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## The Impact of Loneliness on Consumer Behavior and Its Theoretical Explanations

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### Abstract

Loneliness has become an increasingly prevalent social phenomenon. In recent years, research on the influence of loneliness on consumer behavior has made significant contributions to the consumer behavior literature. Individuals' loneliness can impact compensatory consumption behavior, avoidance consumption behavior, irrational consumption behavior, and uniqueness-oriented consumption behavior. Meanwhile, these effects are moderated by factors such as consumers' intimate relationship status, marketing strategies, product attributes, and consumption contexts. Social substitution theory, sense of control theory, compensatory consumption behavior theory, self-regulation theory, and personality trait theory can be employed to explain the effects of loneliness on consumer behavior. Future research should examine the impact of loneliness on altruistic consumption behavior, the effects of different types and degrees of loneliness on consumption behavior, moderating factors in the loneliness-consumption relationship, the underlying mechanisms through which loneliness influences consumption behavior, and the reverse influence of consumption behavior on loneliness.

### Full Text

## The Influence of Loneliness on Consumption Behavior and Its Theoretical Explanations

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**Abstract:** Loneliness has become an increasingly prevalent social phenomenon. Recent research on how loneliness influences consumption behavior has made

important contributions to the consumer behavior literature. Loneliness affects compensatory consumption behavior, avoidance consumption behavior, irrational consumption behavior, and uniqueness consumption behavior. These effects are moderated by factors such as consumers' intimacy status, marketing strategies, product attributes, and consumption contexts. Researchers have employed varied perspectives to explain loneliness-induced consumption behavior, including social surrogacy theory, sense of control theory, compensatory consumption behavior theory, self-regulation theory, and personality trait theory. Future research should examine the impact of loneliness on altruistic consumption, the effects of loneliness type and degree on consumption behavior, potential moderators and internal mechanisms of loneliness-induced consumption behavior, and the reverse influence of consumption behavior on loneliness.

**Keywords:** loneliness, consumption behavior, compensatory consumption behavior theory, self-regulation theory, personality trait theory

**Classification:** B849: F713.55

## 1 Introduction

“Loneliness is not in the mountains but on the streets, not within an individual but among many people.” —(Japan) Miki Kiyoshi

Loneliness has become an increasingly common social phenomenon, affecting people across all age groups and influencing their daily lives (Twenge et al., 2021). Currently, it is not uncommon to observe intense loneliness among left-behind rural children who lack parental companionship during their development (Song et al., 2021), university students who encounter interpersonal relationship obstacles (Diehl et al., 2018), workplace employees who are ignored by leaders or excluded by colleagues (Chen Xiao et al., 2022), and elderly individuals in nursing homes or living alone whose children are not nearby (Cohen-Mansfield & Eisner, 2020). Research indicates that 10% to 35% of people feel lonely at least occasionally, while up to 25% experience chronic loneliness (Hawkey, 2022). For example, a nationwide mental health survey in the United States showed that approximately 13.8% of adults reported frequently feeling lonely in their daily lives (McGinty et al., 2020), while another social survey of Chinese youth aged 18 to 35 found that 97.2% of respondents working in large cities reported often feeling lonely (Du Yuanchun, 2019). With the recent COVID-19 pandemic, governments worldwide implemented isolation measures that reduced social activities, further increasing loneliness among people globally (Wong et al., 2020).

Loneliness was initially studied extensively in psychology and has undergone four developmental stages. The first stage focused on examining the antecedents of loneliness, with numerous studies investigating personal factors such as age, gender, personality traits, and internet usage characteristics (Kim et al., 2022; Schermer & Martin, 2019; Wickens et al., 2021), as well as environmental factors like living conditions, social crowding, and the COVID-19 pandemic (Hammoud

et al., 2021; Pai & Vella, 2021; Wee et al., 2019). The second stage concentrated on the effects of loneliness on psychological and behavioral characteristics, with extensive research examining its impact on attentional bias (Bangee et al., 2014), cognitive performance (Kuiper et al., 2020), mobile phone addiction (Zhang Yali et al., 2020), mental health issues such as depression, anxiety, suicide, and psychosocial dysfunction (Matthews et al., 2022), and physical health problems including sleep disorders, physical dysfunction, hypertension, and heart disease (Park et al., 2020). The third stage explored the neural mechanisms through which loneliness influences individual psychology and behavior, with neuroimaging studies revealing that loneliness is closely associated with activation in brain regions such as the prefrontal cortex, insula, and ventral striatum, as well as brain networks including the visual network, attention network, and default mode network (Lam et al., 2021). The fourth stage focused on interventions to alleviate loneliness, with studies examining the effectiveness of mindfulness meditation, music therapy, peer support, and physical exercise in reducing loneliness (Franke et al., 2021; Velloze et al., 2022).

As research findings on loneliness from psychology have been introduced into the consumer behavior domain, the impact of loneliness on consumption behavior has gradually become a hot research topic (Fumagalli et al., 2022; Shrum et al., 2022). However, existing studies employ diverse manipulation and measurement methods for loneliness, produce fragmented conclusions, and have unclear influencing mechanisms, which to some extent constrains the development of research and marketing practice in this field. Therefore, to address these issues and systematically review the current state of research on how loneliness influences consumption behavior, this paper summarizes and analyzes the connotation and types of loneliness, manipulation and measurement methods, the effects of loneliness on consumption behavior, the mechanisms and contexts through which loneliness induces consumption behavior, and the theoretical foundations of these effects. Based on this analysis, we propose directions for future research as a reference for scholars.

