Good & Hyman, 2020a, p. 9). Figure 3 provides an example of an advertisement that includes a FOMO appeal.

It is crucial to differentiate FOMO appeals from scarcity appeals, as they have distinct focuses (Hodkinson, 2016, p. 2). FOMO appeals are consumer-centred, aiming to make a product more desirable by representing the internal feeling of being left out of social experiences or the lost opportunity to partake in a consumption activity (Good & Hyman, 2020b, p. 2; Hodkinson, 2016, p. 2). Scarcity appeals, on the other hand, focus on the product itself and try to make a product more desirable by evoking notions of limited supply or time-sensitive promotions (Good & Hyman, 2020b, p. 2; Hodkinson, 2016, p. 2). Despite their different focal points, both appeal types operate similarly by stimulating consumer action (Good & Hyman, 2020b, p. 2; Hodkinson, 2016, p. 2).



Figure 3. Example of a FOMO Appeal (Gerdes, 2015).

2.2.2 Scarcity Appeals and Purchase Intention

The efficacy of scarcity appeals in shaping consumer behaviour has garnered significant attention in the literature, with numerous studies supporting their influence (Barton et al., 2022;

Mittone & Savadori, 2009; Zhang et al., 2022). Huang et al. (2020, p. 3) assert that scarcity appeals prompt consumers to quickly capitalize on the opportunity before it is sold out. Such appeals can be potent indicators of a product's popularity and superior quality, fostering favourable evaluations and bolstering purchase tendencies (Huang et al., 2020, p. 3). This phenomenon aligns seamlessly with the Conformity Theory (Asch, 1956), which posits that scarcity effects stem from a societal inclination towards conformity and a desire for social belonging (Barton et al., 2020, p. 743). Individuals, driven by the association of scarcity with social validation, tend to conform to perceived standards, thereby amplifying demand (Barton et al., 2020, p. 743). Shi et al. (2020, p. 387) further support this notion, demonstrating that individuals are more likely to purchase a product in short supply when they observe that numerous others have already bought it – a phenomenon known as the bandwagon effect. A common illustration of this is how bare shelves at supermarkets stimulate consumers' intentions to make purchases (Shi et al., 2020, p. 387).

Additionally, scarcity appeals enhance consumers' assessments of products and subsequent purchasing behaviours by projecting a sense of exclusivity (Huang et al., 2020, p. 3). This assertion resonates with the Commodity Theory (Brock, 1968), suggesting that any commodity's worth is closely related to its unavailability (Lynn, 1991, p. 44). Here, a commodity refers to anything possessing utility to its owner and is transferable from one individual to another (Barton et al., 2022, p. 742; Lynn, 1991, p. 44; Roy & Sharma, 2015, p. 349; Shi et al., 2020, p. 386). Brock (1968, p. 252) observed that individuals inherently favour scarce commodities due to their association with individual uniqueness. Shi et al. (2020, p. 386) build on this idea, arguing that individuals inherently seek to differentiate themselves by valuing products capable of communicating this sense of uniqueness, thereby influencing consumers' purchase intentions.

Combining insights from the Conformity Theory and the Commodity Theory, it is expected that scarcity appeals in social media advertising increase consumers' purchasing intentions. Hence, the following hypothesis is stated:

H1: The use of scarcity appeals in social media advertising increases consumers' purchase intentions, compared to social media advertising without such an appeal (control condition).

2.2.3 FOMO Appeals and Purchase Intention

Research on the impact of FOMO appeals on purchase intention remains relatively scarce (Hodkinson, 2016, p. 1; Neumann, 2020, p. 7). Nonetheless, existing studies suggest that FOMO appeals can positively influence consumer behaviour. One study by Saavedra and Bautista (2020, p. 114) found that using FOMO appeals significantly affects Generation Z consumers' purchase decisions for masstige brands of clothes. Good and Hyman (2020a, p. 9) also identified that FOMO appeals, mainly through impersonal means like advertisements, can drive sales. The authors state that FOMO appeals frequently contain a warning to prevent consumers from "missing out" on what others are experiencing (Good & Hyman, 2020a, p. 5), thereby conveying notions of "popularity" and social norms. For example, phrases like "Don't miss out!" in clothing advertisements may reflect the preferences of other consumers and what is considered trendy. Like scarcity appeals, FOMO appeals can be connected to the Conformity Theory. Individuals adjust their behaviour to group standards to belong (Barton et al., 2022, p. 742; Shi et al., 2020, p. 387). Within the consumer context, individuals make purchases others have approved to raise their social status and sense of belonging (Good & Hyman, 2020b, p. 4). Regarding this, it could be argued that FOMO appeals have been found to increase the likelihood of purchase, particularly when consumers anticipate positive outcomes (e.g., belongingness) (Good & Hyman, 2020a, p. 6; Mandel & Nowlis, 2008, p. 10). Therefore, the following hypothesis is proposed:

H2: The use of FOMO appeals in social media advertising increases consumers' purchase intentions, compared to social media advertising without such an appeal (control condition).

2.3 The Mediating Role of Perceived FOMO (O)

In this study, perceived Fear of Missing Out (FOMO) emerges as the 'organism' within the S-O-R model. It serves as the internal mediator through which advertising appeals (i.e., scarcity and FOMO appeals) influence consumers' purchase intentions. Before delving deeper into this mediated relationship between scarcity and FOMO appeals and purchase intention, it is imperative to understand the concept of perceived FOMO. Following this exploration, the connection between scarcity and FOMO appeals and their consequential impact on purchase intentions will be elucidated.

2.3.1 Fear of Missing Out (FOMO)

The ‘Fear of Missing out’, commonly referred to as ‘FOMO’, has become deeply rooted in contemporary culture, especially among the younger generation (Hodkinson, 2016, p. 1). Although the exact origin of the term remains unclear (Hodkinson, 2016, p. 2), it has been conceptualized in various ways. For example, Herman (2000, p. 335) refers to FOMO as the fear of being unable to experience all possible options and missing the anticipated happiness that comes with success. However, Przybylski et al. (2013, p. 1841) characterize it as the pervasive fear that one might miss out on more pleasurable activities or material goods that other people might be enjoying. Here, the authors underscore the social aspect of FOMO, specifically the comparison to others. Given FOMO’s close alignment with the Social Comparison Theory (SCT), this latter definition appears most pertinent for utilization in this study.

As proposed by social psychologist Leon Festinger (1954, p. 117), the SCT argues that individuals have a natural tendency to assess their thoughts and skills. When individuals lack concrete knowledge regarding the sufficiency of their thoughts and skills, such as when they are unsure about which styles are currently popular while participating in online shopping, they make an effort to acquire such understanding by comparing themselves to others (Mumford, 1983, p. 874). Typically, individuals who resemble the person making the comparison are preferred as reference points for evaluation, as they offer a more accurate and pertinent source of comparative information (Mumford, 1983, p. 874).

The need for comparison is reflected in the perpetual desire to stay informed about the lives, possessions, and activities of others (Gupta & Sharma, 2021, p. 4882; Przybylski et al., 2013, p. 1841). This inclination has been greatly facilitated by the widespread use of social media, which provides easy access to real-time information about peers and intensifies individuals’ comparative tendencies (Milyavskaya et al., 2018, p. 726). Studies by Fridchay and Reizer (2022, p. 257) and Przybylski et al. (2013, p. 1841) underscore this trend, highlighting how platforms like Facebook, Instagram, and TikTok inundate individuals with a continuous flow of social information. The continuous exposure to the experiences of others and the plethora of available options can lead to a perceived limitation in individuals’ ability to fully explore all these options (Herman, 2000, p. 333). Comparing one’s own experiences to those of others that seem more satisfying can evoke feelings of inadequacy and a ‘fear of missing out’ (Saavedra & Bautista, 2020, p. 109). Moreover, the abundance of options showcased on social media fuels uncertainty regarding the ‘best’ option,

leading to anticipatory regret over unchosen alternatives (Milyavskaya et al., 2018, p. 725). For instance, even when opting for one enjoyable activity over another, such as choosing a date over a fraternity party, individuals may still find themselves haunted by thoughts of what they might have missed at the party, despite their satisfaction with their chosen activity (Milyavskaya et al., 2018, p. 726).

Prior research on FOMO can be divided into a marketing and non-marketing perspective (Good & Hyman, 2020a, p. 2). The non-marketing perspective, which primarily concentrates on individual behaviours triggered by perceived FOMO, has received the most attention. In essence, this perspective treats FOMO almost like a personality characteristic, resulting in diverse behaviours (Hodkinson, 2016, p. 1). It has shed light on diverse outcomes associated with heightened levels of FOMO. For instance, studies have revealed a correlation between elevated FOMO and depressive symptoms (Baker et al., 2016, p. 280), excessive alcohol consumption (Riordan et al., 2023, p. 3), shortened sleep duration (Scott & Woods, 2018, p. 63), as well as problematic smartphone and social media usage (Elhai et al., 2016, p. 513; Fabris et al., 2020, p. 5). Nevertheless, researchers in the field of marketing and consumer behaviour disagree with the idea of considering FOMO only as a characteristic of one's personality (Hodkinson, 2016, p. 1), and instead, emphasize that it is influenced by contextual factors (Good & Hyman, 2020a, p. 1). This perspective acknowledges that FOMO may change in response to context-specific stimuli, such as purchase-specific advertising appeals (Hodkinson, 2016, p. 1; Good & Hyman, 2020a, p. 1).

2.3.2 Perceived FOMO as a Mediator

Many studies have used the Stimulus-Organism-Response (S-O-R) model to explain the link between scarcity and impulsive buying (Chen & Yao, 2018; Islam et al., 2021; Zhang et al., 2021). As mentioned previously, this model suggests that an external stimulus (S) influences the internal state of the organism (O), which then leads to a response (R) (Chen & Yao, 2018, p. 2; Djafarova & Bowes, 2021, p. 2; Zhang et al., 2022, p. 2). In the realm of advertising, a scarcity appeal serves as the external stimulus that impacts consumers' internal state, ultimately leading to a purchasing response. For example, Chen and Yao (2018, p. 9) argue that scarcity influences consumers' normative evaluations and positive affect, influencing their buying tendencies. Additionally, Islam et al. (2021, p. 7) identified that both limited-time scarcity (LTS) and limited-

quantity scarcity (LQS) messages substantially heighten arousal in consumers, leading to higher levels of impulsive purchasing.

Zhang et al. (2021, p. 8) specifically focused on the mediating effect of perceived FOMO in the relationship between scarcity and buying behaviour. They found a positive relationship between scarcity, perceived FOMO, and impulsive purchasing. According to their findings, the S-O-R model in this relationship operates as follows: when a product becomes scarcer (S), individuals experience increased fear about missing the opportunity to acquire the product or the experience associated with it (i.e., perceived FOMO) (O) which, in turn, leads to increased impulsive purchases of the product (R). Moreover, the authors refer to the bandwagon effect, where individuals engage in particular behaviours simply because they observe others doing the same (Zhang et al., 2021, p. 3). These findings resonate with the studies of Hodkinson (2016, p. 2) and Ketharpal and Singh (2024, p. 286), suggesting that scarcity appeals can provoke perceived FOMO at an individual level. Based on these insights, it is proposed that consumer's perceived FOMO acts as a mediator in the relationship between scarcity appeals and purchase intention. Hence, the following hypothesis is stated:

H3a: Consumer's perceived FOMO mediates the relationship between scarcity appeals in social media advertising and purchase intention, such that scarcity appeals increase perceived FOMO which, in turn, increases purchase intention.

Given that FOMO appeals function similarly to scarcity appeals, it is also plausible to apply the S-O-R model to FOMO appeals. Hodkinson (2016, p. 2) found that FOMO appeals can trigger a perceived fear of missing out, thereby increasing the likelihood of making a purchase. Good and Hyman (2020b, p. 8) share a similar perspective, explaining that FOMO appeals strategically leverage individuals' inclination towards social comparison, as articulated in Festinger's (1954) Social Comparison Theory. By showcasing examples of what others possess or experience (S), these appeals create a fear of missing out (O), prompting individuals to evaluate themselves against others and their possessions. This heightened anxiety about missing out on similar experiences increases the likelihood of making purchases (R) (Hodkinson, 2016, p. 2). Furthermore, like scarcity appeals, the bandwagon effect amplifies this phenomenon, as individuals observe others' behaviours and feel compelled to conform to social norms. This effect reinforces the sense of perceived FOMO, as individuals may fear being left behind or excluded from collective experiences (Saavedra & Bautista, 2020, p. 109). Considering these findings, it is proposed that

consumers' perceived FOMO mediates the relationship between FOMO appeals in social media advertising and purchase intention. Therefore, it is hypothesized that:

H3b: Consumer's perceived FOMO mediates the relationship between FOMO appeals in social media advertising and purchase intention, such that FOMO appeals increase perceived FOMO which, in turn, increases purchase intention.

