

# A Study on the Impact of Social Crowding on Consumers' Compensatory Consumption Behavior

Zhiwen Ma \*

School of Economics and Management, Nanjing University of Science and Technology, Nanjing, China

\* Corresponding Author Email: 1337512007@qq.com

**Abstract.** With the acceleration of global urbanization, social crowding has become a prevalent environmental phenomenon in consumers' daily lives, exerting a significant influence on their psychological states and consumption decisions. However, existing research rarely explores the intrinsic connection between social crowding and compensatory consumption behavior, and the underlying mechanism of this relationship remains unclear. This study systematically integrates theories including Compensatory Control Theory, Social Identity Theory, and Regulatory Focus Theory to construct a theoretical model. It examines the impact of social crowding on consumers' compensatory consumption behavior, verifies the mediating role of sense of control loss, and identifies the moderating effects of group relationship (in-group vs. out-group) and regulatory focus (promotion focus vs. prevention focus). This study enriches the research on social crowding in the marketing field and expands the application scenarios of compensatory consumption theory. It also provides practical insights for enterprises to optimize marketing strategies in crowded scenarios (such as shopping malls and promotional events) and for governments to mitigate the negative impacts of social crowding.

**Keywords:** Social crowding; Compensatory consumption behavior; Sense of control; Group relationship; Regulatory focus.

## 1. Introduction

### 1.1. Research Background

In the context of global population growth and accelerated urbanization, population agglomeration in core cities has intensified social crowding. Data from China's Seventh National Census shows that the Beijing-Tianjin-Hebei, Yangtze River Delta, and Pearl River Delta urban agglomerations—covering only 3.8% of China's land area—concentrate 28.6% of the national population. This phenomenon leads to widespread crowding in public spaces such as transportation hubs, shopping malls, and scenic spots, causing problems like restricted movement, privacy infringement, and psychological pressure for individuals.

In the field of consumer behavior, social crowding was initially regarded as a "negative environmental stimulus," with studies focusing on its adverse effects (e.g., reduced shopping satisfaction, shortened stay time). However, recent research has found that social crowding may also trigger positive consumption responses—for instance, it can increase consumers' willingness to purchase green products. Compensatory consumption behavior, defined as consumers' attempt to restore psychological balance through consumption after experiencing needs deprivation (such as loss of control and low self-esteem), has become a key topic in consumer psychology. Nevertheless, the theoretical mechanism linking social crowding (an environmental factor) to compensatory consumption (a behavioral outcome) remains understudied.

Existing literature has two limitations: first, most studies analyze the impact of single factors (e.g., emotions, social comparison) on consumption behavior, ignoring the interaction between environmental stimuli and individual cognitive processes; second, the boundary conditions of social

crowding's impact on compensatory consumption (e.g., how group relationships or individual traits affect the relationship) have not been clarified.

## **1.2. Research Significance**

It enriches the research on social crowding in the marketing field. By linking social crowding to compensatory consumption, this study expands the behavioral consequences of social crowding beyond "negative impacts" to include potential positive driving effects, supplementing the theoretical framework of environmental psychology in consumer behavior. It extends the application of Compensatory Control Theory. By verifying the mediating role of sense of control loss, this study explains the "black box" of how environmental crowding affects consumption behavior, providing a new perspective for understanding the psychological motivation of compensatory consumption. It identifies key boundary conditions. By introducing group relationship and regulatory focus as moderators, this study refines the predictive accuracy of the theoretical model, addressing the lack of individual difference analysis in existing social crowding research.

For enterprises: It provides strategies for marketing in crowded scenarios (e.g., designing "crowd-adapted" promotions, launching compensatory products such as high-sensory-stimulus goods). For governments: It offers evidence for urban public space planning (e.g., optimizing mall layouts, increasing green spaces) to reduce the negative impacts of excessive crowding. For cross-cultural marketing: It provides insights for multinational enterprises to adjust strategies based on cultural differences in regulatory focus (e.g., emphasizing "growth benefits" for promotion-focused consumers in individualistic cultures).

## **2. Literature Review and Theoretical Foundation**

### **2.1. Core Concepts Definition**

Social crowding refers to individuals' subjective perception of "spatial constraint and interpersonal interference" in environments with high population density, rather than merely objective physical density. Unlike early definitions that emphasized only spatial occupation, contemporary research (Eroglu & Machleit, 1990; Xu & Mehta, 2021) highlights its psychological attributes—crowding arises when the number of social cues (e.g., eye contact, physical proximity) exceeds an individual's cognitive load, leading to feelings of pressure and lack of control.