## 2.1 Definition of Loneliness and Distinction from Related Concepts

Regarding the definition of loneliness, early research primarily elaborated on it from three perspectives: individual needs, cognitive appraisal, and emotional experience. First, from the individual needs perspective, loneliness is viewed as an unpleasant subjective experience that arises when an individual's needs for intimate or social relationships are unmet during social isolation (Pieters, 2013; Wang et al., 2012). Individuals have fundamental belongingness needs, and satisfying interpersonal relationships helps establish a sense of belonging. When such relationships are absent, individuals feel intense loneliness (Baumeister & Robson, 2021). Second, from the cognitive perspective, loneliness is considered a psychological state that emerges when an individual subjectively perceives a discrepancy between desired and actual connections in intimate or social rela-

tionships (Cacioppo et al., 2015; Lam et al., 2021). Third, from the emotional perspective, loneliness is defined as an aversive emotional state in which an individual feels disconnected from others (Cacioppo & Patrick, 2009; Pieters, 2013). Integrating these three perspectives, Petite et al. (2015) defined loneliness as a painful emotional experience subjectively perceived by individuals when the quality of their intimate or social relationships fails to meet ideal expectations or satisfy their belongingness needs. These definitions reveal two important characteristics of loneliness: first, loneliness is a subjective perception; second, loneliness is a negative emotional experience.

Loneliness differs from several related concepts. First, loneliness is distinct from social isolation and social exclusion. Social isolation refers to an objective state of reduced quantity of social connections with one's surroundings (Valtorta et al., 2016), while social exclusion refers to an objective state of being rejected or ignored by others or groups (Williams, 2007). Loneliness is a subjective psychological state of feeling disconnected from others (Pieters, 2013), fundamentally different from social isolation and social exclusion. Second, loneliness also differs from solitude. Larson (1990) defined solitude as an objective state in which individuals prefer to be alone and are unwilling to contact or communicate with others. Motivated by different reasons, solitude may lead to either positive or negative experiences (Chen Xiao & Zhou Hui, 2012). For example, when individuals choose solitude to avoid social interaction due to shyness or lack of necessary social skills (often called negative solitude), it increases their risk of developing loneliness, social anxiety, and social avoidance (Coplan et al., 2015). Conversely, when individuals actively seek solitude for self-reflection or self-improvement because they inherently enjoy being alone (often called positive solitude), it promotes emotional regulation (Nguyen et al., 2018) and enhances well-being (Coplan et al., 2019). Compared to solitude, loneliness is a subjective psychological state that only generates negative experiences, representing an essential distinction between the two.

## 2.2 Types of Loneliness

First, based on the type of relational network deficiency, loneliness can be divided into emotional loneliness and social loneliness (Weiss, 1973). The former refers to loneliness arising from the absence of emotional attachment in intimate relationship networks with family, loved ones, and close friends; the latter refers to loneliness stemming from the lack of social connections in broader social networks with classmates, colleagues, and ordinary friends (Saine & Zhao, 2021). Compared to social loneliness, people are more susceptible to emotional loneliness, and its impact is more severe (Wolfers et al., 2022). Second, based on the duration of loneliness, it can be categorized as state loneliness and trait loneliness (Jones et al., 1990). The former, also known as transient loneliness, refers to temporary loneliness experienced by individuals in response to specific situations such as social exclusion or isolation measures; the latter, also known as chronic loneliness, refers to loneliness experienced over extended periods, rep-

resenting a stable personality trait (van Roekel et al., 2018). Individuals with state loneliness tend to seek social connections to quickly adapt to the negative effects of loneliness, whereas those with trait loneliness may avoid social connections due to repeated past social failures (Cacioppo & Cacioppo, 2018).

### 3.1.1 Feedback Induction Method

The feedback induction method induces loneliness by informing participants of their loneliness measurement results (Zhou et al., 2008; Wen Sisi et al., 2017; Yang Qiang et al., 2018). This method typically involves two stages. In the first stage, both the “high loneliness group” and “low loneliness group” complete a “Loneliness Scale.” To more effectively manipulate loneliness, the questionnaire items are phrased differently for each group: for the high loneliness group, all items are phrased as “I sometimes” (e.g., “I sometimes feel isolated from others”), leading them to subjectively perceive higher levels of loneliness; for the low loneliness group, all items are phrased as “I always” (e.g., “I always feel lonely”), leading them to subjectively perceive lower levels of loneliness. In the second stage, when providing feedback on the scale results, the high loneliness group is told their loneliness level is above average, while the low loneliness group is told their loneliness level is below average. Following this feedback, participants in both groups are asked to write down two reasons to explain their loneliness scores, thereby strengthening the effectiveness of the loneliness manipulation (Wildschut et al., 2006).

### 3.1.2 Recall Induction Method

The recall induction method induces loneliness by asking participants to recall a past experience when they felt intense loneliness and to write in detail about what happened and how they felt (Cacioppo et al., 2006; Huang & Fishbach, 2021). This method primarily employs two task formats: free recall and cued recall. In free recall tasks, participants can induce loneliness based on any lonely event from their memory (Jiao & Wang, 2018). For example, Huang and Fishbach (2021) and Jiao and Wang (2018) asked participants to write about experiences when they felt intense loneliness. Cued recall tasks require participants to recall a specific lonely event based on fixed cues (such as experiencing social exclusion or rejection) to induce loneliness (Maner et al., 2007; Mead et al., 2011). For instance, Yan and Sengupta (2021) asked participants to write about past experiences of being socially excluded or rejected by others. Additionally, Saine and Zhao (2021) proposed that both emotional and social loneliness can be induced through recall tasks: emotional loneliness can be induced by asking participants to recall experiences without intimate figures (such as family members and loved ones), while social loneliness can be induced by asking participants to recall experiences without the company of many friends.

### 3.1.3 Imagination Induction Method

The imagination induction method induces loneliness by asking participants to imagine a specific designated lonely scenario and write in detail about what happened and how they felt (Yan & Sengupta, 2021). This method typically flexibly designs different lonely scenarios based on research purposes. The induced lonely scenario should be consistent with the subsequent consumption scenario to ensure that the induced loneliness persists throughout the consumption task. For example, Yan and Sengupta (2021) investigated the effect of loneliness on preferences for two different menu price options in restaurants by asking participants to imagine a lonely scenario of dining alone at a restaurant on a Friday night to induce loneliness. In another study examining the effect of loneliness on hotel room number preferences, participants were asked to imagine a lonely scenario of traveling alone to induce loneliness.