2.4 The Moderating Role of Conceptual and Evaluative Persuasion Knowledge

2.4.1 Persuasion Knowledge

Consumers increasingly gain knowledge of advertising tactics that deceive them (Eisend & Tarrahi, 2022, p. 4). This knowledge, often referred to as “persuasion knowledge”, has been the subject of numerous studies within the domain of advertising (Ham et al., 2015; Jung & Heo, 2019; Tutaj & Reijmersdal, 2012; Wright et al., 2005). The term refers to the extent to which consumers understand the persuasive goals, tactics, and mechanisms by marketers to influence their purchasing decisions (Eisend & Tarrahi, 2022, p. 4; Friestad & Wright, 1994, p. 1). Persuasion knowledge can be acquired through various channels, such as direct encounters in social settings with peers, relatives, and colleagues; discussions regarding the ability to influence people's ideas, emotions, and actions; observation of marketers and other professional persuaders; and analysis of news media commentary on advertising and marketing strategies (Friedstad & Wright, 1994, p. 1). The essence of persuasion knowledge revolves around persuasion, which can be defined as a deliberate endeavour through communication to sway an individual with a certain level of autonomy in decision-making (Eisend & Tarrahi, 2022, p. 4).

The Persuasion Knowledge Model (PKM), developed by Friedstad and Wright (1994), provides a comprehensive framework for understanding how consumers evaluate advertisements and respond to persuasion attempts. According to this model, consumers assess advertisements based on their understanding of persuasion, which might influence their reactions in a favourable or negative way (Friestad & Wright, 1994, pp. 1-2). The PKM consists of targets (i.e., individuals targeted by the persuasion attempt) and agents (i.e., those responsible for devising and executing the persuasion attempt) (Friedstad & Wright, 1994, p. 2). The interaction between the agents and the targets of the persuasive attempt is dynamic, wherein both parties possess three distinct forms of knowledge: persuasion knowledge, agent knowledge (i.e., beliefs of the characteristics, abilities,

and objectives of a persuader, such as a salesperson or an advertiser), and topic knowledge (i.e., beliefs of the message's subject) (Friedstad & Wright, 1994, p. 3; Ham et al., 2015, p. 18; Kirmani & Campbell, 2009, p. 288). The agent's understanding of persuasion, coupled with their topic and target knowledge, are employed to sway the target persuasion. Likewise, the target's familiarity with persuasion tactics and their agent and topic knowledge empowers them to effectively manage and respond to persuasion attempts (Kirmani & Campbell, 2009, p. 288). These knowledge structures, thus, ultimately determine the outcome of the persuasive attempt. Figure 4 provides an overview of the PKM.

Even though the PKM remains widely embraced and pertinent, scholars vary considerably in gauging persuasion knowledge (Boerman et al., 2018, p. 671). Boerman et al. (2018, p. 673) extended the concept of persuasion knowledge, arguing that it encompasses two dimensions: conceptual and evaluative. The conceptual dimension involves having a conscious understanding of advertising as a whole and being able to identify specific types of advertising. In contrast, the evaluative dimension entails having a critical viewpoint about both broad and specific advertising formats (Boerman et al., 2018, p. 673). While the extant body of literature predominantly emphasizes the conceptual underpinnings of persuasion knowledge, Boerman et al. (2018, p. 673) underscore the imperative of exploring its evaluative dimension, which encompasses scepticism and aversion toward advertising. Hence, this study scrutinizes persuasion knowledge by focusing on one component from the conceptual dimension (i.e., the comprehension of persuasive tactics in sponsored content) and one of the evaluative dimension (i.e., scepticism toward sponsored content). The conceptual component is about comprehending particular tactics, such as concealing persuasive intentions and associating a brand with emotionally appealing contexts, whereas the evaluative component focuses on the inclination towards scepticism (Boerman et al., 2018, pp. 674-675). These specific components provide a more sophisticated understanding of consumers' recognition of marketers' aims to prompt and sell products and their inclination to doubt (sponsored) advertisements (Boerman et al., 2018, pp. 674-675).

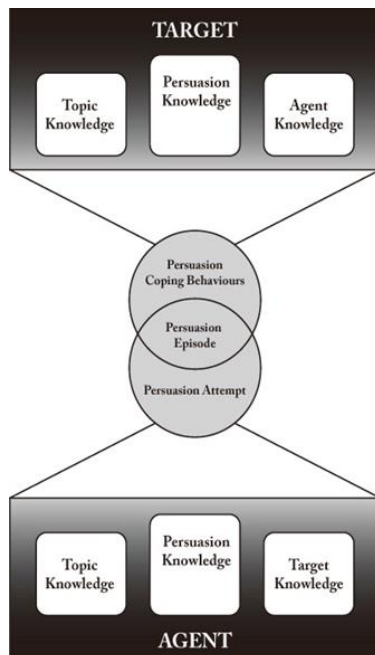


Figure 4. The Persuasion Knowledge Model (PKM) from Friedstad and Wright (1994, p. 2).

2.4.2 Conceptual and Evaluative Persuasion Knowledge as Moderators

Given the limited research differentiating the two dimensions of persuasion knowledge, this study will apply the same argumentation for conceptual and evaluative persuasion knowledge. Aguirre-Rodriguez (2013, p. 372) underscores that the effectiveness of scarcity appeals hinges on consumers' perceptions of the appeals' informativeness and accuracy. When consumers perceive scarcity appeals as informative and accurate, they are more likely to engage with the advertised product without recognizing the persuasive intent behind the message (Aguirre-Rodriguez, 2013, p. 372). However, if consumers activate their persuasion knowledge, the effectiveness of the scarcity appeals diminishes (Aguirre-Rodriguez, 2013, p. 372; Eisend & Tarrahi, 2022, p. 4). Mukherjee and Lee (2016, pp. 2-3) bolster this argument, suggesting that consumers with high persuasion knowledge tend to have lower expectations regarding scarcity due to their understanding and scepticism of marketing tactics. Consequently, when confronted with a scarcity appeal, these consumers perceive it as contradictory to their prior knowledge, reducing behavioural intentions (Aguirre-Rodriguez, 2013, p. 372; Mukherjee & Lee, 2016, p. 3). Based on the literature and given that conceptual and evaluative persuasion knowledge encompass this understanding and scepticism toward persuasive attempts, it is hypothesized that conceptual and evaluative

persuasion knowledge moderate the relationship between scarcity appeals in social media advertising and purchase intention:

H4: Conceptual persuasion knowledge (a) and evaluative persuasion knowledge (b) moderate the relationship between scarcity appeals in social media advertising and purchase intention, such that an increase in conceptual and evaluative persuasion knowledge decreases the positive effect of scarcity appeals on purchase intention.

As discussed earlier, scarcity and FOMO appeals function similarly by prompting consumer action to alleviate the fear or anxiety of missing out (i.e., perceived FOMO) (Hodkinson, 2016, p. 2). Given the parallel psychological mechanisms underlying scarcity and FOMO appeals, it is plausible to expect a comparable moderating effect of conceptual and evaluative persuasion knowledge on the relationship between FOMO appeals and purchase intention. When consumers perceive the FOMO appeal as inaccurate or manipulative – due to their understanding and scepticism of persuasive attempts (i.e., conceptual and evaluative persuasion knowledge) – the effectiveness of these appeals diminishes, leading to reduced purchase intentions. Therefore, it is hypothesized that:

H5: Conceptual persuasion knowledge (a) and evaluative persuasion knowledge (b) moderate the relationship between FOMO appeals in social media advertising and purchase intention, such that an increase in conceptual and evaluative persuasion knowledge decreases the positive effect of FOMO appeals on purchase intention.

2.5 Conceptual Framework

This study builds on these findings by examining scarcity and FOMO appeals in the context of social media advertising. Specifically, it investigates how scarcity and FOMO appeals in social media advertising evoke perceived FOMO and how this influences their purchase intentions. Moreover, the study will explore whether conceptual and evaluative persuasion knowledge can explain variations in consumers' susceptibility to scarcity and FOMO appeals, which in turn affects their intention to buy a certain product. The conceptual structure of the present investigation is depicted in Figure 5.

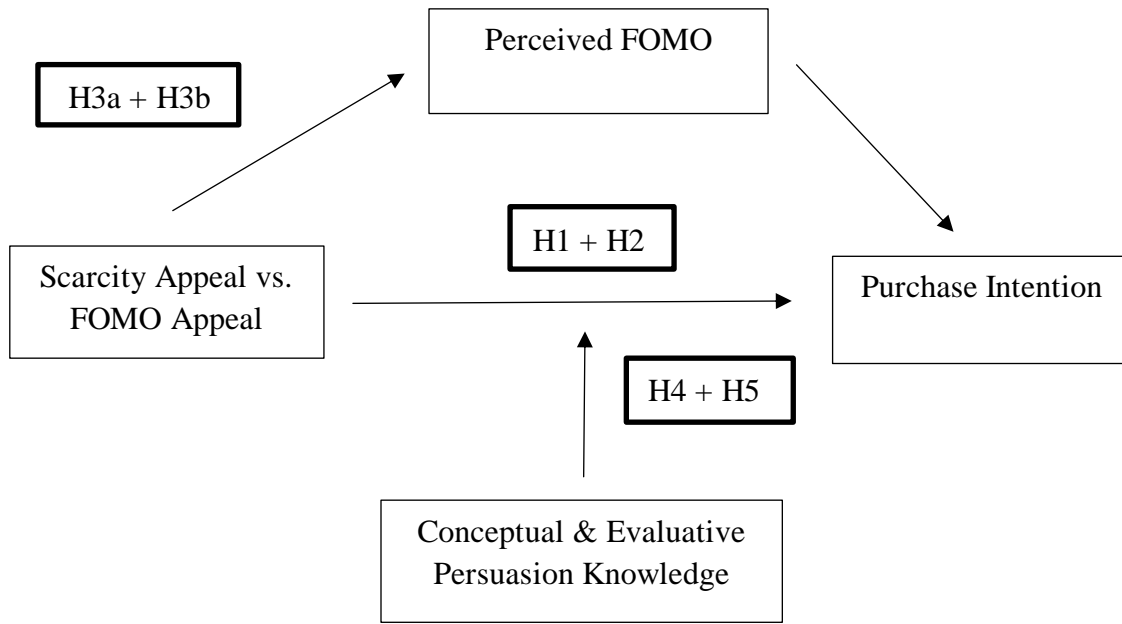


Figure 5. Conceptual Framework.

3. Methodology

This chapter outlines the methodology employed in this study. First, an overview of the research design and its justification will be provided. Second, the research sample and sampling strategy will be stated. Next, the operationalization and measurements of the variables will be mentioned. More specifically, the experimental manipulation and the scales for the dependent and independent variables will be explained. Additionally, the data collection procedure and the validity and reliability of the study will be discussed. Lastly, this chapter will describe the study's data analysis and research ethics.

3.1 Research Design

This study examines to what extent scarcity and FOMO appeals in social media advertising influence consumers' purchase intentions and how this relationship is mediated by perceived FOMO and moderated by conceptual and evaluative persuasion knowledge. A quantitative approach is used to investigate this. Quantitative research refers to the systematic collection and analysis of numerical data (Babbie, 2010, p. 448; Bhandari, 2020). The main objective of quantitative research is to uncover distinct patterns, predict future trends, examine cause-and-effect relationships, and generalize findings to larger populations (Bhandari, 2020). This study adopts this approach as it seeks to investigate the influence of the independent variables on the dependent variable. Specifically, it examines the effect of scarcity and FOMO appeals, perceived FOMO, and conceptual and evaluative persuasion knowledge on purchase intention. To uncover patterns and draw comparisons among these variables (Allwood, 2011, p. 1422), quantifying the data is the most appropriated method for this study. Additionally, employing quantitative methods enables the testing of established theories (Creswell, 2009, p. 49), in this case, those concerning scarcity and FOMO appeals in relation to purchase intention. Furthermore, as a cross-sectional study, this research analyses data from a sample population at a singular point in time (Babbie, 2010, p. 110).

Within the quantitative approach, a between-subjects experimental design with three levels (advertising appeal: no appeal (control condition) vs. FOMO appeal vs. scarcity appeal) was combined with a survey to investigate the relationships between the variables. Experimental research involves manipulating conditions for certain participants and comparing group responses to assess whether such manipulation had an impact (Neuman, 2014, p. 47). This type of research was chosen for several reasons. First, relational causality can be adequately investigated by

experimental means (Neuman, 2014, p. 282). In this case, the interplay between scarcity and FOMO appeals, perceived FOMO, conceptual and evaluative persuasion knowledge, and purchase intention is examined. Furthermore, internal validity, defined as the degree to which external factors cannot explain a cause-and-effect relationship, is also diminished in experimental settings (Podsakoff & Podsakoff, 2019, p. 2). Additionally, an experimental research can keep control of the study by intentionally modifying the conditions and eliminating extraneous factors (Neuman, 2014, pp. 282-283).