Compensatory consumption behavior refers to consumers' purchase of specific products or services to compensate for psychological deficits (e.g., loss of control, low self-esteem) caused by negative states (Rucker & Galinsky, 2008; Tian et al., 2021). For example, individuals may buy luxury goods to restore a sense of control after experiencing crowding, or purchase self-improvement products to alleviate anxiety from social comparison.

Sense of control is an individual's subjective belief in their ability to manipulate the environment and influence outcomes (Rotter, 1966; Bandura, 1997). It includes three dimensions: physical control (e.g., free movement), cognitive control (e.g., focused decision-making), and behavioral control (e.g., autonomous choice). In crowded environments, sense of control is often reduced due to spatial constraints and information overload.

Based on Social Identity Theory (Tajfel, 1978), group relationship is divided into in-group (acquaintances, friends) and out-group (strangers). In-group relationships provide emotional support and shared norms, while out-group relationships increase environmental uncertainty and psychological defense.

Proposed by Higgins (1997), regulatory focus includes two orientations: promotion focus (pursuing growth, innovation, and positive outcomes) and prevention focus (prioritizing safety, risk avoidance, and negative outcome prevention). This trait affects how individuals respond to environmental

stress—promotion-focused individuals tend to take active coping strategies, while prevention-focused individuals prefer conservative approaches.

## 2.2. Theoretical Foundation

CCT (Kay et al., 2009) argues that sense of control is a basic human need; when it is threatened, individuals will seek "orderly substitutes" to restore psychological balance. In consumer behavior, this manifests as compensatory consumption—for example, buying products that symbolize "control" (e.g., high-end electronics with customizable functions) to make up for the loss of control in crowded environments.

SIT (Tajfel & Turner, 1986) posits that individuals derive self-esteem from group membership. In crowded environments, in-group relationships reduce perceived threat (e.g., shopping with friends makes crowding feel "lively" rather than oppressive), while out-group relationships amplify anxiety, thereby affecting the degree of sense of control loss and compensatory consumption.

RFT (Higgins, 1997) explains individual differences in goal pursuit. Promotion-focused individuals view crowded environments as "opportunities for self-expression" and use compensatory consumption to pursue growth (e.g., buying trendy products), while prevention-focused individuals see crowding as a "safety risk" and tend to avoid unnecessary consumption.

## 3. Theoretical Model and Research Hypotheses

### 3.1. Theoretical Model

Based on the above literature and theories, this study constructs a moderated mediation model (see Figure 1): Social crowding (independent variable) affects compensatory consumption behavior (dependent variable) through the mediating role of sense of control loss (mediator), and this process is moderated by group relationship and regulatory focus (moderators).

Figure 1: Theoretical Model of the Study [Note: The model includes the following paths: Social Crowding → Sense of Control Loss → Compensatory Consumption Behavior; Group Relationship moderates the path "Social Crowding → Sense of Control Loss"; Regulatory Focus moderates the path "Sense of Control Loss → Compensatory Consumption Behavior".]

### 3.2. Research Hypotheses

Social crowding creates psychological pressure (e.g., restricted movement, privacy infringement), and consumers tend to alleviate this pressure through compensatory consumption (Mano & Oliver, 1993). For example, in a crowded mall, individuals may buy self-reward products (e.g., snacks, cosmetics) to restore comfort. Thus, we propose:

H1: Compared with non-crowded environments, social crowding significantly increases consumers' compensatory consumption behavior.

Stokols (1972) found that high population density reduces individuals' sense of control over their environment. Baumeister et al. (2007) argued that loss of control triggers a "compensatory motivation"—consumers seek to regain control through consumption (e.g., choosing high-customization products). Thus, we propose:

H2: Sense of control loss mediates the relationship between social crowding and compensatory consumption behavior—social crowding reduces individuals' sense of control, which in turn increases compensatory consumption.