### 3.1.4 Cue Induction Method

The cue induction method induces loneliness by presenting participants with cues containing loneliness markers, currently primarily in the form of advertisements describing lonely moments (Chen et al., 2021; Huang & Fishbach, 2021). For example, Yang Qiang et al. (2018) used an advertisement slogan ( “The city is getting bigger, walls are increasing, roads are more congested, and you and I are growing farther apart. People appear and disappear only on social media, yet vanish in real-life circles. Loneliness is not within an individual but among many people. When you feel lonely, why not choose our restaurant?” ) to induce loneliness. Chen et al. (2021) and Huang and Fishbach (2021) adapted this method using modified advertisement slogans such as, “There are many lonely moments in life. Want to experience less loneliness? Then hurry up and choose our second-hand products!”

## 3.2 Measurement of Loneliness

Current research in consumer behavior generally treats loneliness as a unidimensional construct and commonly uses the UCLA Loneliness Scale. This scale contains 20 items and is a self-report measure in which participants subjectively report their feelings about interpersonal relationship status (1 = never, 2 = rarely, 3 = sometimes, 4 = often), with some items reverse-scored. The average score across all 20 items reflects the intensity of loneliness, with higher scores indicating stronger loneliness (Russell et al., 1980; Russell, 1996). Some studies have revised the UCLA scale. For example, Wang Dengfeng (1995) revised it to 18 items as an effective tool for measuring loneliness among Chinese students. Pieters (2013) revised it to a 10-item version. Additionally, Cacioppo and Patrick (2009) developed a simplified 3-item version. All these scales demonstrate good reliability and validity and have been widely applied in consumer behavior research (Snyder & Newman, 2019; Wang et al., 2021). For instance, Chen Rui and Zheng Yuhuang (2015) used the UCLA scale to measure par-

participants' trait loneliness and examined its effect on uncertainty consumption behavior, while Yan and Sengupta (2021) used the abbreviated UCLA scale to validate their loneliness manipulation.

## 4 The Influence of Loneliness on Consumption Behavior

The influence of loneliness on consumption behavior can be summarized across four dimensions: compensatory consumption behavior, avoidance consumption behavior, irrational consumption behavior, and uniqueness consumption behavior.

### 4.1 Compensatory Consumption Behavior

Loneliness threatens consumers' sense of control, meaning in life, and sense of belonging (Huang & Fishbach, 2021; Sun Jin et al., 2020; Yang Qiang et al., 2018). To cope with the self-discrepancies created by these psychological threats, consumers engage in compensatory consumption behavior (Mandel et al., 2017), often manifested through social interaction with sales staff, material product consumption, brand loyalty, and ritualistic, experiential, or media consumption as forms of psychological compensation.

First, loneliness threatens consumers' sense of control, creating a psychological need to restore control. For example, Sun Jin et al. (2020) found that loneliness leads to perceived loss of control, making consumers prefer rational decision-making modes and rational appeal products. This is because rational decision-making modes and rational appeal products can provide psychological compensation for the loss of control, helping restore their sense of control.

Second, loneliness threatens consumers' sense of meaning in life, generating a need to seek meaning. For instance, Yang Qiang et al. (2018) found that loneliness prompts consumers to prefer nostalgic products (such as previously popular advertisements or music). This is because nostalgic products possess social functions that can enhance meaning in life by evoking fond memories, thereby compensating for the threat posed by loneliness. Additionally, Wang et al. (2021) found that ritualistic consumption can evoke consumers' sense of meaning by endowing products with significance, thus alleviating loneliness.

Finally, loneliness also threatens consumers' sense of belonging, creating a need to seek social connections. Consumers may compensate for belongingness deficits by establishing direct social connections with sales staff or symbolic social connections with material products (such as anthropomorphized products, second-hand products, or products related to digital divisibility) and brands. For example, Rippé et al. (2018) argued that lonely consumers prefer physical store consumption to enable direct social interaction with sales personnel. Epley et al. (2007) suggested that anthropomorphized products can play an important role in compensating for social connections. Compared to ordinary products, lonely consumers prefer anthropomorphized products (Feng, 2016; Li et al.,

2019; Feng Wenting et al., 2016). Lonely consumers also prefer second-hand products over new ones because second-hand products enable them to establish social connections with previous owners (Huang & Fishbach, 2021). Furthermore, Yan and Sengupta (2021) argued that divisible digital products are more appealing to lonely consumers because they can be split into multiple number combinations, possessing stronger connectedness that compensates for deficient social connections. Loh et al. (2021) suggested that lonely consumers can also compensate for intimacy deficits by forming attachment relationships with brands, as emotional loneliness strengthens consumer-brand connections, creating emotional brand attachment and ultimately fostering brand loyalty.

Moreover, experiential consumption and media consumption can also compensate for consumers' belongingness deficits. Previous research has found that lonely consumers prefer experiential consumption with social attributes to satisfy their social needs (Mittal & Silvera, 2018; Zhao Yurou & Jin Xiaotong, 2021), and experiential consumption as a coping strategy for alleviating loneliness has been confirmed by Yang et al. (2021). Other studies have found that lonely consumers engage in more media consumption, such as paying attention to video bullet comments, watching favorite television programs, and using social media apps like Facebook, Twitter, and Weibo more frequently. This is because lonely consumers can compensate for the lack of real social connections by establishing parasocial relationships with social media (Chen et al., 2019; Mahoney et al., 2019; Phu & Gow, 2019; Wang et al., 2018).

## 4.2 Avoidance Consumption Behavior

When people feel lonely, self-protective avoidance motivation is activated (Cacioppo & Cacioppo, 2018), which increases lonely consumers' risk perception of the external environment, creates social avoidance tendencies, manifests as self-centeredness (Cacioppo et al., 2017), and leads to preferences for greater social distance from others (Saporta et al., 2021). These psychological characteristics prompt lonely consumers to engage in more avoidance consumption behavior, specifically manifested as avoiding consumption activities with direct social connections, preferring self-focused consumption activities, and avoiding high-risk consumption activities.