Conducting a survey online is a cost-effective method that provides access to a considerably large sample size (Reips, 2000, p. 101). Furthermore, by eliminating face-to-face interactions in the research process, online surveys aid in minimising experimenter bias (Reips, 2000, p. 94). Before sending out the main survey, this study conducted a pre-test with a small sample of 46 participants to check whether they actually perceived the stimuli presented as a FOMO appeal and scarcity appeal, ensuring they were internally valid. As previously stated, FOMO appeals are consumer-centred and can be defined as marketing messages designed to increase a product or service's desirability, by specifically describing or suggesting FOMO or 'missing out' (Hodkinson, 2016, p. 3). Conversely, scarcity appeals are product-centred and are conceptualized as marketing messages designed to increase the attractiveness of a product or service by implying limited availability through time-sensitive promotions or exclusivity (Hodkinson, 2016, p. 13). These definitions guided the creation of two distinct advertisements – one employing a potential FOMO appeal (i.e., "Don't miss out!" and "85% of our customers recommend this product") and the other a scarcity appeal (i.e., "Only today!" and "Only 5 items left in stock!"). Furthermore, a third advertisement is generated without incorporating any of these appeals to serve as a control for their effects.

Regarding the selection of the advertised brand, Hodkinson (2016, p. 17) recommends choosing a brand that offers products online and thoughtfully integrates scarcity and FOMO appeals in its advertisements. Fashion brands are known for frequently employing such appeals (Hodkinson, 2016, p. 2; Sharma & Roy, 2016, p. 78); hence, this study concentrates on a fashion brand. To minimize the introduction of preconceived notions and biases associated with established fashion brands, this study opts for a fictitious fashion brand (i.e., BrandyFashion). Furthermore, the advertised product – a black hoodie – is chosen for its unisex nature, making it suitable for all genders. Other aspects of the advertisement, such as colour, font, and images,

remained consistent across all conditions to remove potential alternative explanations for the results. The images for the advertisement were taken from the website of the fashion brand ASOS, and the editing program *Canva* was used to design the actual social media advertisements.

After the pre-test survey, the main survey was sent out. The survey design included three final advertisements: one without an appeal (i.e., the control condition), one with FOMO appeals, and one with scarcity appeals (Figure 6). Participants were randomly assigned to one of the social media advertisements.

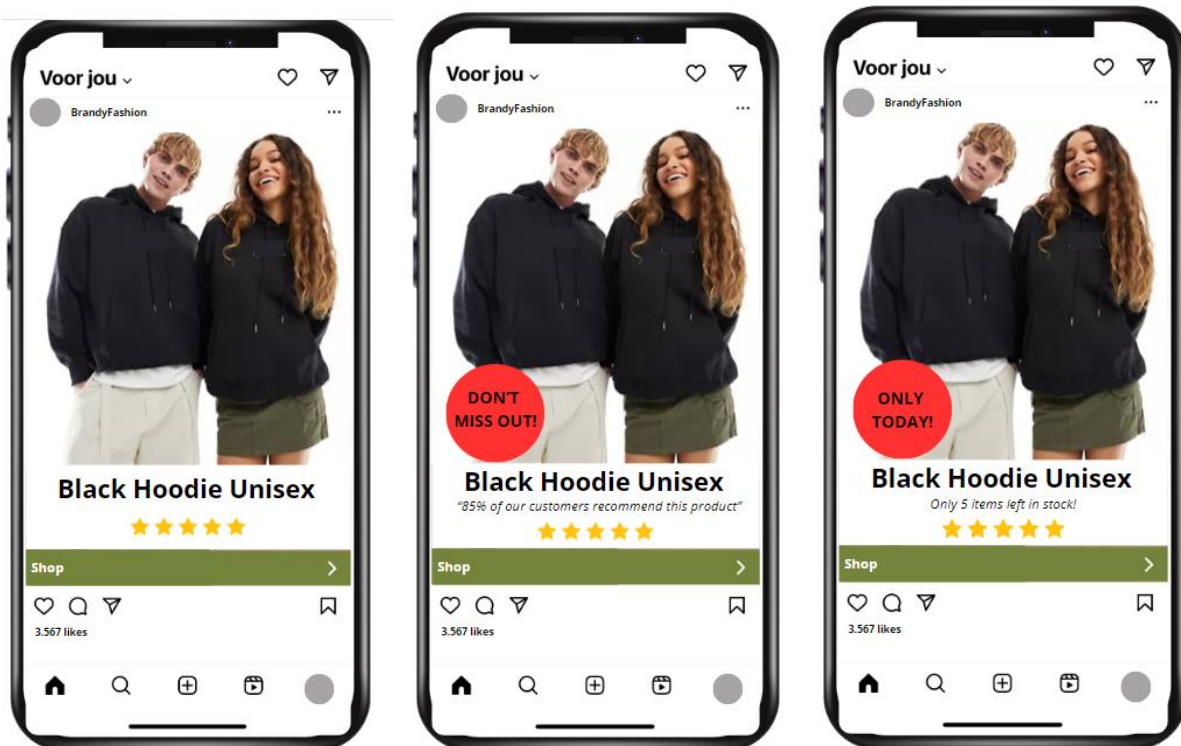


Figure 6. Overview Experimental Conditions (control condition, FOMO appeal, scarcity appeal).

3.2 Pre-test

Before implementing the proposed scarcity and FOMO appeals in the social media advertisements, a pre-test was conducted to determine whether the respondents perceived these appeal types as FOMO appeals and scarcity appeals. This involved surveying a convenience sample of 46 participants using an online questionnaire. At the beginning of the pre-test, the participants were instructed to read an introduction outlining the study's topic, objectives,

participant expectations, and data usage, followed by providing active consent to participate. Next, they were directed to review all three online advertisements carefully, each presented sequentially. After reviewing these advertisements, the participants were asked to respond to two items regarding the FOMO appeals (i.e., “The online ad stated that you should not miss out on others who bought this hoodie” and “The hoodie was recommended by other users”) and two items regarding the scarcity appeals (i.e., “The online ad stated that there were limited quantities of the hoodie available for purchase” and “The hoodie was available only for today”) using a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree). This scale is an adaptation of the scale provided by Mukherjee and Lee (2016). The survey containing the three advertisements can be found in Appendix A.

Prior to examining the pre-test data, it underwent a cleaning procedure. Out of 55 participants, nine were excluded from the analysis as they did not complete the survey. Thus, the final sample included a total of 46 participants ($N = 46$). To assess if the stimuli presented for FOMO appeals and scarcity appeals were actually considered as FOMO appeals and scarcity appeals, the study performed a Paired Samples T-test. This type of test was used to compare the means between two groups (Xu et al., 2017, p. 185). The results indicated that the FOMO appeal condition ($M = 5.77$, $SD = 1.47$) scored significantly higher in FOMO appeal compared to the control condition ($M = 3.25$, $SD = 1.58$); $t(45) = -8.113$, $p < .001$. Moreover, the FOMO appeal condition ($M = 5.77$, $SD = 1.47$) scored significantly higher in FOMO appeal compared to the scarcity appeal condition ($M = 3.30$, $SD = 1.73$), $t(45) = 8.518$, $p < .001$. Thus, participants indicated more FOMO appeal than scarcity appeal in the FOMO appeal condition compared to the other conditions.

Additionally, the findings revealed that the scarcity appeal condition ($M = 5.91$, $SD = 1.35$) scored significantly higher in scarcity appeal compared to the control condition ($M = 2.09$, $SD = 1.13$); $t(45) = -14.071$, $p < .001$. Furthermore, the scarcity appeal condition ($M = 5.91$, $SD = 1.35$) scored significantly higher in scarcity appeal compared to the FOMO appeal condition ($M = 2.84$, $SD = 1.69$); $t(45) = -9.189$, $p < .001$. Hence, participants indicated more scarcity appeal than FOMO appeal in the scarcity appeal condition, compared to the other conditions. Since the manipulation produced the desired results in the participants, the three advertisements were used for the main test.

3.3 Sample

Data for the main experiment was collected in April 2024 through a 4-minute online survey. The participants were recruited using non-probability sampling strategies. Non-probability sampling can be conceptualized as a sampling approach wherein only some people in the population have an equal opportunity to participate in the research (Babbie, 2010, p. 206). The types of non-probability sampling used are convenience sampling and snowball sampling. Convenience sampling includes the selection of participants based on practical factors like proximity, availability, accessibility, or willingness to participate (Farrokhi & Mahmoudi-Hamidabad, 2012, p. 785). With snowball sampling, the researcher invites the sample participants to spread the word about the study to their friends and acquaintances (Babbie, 2010, p. 208; Emerson, 2015, p. 166). These techniques are suitable as they provide a relatively efficient way to gather data and prove cost-effective for the researcher (Nikolopoulou, 2023).

The survey was disseminated on WhatsApp in multiple group chats containing friends, family, fellow students, and colleagues. Furthermore, it was distributed on several social media channels, such as Facebook, Instagram, and LinkedIn. Lastly, it was posted on Reddit, a social news aggregation and forum social network. This was done in order to invite participants from all ages and nationalities. On Reddit, the survey was shared across various subreddits, including r/OnlineAdvertising, r/University, r/FOMO, r/MarketingResearch, r/Thesis, r/SurveyExchange, r/SurveyCircle, r/CreativeAdvertising, and r/Samplesize.

In this study, a total of $N = 166$ responses were recorded. The inclusion criteria for the participants were: (i) being 18 years or older, (ii) using social media daily, and (iii) answering the attention check correctly. Moreover, data including pre-tests and incomplete surveys were removed from the analysis. After cleaning the data, $N = 120$ respondents were included for further analysis. Within this final sample, 57.5% of the respondents identified as female, 40.8% as male, 0.8% preferred not to disclose their gender, and 0.8% identified as “Other”. The average age of the respondents in the final sample was 25.21 years old ($SD = 7.04$). Moreover, the sample included 21 different nationalities, the most prominent nationalities being Dutch (62.5%), German (4.2%), Italian (3.3%), and Spanish (3.3%). Table 1 demonstrates the demographic characteristics per condition. For nationality, only the two nationalities with the highest frequencies are displayed in the table.

Table 1. *Demographic Characteristics per Condition.*

Characteristics	Control Condition				FOMO Appeal				Scarcity Appeal			
	<i>N</i>	%	<i>M</i>	<i>SD</i>	<i>N</i>	%	<i>M</i>	<i>SD</i>	<i>N</i>	%	<i>M</i>	<i>SD</i>
Gender												
Male	18	47.4			13	31.0			18	45.0		
Female	19	50.0			28	66.7			22	55.0		
Other	1	2.6			1	2.4						
Age			26.29	7.35			22.86	2.88			26.65	9.06
Nationality												
Dutch	27	71.1			21	50.0			27	67.5		
German	1	2.6			4	2.4						

3.4 Operationalization

Scarcity Appeals. Scarcity appeals are marketing messages to increase the attractiveness of a product or service by implying limited availability through time-sensitive promotions or exclusivity (Hodkinson, 2016, p. 13). In this study, the items developed initially by Mukherjee and Lee (2016) were adapted to suit the context and objectives of this research. Scarcity appeals were measured using a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree), including two items (e.g., “The online ad stated that there were limited quantities of the hoodie available for purchase” and “The hoodie was available only for today”) ($M = 3.25$, $SD = 2.03$, $\alpha = .47$).

FOMO Appeals. FOMO appeals are marketing messages designed to increase a product or service’s desirability by specifically describing or suggesting FOMO or ‘missing out’ (Hodkinson, 2016, p. 3). Previous studies lack examples of experimental manipulations utilizing FOMO appeals for commercial intents. Hence, this study used the same scale by Mukherjee and Lee (2016) to measure FOMO appeals and adapted it accordingly. The two items for FOMO appeals were: “The online ad stated that you should not miss out on others who bought this hoodie” and “The hoodie was recommended by other consumers” ($M = 3.90$, $SD = 1.90$, $\alpha = .44$).

Purchase Intention. Purchase intention is indicative of the extent to which consumers are inclined and willing to buy a good or service (Lin & Lu, 2010, p. 20). This will be measured using the validated Willingness to Buy scale developed by Dodds et al. (1991). A single item will be

used on a 7-point Likert scale (1 = very low, 7 = very high) to determine a consumer's likelihood of buying a product (e.g., "The likelihood of purchasing this product is:...") ($M = 2.87$, $SD = 1.58$).