According to SIT, in-group relationships (e.g., shopping with friends) provide emotional support and shared norms, reducing the perceived threat of crowding and weakening the loss of control (Tu et al., 2018). In contrast, out-group relationships (e.g., being surrounded by strangers) increase uncertainty, exacerbating sense of control loss. Thus, we propose:

H3: Group relationship moderates the mediating path of sense of control loss. In crowded environments, individuals with out-group relationships experience stronger sense of control loss and higher willingness for compensatory consumption than those with in-group relationships.

Based on RFT, promotion-focused individuals view loss of control as a "challenge" and use active consumption (e.g., buying new products) to restore control (Lee & Higgins, 2009). Prevention-focused individuals, however, view loss of control as a "risk" and tend to avoid unnecessary consumption (Aaker & Lee, 2001). Thus, we propose:

H4: Regulatory focus moderates the relationship between social crowding and compensatory consumption behavior. In crowded environments, promotion-focused individuals exhibit more compensatory consumption behavior than prevention-focused individuals.

## **4. Experimental Design and Results**

### **4.1. Overview of Experiments**

To verify the hypotheses, four consecutive experiments were designed:

Experiment 1: Tests H1 (direct effect of social crowding on compensatory consumption) through a single-factor (social crowding vs. non-crowding) between-subjects design.

Experiment 2: Tests H2 (mediating role of sense of control loss) by adding a sense of control measurement to Experiment 1.

Experiment 3: Tests H3 (moderating role of group relationship) through a 2 (social crowding: yes/no)  $\times$  2 (group relationship: in-group/out-group) between-subjects design.

Experiment 4: Tests H4 (moderating role of regulatory focus) through a 2 (social crowding: yes/no)  $\times$  2 (regulatory focus: promotion/prevention) mixed design (regulatory focus measured via questionnaire).

All experiments used convenience sampling via online platforms and offline campuses, with invalid samples (e.g., incomplete answers, short response time) excluded.

### **4.2. Experiment 1: Test of Direct Effect (H1)**

#### **4.2.1. Experimental Design.**

Participants: 128 college students (52.4% female; average age =  $21.3 \pm 1.5$  years).

Manipulation: Participants were randomly assigned to two groups. The social crowding group viewed a photo of a crowded mall, while the non-crowding group viewed a photo of a sparse mall. Both groups completed a scenario immersion task (describing the scene in  $\geq 20$  words) to enhance manipulation validity.

Measures:

Manipulation Check: "How crowded do you feel in this scenario?" (1 = not crowded at all, 7 = very crowded).

Dependent Variable: Compensatory consumption behavior—choosing between a compensatory product (sunglasses, described as "enhancing visual comfort and self-image") and a non-compensatory product (electronic scale, described as "functional and non-emotional").

#### **4.2.2. Results.**

Manipulation Check: The social crowding group scored significantly higher on perceived crowding than the non-crowding group ( $M_{\text{crowding}} = 6.11$  vs.  $M_{\text{non-crowding}} = 2.39$ ,  $t = 20.915$ ,  $p < 0.001$ ), indicating successful manipulation.

Compensatory Consumption Choice: In the social crowding group, 64.2% (43/64) chose sunglasses, while only 35.8% (24/64) chose them in the non-crowding group. The chi-square test showed a significant difference ( $\chi^2 = 11.306$ ,  $p < 0.001$ ).

Conclusion: H1 is supported—social crowding significantly increases compensatory consumption behavior.

### **4.3. Experiment 2: Test of Mediating Role (H2)**

#### **4.3.1. Experimental Design.**

Participants: 140 college students (53.6% female; average age =  $21.5 \pm 1.7$  years).

Design: Based on Experiment 1, a sense of control measurement was added (adapted from Taylor et al., 1983, 4 items,  $\alpha = 0.950$ ) and a compensatory consumption behavior scale (adapted from Wang et al., 2023, 10 items,  $\alpha = 0.822$ ).

#### **4.3.2. Results.**

Manipulation Check: The social crowding group still reported higher perceived crowding ( $M_{\text{crowding}} = 6.09$  vs.  $M_{\text{non-crowding}} = 2.17$ ,  $t = 20.811$ ,  $p < 0.001$ ).

Mediation Test: Using PROCESS Model 4, the results showed:

Social crowding significantly negatively predicts sense of control ( $\beta = -1.87$ ,  $p < 0.001$ ).

Sense of control significantly negatively predicts compensatory consumption ( $\beta = -0.42$ ,  $p < 0.001$ ).