First, to protect themselves from external threats, loneliness prompts consumers to distance themselves from interpersonal contact and avoid consumption activities with direct social connections. For example, Arpin et al. (2015) argued that loneliness reduces consumers' social drinking consumption while increasing solitary drinking consumption. Saporta et al. (2022) found that individuals with high loneliness levels reduce social activities involving interpersonal touch compared to those with low loneliness levels. This suggests that lonely consumers have lower preferences for consumer services related to interpersonal contact (such as haircuts, massages, and dance classes) (Fumagalli et al., 2022).

Second, driven by self-protection motivation, loneliness also prompts consumers

to focus more on themselves, become self-centered, and prefer self-focused consumption activities. For instance, Rippé et al. (2021) argued that emotional loneliness prompts consumers to engage in self-gifting behavior. Liu et al. (2020) suggested that loneliness increases conspicuous consumption among single consumers to attract attention to themselves.

Finally, loneliness also prompts consumers to avoid high-risk consumption activities. This is because when consumers feel lonely, they become highly sensitive to social threat stimuli, allocating more attentional resources to negative information (Cacioppo & Cacioppo, 2018), perceiving themselves as vulnerable to potential risks (Cacioppo & Hawkley, 2009), and consequently avoiding all high-risk consumption activities. For example, Chen Rui and Zheng Yuhuang (2015) argued that loneliness leads to perceived loss of control, making consumers unable to cope with external uncertainty and more attentive to negative information, which further increases their uncertainty avoidance preferences (such as reducing preferences for new products and probabilistic promotions). Hu et al. (2018) found that when facing food safety hazards, lonely consumers tend to focus on negative information related to adverse health outcomes (such as heavy metals and pesticide residues), leading them to perceive such foods as high-risk and avoid purchasing and consuming them. In advertising research, lonely consumers similarly exhibit this risk avoidance preference. For instance, Wen Sisi et al. (2017) found that loneliness leads to pessimistic cognition, prompting consumers to pay more attention to negative information presented in advertisements and prefer defensive message framing styles to avoid risks.

### 4.3 Irrational Consumption Behavior

Previous research has shown that self-regulation ability helps individuals identify and overcome spontaneous and impulsive behavioral reactions (Baumeister & Heatherton, 1996). Loneliness depletes individuals' self-regulatory resources, weakening their self-regulation capacity (Cacioppo & Patrick, 2009; Pieters, 2013), thereby inducing irrational consumption behavior, including impulsive consumption and unhealthy consumption (Saine & Zhao, 2021; Sinha & Wang, 2013). For example, Sinha and Wang (2013) argued that loneliness type affects consumers' impulsive consumption behavior, with time perception playing a moderating role. When social loneliness consumers have a larger time perception scope or emotional loneliness consumers have a smaller time perception scope, their loneliness experience is more intense, making them more likely to engage in impulsive consumption behavior. Saine and Zhao (2021) found that loneliness type differentially affects unhealthy consumption behavior; compared to social loneliness consumers, emotional loneliness consumers have weaker self-regulation ability, making them unable to rationally resist the temptation of delicious unhealthy foods and thus showing stronger preferences for unhealthy high-calorie foods. Additionally, loneliness prompts consumers to purchase other unhealthy foods such as sugary beverages and alcohol (Doan et al., 2021; Wootton et al., 2021).

#### 4.4 Uniqueness Consumption Behavior

The lonely consumer hypothesis suggests that consumers in a prolonged state of loneliness may gradually develop a stable loneliness trait (Wang et al., 2012), which activates a need for uniqueness stemming from lonely consumers' perception of themselves as different from others (Bell, 1993). To satisfy this uniqueness need, lonely consumers tend to engage in uniqueness consumption behavior, often manifested as preferences for products that match their loneliness trait—namely, niche products favored by few people. For example, Wang et al. (2012) argued that in private consumption contexts, trait loneliness prompts consumers to prefer niche products over mass products. Chen et al. (2021) found that trait loneliness also influences consumers' aesthetic preferences for products, manifested as a preference for angular over circular shapes in private consumption contexts. This preference effect is widely observed in font logos, app icons, and product designs. According to the symbolic meaning of shapes, angular forms evoke stereotypes of opposition or disagreement between target stimuli and surrounding stimuli (Zhang et al., 2006), representing viewpoints held by minorities and characterized by uniqueness consumption.

#### 5.1 Trigger Mechanisms

Existing research has found that loneliness prompts consumers to engage in different types of consumption behavior. This occurs primarily because loneliness activates different psychological motivations, thereby inducing different consumption behaviors. According to the Evolutionary Theory of Loneliness (ETL), to cope with and adapt to loneliness, individuals' biological warning system simultaneously evokes dual psychological motivations: an approach motivation to restore self-discrepancies and an avoidance motivation for self-protection (Cacioppo & Cacioppo, 2018). This theory posits that when individuals experience loneliness, their psychological needs for control, meaning in life, and belonging are threatened, creating self-discrepancies that evoke approach motivation to restore these psychological needs and alleviate loneliness. Simultaneously, loneliness serves as a dangerous warning signal that evokes individuals' self-protection motivation, increasing implicit vigilance toward social stimuli and ultimately leading them to adopt avoidance strategies.

