

## Psycholinguistic Mechanisms of Large-Scale Online Aggregated Promotion Inducing Prospective Emotions

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### Abstract

Grounded in theories of psycholinguistics, counterfactual thinking, and prospective emotions, this study takes as its entry point conditional sentence structures that combine conditional constraints with material incentives. By exploring the cognitive antecedents of prospective emotion generation, the predominance mechanism of positive prospective emotions, the division-of-labor mechanism between conditional and incentive promotional vocabularies in eliciting prospective emotions, the reinforcement mechanism of auxiliary promotional vocabularies in eliciting prospective emotions, the framing mechanism of surface and deep structures of complex discount sentences in influencing prospective emotions, and the utility attenuation mechanism of multiple promotional incentive combinations in influencing prospective emotions, this research enriches existing theoretical frameworks while synthesizing the communication design principles of large-scale online aggregation promotions and their psycholinguistic mechanisms for eliciting prospective emotions.

### Full Text

#### Preamble

#### Research on the Psycholinguistic Mechanism of Large-Scale Online Sales Promotion Inducing Future-Oriented Emotions

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**Abstract:** Based on psycholinguistics and theories of prefactual thinking and future-oriented emotions, this research takes the conditional clause presented by the combination of conditional limitations and material incentives as its point of penetration. By exploring the cognitive antecedents of future-oriented

emotions, the dominant mechanism of positive future-oriented emotions, the distinctive roles of conditional and incentive promotional vocabulary in inducing future-oriented emotions, the strengthening mechanism of auxiliary promotional vocabulary, the framing mechanism of surface and deep structures in complex discount sentences, and the attenuation mechanism of multiple promotional inducement combinations, this study enriches existing theories while summarizing the communication design principles of large-scale online sales promotions and their psycholinguistic mechanisms for inducing future-oriented emotions.

**Keywords:** large-scale online sales promotion, future-oriented emotions, psycholinguistics, prefactual thinking, conditional clause

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## 1. Problem Statement

Large-scale online sales promotions such as “Double 11” and “Black Friday” have evolved into influential commercial events (Lu Changbao et al., 2022; Raymen & Smith, 2016). In these promotional activities, e-commerce platforms combine various inducements—including time limits (lasting one to three days), quantity limits (controlling product availability), aggregation (numerous brands offering exceptional discounts simultaneously), and threshold-based discounts (cash reductions upon reaching certain spending amounts)—to elevate retail promotions to unprecedented levels (Lu Changbao, Zhuang Xiaoyan, 2018). Moreover, these promotions allocate approximately twenty days for communication and dissemination, employ multiple site-wide promotional tools, and utilize impactful promotional language and copywriting to create a carnival atmosphere, ignite consumer enthusiasm, and stimulate frenzied purchasing (Lu Changbao, Ke Weilin et al., 2020; Lu Changbao et al., 2021).

First, copy such as “Thousands of products, countless discounts,” “2000 brands, 50,000 hot items! All items up to 50% off, rush to grab now,” and “Ten billion brand coupons, additional discounts after Double 11, grab immediately” emphasizes the abundance of participating brands, products, and benefits to create atmosphere. Second, site-wide promotions like “Spend 199, save 99 instantly” and “Cross-store spend 288, get 50 yuan coupon” featuring “threshold discounts” and “threshold gifts” highlight platform-wide joint promotions. Third, language with binding implications such as “Pay 50 deposit now, counts as 100” and “Pay deposit first, pay balance on Double 11” encourages advance consumption. Finally, repeated reminders of time-limited flash sales like “Sale starts at 13:00, starts at 21:00” and quantity restrictions like “Last 2 hours, limited quantity, no restocking, you’ll regret not buying” urge consumers to purchase quickly.