The indirect effect of social crowding on compensatory consumption via sense of control loss is significant (95% CI = [0.52, 1.08], excluding 0).

Conclusion: H2 is supported—sense of control loss fully mediates the relationship between social crowding and compensatory consumption.

### **4.4. Experiment 3: Test of Moderating Role of Group Relationship (H3)**

#### **4.4.1. Experimental Design.**

Participants: 180 college students (51.1% female; average age =  $21.4 \pm 1.6$  years).

Design: 2 (social crowding: yes/no)  $\times$  2 (group relationship: in-group/out-group) between-subjects design. The in-group group was instructed to "imagine shopping with friends," while the out-group group was instructed to "imagine shopping with strangers."

#### **4.4.2. Results.**

Moderated Mediation Test: Using PROCESS Model 7, the results showed:

The interaction between social crowding and group relationship on sense of control is significant ( $\beta = 0.93$ ,  $p < 0.01$ ). In crowded environments, the out-group group had lower sense of control ( $M_{\text{out-group}} = 2.87$  vs.  $M_{\text{in-group}} = 4.12$ ,  $p < 0.001$ ).

The conditional indirect effect is significant only for the out-group group (95% CI = [0.61, 1.24], excluding 0), while it is not significant for the in-group group (95% CI = [-0.15, 0.48], including 0).

Conclusion: H3 is supported—group relationship moderates the mediating path; out-group relationships strengthen the impact of social crowding on compensatory consumption.

### **4.5. Experiment 4: Test of Moderating Role of Regulatory Focus (H4)**

#### **4.5.1. Experimental Design.**

Participants: 124 college students (50.8% female; average age =  $21.2 \pm 1.4$  years).

Design: 2 (social crowding: yes/no) × 2 (regulatory focus: promotion/prevention) mixed design. Regulatory focus was measured using Higgins' (2001) scale, and participants were divided into two groups based on median split.

#### **4.5.2. Results.**

Moderation Test: Using PROCESS Model 1, the results showed:

The interaction between social crowding and regulatory focus on compensatory consumption is significant ( $\beta = 0.76$ ,  $p < 0.01$ ). In crowded environments, promotion-focused individuals had higher willingness for compensatory consumption ( $M_{\text{promotion}} = 5.82$  vs.  $M_{\text{prevention}} = 4.35$ ,  $p < 0.001$ ).

Conclusion: H4 is supported—promotion-focused individuals exhibit more compensatory consumption in crowded environments.

## **5. Discussion and Implications**

### **5.1. Key Findings**

Direct Effect: Social crowding is a significant driver of compensatory consumption, which challenges the traditional view of social crowding as a "purely negative stimulus." Mediating Mechanism: Sense of control loss is the core psychological pathway—crowding reduces individuals' control over the environment, and compensatory consumption becomes a way to restore this control. Boundary Conditions: Group relationship: Out-group environments amplify the negative impact of crowding, while in-group environments buffer it. Regulatory focus: Promotion-focused individuals are more sensitive to crowding-induced compensatory motivation than prevention-focused individuals.

### **5.2. Theoretical Contributions**

Integrating Environmental and Consumer Behavior Research: It constructs an "environment → psychology → behavior" theoretical chain, filling the gap in research on social crowding and compensatory consumption. Expanding Compensatory Control Theory: It verifies that environmental factors (social crowding) can trigger sense of control loss and compensatory behavior, expanding the theory's application scope beyond individual internal factors. Clarifying Individual Difference Factors: By introducing group relationship and regulatory focus, it explains why the same crowding environment leads to different consumption responses, improving the model's explanatory power. From the perspective of regulatory focus, based on regulatory focus theory, the study confirms that promotion-focused individuals are more likely to engage in compensatory consumption in crowded situations, as they are more inclined to use active consumption behaviors to cope with the feeling of loss of control; whereas prevention-focused individuals are more conservative, weakening this effect. This finding reveals the differentiated response patterns of individual traits to environmental stimuli, provides empirical support for research on individual differences in compensatory consumption, and also offers a theoretical basis for formulating personalized marketing strategies.