Since approach motivation to restore self-discrepancies and avoidance motivation for self-protection are activated simultaneously, what determines which motivation dominates? Recent research reveals that whether loneliness is chronic is the key factor. Saporta et al. (2021) argued that although almost everyone experiences loneliness, most people can successfully re-establish social connections. Therefore, for those experiencing transient loneliness, approach motivation to restore self-discrepancies dominates, potentially generating needs to restore control, seek meaning, and seek social connections, thereby leading to more compensatory consumption behavior. However, for those unable to successfully alleviate loneliness through social connections, they gradually become chronically lonely individuals, with self-protective avoidance motivation dominating. On

the one hand, driven by short-term self-protective avoidance motivation, chronic lonely individuals develop implicit vigilance, increase risk perception of the external environment, generate social avoidance needs, and thus tend to engage in more avoidance consumption behavior. Unlike transient lonely individuals who adopt active strategies to cope with loneliness, chronic lonely individuals tend to adopt avoidance strategies. For instance, Hawkley et al. (2003) found that even when chronic lonely individuals successfully obtain social support, they remain unsatisfied. Maner et al. (2007), Vanhalst et al. (2015), and Huang and Fishbach (2021) found that unlike transient lonely individuals, chronic lonely individuals are less proactive in alleviating loneliness and seeking social connections. Additionally, Archer Lee et al. (2022) argued that compared to transient loneliness, chronic loneliness leads individuals to engage in fewer prosocial behaviors. Moreover, driven by short-term self-protective avoidance motivation, the persistent implicit vigilance and negative emotions experienced by chronic lonely individuals partially deplete their self-regulatory resources (Hawkley & Cacioppo, 2010), reducing their ability to control internal environments and leading to more irrational consumption behavior. On the other hand, driven by long-term self-protective avoidance motivation, chronic lonely individuals may develop uniqueness needs to avoid establishing connections with others, thereby leading to more uniqueness consumption behavior.

Based on this, consumers with transient loneliness are primarily driven by approach motivation to restore self-discrepancies, inducing compensatory consumption behavior. In contrast, consumers with chronic loneliness are primarily driven by avoidance motivation for self-protection. In the short term, this generates social avoidance needs, inducing avoidance consumption behavior, while simultaneously reducing self-regulatory resources, inducing irrational consumption behavior. In the long term, it also activates uniqueness needs, inducing uniqueness consumption behavior.

## 5.2 Situational Factors

Regarding situational factors that induce compensatory consumption behavior from loneliness, existing research has found that compensatory consumption is influenced by marketing strategy factors. For example, Li et al. (2019) examined the effect of message framing on loneliness-induced compensatory consumption, finding that highly lonely consumers prefer anthropomorphized products under promotion-focused framing but prefer ordinary products under prevention-focused framing. Feng Wenting et al. (2016) investigated the effect of product display on loneliness-induced compensatory consumption, discovering that when products are displayed together, lonely consumers prefer ordinary products, whereas when products are displayed separately, lonely consumers prefer anthropomorphized products.

Regarding situational factors that induce avoidance consumption behavior from loneliness, research has found that avoidance consumption is influenced by consumer individual factors and product factors. For instance, Liu et al. (2020)

examined how consumers' intimacy status affects loneliness-induced avoidance consumption, finding that loneliness prompts avoidance consumption behavior in single consumers but not in non-single consumers. Hu et al. (2018) investigated how food safety influences loneliness-induced avoidance consumption, discovering that loneliness prompts avoidance consumption for unsafe foods but not for safe foods.

Regarding situational factors that induce uniqueness consumption behavior from loneliness, research has found that uniqueness consumption is affected by consumption context. For example, Wang et al. (2012) argued that in private consumption contexts, lonely consumers prefer niche products, whereas in public consumption contexts, lonely consumers shift to prefer mass products. This is primarily because in public consumption contexts, lonely consumers fear negative social evaluation for preferring niche products and therefore choose to align with majority preferences.

## 6 Theoretical Explanations for Loneliness' s Influence on Consumption Behavior

Based on existing research, this paper analyzes the internal mechanisms of how loneliness influences consumption behavior from the perspectives of social surrogacy theory, sense of control theory, compensatory consumption behavior theory, self-regulation theory, and personality trait theory.

### 6.1 Social Surrogacy Theory

Social surrogacy theory posits that when consumers feel lonely, it activates social needs, prompting them to seek social substitutes through consumption behavior to satisfy these needs and alleviate loneliness (Derrick et al., 2009). This theory is primarily used to explain loneliness' s influence on media-related compensatory consumption behavior. Media can serve as social substitutes for lonely consumers to meet their social needs, so loneliness prompts consumers to increase media usage and preference for media information. For example, loneliness increases consumers' willingness to watch popular television programs (Derrick et al., 2009) and their frequency of using social media apps such as Facebook, Twitter, and Weibo (Mahoney et al., 2019; Phu & Gow, 2019; Wang et al., 2018). Additionally, Chen et al. (2019) found that loneliness prompts consumers to allocate more attentional resources to video bullet comments.

### 6.2 Sense of Control Theory

Sense of control theory posits that loneliness threatens consumers' sense of control, leading to perceived loss of control, which subsequently influences consumption behavior. Perceived loss of control refers to a psychological state in which individuals perceive themselves as lacking control over external events (Whitson & Galinsky, 2008). This theory holds two main viewpoints: first, the control

compensation viewpoint. When lonely consumers perceive control loss, environmental uncertainty makes them feel anxious, prompting a need to restore control and leading to compensatory consumption behavior (Kay et al., 2009). For example, Sun Jin et al. (2020) found that lonely consumers experience perceived control loss and are more susceptible to environmental uncertainty factors. To restore control, they prefer rational appeal products, compensating for their control loss by strengthening perceived control over rational appeal products. Second, the control cognition viewpoint. When lonely consumers perceive control loss, they overestimate the probability of negative information occurrence and tend to adopt more cautious cognitive styles, thereby exhibiting risk avoidance tendencies in cognitive preferences (Whitson & Galinsky, 2008). For instance, Chen Rui and Zheng Yuhuang (2015) found that lonely consumers experience perceived control loss, tend to avoid risks, and thus reduce uncertainty consumption preferences.

### 6.3 Compensatory Consumption Behavior Theory

Compensatory consumption behavior theory posits that when consumers feel lonely, they typically use compensatory consumption behavior as a coping strategy to reduce self-discrepancies and alleviate the negative effects of loneliness. There are five main coping strategies: direct resolution, symbolic self-completion, dissociation, escapism, and fluid compensation (Mandel et al., 2017).