Perceived FOMO. Perceived FOMO is the widespread fear that one is missing out on more enjoyable experiences or possessions that others may be having (Hodkinson, 2016, p. 67; Przybylski et al., 2013, p. 1841). This will be measured using the Fear of Missing Out (FOMO) scale by Zhang et al. (2020). This 7-point Likert scale (1 = strongly disagree, 7 = strongly agree) consists of nine items: five items concerning personal FOMO (e.g., "I feel anxious when I do not experience events/opportunities") and four items concerning social FOMO (e.g., "I think I do not fit in social groups when I miss events or opportunities"). As the original items are more related to perceived FOMO regarding missed events, this study has slightly modified all items to make them more relevant to perceived FOMO regarding missed products and experiences with these products (e.g., "I feel anxious when I do not buy this product" and "I think I do not fit in social groups when not buying this product") ($M = 2.00$, $SD = 1.38$, $\alpha = .98$).

Conceptual Persuasion Knowledge. Conceptual persuasion knowledge entails comprehending particular tactics, such as concealing persuasive intentions and associating a brand with emotionally appealing contexts (Boerman et al., 2018, p. 674). This construct will be measured using the TACTIC sub-scale of the Persuasion Knowledge Scales of Sponsored Content (PKS-SC) by Boerman et al. (2018). This subscale is a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree) including nine items linked to comprehending particular persuasive tactics. The subscale starts with 'Brands try to influence me by...', followed by six correct (e.g., '...hiding the commercial purpose of showing the brand') and three incorrect (e.g., '...making the product more entertaining') options ($M = 5.18$, $SD = .99$, $\alpha = .79$).

Evaluative Persuasion Knowledge. Evaluative persuasion knowledge concerns scepticism toward advertising (Boerman et al., 2018, p. 675). This construct will be measured using the SKEP sub-scale of the Persuasion Knowledge Scales of Sponsored Content (PKS-SC) by Boerman et al. (2018). This subscale is a 7-point semantic differential scale about people's scepticism toward sponsored content. It starts with 'I think that advertising online is ...', followed by five items (e.g., dishonest-honest, insincere-sincere) ($M = 4.08$, $SD = 1.22$, $\alpha = .92$).

Demographics. Demographics were measured by asking the survey respondents about their gender (i.e., male, female, non-binary/third gender, or other), age, and the nationality they feel most accurately represents their country.

3.5 Procedure

Empirical data was collected through an online survey. The online survey was designed using a survey software called *Qualtrics*. The survey started with an information sheet which provided information on the researcher and the study's objective. The study's objective (i.e., investigating consumer behaviour in response to advertising) was intentionally kept broad to prevent participants from becoming aware of the FOMO appeals or scarcity appeals in the advertisements. Subsequently, participants were informed about the expectations placed upon them, with an assurance of the voluntary nature of their participation and guaranteeing that their information would be treated anonymously, confidentially, and exclusively for research purposes. After giving active consent and confirming they were 18 years or older, the participants were asked if they used social media daily. Since this study focuses on online social media advertisements, those who did not use social media daily were directed to the end of the survey, while those who did continued the survey.

Following this, the participants were randomly allocated to one of the three pre-tested social media advertisements: one without an appeal (control condition), one featuring FOMO appeals, or one with scarcity appeals. They were then prompted to assess their likelihood of purchasing the advertised product. Subsequently, participants were asked to indicate the degree of perceived FOMO after viewing the online advertisement. Additionally, the researcher assessed the participant's attention to mitigate any potential response bias and improve the overall reliability of the study (Van Quaquebeke et al., 2022, p. 277). After the attention check, participants responded to two questions concerning their conceptual and evaluative persuasion knowledge, specifically their awareness and scepticism towards persuasion attempts. Lastly, participants had to fill in questions regarding their demographics (i.e., gender, age, nationality). At the end of the survey, the researcher debriefed participants about the study's purposes, showed them the three different advertisements, and thanked them for their participation. The final survey of the study can be found in Appendix B.

3.6 Validity and Reliability

Validity and reliability were assessed to guarantee the accuracy and applicability of the research data. Both internal and external validity are considered when evaluating validity. Internal

validity pertains to how closely an empirical measure aligns with the true meaning of the measured concept (Babbie, 2010, p. 159), while external validity refers to the extent to which the results of the study are generalizable of the broader population (Jackson, 2011, p. 7). To assess internal validity, the survey predominantly relied on scales employed and verified in earlier studies. Moreover, most concepts were measured using a multi-item approach to capture all the different dimensions of the concepts (Babbie, 2010, p. 168). Only purchase intention was measured using a single-item approach, diminishing its internal (content) validity. This study also used a control group and assigned participants randomly to the different conditions. This helped to ensure that the groups were equivalent at the start of the experiment. In addition, a pre-test, manipulation and randomization check were performed to ensure that any observed effects could be attributed to the experimental manipulations rather than extraneous factors. Regarding external validity, the non-probability sampling strategies used potentially limited its applicability to broader populations. While probability sampling techniques could have enhanced external validity, their feasibility or appropriateness may be restricted across various research contexts (Babbie, 2010, p. 206). Thus, the current study employed non-probability sampling approaches, such as convenience and snowball sampling, across diverse networks and platforms to reach a more extensive demographic of participants.

It is crucial to acknowledge that a trade-off typically exists between these two forms of validity when using an experimental design. Efforts to control internal validity as much as possible often jeopardize external validity (Campbell & Stanley, 1963, p. 5). For example, this study, emphasized ensuring high internal validity by carefully controlling experimental groups and employing validated measurement scales. However, this rigorous control may limit the generalizability of the findings, thereby impacting external validity. This balance was carefully considered throughout the research process to provide meaningful and applicable results within the constraints.

Reliability hinges on the consistency of outcomes when a particular method is applied repeatedly to the same subject (Babbie, 2010, p. 157). To assess the reliability of a scale, internal consistency should be examined and measured using Cronbach's alpha. The results of the reliability analysis show that the majority of the variables have either an acceptable internal consistency (i.e., Cronbach's alpha value above .70) or a preferable internal consistency (i.e., Cronbach's alpha value above .80). Nevertheless, scarcity and FOMO appeal had a relatively low

Cronbach’s alpha value, indicating a relatively low internal consistency reliability. While efforts were made to ensure the reliability of the measures, including pre-testing and performing manipulation checks, these relatively low alpha values suggest potential limitations in the measures’ consistency. Table 2 includes the Cronbach alpha values for each of the variables.

Table 2. *Reliability Analysis*

Scale	Cronbach’s α
Scarcity appeal	.47
FOMO appeal	.44
Purchase intention	-
Perceived FOMO	.98
Conceptual persuasion knowledge	.79
Evaluative persuasion knowledge	.92

3.7 Data Analysis

Once data was gathered, a quantitative methodology was employed to analyse the dataset, utilizing IBM SPSS 29.0 software. First, a rigorous data cleaning process was undertaken, to exclude participants who were non-daily users of social media, those who did not answer the attention check correctly, or those who did not complete the survey. After this preparatory phase, descriptive statistics were employed to demonstrate a comprehensive summary of the participants’ overall characteristics. Next, a manipulation check was performed using an independent samples *t*-test to ensure that any discrepancies between groups could be explicitly attributed to the presence of the FOMO appeals or the scarcity appeals. After the manipulation check, independent samples *t*-tests were conducted for hypotheses 1 and 2 to delve into the intricate relationship between scarcity and FOMO appeals and purchase intention. This type of statistical analysis was chosen to determine if there are statistically significant differences among the means of the two different groups. For the other hypotheses (i.e., 3a, 3b, 4, and 5), a mediation and moderation analysis were conducted using PROCESS Macro (Hayes, 2013). Two models were run. First, a mediation analysis will be conducted to investigate the relationship between scarcity and FOMO appeals and purchase intention, with the mediating role of perceived FOMO. Second, a moderation analysis is

performed to examine the relationship between scarcity and FOMO appeals and purchase intention, with the moderating role of conceptual and evaluative persuasion knowledge.

3.8 Research Ethics

Babbie (2010, p. 67) states that those engaged in social science research must be mindful of the consensus among researchers regarding acceptable and unacceptable practices in the execution of scientific investigation. Consequently, participants in the survey experiment were provided with an informed consent form beforehand. It is important to note that minors, individuals under the age of eighteen, were not included in the study. The consent form included a summary of the study's objectives and what participants could expect during the survey experiment. The study's objective was intentionally kept broad to prevent participants from becoming aware of the FOMO appeal or scarcity appeal in the advertisements. However, an explicit debrief was included at the end of the survey. Additionally, it emphasized the voluntary nature of participation and the freedom to withdraw from the survey at any time. The researcher assured participants that no foreseeable risks were associated with participating. Regarding data handling, it was emphasized that no sensitive information would be retained; all data would be kept anonymous, confidential, and stored for ten years post-research completion. Through this ethical approach, the protection of participants' rights throughout the study process is guaranteed.

4. Results

This chapter reports the experiment's empirical results, starting with a randomization check to confirm the baseline comparability of the experimental groups. Then, a manipulation check is performed to ensure the manipulation's effectiveness. This is followed by hypotheses testing, culminating in the acceptance or rejection of the hypotheses based on the results.

4.1 Randomization Check

A randomization check verifies whether the random assignment of participants to different experimental conditions results in similar distributions of relevant characteristics or variables across those conditions (Stanberry, 2013). Hence, this study examined whether there were differences between the conditions with regard to gender, nationality, and age.

A chi-square test of independence was performed to examine the association between advertising appeal and gender. For this test, only the gender categories with at least five frequencies (i.e., male and female) per condition were included. The results showed no significant difference in gender distribution across the three conditions (i.e., control condition vs. FOMO appeal vs. scarcity appeal), $X^2(2, N = 118) = 2.60, p = .273$. Due to insufficient frequencies in nationalities other than 'Dutch' per condition, a chi-square test of independence could not be performed for nationality. Therefore, a Fisher's Exact Test was conducted. The results revealed no significant difference in nationality distribution among the three conditions, $X^2(40, N = 120) = 36.54, p = .436$. For the continuous variable age, a one-way ANOVA was performed. The results indicated a significant difference in age across the three conditions, $F(2, 117) = 3.80, p = .025$, meaning that the participants were not equally distributed across age categories. While the randomization check was effective, age could introduce bias as a covariate variable; hence, it will be controlled for in further analysis. Table 3 demonstrates a crosstabulation of the advertising appeal conditions by gender and nationality.

Table 3. *Advertising Appeal Conditions by Gender and Nationality.*

	Advertising Appeal (all conditions)		
	No Appeal (control)	FOMO Appeal	Scarcity Appeal
Gender			
Male	18	13	18
Female	19	28	22
Nationality			
Dutch	27	21	27

4.2 Manipulation Check

A manipulation check was conducted to ascertain the manipulation's efficacy within the experimental design. This was done to ensure that any discrepancies between groups could be explicitly attributed to the presence of the scarcity or FOMO appeals. Independent samples *t*-tests are the most appropriate approach, as these tests compare the means of two unrelated groups (e.g., no appeal vs. FOMO appeal; no appeal vs. scarcity appeal; scarcity appeal vs. FOMO appeal). The findings indicate that the FOMO appeal condition ($M = 5.45$, $SD = 1.52$) scored significantly higher in FOMO appeal compared to the control condition ($M = 2.76$, $SD = 1.43$), $t(78) = -8.14$, $p < .001$. Furthermore, the FOMO appeal condition ($M = 5.45$, $SD = 1.52$) scored significantly higher in FOMO appeal compared to the scarcity appeal condition ($M = 3.36$, $SD = 1.59$), $t(80) = 6.09$, $p < .001$. This suggests that participants indicated more FOMO appeal than scarcity appeal within the context of the FOMO appeal condition.

Additionally, the results show that the scarcity appeal condition ($M = 5.15$, $SD = 1.74$) scored significantly higher in scarcity appeal compared to the control condition ($M = 1.95$, $SD = 1.03$), $t(63.74) = -9.96$, $p < .001$. Moreover, the scarcity appeal condition ($M = 5.15$, $SD = 1.74$) scored significantly higher in scarcity compared to the FOMO appeal condition ($M = 2.63$, $SD = 1.63$), $t(80) = -6.76$, $p < .001$. This shows that participants indicated more scarcity appeal than FOMO appeal within the context of the scarcity appeal condition. Since the manipulation produced the desired results in the participants, the proposed hypotheses can be tested.

4.3 Hypotheses Testing

4.3.1 Scarcity and FOMO Appeals on Purchase Intention

The first hypothesis assumed that the presence of scarcity appeals in social media advertising positively influences consumers' purchase intentions compared to the control condition. An independent samples *t*-test was conducted to compare the scarcity appeal condition to the control condition. The results indicate that there was no significant difference in purchase intention between the social media advertisement with a scarcity appeal ($M = 2.58, SD = 1.45$) and the control condition ($M = 2.63, SD = 1.34$), $t(76) = .18, p = .859$. As the social media advertisement with a scarcity appeal did not result in a higher purchase intention compared to the control condition, H1 is rejected.