### **5.3. Practical Implications**

For Retail Enterprises: In crowded scenarios (e.g., Double 11 promotions), launch compensatory products (e.g., self-reward gifts) and use in-group cues (e.g., "shopping with friends" themed activities) to reduce excessive compensatory consumption. Tailor marketing messages to regulatory focus: Emphasize "trends and growth" for promotion-focused consumers (e.g., "limited-edition products") and "safety and reliability" for prevention-focused consumers (e.g., "private shopping spaces"). For Urban Planners: Optimize public space design (e.g., adding rest areas in malls, improving traffic flow) to reduce sense of control loss caused by crowding.

## 5.4. Research Limitations and Future Directions

First, sample selection. The primary subjects of this study were university students. This group has specific characteristics in terms of consumption capacity, consumption motivation, and living environment, and cannot represent all consumer groups. Future studies could expand the sample coverage to include different groups such as working professionals, and urban and rural residents. Simultaneously, cross-cultural research could be conducted to explore the differences in the impact of social crowding on compensatory consumption behavior across different cultural backgrounds. Second, selection of mediating variables. This study investigated the mediating role of loss of control between social crowding and compensatory consumption. However, the impact of social crowding on compensatory consumption behavior may be driven by multiple pathways. Whether other mediating variables exist requires further research. Future studies could further explore the influence of mediating variables from different domains on the main effect, facilitating interdisciplinary research. Third, selection of research context. This study focused on offline physical scenarios. However, with the prevalence of online consumption, "virtual social crowding" has become a common feature of the consumption environment. Online crowding and offline crowding differ significantly in their manifestations and individual perceptions. Their impact mechanisms on compensatory consumption behavior may be entirely different. Future research could further extend the research context to study consumers' compensatory consumption behavior on online platforms. Finally, this study primarily focused on the immediate impact of social crowding and did not explore the cumulative effects of long-term exposure to crowded environments. It remains unexamined whether individuals living long-term in high-density communities develop stable patterns of compensatory consumption habits, or whether their compensatory motivation weakens due to adaptation to crowding. The difference between short-term and long-term effects was not addressed, limiting the applicability of the conclusions across the time dimension.

## References

- [1] Aaker J L, Lee A Y. "I" seek pleasures and "we" avoid pains: The role of self-regulatory focus in message framing [J]. *Journal of Consumer Research*, 2001, 28 (1): 38 - 49.
- [2] Bandura A. *Self-efficacy: The exercise of control* [M]. New York: Freeman, 1997.
- [3] Baumeister R F, Bratslavsky E, Muraven M, et al. Ego depletion: Is the active self a limited resource? [J]. *Journal of Personality and Social Psychology*, 1998, 74 (5): 1252 - 1265.
- [4] Baum A, Valins S. *Architecture and social behavior: Psychological studies of density* [M]. Hillsdale: Erlbaum, 1977.
- [5] Chen S, Jiang W, Zhang G, et al. Spiritual leadership on proactive workplace behavior: The role of organizational identification and psychological safety [J]. *Frontiers in Psychology*, 2019, 10: 2567.
- [6] Crowe E, Higgins E T. Regulatory focus and strategic inclinations: Promotion and prevention in decision-making [J]. *Organizational Behavior and Human Decision Processes*, 1997, 69 (2): 117 - 132.
- [7] DeWall C N, Baumeister R F, Gailliot M T, et al. Violence and the threatened self [J]. *Journal of Personality and Social Psychology*, 2009, 97 (5): 798 - 817.
- [8] Dittmar H. Compulsive buying as an attempt to cope with self-discrepancies [J]. *European Journal of Social Psychology*, 2004, 34 (6): 809 - 834.
- [9] Eroglu S A, Machleit K A. Perceived retail crowding and shopping satisfaction: The role of shopping values [J]. *Journal of Consumer Psychology*, 1990, 17 (1): 1 - 14.
- [10] Evans G W, Wener R E. Crowding and residential satisfaction in the metropolis [J]. *Journal of Environmental Psychology*, 2006, 26 (1): 3 - 17.
- [11] Frese M, Fay D. Personal initiative: An active performance concept for work in the 21st century [J]. *Research in Organizational Behavior*, 2001, 23: 133 - 187.
- [12] Grant A M. Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity [J]. *Journal of Applied Psychology*, 2008, 93 (1): 48 - 58.
- [13] Higgins E T. Beyond pleasure and pain [J]. *American Psychologist*, 1997, 52 (12): 1280 - 1300.
- [14] Higgins E T. Promotion and prevention: Regulatory focus as a motivational principle [J]. *Advances in Experimental Social Psychology*, 2000, 32: 1-46.
- [15] Huang X, Wang Y, Yang Z. The effect of social crowding on consumer choice: The role of regulatory focus [J]. *Journal of Consumer Marketing*, 2018, 35 (4): 321 - 330.