This theory can explain loneliness' s influence on compensatory consumption behavior and some avoidance consumption behavior. First, according to the direct resolution strategy (Kim & Gal, 2014), when lonely consumers are driven by desired social connections, they alleviate loneliness by directly seeking social connections from others, which explains findings that lonely consumers prefer physical store consumption with direct sales staff contact (Rippé et al., 2018). Second, according to the symbolic self-completion strategy (Rucker & Galinsky, 2013), when lonely consumers are driven by desired symbolic social connections, they symbolically compensate for relational deficits by establishing alternative social connections with brands or products, explaining findings that lonely consumers prefer digitally divisible products, second-hand products, anthropomorphized products, and maintain high brand loyalty (Huang & Fishbach, 2021; Li et al., 2019; Loh et al., 2021; Yan & Sengupta, 2021). Third, according to the dissociation strategy (White & Dahl, 2006), lonely consumers who perceive social connections as threatening detach themselves from consumption activities involving social connections, explaining findings that lonely consumers avoid consumption activities with social connections (such as social consumption) and prefer self-focused consumption activities (such as self-gifting) (Arpin et al., 2015; Rippé et al., 2021). Additionally, according to the escapism strategy (Atalay & Meloy, 2011), lonely consumers temporarily shift attention to physical or experiential consumption to avoid the negative effects of loneliness, explaining findings that lonely consumers prefer unhealthy foods (such as sug-

ary beverages and high-calorie foods) and experiential consumption (Doan et al., 2021; Saine & Zhao, 2021; Zhao Yurou & Jin Xiaotong, 2021). Finally, according to the fluid compensation strategy (Lisjak et al., 2015), lonely consumers can compensate for interpersonal relationship deficits by highlighting their economic strength to attract others' attention, explaining findings that lonely consumers prefer materialistic and conspicuous consumption (Liu et al., 2020; Pieters, 2013).

## 6.4 Self-Regulation Theory

Self-regulation theory originally emerged from psychology, developing from social cognitive theory. This theory posits that self-regulation is a psychological process through which individuals control their cognition, emotions, and behavior to obtain and maintain ideal states (Latham & Locke, 1991). In consumer behavior, this theory is often used to explain loneliness' s influence on irrational consumption behavior, arguing that loneliness impairs consumers' self-regulation ability. When loneliness is more intense, consumers' self-regulatory resources are more depleted, leaving them without sufficient cognitive resources for self-control and resulting in irrational consumption behavior (such as impulsive and unhealthy consumption) (Saine & Zhao, 2021; Sinha & Wang, 2013). For example, Sinha and Wang (2013) found that loneliness depletes consumers' self-regulatory resources, ultimately inducing impulsive consumption behavior. Saine and Zhao (2021) found that compared to consumers with social loneliness, those with emotional loneliness experience greater depletion of self-regulatory resources, leading to stronger preferences for unhealthy high-calorie foods.

## 6.5 Personality Trait Theory

Personality trait theory posits that when lonely consumers remain in a state of loneliness for extended periods, they may gradually develop a stable loneliness personality trait, generating a need for uniqueness that stems from lonely consumers' perception of themselves as different from others (Wang et al., 2012). Need for uniqueness refers to people' s psychological need to be different from others—to establish and maintain a moderately distinctive sense of self (Vignoles et al., 2000). Personality trait theory can explain loneliness' s influence on uniqueness consumption behavior. For example, Wang et al. (2012) found that in private consumption contexts, lonely consumers exhibit preferences for niche products to express their uniqueness. Chen et al. (2021) found that lonely consumers prefer angular over circular shapes in product design to match their loneliness trait (i.e., to express uniqueness), because angular shapes represent the preference of minorities and can satisfy lonely consumers' uniqueness needs.

These theories are interconnected to some extent. (1) Compensatory consumption behavior theory developed based on social surrogacy theory and the control compensation viewpoint, primarily used to explain compensatory consumption behavior. Specifically, social surrogacy theory, the control compensation view-

point, and compensatory consumption behavior theory all explain loneliness' s influence on consumption behavior from a psychological compensation perspective, arguing that loneliness threatens different psychological needs (such as social needs, control needs, belongingness needs), creating discrepancies between actual and ideal psychological states that prompt compensatory consumption behavior to reduce these discrepancies. (2) Self-regulation theory and the control cognition viewpoint both explain loneliness' s influence on consumption behavior from a cognitive resource depletion perspective, arguing that loneliness depletes consumers' cognitive resources, reduces control resources, weakens internal self-regulation ability and external environmental control ability, and thus prompts irrational consumption behavior and risk-avoidant consumption behavior.

These theories also have distinctions, each with unique characteristics and applicable scopes. (1) The control compensation viewpoint primarily emphasizes outcome compensation for loneliness—compensating psychological needs through consumption outcomes (such as purchasing rational appeal products)—and applies to explaining loneliness' s compensatory consumption behavior regarding control. In contrast, social surrogacy theory emphasizes process compensation for loneliness—compensating psychological needs through consumption processes (such as watching television programs or using social media apps)—and applies to explaining loneliness' s influence on media consumption behavior. Compensatory consumption behavior theory can both outcome-compensate (such as purchasing second-hand or anthropomorphized products) and process-compensate (such as social interaction with sales staff in physical stores) and includes multiple compensation strategies, making it applicable for explaining all compensatory consumption behavior driven by self-discrepancies, with broader applicability. (2) Self-regulation theory emphasizes that loneliness depletes internal self-control ability, applying to explaining loneliness' s influence on irrational consumption behavior, whereas the control cognition viewpoint emphasizes that loneliness depletes external environmental control ability, applying to explaining loneliness' s influence on risk-avoidant consumption behavior. (3) Personality trait theory emphasizes that consumers' trait loneliness forms a loneliness trait that generates uniqueness needs, applying to explaining trait loneliness' s influence on uniqueness consumption behavior.