Faced with this linguistic bombardment, will consumers find themselves unable to resist, eager to try, when imagining countless discounts and millions of people rushing to buy within limited time and quantity? Overall, existing research addresses this question from several perspectives. First, regarding design prin-

ciples, large-scale online sales promotion—defined as large-scale retail concentrated promotions organized by e-commerce platforms with massive enterprise participation and simultaneous discounts across multiple product categories (Lu Changbao et al., 2021)—shares the same “temptation principle” as ordinary promotions but possesses unique characteristics. Ordinary promotions, as “sales accelerators,” contain a series of inducements designed to facilitate rapid decision-making (Belch & Belch, 2014), using discounts and other benefits to make action more valuable while employing time limits and other conditional restrictions to urge quick purchases (Ding & Zhang, 2020; Jin Liyin, 2008). Large-scale online sales promotions build upon this by innovatively combining numerous promotional inducements, dramatically enhancing impact and temptation (Lu Changbao, Zhuang Xiaoyan, 2018; Raymen & Smith, 2016). These promotions feature longer activity cycles, broader promotional campaigns, and more diverse promotional tools, representing commercial events that integrate “economic, entertainment, mass, and ritualistic” elements (Lu Changbao, Zhuang Xiaoyan, 2018).

Second, regarding psychological mechanisms, existing research suggests that when massive promotional products combine with specific conditional restrictions like time and quantity limits, opportunity costs (time pressure) and competitive mechanisms such as panic buying emerge (Lu Changbao, Zhuang Xiaoyan, 2018), inducing “regret from not buying” or “anticipated regret” that becomes a key factor driving consumers’ irrational motivations (Inman & Mcalister, 1994). While this negative emotion-focused approach partially explains the carnival phenomenon, it overlooks the positive emotional forces underlying the frenzy. Third, regarding emotion research, existing studies overemphasize anticipated regret as the dominant emotion influencing promotional decisions, though recent research has recognized the role of future-oriented emotions—pre-outcome emotions (anxiety and hope) and anticipated emotions (anticipated delight and anticipated regret)—in large-scale online sales promotion decisions (Lu Changbao, Peng Jing et al., 2020; Zhu Huawei et al., 2009). Notably, while existing research reasonably explains promotional decision-making emotions and their influence on rapid consumer decisions using promotional design principles, it fails to account for consumers’ reliance on promotional communication strategies, language design, and information search in online consumption decisions. It also neglects the logical connections between promotional inducements, the linguistic characteristics of promotional advertisements, and their role in evoking consumer emotions, particularly the important influence of discourse context formed by combining various promotional benefits and conditions (time or quantity limits) on consumer emotions. Consequently, it cannot provide psycholinguistic explanations for how the highly provocative language in large-scale online sales promotions tempts consumers into quick action. Furthermore, existing research overlooks emotional diversity in large-scale online sales promotion decisions, especially the critical role of positive emotions in creating consumption carnivals, limiting innovation in promotional decision research and practice.

In summary, a gap exists between current research and large-scale online sales promotion practices, necessitating new perspectives for more systematic exploration. Using linguistic cues instead of traditional information analysis offers significant help for advancing communication theory in virtual-space large-scale online sales promotions. Therefore, this study, grounded in psycholinguistics and considering the communication context, promotional sentence patterns, and vocabulary usage formed by virtual communication needs, uses the grammatical relationships naturally presented by conditional limitations and material incentives as its entry point. Integrating theories of psycholinguistics, linguistic category models, future-oriented emotions, prefactual thinking, cue utilization, and emotional appraisal, and following the grammatical structure and characteristics of conditional clauses and their internal connections with prefactual thinking patterns, this research systematically explores the cognitive antecedents of future-oriented emotions, the dominance mechanism of positive future-oriented emotions, the division of labor between conditional and incentive promotional keywords in evoking future-oriented emotions, the strengthening role of auxiliary promotional vocabulary, the cognitive differences between surface and deep structures of complex discount sentences in influencing future-oriented emotions, and the attenuation mechanism of multiple promotional inducement combinations. Ultimately, by systematically explaining the linguistic-psychological process of how such promotions communicate with consumers through emotion-inducing thinking patterns, this study aims to enrich the theoretical system of promotional emotion research while establishing a psycholinguistic foundation for online consumption and promotional communication theory.

## 2. Literature Review and Commentary

To maintain focus, the review proceeds from four aspects: psycholinguistics and its marketing applications, future-oriented emotions and their mechanisms, promotional design principles, and the mechanisms of future-oriented emotions in large-scale online sales promotion decisions, followed by brief commentary.