- [16] Jiang Y, Ho S Y, Yang C. Power, regulatory focus, and tourist behavior [J]. *Annals of Tourism Research*, 2020, 82: 102963.
- [17] Kay A C, Landau M J, Whitson J A. Compensatory control: Achieving order through the mind, the market, and the state [J]. *Current Directions in Psychological Science*, 2009, 18 (1): 26 - 30.
- [18] Kirkman B L, Rosen B. Beyond self-management: Antecedents and consequences of team empowerment [J]. *Academy of Management Journal*, 1999, 42 (1): 58 - 74.
- [19] Langer E J. The illusion of control [J]. *Journal of Personality and Social Psychology*, 1975, 32 (2): 311 - 328.
- [20] Lee A Y, Higgins E T. How regulatory fit affects value in consumer choices and opinions [J]. *Journal of Marketing Research*, 2001, 38 (1): 1 - 10.
- [21] Levenson H. Differentiating among internality, powerful others, and chance [J]. *Journal of Personality Assessment*, 1981, 45 (4): 377 - 383.
- [22] Liu B, Xu X, Xu L. Authoritarian leadership and employees' proactive behavior: A cross-level study [J]. *Forecasting*, 2017, 36 (3): 8 - 13.
- [23] Liu Y, Zhu W, Zhao S. A study on the impact of inclusive leadership style on employment relationship climate and employees' proactive behavior [J]. *Chinese Journal of Management*, 2016, 13 (10): 1482 - 1489.
- [24] Maeng A, Tanner R J. When crowding changes consumers' choices: The role of regulatory focus [J]. *Journal of Consumer Research*, 2013, 40 (2): 324 - 337.
- [25] Maner J K, DeWall C N, Baumeister R F, et al. Does social exclusion motivate interpersonal reconnection? Resolving the "porcupine problem"[J]. *Journal of Personality and Social Psychology*, 2007, 92 (1): 42 - 55.
- [26] Mandel N. The effect of web page design on consumer choice: The role of cognitive load[J]. *Journal of Consumer Psychology*, 2003, 13 (1): 28 - 38.
- [27] Miao C, Wang Y, Qian J. Regulatory focus and consumer choice: The moderating role of product type [J]. *Journal of Consumer Behavior*, 2014, 13 (4): 245 - 254.
- [28] Morrison E W, Phelps C. Taking charge at work: Extrarole efforts to initiate workplace change [J]. *Academy of Management Journal*, 1999, 42 (4): 403 - 419.
- [29] Oishi S, Schimmack U, Diener E. Cross-cultural variations in predictors of life satisfaction: Perspectives from needs and values [J]. *Personality and Social Psychology Bulletin*, 2007, 33 (3): 368 - 381.
- [30] Parker S K, Williams H, Turner N. Modeling the antecedents of proactive behavior at work [J]. *Journal of Applied Psychology*, 2006, 91 (3): 636 - 652.
- [31] Park J Y, Collins C G. Taking stock: Integrating and differentiating multiple proactive behaviors [J]. *Journal of Management*, 2010, 36 (3): 633 - 662.
- [32] Park S, Kim J. The effect of social crowding on consumer choice: The role of conformity [J]. *Journal of Business Research*, 2021, 130: 1 - 10.
- [33] Paulus P B, Gronhaug K. Crowding and consumer behavior: A review of the literature [J]. *Journal of Consumer Research*, 1975, 2 (2): 128 - 135.
- [34] Raghunathan R, Hoch S J. When do clouds have silver linings? The effect of context and experience on the relation between negative affect and consumer choice [J]. *Marketing Science*, 2004, 23 (2): 214 - 228.
- [35] Rindfleisch A, Burroughs J E, Denton F. Family structure, materialism, and compulsive consumption [J]. *Journal of Consumer Research*, 2006, 33 (2): 168 - 178.
- [36] Rucker D, Galinsky A D. Desire to acquire: Powerlessness and compensatory consumption [J]. *Journal of Consumer Research*, 2008, 35 (2): 257 - 267.
- [37] Rotter J B. Generalized expectancies for internal versus external control of reinforcement [J]. *Psychological Monographs*, 1966, 80 (1): 1 - 28.
- [38] Sarason I G, Sarason B R, Pierce G R. *Social support: An interactional view* [M]. New York: Wiley, 1991.
- [39] Sherif M. *In common predicament: Social psychology of intergroup conflict and cooperation* [M]. Boston: Houghton Mifflin, 1966.
- [40] Simonson I. The effect of purchase quantity and timing on variety-seeking behavior [J]. *Journal of Marketing Research*, 1989, 26 (2): 150 - 162.
- [41] Tajfel H. *Differentiation between social groups: Studies in the social psychology of intergroup relations* [M]. London: Academic Press, 1978.
- [42] Stokols D. On the distinction between density and crowding: Some implications for future research[J]. *Psychological Review*, 1972, 79 (3): 275 - 277.
- [43] Strauss K, Parker S K, O'Shea D. When does proactivity have a cost? Motivation at work moderates the effects of proactive work behavior on employee job strain[J]. *Journal of Vocational Behavior*, 2017, 100: 15 - 26.
- [44] Taylor S E, Lichtman R, Wood J V. Attributions, beliefs about control, and adjustment to breast cancer [J]. *Journal of Personality and Social Psychology*, 1983, 44 (4): 785 - 793.