## 7.1 Summary

This paper first clarifies the basic connotation of loneliness, distinguishes it from related concepts such as social exclusion, social isolation, and solitude, and summarizes two common types of loneliness: emotional/social loneliness and state/trait loneliness. We summarize and categorize manipulation methods and measurement tools for loneliness, proposing that commonly used manipulation methods include feedback induction, recall induction, imagination induction, and cue induction, with the UCLA scale being the commonly used measurement tool. Second, this paper summarizes loneliness' s influence on consumption be-

havior across four dimensions: compensatory consumption behavior, avoidance consumption behavior, irrational consumption behavior, and uniqueness consumption behavior. Third, we analyze the trigger mechanisms and situational factors of loneliness-induced consumption behavior. Influenced by approach motivation to restore self-discrepancies, transient lonely consumers' activated needs to seek social connections, restore control, and seek meaning induce compensatory consumption behavior. Influenced by short-term self-protective avoidance motivation, chronic lonely individuals' social avoidance tendencies induce avoidance consumption behavior, while their depleted self-regulatory resources induce irrational consumption behavior. Influenced by long-term self-protective avoidance motivation, chronic lonely consumers' activated uniqueness needs induce uniqueness consumption behavior. Additionally, loneliness-induced consumption behavior is influenced by factors such as consumers' intimacy status, marketing strategies, product attributes, and consumption contexts. Finally, this paper explains the mechanisms through which loneliness influences various consumption behaviors from different theoretical perspectives—including social surrogacy theory, sense of control theory, compensatory consumption behavior theory, self-regulation theory, and personality trait theory—and provides in-depth analysis of these theoretical perspectives.

Based on this, we propose a research framework for loneliness' s influence on consumption behavior (see Figure 1 [Figure 1: see original paper]).

## 7.2 Future Directions

### Figure 1. Research Framework of Loneliness's Influence on Consumption Behavior

Although substantial valuable findings have been obtained regarding loneliness' s influence on consumption behavior, future research still needs to address several key issues, particularly concerning: the impact of loneliness on altruistic consumption behavior, the effects of loneliness type and degree on consumption behavior, moderating factors of loneliness-induced consumption behavior, internal mechanisms of loneliness' s influence on consumption behavior, and the reverse influence of consumption behavior on loneliness.

#### 7.2.1 The Influence of Loneliness on Altruistic Consumption Behavior

Existing research has primarily examined loneliness' s influence on compensatory, avoidance, irrational, and uniqueness consumption behaviors. These are all self-interested consumption behaviors made for consumers' own benefit. Does loneliness also prompt consumers to engage in altruistic consumption behaviors that benefit others or society, such as prosocial or sustainable consumption? Some research suggests that seeking meaning in life is a fundamental human need, and that effectively alleviating loneliness through meaning-seeking (Macià et al., 2021; Wang et al., 2021) can be achieved through prosocial behaviors that enhance meaning (Klein, 2017). Therefore, prosocial behaviors (such as dona-

tions) may also become coping strategies for lonely consumers. Additionally, research indicates that sustainable consumption can increase consumers' subjective well-being (Minton et al., 2018), and lonely consumers might engage in sustainable consumption (such as recycling old products) to seek happiness and distract from loneliness. These research questions warrant investigation in future studies.

### **7.2.2 The Influence of Loneliness Type and Degree on Consumption Behavior**

First, the differential effects of different loneliness types on consumption behavior require deeper investigation. Only Sinha and Wang (2013) and Saine and Zhao (2021) have examined the differential effects of emotional versus social loneliness on impulsive and unhealthy consumption from a self-regulatory resource perspective, while Huang and Fishbach (2021) preliminarily examined preference differences for second-hand products between trait and state loneliness. Saine and Zhao (2021) noted that compared to social loneliness arising from collective self-threat, emotional loneliness arising from relational self-threat violates relational connection needs more strongly. This suggests that emotional and social loneliness create different types and degrees of self-threat, which may lead to different psychological needs (e.g., emotional loneliness activates needs for intimate relationship attachment, while social loneliness activates needs for social connection), thereby differentially influencing consumer behavior. Additionally, Cacioppo and Cacioppo (2018) noted that unlike state loneliness, which prompts approach motivation to seek social connections, trait loneliness may prompt avoidance motivation for self-protection. However, few studies have comparatively analyzed these two types of loneliness, and future research should be cautious about generalizing findings from one type to the other, needing to confirm their differential effects on consumption behavior.

Second, the mechanisms through which different degrees of loneliness influence consumption behavior require further clarification. Only partial research findings have preliminarily revealed relationships between loneliness degree and consumption behavior. For example, Saporta et al. (2022) found that compared to individuals with low loneliness, those with high loneliness show less preference for social activities involving interpersonal contact. This provides indirect evidence that loneliness degree inhibits social consumption behavior. Meanwhile, Saine and Zhao (2021) found that compared to social loneliness, emotional loneliness makes consumers experience more intense loneliness, leading to stronger preferences for unhealthy foods. This provides preliminary evidence that loneliness degree may promote unhealthy consumption behavior, though this may be confounded by loneliness type. Future research should emphasize investigating the mechanisms through which loneliness degree (low vs. medium vs. high) influences consumption behavior to clarify the complex relationship between different loneliness degrees and consumption behavior.