### 2.1 Psycholinguistics and Its Application in Marketing

Psychology and linguistics share a close relationship. On one hand, language use is a psychological activity; on the other, most human mental activities rely on language (Carroll, 2007). As the most universal symbol in social environments, language serves as a crucial tool for achieving goals, intentions, and desires, reflecting human behavior, mental states, and psychological representations. Connecting language with cognitive psychological processes reveals language as “implicit psychological causality within language” (Semin & Fiedler, 1991), meaning language constructs specific psychological processes for us. Psycholinguistics emerged in the 1940s-50s, differing from “psychology of language” which focuses on macro linguistic patterns (Carroll, 2007). It examines psychological phenomena in language activities from a micro perspective and investigates human language mechanisms through the correspondence between psychological

processes and linguistic structures (Gu Jinzhi, 2011). This theory posits that language is both a tool for representing emotions and influencing them (Semin & Fiedler, 1991), and that discourse context, sentence patterns, and vocabulary composed of language are important media affecting cognition and emotion. For instance, when interpreting written discourse, people create internal contexts and form experience-based conceptual and schematic knowledge (Halliday & Hasan, 1989); in conditional clauses, grammatically determined linguistic sequential relationships lead to counterfactual reasoning (Greene, 1972); during sentence comprehension, people may focus only on surface structure while ignoring implicit deep structure (Carroll, 2007); regarding vocabulary, Semin and Fiedler's (1991) Linguistic Category Model explores in depth the ability of different words to convey emotion and meaning from the perspective of abstraction level.

Current marketing literature primarily revolves around the Linguistic Category Model. First, since each vocabulary category differs in abstraction level, different words play varying roles in conveying purposes, intentions, and desires (Semin & Fiedler, 1991; Yuan Bing et al., 2013). Advertising language use, as a design process, should focus on how different advertising styles create listener attention situations and construct listener cognition and emotion (Semin & Fiedler, 1991; Wu Yueyan et al., 2019). Second, the abstractness of online review language affects consumer brand impressions and purchase intentions (Yuan Bing et al., 2013). To a large extent, word choice significantly impacts corporate marketing and communication effectiveness. In summary, since consumers in virtual spaces need to search for key cues from promotional language and related advertising information to make rapid decisions, and large-scale online sales promotions rely on advertising bombardment to create carnival atmospheres, psycholinguistic theoretical frameworks can comprehensively examine the linguistic characteristics and underlying psycholinguistic mechanisms of large-scale online sales promotions in evoking consumer future-oriented emotions and decisions.

## 2.2 Future-Oriented Emotions and Their Mechanisms

Research on future-oriented emotions originated from goal-directed decision-making theory, which suggests that people often encounter goals requiring effort during decision-making (Bagozzi et al., 2003), and since behavior is influenced by emotions, emotional content should be added to the process (Taylor et al., 2005). Furthermore, because goals relate to future events, emotional responses surrounding goal achievement can be collectively termed future-oriented emotions, encompassing pre-outcome and anticipated types (Baumgartner et al., 2008). Pre-outcome emotions are immediate emotions generated when individuals predict future risks and uncertainties, related to event probability, including hope associated with excitement and anxiety associated with worry (Loewenstein et al., 2001). Anticipated emotions are emotions experienced when individuals imagine desired or undesired future events having occurred or not

occurred, typical emotions not currently experienced but foreseeable in the future (Baumgartner et al., 2008), related to information valence (Bagozzi et al., 2003), including anticipated delight from imagining desired event achievement and anticipated regret from imagining desired event non-achievement (Bagozzi et al., 2016; Sandberg et al., 2016).