The second hypothesis assumed that the presence of FOMO appeals in social media advertising positively influences consumers' purchase intentions compared to the control condition. An independent samples *t*-test was conducted to compare the FOMO appeal condition to the control condition. The results indicated that there was a significant difference in purchase intention between the social media advertisement with a FOMO appeal ($M = 3.36, SD = 1.79$) and the control condition ($M = 2.63, SD = 1.34$), $t(78) = -2.03, p = .046$. As the social media advertisement with a FOMO appeal resulted in a higher purchase intention than the control condition, H2 is accepted.

4.3.2 Checking Assumptions for Mediation and Moderation Analysis

Prior to conducting the mediation and moderation analysis for hypotheses 3a and b, 4, and 5, it is crucial to verify several assumptions regarding the data. Ensuring these assumptions are met is necessary to draw valid conclusions about the population based on the sample analysis (Field, 2013, p. 220).

The first assumption concerns variable types. Field (2013, p. 220) states that all predictor variables should be either continuous or categorical, while the outcome variable should be quantitative, continuous, and unbounded. In this study, all predictor variables (i.e., perceived FOMO, conceptual persuasion knowledge, and evaluative persuasion knowledge) are continuous, except for the predictor variable 'advertising appeal' which is categorical. To circumvent this issue, advertising appeal was converted into dummy coded variables: no appeal, FOMO appeal,

and scarcity appeal. Moreover, the outcome variable (i.e., purchase intention) was quantitative, continuous, and unbounded. Hence, the assumption was met.

The second assumption is concerns non-zero variances. This implies that all predictor variables should exhibit some degree of variability in their values. Thus, they should not have variances of zero (Field, 2013, p. 220). This assumption was met as the predictors in this study do not have zero variances.

Next, the assumption about multicollinearity states that the predictors should be linearly independent (Casson & Farmer, 2014, p. 595; Field, 2013, p. 220). Multicollinearity analysis shows that no perfect multicollinearity was found in the data (FOMO appeal, $VIF = 1.49$, Tolerance = .67; scarcity appeal, $VIF = 1.42$, Tolerance = .70; FOMO, $VIF = 1.32$, Tolerance = .76; conceptual persuasion knowledge, $VIF = 1.41$, Tolerance = .71; evaluative persuasion knowledge, $VIF = 1.20$, Tolerance = .83). Hence, the assumption was met.

Regarding the assumptions about linearity and homoscedasticity, the scatterplot of standardized residuals plotted against standardized predicted values was examined (Casson & Farmer, 2014, p. 593). For linearity to be assessed, the average values of the outcome variable for every increase in the predictors should align along a straight line (Field, 2013, p. 221). The scatterplot shows that the residuals on the scatterplot are placed in a straight line; thus, the assumption is met. For homoscedasticity, the residuals at every level of the predictors should exhibit constant variance. Nevertheless, the residuals are funnelling, indicating heteroscedasticity. This means that the residuals' variances are noticeably unequal across each level of the predictors (Field, 2013, p. 220). Hence, the assumption was not met.

The assumption about independent errors suggests that the residuals for any pair of observations should be independent (Casson & Farmer, 2014, p. 593; Field, 2013, p. 220). The Durbin-Watson test shows a test statistic of 2.07, which is close to 2, suggesting almost no autocorrelation between adjacent residuals. Thus, the assumption of independent residuals was met.

Moreover, the assumption about normally distributed errors assumes that the disparities between the model and the observed data are predominantly clustered around zero or exhibit minimal deviation from this point (Field, 2013, p. 221). The assumption was satisfied as the residuals in the Q-Q plot closely follow the diagonal line.

Finally, the independence assumption assumes that all outcome variable values come from a separate entity (Field, 2013, p. 220). This assumption was met as all participants participated in the experiment autonomously and without any interdependence.

In summary, while the majority of the assumptions for mediation and moderation analysis were satisfied, one assumption was not met. Despite this deviation, the model derived from the sample can still be reliably applied to the population of interest. Hence, mediation and moderation analysis can be further conducted.

4.3.3 The Mediating Role of Perceived FOMO

A simple mediation analysis was conducted using PROCESS macro Model 4 (Hayes, 2013) to assess whether perceived FOMO mediates the relationship between scarcity and FOMO appeals, and purchase intention. To test hypotheses 3a and b, advertising appeal was entered as the independent variable, purchase intention as the dependent variable, perceived FOMO as a mediator, and age as a covariate. Since the independent variable comprised multiple categories (i.e., control condition (constant), FOMO appeal (X1), and scarcity appeal (X2)), PROCESS automatically encoded the variable into dummy codes.

Hypothesis 3a assumed that consumers' perceived FOMO mediates the relationship between scarcity appeals in social media advertising and purchase intention. The results indicate that scarcity appeal – compared to the control condition – does not have a significant direct effect on perceived FOMO ($b = .47, t(116) = 1.56, p = .122$). However, the direct effect of perceived FOMO on purchase intention was significant ($b = .78, t(115) = 9.84, p < .001$). Furthermore, the direct effect of scarcity appeal on purchase intention was not statistically significant ($b = -.05, t(116) = -.14, p = .889$). The effect of scarcity appeal on purchase intention with perceived FOMO included in the model was not significant ($b = -.42, t(115) = -1.60, p = .113$). The indirect effect of scarcity appeal on purchase intention was found to be .37. Bootstrap analysis with a 95% confidence interval includes zero, indicating no significant mediation effect, CI [0.00, 0.77]. Thus, the relationship between scarcity appeal and purchase intention is not mediated by perceived FOMO. Hence, hypothesis 3a is rejected.

Hypothesis 3b expected that consumers' perceived FOMO mediates the relationship between FOMO appeals in social media advertising and purchase intention. The results show that FOMO appeal – compared to the control condition – has a significant direct effect on perceived

FOMO ($b = .91, t(116) = 2.98, p = .004$). Moreover, the direct effect of perceived FOMO on purchase intention is also statistically significant ($b = .78, t(115) = 9.84, p < .001$). In addition, the direct effect of FOMO appeal on purchase intention was not significant ($b = .66, t(116) = 1.85, p = .066$). The effect of FOMO appeal on purchase intention with perceived FOMO included in the model was not significant ($b = -.06, t(115) = -.21, p = .831$). The indirect effect of scarcity appeal on purchase intention was .71. Bootstrap analysis with a 95% confidence interval did not include zero, indicating a significant mediation effect, CI [0.26, 1.24]. Consequently, the relationship between FOMO appeal and purchase intention is fully mediated by perceived FOMO. Therefore, hypothesis 3b is accepted. Table 4 provides an overview of the outcomes of all tested direct effects of the mediation analyses.

Table 4. Results of all Tested Direct Effects of Mediation Analyses.

	Perceived FOMO		Purchase Intention	
	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>
Constant	1.90	< .001	3.17	< .001
FOMO Appeal	.91	.004	.66	.066
Scarcity Appeal	.47	.122	-.05	.889
Age	-.01	.409	-.02	.330
Perceived FOMO	-	-	.78	< .001
<i>R</i> ²	=.09		=.49	

4.3.4 The Moderating Role of Conceptual and Evaluative Persuasion Knowledge

A moderation analysis was conducted using PROCESS macro Model 2 (Hayes, 2013) to assess whether conceptual and evaluative persuasion knowledge moderate the relationship between scarcity and FOMO appeals, and purchase intention (Hypothesis 4 and 5). A 95% confidence interval was employed in the analysis, which was produced using 5000 bootstrap samples. To test hypotheses 4 and 5, advertising appeal was entered as the independent variable, purchase intention as the dependent variable, conceptual and evaluative persuasion knowledge as moderators, and age as covariate. Again, since the independent variable comprised multiple categories (i.e., control condition (constant), FOMO appeal (X1), and scarcity appeal (X2)), PROCESS automatically encoded the variable into dummy codes.

Hypothesis 4 assumed that the relationship between scarcity appeals in a social media advertising and purchase intention is moderated by (a) conceptual persuasion knowledge and (b) evaluative persuasion knowledge. The results indicate that the overall model was statistically significant, $F(9, 110) = 5.48, p < .001, R^2 = .31$. This indicates that the model, including scarcity appeal, conceptual and evaluative persuasion knowledge, and their interaction term significantly predict purchase intention. Nonetheless, the interaction effect between scarcity appeal and conceptual persuasion knowledge was not statistically significant ($b = -.35, t(110) = -.90, p = .370$), indicating that conceptual persuasion knowledge does not moderate the relationship between scarcity appeals and purchase intention. Furthermore, the interaction effect between scarcity appeal and evaluative persuasion knowledge was also not statistically significant ($b = -.24, t(110) = -.77, p = .443$), indicating that evaluative persuasion knowledge does not moderate the relationship between scarcity appeals and purchase intention. Since conceptual and evaluative persuasion knowledge do not act as moderators in the relationship between scarcity appeals in social media advertising and purchase intention, hypothesis 4 is rejected.

Hypothesis 5 assumed that the relationship between FOMO appeals in a social media advertising and purchase intention is moderated by (a) conceptual persuasion knowledge and (b) evaluative persuasion knowledge. The findings show that the overall model was statistically significant, $F(9, 110) = 5.48, p < .001, R^2 = .31$. This indicates that the model including FOMO appeal, conceptual and evaluative persuasion knowledge, and their interaction term significantly predict purchase intention. Nevertheless, the interaction effect between FOMO appeal and conceptual persuasion knowledge was not statistically significant ($b = -.51, t(110) = -1.51, p = .135$), indicating that conceptual persuasion knowledge does not moderate the relationship between FOMO appeals and purchase intention. Moreover, the interaction effect between FOMO appeal and evaluative persuasion knowledge was not statistically significant ($b = .11, t(110) = .42, p = .674$), indicating that evaluative persuasion knowledge does not moderate the relationship between FOMO appeals and purchase intention. Since conceptual and evaluative persuasion knowledge do not act as moderators in the relationship between FOMO appeals in social media advertising and purchase intention, hypothesis 5 is rejected. Table 5 provides an overview of the outcomes of all tested direct effects of the moderation analyses.

Table 5. Results of All Tested Direct Effects of Moderation Analyses.

	Purchase Intention	
	<i>b</i>	<i>p</i>
Constant	3.32	< .001
FOMO Appeal	.56	.083
Scarcity Appeal	-.17	.608
Conceptual Persuasion Knowledge	-.21	.451
Evaluative Persuasion Knowledge	.28	.118
Age	-.02	.206
<i>R</i> ²	= .31	

4.3.5 Moderated Mediation Analysis

As previously noted, conceptual and evaluative persuasion knowledge did not moderate the relationship between FOMO appeals in social media advertising and purchase intention. This lack of moderation might be attributed to the presence of full mediation in this relationship. Consequently, an additional moderated mediation analysis was conducted using Model 9 of PROCESS (Hayes, 2013), employing a 95% confidence interval generated from 5000 bootstrap samples. In this model, advertising appeal was entered as the independent variable, purchase intention as the dependent variable, perceived FOMO as mediator, conceptual and evaluative persuasion knowledge as moderators, and age as covariate. Given that the independent variable comprised multiple categories (i.e., control condition (constant), FOMO appeal (X1), and scarcity appeal (X2)), PROCESS automatically encoded the variable into dummy codes.

The results reveal that the model assessing the effects of advertising appeal and conceptual and evaluative persuasion knowledge on perceived FOMO was found to be significant, $F(9, 110) = 5.73, p < .001, R^2 = .32$. The interaction effect between FOMO appeals and conceptual persuasion knowledge on perceived FOMO was statistically significant ($b = -.87, t(110) = -2.95, p = .004$), suggesting that conceptual persuasion knowledge moderates the relationship between FOMO appeals and perceived FOMO. However, the interaction effect between FOMO appeal and evaluative persuasion knowledge on perceived FOMO was not significant ($b = .05, t(110) = .25, p = .807$), indicating that evaluative persuasion knowledge does not moderate the mediated relationship between FOMO appeals, perceived FOMO, and purchase intention.

Moreover, the model examining the relationships of FOMO appeal and perceived FOMO on purchase intention was also found to be significant, $F(4, 115) = 27.62, p < .001, R^2 = .49$. The effect of the mediator (perceived FOMO) on purchase intention, controlling for FOMO appeal, was significant ($b = .78, t(115) = 9.84, p < .001$). When controlling for the mediator (perceived FOMO), FOMO appeal did not appear as a significant predictor of purchase intention ($b = -.06, t(115) = -.21, p = .831$). Table 6 gives an overview of all tested direct effects of the moderated mediation analysis.

Table 6. Results of all Tested Direct Effects of the Moderated Mediation Analysis.