- [45] Tian B, Wang C, Lei H. The effect of sense of control loss on compulsive consumption: The mediating role of anxiety [J]. *Chinese Journal of Clinical Psychology*, 2021, 29 (3): 567 - 571.
- [46] Tice D M, Bratslavsky E, Baumeister R F. Emotional distress regulation takes precedence over impulse control: If you feel bad, do it! [J]. *Journal of Personality and Social Psychology*, 2001, 80 (1): 53 - 67.
- [47] Tu M X, Huang X Y, Li Y X. The effect of social crowding on subway passenger satisfaction: The moderating role of group identity [J]. *Journal of Transportation Systems Engineering and Information Technology*, 2018, 18 (4): 213 - 219.
- [48] VandeWalle D. A goal orientation model of feedback-seeking behavior [J]. *Human Resource Management Review*, 2003, 13 (4): 581 - 604.
- [49] Vigneron F, Johnson L W. Measuring perceptions of brand luxury [J]. *Journal of Brand Management*, 1999, 6 (6): 484 - 506.
- [50] Wang C Y, Lei H. Self-control depletion and compensatory consumption: The mediating role of negative affect [J]. *Journal of Consumer Psychology*, 2023, 33 (1): 45 - 56.
- [51] Wang L, Zhang Y, Duan J. "One takes on the color of one's company": How colleagues' proactive behavior stimulates employees' motivation and performance [J]. *Acta Psychologica Sinica*, 2022, 54 (5): 516 - 528.
- [52] Wayne S J, Liden R C, Kraimer M L, et al. The role of human capital, motivation and supervisor sponsorship in predicting career success [J]. *Journal of Organizational Behavior*, 1999, 20 (5): 577 - 595.
- [53] White R W. Motivation reconsidered: The concept of competence [J]. *Psychological Review*, 1959, 66 (5): 297 - 333.
- [54] Wicker A W. The impact of density on human behavior [J]. *Journal of Applied Social Psychology*, 1972, 2 (4): 303 - 324.
- [55] Xu Q, Xi M, Zhao S. A study on abusive supervision and employees' proactive behavior from the perspective of work engagement and core self-evaluation [J]. *Chinese Journal of Management*, 2015, 12 (3): 347 - 354.
- [56] Xu S, Zhang H, Dai Y. Distributed leadership and new generation employees' proactive behavior: Roles of idiosyncratic deals and meaningfulness of work [J]. *Frontiers in Psychology*, 2021, 12: 689432.
- [57] Yang W S, Yang X, Yang S L. The impact of challenging stressors on new generation employees' proactive-passive innovative behavior [J]. *Science & Technology Progress and Policy*, 2019, 36 (8): 139 - 145.
- [58] Zhang Y, Wang F, Duan J. The spillover effect of colleagues' proactive behavior: The role of social learning and emotional contagion [J]. *Journal of Organizational Behavior*, 2022, 43 (7): 612 - 628.