Regarding mechanisms, future-oriented emotions are generally considered evaluation results of event significance, related to prefactual thinking (Bagozzi et al., 2003). Prefactual thinking refers to “conditional propositions about causal connections between actions and outcomes in events that may or may not occur in the future,” meaning before events occur, people conduct mental simulations of “If I take action X, then I will obtain outcome Y” or “If I do not take action X, then I will miss outcome Y” (Epstude et al., 2016). Literature review shows that comparing current states with potentially better future outcomes constitutes upward prefactual thinking, evoking positive emotions; comparing present states with potentially worse future outcomes constitutes downward prefactual thinking, evoking negative emotions (Epstude et al., 2016; Ji Bingxin et al., 2017). In summary, since conditional limitations and material incentives form conditional clauses when combined (Lu Changbao, Li Hang, 2018), and conditional limitations correspond to possibility while material incentives correspond to outcomes (Lu Changbao, Peng Jing et al., 2020), research can examine the cognitive processes of future-oriented emotions by combining prefactual thinking with conditional clauses, and explore the cognitive antecedents of future-oriented emotions in large-scale online sales promotion decisions and the division of labor between conditional and incentive promotional language in evoking these emotions based on pre-outcome and anticipated emotion mechanisms.

### **2.3.1 Promotional Design Principles and Promotional Language Characteristics**

Typically, businesses promote consumption by offering benefits under specific conditions—so-called promotions. As an incentive tool, promotion contains two types of inducements designed to facilitate rapid decision-making (Jin Liyin, 2008). One involves conditional restrictions such as time limits, quantity limits, membership (VIP) requirements, or spending thresholds (e.g., “save when you spend,” “gift when you spend,” “bonus when you deposit”), requiring consumers to make decisions according to conditions (Wei Xia et al., 2017). The other involves material incentives such as discounts, coupons, gifts, or lotteries, creating substantial benefits that motivate consumers to act (Li et al., 2007). Combining conditional limitations and material incentives forms an “If...then...” conditional clause. For example, in time-limited discounts, “If you buy on time, then you will enjoy the discount”; conversely, “If you do not buy on time, then you will not enjoy the discount.” To a large extent, the diverse forms of conditional limitations and material incentives allow for countless promotional combinations, with large-scale online sales promotions being products of this philosophy. Overall, conditional limitations and material incentives are not only core elements

of promotional communication but also key determinants of consumers' promotional decision-making mental models and behavioral tendencies.

Notably, existing research seems more concerned with formal innovation in conditional limitations and material incentives to enhance promotional effectiveness and customer relationship maintenance, while overlooking promotions' dependence on language design and communication in current online sales, missing opportunities to comprehensively clarify the psychological mechanisms of promotion-consumer communication at the linguistic level. Overall, studying the temptation of large-scale online sales promotions from a language perspective—especially combining the two promotional inducements with conditional clauses—not only helps improve the current situation where research one-sidedly focuses on promotional information and its combined effects but also enhances the systematic and holistic nature of promotional and large-scale online sales promotion decision research through psycholinguistic theoretical frameworks. In fact, research on promotional framing effects is closely related to psycholinguistics, hence the effect is also called “linguistic embellishment effect,” reflecting how different presentation methods lead to different cognitive outcomes (Mandel, 2014). For example, the impact of “1998 yuan at 50% off” versus “1998 yuan minus 999 yuan” promotional frames on purchase intentions may differ. Existing research shows that loss-reduction promotional frames create time pressure and anticipated regret, effects that disappear when time is ample (Hao Liaogang, Zeng Hui, 2017). This demonstrates that promotional language affects consumer cognition, which in turn affects language comprehension, indicating great advantages in exploring the role of large-scale online sales promotion language from a psycholinguistic perspective.

### **2.3.2 Operation Models and Characteristics of Large-Scale Online Sales Promotions**

Similar to offline aggregation promotions, large-scale online sales promotions leverage all brands on the platform to simultaneously conduct promotions, gathering popularity and driving performance (Lu Changbao, Zhuang Xiaoyan, 2018). As a form of large-scale retail promotion, it innovates around two core promotional elements in its operation model, forming the following characteristics. First, it integrates multiple inducements such as time limits, quantity limits, and aggregation (Raymen & Smith, 2016), offering unmatched advantages in enabling rapid purchases compared to ordinary promotions. Second, its nearly one-month preparation period and various prepayment systems distinguish it from traditional promotions lasting only 3-7 days. This approach allows people to better utilize opportunities and shifts induced behavior from traditional impulse buying to goal-directed, planned purchasing (Swilley & Goldsmith, 2013). Third, regarding campaign communication, it comprehensively uses provocative language to creatively design messaging about participating brand quantities and promotional inducements, demanding immediate action (Ren Xuefei, 2016). Fourth, it widely employs site-wide promotional tools like

“threshold discounts,” allowing consumers to freely mix and match among massive promotional items to form the most cost-effective purchase combinations. Overall, large-scale online sales promotions not only shorten time limits to a single day (though recent “Double 11” events have extended to about three days) but also simultaneously aggregate massive products offering substantial “one-stop discounts.”