	Perceived FOMO		Purchase Intention	
	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>
Constant	1.91	< .001	1.68	.001
FOMO Appeal	.81	.004	-.06	.831
Perceived FOMO	-	-	.78	< .001
Conceptual Persuasion Knowledge	-.01	.963	-	-
Evaluative Persuasion Knowledge	-.03	.846	-	-
Age	-.02	.342	-.01	.574
<i>R</i> ²	= .32		= .49	

Table 7 provides a final overview of the hypotheses and their acceptance or rejection based on the results.

Table 7. Overview of Hypotheses.

<i>Hypothesis</i>	<i>Accepted / Rejected</i>
H1: The use of scarcity appeals in social media advertising increases consumers' purchase intentions, compared to social media advertising without such an appeal (control condition).	Rejected
H2: The use of FOMO appeals in social media advertising increases consumers' purchase intentions, compared to social media advertising without such an appeal (control condition).	Accepted
H3a: Consumers' perceived FOMO mediates the relationship between scarcity appeals in social media advertising and purchase intention, such that scarcity appeals increase perceived FOMO which, in turn, increases purchase intention.	Rejected
H3b: Consumers' perceived FOMO mediates the relationship between FOMO appeals in social media advertising and purchase intention, such that FOMO appeals increase perceived FOMO which, in turn, increases purchase intention	Accepted
H4: Conceptual persuasion knowledge (a) and evaluative persuasion knowledge (b) moderate the relationship between scarcity appeals in social media advertising and purchase intention, such that an increase in conceptual and evaluative persuasion knowledge decreases the positive effect of scarcity appeals on purchase intention.	Rejected
H5: Conceptual persuasion knowledge (a) and evaluative persuasion knowledge (b) moderate the relationship between FOMO appeals in social media advertising and purchase intention, such that an increase in conceptual and evaluative persuasion knowledge decreases the positive effect of FOMO appeals on purchase intention.	Rejected

5. Discussion

5.1 Contribution and Implications

Although there is a body of literature that discusses the impact of scarcity and FOMO appeals on purchase intention, the combination of diverse and inconclusive empirical evidence on this relationship underscores a notable gap in research (Boerman et al., 2018; Good & Hyman, 2020a; Good & Hyman, 2020b; Hodgkinson, 2016). While some studies have emphasized the role of perceived FOMO (Ketharpal & Singh, 2024; Good & Hyman, 2020a; Good & Hyman, 2020b; Hodgkinson, 2016; Zhang et al., 2021) and persuasion knowledge – both conceptual and evaluative – (Aguirre-Rodriguez, 2013; Mukherjee & Lee, 2016), there is still insufficient research that has delved deeper into these factors, especially within the realm of social media advertising.

This study aims to address these gaps in the literature by incorporating insights from Hodgkinson (2016) and Good and Hyman (2020ab) and employing the Stimulus-Organism-Response (S-O-R) model as a guiding framework (e.g., Chen & Yao, 2018; Islam et al., 2021; Zhang et al., 2021). To that end, this study aimed to address the following research question: To what extent does the use of scarcity and FOMO appeals in social media advertisements influence consumers' purchase intentions? In particular, this study investigated the underexplored relationship between scarcity and FOMO appeals, and purchase intention, focusing on the mediating role of perceived FOMO and the moderating effect of conceptual and evaluative persuasion knowledge.

The central premise of this study posited that scarcity and FOMO appeals in social media advertising increase consumers' purchase intentions, and that this relationship is strengthened when consumers perceive FOMO. Conversely, conceptual and evaluative persuasion knowledge were posited to weaken this relationship.

Unexpectedly, the findings of this study indicate that use of scarcity appeals has no significant effect on consumers' purchase intentions. This suggests that scarcity appeals may not be a fundamental determinant of consumers' purchase intentions in social media advertising. In other words, such appeals do not signal product popularity and exceptional quality or exclusivity per se (Brock, 1968, p. 252; Huang et al., 2020, p. 3). This also means that the Conformity Theory and Commodity Theory may not be fully applicable in the context of this study, opening avenues for further research in this area on more nuanced interactions between scarcity appeals and consumers' purchase intentions in social media advertising.

Meanwhile, this study finds that there is a significant relationship between the use of FOMO appeals and consumers' purchase intentions. These results confirm that, unlike social media advertising without any appeals, FOMO appeals in social media advertising indeed influence purchase intentions. These findings are in line with previous, similar research (e.g., Saavedra and Bautista, 2020, p. 114; Good & Hyman, 2020, p. 5) and reinforce the notion that leveraging FOMO appeals can positively influence consumer behaviour, irrespective of the specific brand or product being promoted. Furthermore, these findings indicate that FOMO appeals, in contrast to scarcity appeals, are more likely to tap into social norms and popularity, aligning with the Conformity Theory (Asch, 1956). The explicit warning of 'missing out' in FOMO appeals prompts consumers to conform to perceived standards, thereby amplifying demand.

Furthermore, this study shows a significant and full mediating effect of perceived FOMO in the relationship between FOMO appeals and purchase intention in the social media advertising context; however, the results do not indicate a significant mediating effect of perceived FOMO in the relationship between scarcity appeals and consumers' purchase intentions. These findings provide new insights into the relationship between advertising appeals (i.e., FOMO and scarcity) and the purchase intentions of consumers. The results confirm that FOMO appeals can serve as an external stimulus (S) that can increase the likelihood of purchasing (R) by inducing anxiety about 'missing out' on what others possess or experience (O) (Hodkinson, 2016; Good & Hyman, 2020a; Good & Hyman, 2020b). In other words, the S-O-R model also applies when examining the effects of perceived FOMO in the realm of social media advertising. Unravelling perceived FOMO as a mediating variable by applying the S-O-R model is, therefore, a substantial contribution that can be derived from this study. In doing so, this study substantiates Hodkinson's (2016, p. 1) conclusion that perceived FOMO is an emotional response to external stimuli and not merely a self-initiated behaviour.

Regarding scarcity appeals in social media advertising, the non-significant result indicates that perceived FOMO does not mediate the relationship between scarcity appeals and consumers' purchase intentions. This finding contradicts previous studies that have suggested that scarcity appeals (S) lead consumers to be more concerned about missing out on purchasing a product or enjoying the benefits that others experience from possessing it (O), which, in turn, can result in increased purchases (R) (Hodkinson, 2016, p. 2; Ketharpal & Singh, 2024, p. 295; Zhang et al.,

2021, p. 8). A possible explanation for these contradictory findings could be that scarcity appeals are considered more rational appeals, presenting factual information about a product and prompting consumers to make logical purchase decisions (Akbari, 2015, p. 480). Consequently, scarcity appeals are unlikely to elicit an emotional response, like perceived FOMO, among consumers, explaining the lack of mediation. In addition, while the S-O-R model would theoretically motivate the significance of this relationship (e.g., Zhang et al., 2021), it may not necessarily prove effective in explaining this relationship in the context of the current study. Scarcity appeals do not seem an effective external stimulus to elicit perceived FOMO. In other words, there may not be a parallel mechanism between scarcity and FOMO appeals.

Along with the aforementioned contributions regarding the mediating effects of perceived FOMO, this study sheds new light on the complexity of the moderating effect of conceptual and evaluative persuasion knowledge on the relationship between scarcity and FOMO appeals and consumers' purchase intentions. First, the findings of this study show that neither conceptual persuasion knowledge nor evaluative persuasion knowledge moderates the relationship between scarcity appeals and purchase intentions. Second, they also show that neither dimension of persuasion knowledge moderates the relationship between FOMO appeals and purchase intentions. These results reaffirm the notion that consumer purchase intentions on social media are multifaceted. Prior studies have suggested that high levels of persuasion knowledge allow consumers to better discern the inaccuracies and persuasive tactics behind scarcity claims, diminishing their behavioural intentions (Aguirre-Rodriguez, 2013, p. 372; Eisend & Tarrahi, 2022, p. 4; Mukherjee & Lee, 2016, p. 3). Given that persuasion knowledge comprises conceptual and evaluative dimensions (Boerman et al., 2018), it was therefore expected that higher conceptual and evaluative persuasion knowledge would reduce the positive effect of scarcity appeal on purchase intention. However, the findings of this study undermine these arguments, deviating from previous literature that have reported a negative effect of persuasion knowledge on purchase intention (Aguirre-Rodriguez, 2013; Eisend & Tarrahi, 2022; Mukherjee & Lee, 2016). Instead, this study suggests a more balanced perspective and supports the idea of Boerman et al. (2018) that persuasion knowledge is more complex and context-dependent. This is also shown by results of the additional moderated mediation analysis revealing that while conceptual persuasion knowledge moderates the mediated relationship between FOMO appeals, perceived FOMO, and purchase intention, evaluative persuasion knowledge does not exert a moderating influence within

this relationship. The lack of moderation for conceptual persuasion knowledge may, therefore, be partially explained due to the presence of full mediation in the relationship between FOMO appeals, perceived FOMO, and purchase intention. By examining the separate dimensions of persuasion knowledge, rather than treating it as a general construct, this study's findings contribute to the literature (e.g., Boerman et al., 2018) and distinguishes itself (e.g., (Aguirre-Rodriguez, 2013; Eisend & Tarrahi, 2022; Mukherjee & Lee, 2016) by providing a more sophisticated understanding of the role of conceptual and evaluative persuasion knowledge in the relationship between scarcity and FOMO appeals and purchase intentions in social media advertising.

5.2 Managerial and Societal Implications

Aside from the theoretical contributions, this study also offers significant managerial and societal implications to assist managers, policymakers, and consumers in navigating the complexities of advertising strategies. First, this study's comprehensive assessment of scarcity and FOMO appeals in social media advertising reveals that these relationships are more complex than previously assumed. Given the non-significant effect of scarcity appeals on purchase intention, managers should reassess the emphasis on scarcity appeals in their social media advertising strategies. Instead, a shift towards more effective tactics such as FOMO appeals could be more beneficial, as these have shown a greater potential to drive consumers' purchase intentions (Hodkinson, 2016; Good & Hyman, 2020a; Good & Hyman, 2020b). Second, although scarcity appeals by themselves may not directly induce perceived FOMO, FOMO appeals intrinsically elicit this emotional response, which is essential for influencing consumer behaviour. Managers in marketing departments should recognize that an emotional response, rather than a rational response, is needed to increase consumers' purchase likelihood when advertising their products on social media. Additionally, it is important to note that although conceptual and evaluative persuasion knowledge did not moderate the relationship between scarcity and FOMO appeals, and purchase intention, their roles should not be overlooked. Managers should consider the context-dependent nature of persuasion knowledge and adopt a balanced perspective in refining advertising strategies to better resonate with consumers on social media platforms.

For policymakers, the findings suggest the necessity of closely examining the strategies of emotional manipulation used in social media advertising. Policies could be developed to ensure that advertising practices do not exploit consumers' emotional vulnerabilities, particularly those of

younger and more impressionable audiences. For example, regulations could insist on transparent disclosures about the nature of scarcity and FOMO appeals. For consumers, understanding the psychological mechanisms behind FOMO and scarcity appeals can empower them to make more informed and thoughtful purchasing decisions. This can help consumers to recognize and resist unnecessary purchases driven by the induced fear of missing out.

5.3 Limitations and Future Research

Notwithstanding the theoretical contributions of this study, several limitations provide potential suggestions for future research. First, the present study's findings may not be fully generalizable since the sample cannot be considered representative of the overall population. One reason is that, despite having at least thirty participants per condition, this modest sample size may not fully capture the diversity of the global population of daily social media users in the results. Another reason is that although different networks and platforms were utilized to attain a diverse sample – addressing the limitations inherent in the non-probability sampling technique (Andrade, 2021, p. 87; Nikolopoulou, 2023) – the study's sample also consisted predominantly of Dutch, Western participants. This may have affected the results because cultural differences may impact the effectiveness of scarcity and FOMO appeals. For instance, consumers from Western cultures tend to be more individualistic and may prioritize the expression of individuality, whereas Eastern consumers tend to be more collectivistic and may place greater emphasis on seeking social validation (Khosro et al., 2023, p. 55; Jung & Kellaris, 2004, pp. 741-742). Future studies should address the generalizability limitations concerning sample size by employing a power analysis to ensure an adequately large and representative sample that more accurately reflects the diversity of the global population when looking into this study's relationships. In addition, researchers could perform cross-cultural research to include participants from various cultural backgrounds. This approach will help to understand how cultural contexts influence consumer responses to scarcity and FOMO appeals, thereby enhancing the robustness and applicability of the findings across different cultural settings.

Second, the results of this study are limited due to its design. This study uses a cross-sectional design, which limits its ability to assess developments over time and establish causal relationships between the predictors and the outcome (Kesmodel, 2018, p. 2). Future research could opt for a longitudinal study design to test whether scarcity and FOMO appeals have a

different effect on consumers' purchase intentions over time. It is perhaps possible that consumers alter their behaviour when they become more aware of the strategic use of advertising appeals with increased exposure over the years. Next, the study design may have limited the results due to self-reported data, which gives the potential to socially desired responses (Demetriou et al., 2015, p. 1). Moreover, self-reported data may exhibit reduced precision, given that individuals may not be able to assess themselves accurately (Salters-Pedneault, 2023). Future research could opt for alternative assessment techniques that do not rely on self-reporting to comprehensively examine the relationship between scarcity and FOMO appeals, and purchase intention.