### 7.2.3 Moderating Factors of Loneliness' s Influence on Consumption Behavior

First, regarding the situational factors that trigger various loneliness-induced consumption behaviors, further research can be conducted in two areas: (1) Existing research has not explored triggers of irrational consumption behavior from loneliness, and future studies need to deeply examine the situational factors that induce irrational consumption behavior. (2) Regarding triggers of other consumption behavior types, existing research has only examined the important roles of external factors such as product display (Feng Wenting et al., 2016), message framing (Li et al., 2019), product safety (Hu et al., 2018), consumers' intimacy status (Liu et al., 2020), and consumption context (Wang et al., 2012). Considering that these external factors are only sufficient conditions for loneliness to induce consumption behavior, while internal consumer factors are necessary conditions, future research should focus on examining boundary variables from internal factors such as consumers' physiological activities, personality traits, and social characteristics. For example, loneliness-induced compensatory consumption behavior may be influenced by consumers' stronger parasympathetic nervous system activity and "reward sensitivity" personality traits. Some studies have confirmed that individuals with high loneliness and strong parasympathetic activity at rest show more approach motivation (Smith & Pollak, 2022), and the "reward sensitivity" personality trait is related to individuals' behavioral approach system (Corr, 2016). Meanwhile, loneliness-induced avoidance consumption behavior may be influenced by consumers' social skill deficits and social withdrawal behaviors. Numerous studies have confirmed that poor social skills and social withdrawal are associated with stronger loneliness experiences (Hill et al., 2019; Lodder et al., 2016), often leading to more social failure outcomes and gradually forming an attitude of avoiding social connections (Cacioppo et al., 2009; Saporta et al., 2022).

Second, regarding moderating factors of loneliness' s influence on consumption behavior, existing research has only examined individual factors such as consumers' self-affirmation (Sun Jin et al., 2020) and time perception (Sinha & Wang, 2013), lacking exploration of social factors. Future research should also examine moderating factors from social contexts. For example, future studies could investigate how characteristics of surrounding people (e.g., being alone vs. being with companions) moderate loneliness' s influence on compensatory consumption behavior. Observing whether surrounding people are alone or with companions allows inferences about whether they are in a lonely state. Some research suggests that lonely consumers may develop a preference for other lonely individuals around them (Yan & Sengupta, 2021), as people with similar characteristics attract each other (Montoya et al., 2008). Therefore, compared to when surrounding people are not lonely, when surrounding people are also lonely, lonely consumers may be more willing to connect with them due to mutual attraction, potentially showing stronger social connection approach tendencies and inducing stronger compensatory consumption behavior.

#### 7.2.4 Internal Mechanisms of Loneliness' s Influence on Consumption Behavior

Existing theories have only explained the internal mechanisms of loneliness' s influence on consumption behavior through single cognitive or affective pathways, making it difficult to systematically integrate existing research findings. Future scholars could attempt to explore the psychological mechanisms of loneliness' s influence on consumption behavior through cognitive-affective dual processing pathways. In recent years, psychology scholars using functional magnetic resonance imaging (fMRI) have found that loneliness is closely related to activation in brain regions such as the amygdala and insula that reflect emotional activity, as well as attention networks (Lam et al., 2021), providing neural evidence that loneliness simultaneously influences cognitive activity and emotional reactions. Future research could combine cognitive neuroscience methods to deeply investigate the neural mechanisms of loneliness' s influence on consumption behavior based on cognitive-affective dual processing pathways, clarifying the complex relationships between cognitive and emotional processing in loneliness' s influence on consumption behavior.

Additionally, an increasing number of neuromarketing studies have used cognitive neuroscience methods to explore the black box of consumer decision-making behavior. For complex decision-making behaviors, Samanez-Larkin and Knutson (2015) proposed the Affect-Integration-Motivation (AIM) theoretical model, which suggests that individual decision-making sequentially undergoes three stages: affective reaction stage, value integration stage, and avoidance/approach motivation stage. In the marketing domain, future research could also combine different brain imaging technologies with the AIM model to deeply examine the roles of loneliness-related cognitive, emotional, and value-reward brain regions and their functional connections, revealing the neural mechanisms of loneliness' s influence on consumer decision-making behavior.

#### 7.2.5 Reverse Influence of Consumption Behavior on Loneliness

As scholars increasingly emphasize consumer well-being, future research examining the positive or negative effects of consumption behavior on individual loneliness is particularly important. Current research has primarily focused on loneliness' s influence on consumption behavior, while the reverse influence has received little attention. Only a few studies have found that ritualistic consumption (Wang et al., 2021), experiential consumption (Yang et al., 2021), and brand community consumption (Sullivan & Richardson, 2020) can alleviate individual loneliness in the short term, positively affecting consumer well-being. However, some research suggests that although these services or products can alleviate loneliness in the short term, long-term dependence on them may damage genuine high-quality social relationships, ultimately exacerbating loneliness and negatively affecting consumer well-being (Fumagalli et al., 2022). Therefore, future research needs to emphasize the reverse influence of consumption behavior on loneliness and further clarify the differential effects of consumption

behavior on individual loneliness in the short term versus long term.

Overall, loneliness offers considerable exploration space in the consumer behavior field. With the rapid development of internet and artificial intelligence technologies, social media is ubiquitous, and various intelligent products such as virtual agents, chatbots, service robots, and smart homes have entered a period of rapid growth. The virtual social relationships formed through long-term interaction with these technological products may harm real social relationships, thereby exacerbating loneliness. This indicates that while science and technology bring more convenience to human society, they may also trigger more serious social problems of loneliness. How can consumption behavior effectively alleviate loneliness to enhance consumer well-being? This research question still requires more and deeper exploration in future studies.

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### **The influence of loneliness on consumption behavior and its theoretical explanations**

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**Abstract:** Loneliness has become an increasingly common social phenomenon. Recent research findings regarding the impact of loneliness on consumption behavior have contributed greatly to the field of consumer behavior. Loneliness is likely to induce such consumption behaviors as compensatory consumption, avoidance consumption, irrational consumption, as well as uniqueness consumption. Moreover, consumers' intimacy status, marketing strategies, product attributes, and consumption contexts are found to be important moderators. Researchers have employed varied perspectives to explain loneliness-induced consumption behavior, including social surrogacy theory, sense of control theory, compensatory consumption behavior theory, self-regulation theory, and personality trait theory. Future research shall pay more attention to the impact of loneliness on altruistic consumption, the effects of type and degree of loneliness on consumption behavior, the potential moderators and internal mechanisms of loneliness-induced consumption behavior, as well as the reverse impact of consumption behavior on loneliness.

**Key words:** loneliness, consumption behavior, compensatory consumption behavior theory, self-regulation theory, personality trait theory

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