In summary, large-scale online sales promotions share both commonalities and differences with ordinary promotions. In commonality, both revolve around conditional clauses formed by conditional limitations and material incentives to prompt rapid consumer action. In difference, large-scale online sales promotions feature more diverse promotional inducements, longer preparation periods, and widespread use of site-wide tools like “threshold discounts,” making their combinations of conditional limitations and material incentives more diversified and presenting greater appeal. Moreover, virtual-environment large-scale online sales promotions depend more on promotional copywriting design and leverage extensive advertising and communication activities to highlight the overall effect of promotional inducement combinations in stimulating consumer participation enthusiasm. Therefore, studying large-scale online sales promotions allows examination of both entire conditional clauses and the role of auxiliary vocabulary attached to them, understanding how online promotional discourse context affects emotions.

#### **2.4.1 Promotional Decision-Making and Accompanying Emotional Responses**

Despite promotional innovations introducing new restrictions like “quantity control,” “identity control” (becoming VIP), and “spending threshold control” (gift with purchase), promotional decision-making remains the result of thinking about combinations of conditional limitations and material incentives. During decision-making, attributes related to promotional inducements such as “causal relationships, surprise, emotional valence, emotion, and information availability” can undergo regular automatic natural evaluation via intuition, evoking emotional responses. Specifically, when time and benefits combine, consumers perceive opportunity costs from fear of missing promotional deadlines (Lu Changbao, Ke Weilin et al., 2020), thereby accelerating sales. Given opportunity costs, decisions about “buying” or “not buying” evoke emotions like “regret from not buying” or “anticipated regret.” “Regret from not buying” reflects consumers’ anxiety and anticipated regret about not deciding promptly, while “anticipated regret” refers to annoyance imagined from missing opportunities (Inman & Mcalister, 1994). Extensive research confirms the existence of these negative emotions, with anxiety and anticipated regret intensifying as promotional deadlines approach (Maule et al., 2000). Although some studies note that promotions bring hedonic benefits (Chandon et al., 2000; Lu Changbao, Li Hang, 2018), most research overemphasizes opportunity costs, making negative emotions like anticipated regret the primary focus. Notably, since different pro-

motional language cues combine to produce different emotional valences through evaluation, focusing solely on negative emotions in promotional decisions cannot comprehensively clarify emotions' role. Research must examine positive and negative emotions' differential behavioral drivers around promotional inducement combinations.

#### **2.4.2 Cognitive Prerequisites and Internal Mechanisms of Emotion Generation in Promotional Decision-Making**

Emotion generation in promotional decision-making does not occur instantaneously but results from cognitive processing, reflecting evaluations of how relevant promotional events affect individuals. Research on cognitive mechanisms of emotion generation in promotional decision-making primarily includes two aspects. First, regarding cognitive modes, since promotions emphasize “fast thinking” (Kahneman, 2012), many studies view promotional decisions as intuition-heuristic-related decisions, with emotions resulting from “affective evaluation” of promotional goodness (Lu Changbao, Hu Peishan, 2018). This largely indicates that promotional decision-making is easily influenced by present information, brand strength, and reference prices (Bayraktar et al., 2015). Second, regarding emotion-cognition interaction, if conditional limitations and material incentives are viewed holistically, their combined relationship induces subjective/objective time pressure (Lu Changbao, Peng Jing et al., 2020), generating negative emotions like anxiety and anticipated regret. Objective time pressure reflects the impact of objective time constraints, causing negative emotions like anxiety (Maule et al., 2000); subjective time pressure reflects material incentives' impact, embodying the true meaning of “time is money” and anticipated regret. Overall, shortening promotion duration (e.g., flash sales) or increasing promotional intensity effectively enhances promotional effectiveness and related emotional intensity (Lu Changbao et al., 2021). Although existing research reveals emotion generation cognitive mechanisms from promotional design principles, it insufficiently examines specific emotions' cognitive prerequisites, fails to summarize promotional emotion characteristics, and thus highlights the necessity and importance of studying related emotions through promotional conditional clauses.