Additionally, further investigations are necessary to explore alternative explanations for the lack of significant evidence regarding the relationship between scarcity and FOMO appeals and purchase intentions in the context of social media advertising. This study exclusively focused on a single product type (i.e., utilitarian) and did not distinguish between different types of scarcity messages. As such, it may have overlooked the potential variations in their effectiveness. For example, supply-based scarcity messages were found to have a stronger effect on hedonistic products rather than utilitarian ones. In contrast, demand-based scarcity messages were more effective on utilitarian products than hedonistic ones (Ku et al., 2012, p. 544; Ku et al., 2013, p. 1327; Sun et al., 2021, p. 15). Therefore, future research could explore a broader range of product types (e.g., essentials vs. luxury items, high vs. low-priced goods, hedonic vs. utilitarian products, and self-expressive vs. non-self-expressive products) and message types (e.g., supply vs. demand scarcity, LTS vs. LQS) to provide a more comprehensive understanding of the impact of scarcity and FOMO appeals on consumers' purchase intentions in the context of social media advertising.

Another limitation is the non-significant finding of the moderation analyses due to the fully mediated relationship between FOMO appeals, perceived FOMO, purchase intention. The additional moderated mediation analysis showed that this mediated relationship is moderated only by conceptual persuasion knowledge. Since this study relied on a single sub-scale of evaluative persuasion knowledge within this dimension it may be possible that results did not capture the full complexity of this construct. Future research could employ a broader range of sub-scales of evaluative persuasion knowledge to examine how this construct will affect the fully the mediated relationship tested in this study.

Besides that, this study was limited as it drew upon findings and theories about scarcity appeals given the lack of available literature regarding FOMO appeals in relation to consumer

responses and behaviours (Hodkinson, 2016, p. 2). Future research should aim to explore the specific mechanisms through which FOMO appeals influence consumer behaviour, particularly in comparison to scarcity appeals, to better understand their underlying dynamics. For example, investigations into this area could incorporate qualitative methods, such as interviews or focus groups, to examine consumers' experiences, perceptions, and reactions to FOMO appeals in marketing contexts.

Lastly, this study acknowledges its limitations regarding the measurements of key constructs and the performed analyses. To begin with, scarcity and FOMO appeal had a relatively low internal consistency, suggesting caution in interpreting the results. To address this issue, future research could conduct a larger-scale validation study to further investigate the reliability of the constructs. Conducting item and factor analyses for testing the instrument's reliability and validity with different samples could also enhance reliability. In addition, this study measured purchase intention using a single item from a multiple-item scale. Despite the acceptance of single-item measurements in the literature (e.g., Bergkvist & Rossiter, 2009), the reliance on such measures may not fully capture the complexity of purchase intention in the results. Specifically, because this study did not rely on a carefully crafted and validated single-item measure for purchase intention, it may not be regarded as reliable as a multiple-item measure. Future research should critically evaluate measurement scales and consider employing only validated single-item measures or multiple-item scales to enhance reliability and validity. Finally, while the manipulation analysis provides valuable insights, it also revealed several noteworthy associations between the FOMO appeal and scarcity appeal conditions. Within the FOMO appeal condition, both FOMO appeal and scarcity appeal scored significantly higher than the control condition. As similar association was noted within the scarcity appeal condition. Future studies could refine experimental designs to better isolate the effects of each type of appeal.

6. Conclusion

Scarcity and FOMO appeals, strategically crafted by marketers, are pivotal tools in shaping consumers' perceptions and intentions. With social media deeply integrated into every aspect of daily life and consistently providing consumers with social information, it offers an ideal setting for scarcity and FOMO appeals to influence consumers' purchasing intentions. Therefore, understanding the impact of scarcity and FOMO appeals on consumers' purchase intentions in this specific context is paramount. This study aims to investigate the extent to which the use of scarcity or FOMO appeals in social media advertising influences purchase intention, and how this relationship is mediated by consumers' perceived FOMO and moderated by conceptual and evaluative persuasion knowledge. Drawing from the Stimulus-Organism-Response (S-O-R) model, this research expected the existence of a parallel mechanism between scarcity and FOMO appeals, as external stimuli (e.g., scarcity and FOMO appeals) can influence an individual's emotional state (e.g., perceived FOMO) which, in turn, prompts a response (e.g., purchase intention). However, this study diverges from the S-O-R model and prior empirical evidence, suggesting that the presumed parallel mechanism between scarcity and FOMO appeals may not be substantiated within the context of social media advertising. While FOMO appeals prove effective in eliciting an emotional response (i.e., perceived FOMO) to drive consumer behaviour, scarcity appeals do not demonstrate the same effectiveness. Additionally, this study reveals that conceptual and evaluative persuasion knowledge do not moderate the impact of either scarcity or FOMO appeals on purchase intention. In other words, consumers' understanding and critical perspective towards persuasive tactics do not significantly influence the effectiveness of these appeal types, pointing to the complexity of consumer behaviour and the potential influence of other psychological or contextual factors. By highlighting the complex interplay between scarcity and FOMO appeals, perceived FOMO, conceptual and evaluative persuasion knowledge, and purchase intention, this study contributes valuable insights for academia, marketing practitioners, policymakers, and consumers. It sets the stage for future research to validate these findings across more extensive and diverse samples, different product categories, and various cultural contexts, further unravelling the intricacies of consumer behaviour in response to social media advertising.

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Appendix A: Pre-test

Advertising Appeals and Purchase Intention

Start of Block: Introduction

Dear participant,

I am Bibi and I do research for Erasmus University Rotterdam. I am conducting research on advertising appeals and their impact on purchase intention. I will explain the study below. If you have any questions, please contact me via email: **bbmasterthesis@gmail.com**

If you want to participate in the study, you can indicate this at the end of this form. In case you want to read the whole consent form, please use this link: https://docs.google.com/document/d/1z19dJAWf98iaTkeuPaRB_nDF582E4_BNevKRzERJmzw/edit?usp=sharing

What is the research about?

The purpose of this research is to investigate consumer behaviour in response to advertising. More specifically, this research is about the effect of advertising appeals used by marketers on consumers' purchase intention. If you participate in this study, you will participate in a survey experiment. During this survey experiment, you will be asked to look at multiple advertisements from a fictitious brand. You can fill in the questionnaire yourself.

Participation and Data

Participation in this study is completely voluntary. You can stop at any time and would not need to provide any explanation. I will store all your data securely. Only the principal investigator involved in the research can see (some of) the data. We will make anonymised data publicly available so that any interested person can use it. We ensure that the data cannot be traced back to you/we do not disclose anything that identifies you. Until you submit the survey, you can still decide not to take part in the research. After you click 'send', we cannot trace what data you have shared with us anymore.

Ethics approval

I have read the information letter. I understand what the study is about and what data will be collected from me. I was able to ask questions as well. My questions were adequately answered.

By signing this form, I:

1. consent to participate in this research;

2. consent to the use of my personal data
3. confirm that I am at least 18 years old;
4. confirm that I understand that participating in this research is completely voluntary and that I can stop at any time;
5. confirm that I understand that my data will be anonymised for publication, educational purposes and further research

By clicking on "Yes, I consent" below, you are indicating that you agree to participate in this study.

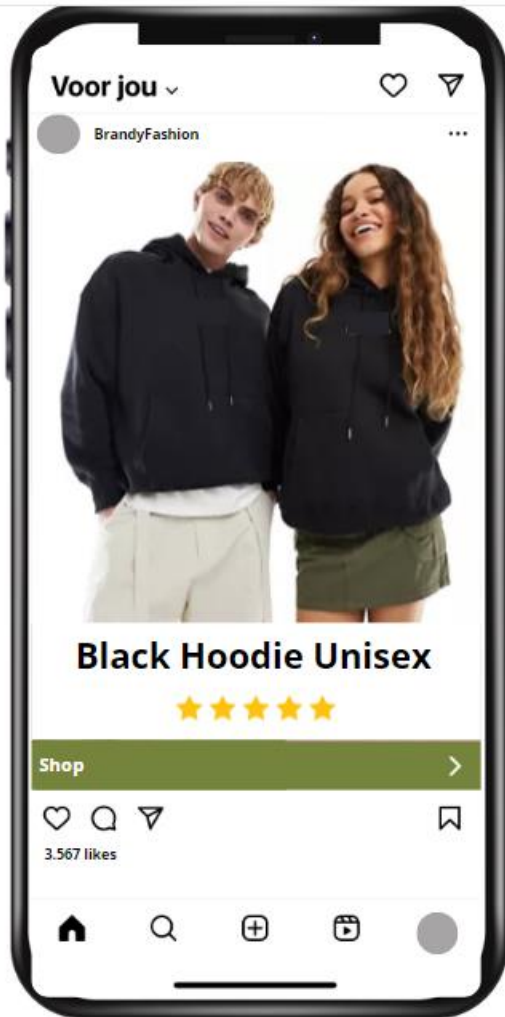
- Yes, I consent. (1)
- No, I do not consent. (2)

Skip To: End of Survey If Advertising appeals and purchase intention Dear participant, I am Bibi and I do research for Eras... = No, I do not consent.

End of Block: Introduction

Start of Block: Control condition

Please look at the following online advertisement carefully:



Page break

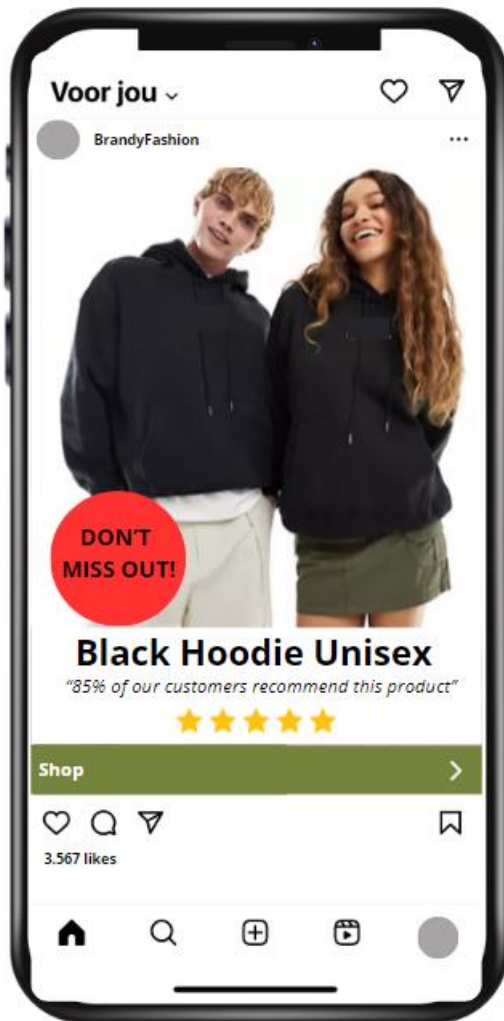
After watching this online advertisement, please indicate to what extent the following statements are true for you:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The online ad stated that there were limited quantities of the hoodie available for purchase. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The hoodie was available only for today. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online ad stated that you should not miss out on others who bought this hoodie. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The hoodie was recommended by other consumers. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Control condition

Start of Block: FOMO appeal

Please look at the following online advertisement carefully:



Page break

After watching this online advertisement, please indicate to what extent the following statements are true for you:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The online ad stated that there were limited quantities of the hoodie available for purchase. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The hoodie was available only for today. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online ad stated that you should not miss out on others who bought this hoodie. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The hoodie was recommended by other consumers. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: FOMO appeal

Start of Block: Scarcity appeal

Please look at the following online advertisement carefully:



Page break

After watching this online advertisement, please indicate to what extent the following statements are true for you:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The online ad stated that there were limited quantities of the hoodie available for purchase. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The hoodie was available only for today. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online ad stated that you should not miss out on others who bought this hoodie. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The hoodie was recommended by other consumers. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Scarcity appeal

Start of Block: Demographics

What is your gender?

- Male (1)
 - Female (2)
 - Non-binary / third gender (3)
 - Prefer not to say (4)
 - Other (please type) (5) _____
-

What is your age in years (e.g., 18)?



Which country describes your nationality the most?

▼ Afghanistan (1) ... Zimbabwe (1357)

End of Block: Demographics

Appendix B: Main Survey

Consumer Behaviour and Advertising

Start of Block: Default Question Block

Dear participant,

I am Bibi and I do research for Erasmus University Rotterdam. I am conducting research on advertising appeals and their impact on purchase intention. I will explain the study below. If you have any questions, please contact me via email: **bbmasterthesis@gmail.com**

If you want to participate in the study, you can indicate this at the end of this form. In case you want to read the whole consent form, please use this

link: https://docs.google.com/document/d/1z19dJAWf98iaTkeuPaRB_nDF582E4_BNevKRzERJmzw/edit?usp=sharing

What is the research about?

The purpose of this research is to investigate consumer behaviour in response to advertising. If you participate in this study, you will participate in a survey experiment. During this survey experiment, you will be asked to look at multiple advertisements of a fictitious brand. You can fill in the questionnaire yourself.

Participation and Data

Participation in this study is completely voluntary.

You can stop at any time and would not need to provide any explanation.

I will store all your data securely.

Only the principal investigator involved in the research can see (some of) the data.

We will make anonymised data publicly available so that any interested person can use it.

We ensure that the data cannot be traced back to you/we do not disclose anything that identifies you.

After you click 'send', we cannot trace what data you have shared with us anymore.

Ethics approval

I have read the information letter. I understand what the study is about and what data will be collected from me. I was able to ask questions as well. My questions were adequately answered.

By signing this form, I:

1. consent to participate in this research;
2. consent to the use of my personal data
3. confirm that I am at least 18 years old;

4. confirm that I understand that participating in this research is completely voluntary and that I can stop at any time;

5. confirm that I understand that my data will be anonymised for publication, educational purposes and further research

By clicking on "Yes, I consent" below, you are indicating that you agree to participate in this study. Click to write the question text

Yes, I consent. (1)

No, I do not consent. (2)

Skip To: End of Survey If Consumer behaviour and advertising Dear participant, I am Bibi and I do research for Erasmus Univ... = No, I do not consent.

End of Block: Default Question Block

Start of Block: Filter question: social media use

Do you use social media daily?

Yes (1)

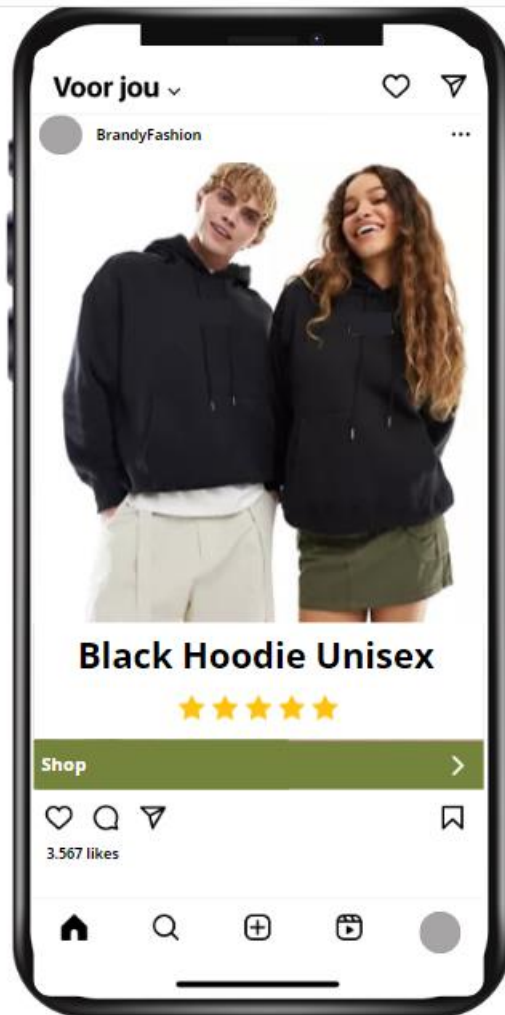
No (2)

Skip To: End of Survey If Do you use social media daily? = No

End of Block: Filter question: social media use

Start of Block: No appeal

Please look at the following online advertisement **carefully**:

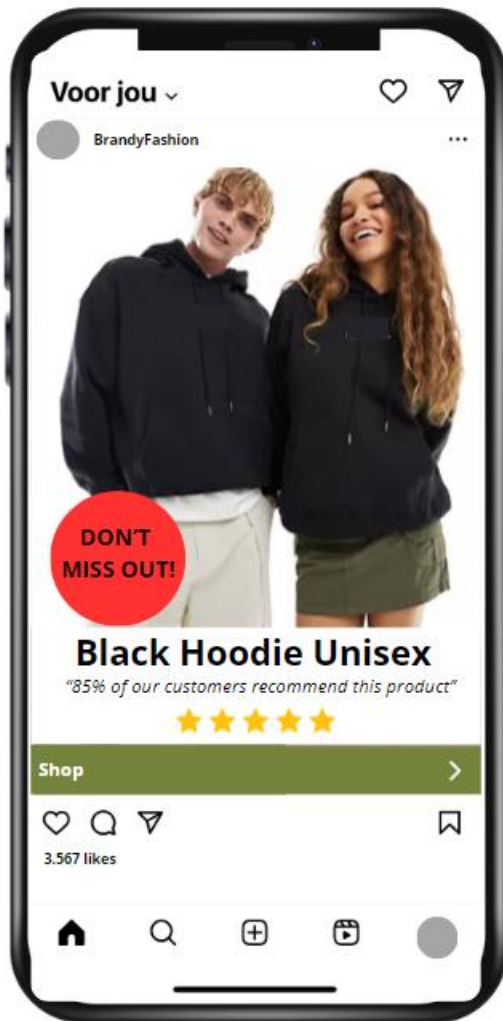


End of Block: No appeal

Start of Block: FOMO appeal

OR

Please look at the following online advertisement **carefully**:



End of Block: FOMO appeal

Start of Block: Scarcity appeal

OR

Please look at the following online advertisement **carefully**:



End of Block: Scarcity appeal

Start of Block: Purchase intention

Page break

After watching this online advertisement, please indicate to what extent you agree (1 = very low to 7 = very high) with the following statement:

"The likelihood of purchasing this product is..."

- 1 Very low (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 Very high (7)

End of Block: Purchase intention

Start of Block: FOMO

After watching this online advertisement, please indicate to what extent you agree with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I feel anxious when I do not buy this product. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe I am falling behind compared with others when not buying this product. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel anxious because I know something important or fun must happen when not buying this product. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel sad if I am not capable of buying this product due to constraints. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel regretful when not buying this product. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I think my social groups view me as unimportant when not buying this product. (6)

I think I do not fit in social groups when not buying this product. (7)

I think I am excluded by my social groups when not buying this product. (8)

I feel ignored or forgotten by my social groups when not buying this product. (9)

End of Block: FOMO

Start of Block: Control question

I want to test your attention, please click on the answer "Agree"

- Strongly disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly agree (5)

End of Block: Control question

Start of Block: Persuasion knowledge

Please indicate to what extent you agree (1 = strongly disagree to 7 = strongly agree) with the following statements: "Brands try to influence me by..."

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
...hiding the commercial purpose of showing the brand. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...making sure it does not look like advertising. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...making sure I am exposed to the brand. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...placing the brand in a context that I like. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...placing the brand in a context that people trust. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate to what extent you agree with the following statement:

"I think that advertising brands on social media is..."

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Dishonest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Honest
Not trustworthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Trustworthy
Incredible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Credible
Not truthful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Truthful
Insincere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sincere

End of Block: Persuasion knowledge

Start of Block: Manipulation check

After watching the online advertisement, please indicate to what extent the following statements are true for you:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The online ad stated that there were limited quantities of the hoodie available for purchase. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The hoodie was available only for today. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online ad stated that you should not miss out on others who bought this hoodie. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The hoodie was recommended by other consumers. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Manipulation check

Start of Block: Demographics

What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)
- Other (please type) (5) _____
-

What is your age in years (e.g., 18)?



Which country describes your nationality the most?

▼ Afghanistan (1) ... Zimbabwe (1357)

End of Block: Demographics

Start of Block: Debrief

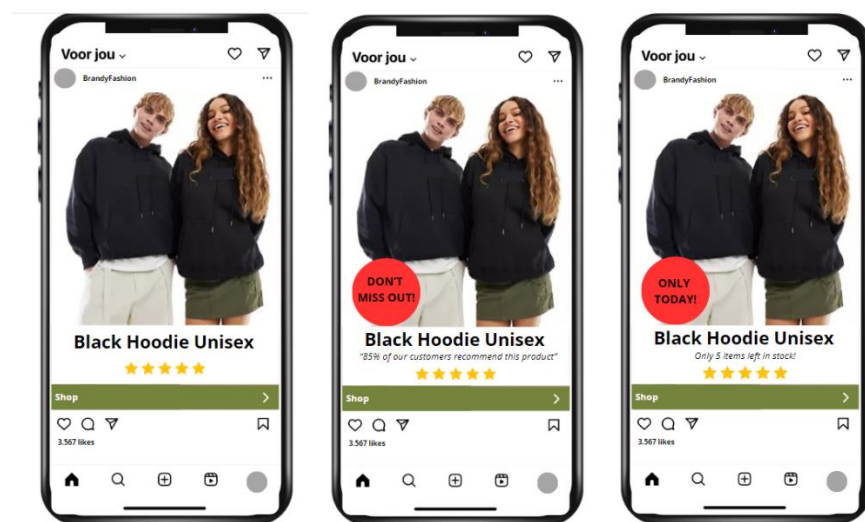
Debrief (Do not forget to click on the 'Next' arrow button below!)

Thank you for participating in this research. This experiment aimed to understand to what extent FOMO (Fear of Missing Out) appeals and scarcity appeals in online advertisements influence consumers' purchase intention. Furthermore, this study wanted to examine to what extent this relationship is mediated by FOMO and moderated by persuasion knowledge. Investigating this subject will allow insights into these relationships.

Some of you were exposed to an advertisement without any appeal (image 1), some of you were exposed to an advertisement including FOMO appeals (image 2), and some of you were exposed to an advertisement including scarcity appeals (image 3). These ads were all fictionalized with an non-existing brand in order decrease biases. According to past research conducted, it was expected that:

1. Those exposed to either the FOMO appeal ad or scarcity appeal ad would be more likely to purchase the hoodie, than those exposed to the standard ad.
2. Those exposed to either the FOMO appeal ad or scarcity appeal ad would be more likely to experience FOMO, than those exposed to the standard ad.
3. Those with high persuasion knowledge were less likely to purchase the hoodie than those with low persuasion knowledge.

Data collection for this study is still ongoing. Please do not share specifics of this study with anyone to protect the validity of the data that is collected. If you have any questions about this study, feel free to contact me: **bbmasterthesis@gmail.com**



Thank you for your time and cooperation! Do not forget to click on the "next" button

End of Block: Debrief

Appendix C: AI Declaration Form

Declaration Page: Use of Generative AI Tools in Thesis

Student Information

Name: Bibi Buitenhek

Student ID: 531295

Course Name: Master Thesis CM5000

Supervisor Name: Freya de Keyzer

Date: 21-06-2024

Declaration:

Acknowledgment of Generative AI Tools

I acknowledge that I am aware of the existence and functionality of generative artificial intelligence (AI) tools, which are capable of producing content such as text, images, and other creative works autonomously.

GenAI use would include, but not limited to:

- Generated content (e.g., ChatGPT, Quillbot) limited strictly to content that is not assessed (e.g., thesis title).
- ~~Writing improvements, including~~ grammar and spelling corrections (e.g., Grammarly)
- Language translation (e.g., DeepL), without generative AI alterations/improvements.
- Research task assistance (e.g., finding survey scales, qualitative coding verification, debugging code)
- Using GenAI as a search engine tool to find academic articles or books (e.g.,

I declare that I have used generative AI tools, specifically ChatGPT, in the process of creating parts or components of my thesis. The purpose of using these tools was to aid in generating content or assisting with specific aspects of thesis work.

I declare that I have NOT used any generative AI tools and that the assignment concerned is my original work.

Signature:

Date of Signature:

Extent of AI Usage


I confirm that while I utilized generative AI tools to aid in content creation, the majority of the intellectual effort, creative input, and decision-making involved in completing the thesis were undertaken by me. I have enclosed the prompts/logging of the GenAI tool use in an appendix.

Ethical and Academic Integrity

I understand the ethical implications and academic integrity concerns related to the use of AI tools in coursework. I assure that the AI-generated content was used responsibly, and any content derived from these tools has been appropriately cited and attributed according to

the guidelines provided by the instructor and the course. I have taken necessary steps to distinguish between my original work and the AI-generated contributions. Any direct quotations, paraphrased content, or other forms of AI-generated material have been properly referenced in accordance with academic conventions.

By signing this declaration, I affirm that this declaration is accurate and truthful. I take full responsibility for the integrity of my assignment and am prepared to discuss and explain the role of generative AI tools in my creative process if required by the instructor or the Examination Board. I further affirm that I have used generative AI tools in accordance with ethical standards and academic integrity expectations.

Signature: 

Date of Signature: 21-06-2024