#### **2.4.3 Principles of Future-Oriented Emotion Generation in Large-Scale Online Sales Promotions**

From the perspective of large-scale online sales promotions' extended preparation period, consumers can not only determine purchase goals based on their needs but also measure the possibility of securing discounted goods according to time and quantity limits and make corresponding efforts (Lu Changbao, Zhuang Xiaoyan, 2018), making it a goal-directed decision. Existing research finds that aggregation scale, time limits, and quantity limits in large-scale online sales promotions significantly affect both pre-outcome and anticipated emotions (Lu Changbao et al., 2022). Larger aggregation scale evokes stronger hope, anxiety,

anticipated delight, and anticipated regret; time limits moderate the effect of aggregation scale on hope and anxiety, while quantity limits moderate the effect on hope, anxiety, and anticipated regret (Lu Changbao, Ke Weilin et al., 2020). Furthermore, future-oriented emotions induced by large-scale online sales promotions fluctuate considerably as the official promotion time approaches. Overall, anticipated emotions maintain high intensity whether far from or near the official promotion time, though the intensity gap between anticipated and pre-outcome emotions narrows significantly when approaching the official time (Lu Changbao et al., 2021). Moreover, positive emotions in both pre-outcome and anticipated emotions have stronger effects than negative emotions, indicating that positive emotions are key factors driving consumer participation in large-scale online sales promotions. In summary, while emotion research in large-scale online sales promotion decisions has made important progress, it remains focused on exploring emotion influencing factors, neglecting the impact of promotional copywriting design and marketing communication on future-oriented emotion generation, necessitating further research through a psycholinguistic framework.

## 2.5 Research Commentary

In summary, since existing research insufficiently explores promotions as communication tools, neglects the role of conditional clauses formed by conditional limitations and material incentives, and overlooks important changes in online promotional language, it has not addressed the overall role of large-scale online sales promotion language and the psychological mechanisms by which this language stimulates consumer purchasing. Psycholinguistics, as an interdisciplinary field combining psychology and linguistics, provides a theoretical basis for comprehensively understanding promotional communication needs and language design's impact on promotional effectiveness. To a large extent, examining existing research through a psycholinguistic lens, particularly its frameworks for sentence patterns, grammar, and vocabulary, reveals the following critical theoretical gaps.

First, research overlooks the overall impact of conditional clauses on future-oriented emotion generation in large-scale online sales promotion decisions. Current studies focus on using diverse combinations of conditional limitations and material incentives to enhance promotional effectiveness and explore influencing factors and key information, while ignoring the spatial particularity of large-scale online sales promotions and promotions' dependence on conditional clauses and overall copywriting constructed by such clauses as communication tools. Given the internal connection between prefactual thinking and conditional clauses (Epstude et al., 2016), large-scale online sales promotions may evoke upward and downward prefactual thinking, thereby inducing positive and negative future-oriented emotions (Epstude et al., 2016; Zhu Huawei et al., 2009). Therefore, this study uses a psycholinguistic framework to explore how conditional clauses formed by conditional limitations and material incentives,

auxiliary promotional vocabulary attached to these clauses, and context and discourse created by text affect future-oriented emotions, helping to clarify the psycholinguistic mechanisms by which large-scale online sales promotions evoke future-oriented emotions.

Second, research overemphasizes negative emotions and their relationship with opportunity costs, neglecting connections between cognitive prerequisites of emotion generation and conditional clauses, as well as positive emotions' role in creating promotional carnivals. On one hand, given that upward prefactual thinking occurs more readily than downward thinking (Epstude et al., 2016), positive future-oriented emotions may dominate large-scale online sales promotion decisions. On the other hand, conditional limitations and material incentives occupy different parts of conditional clauses, representing possibility and expected outcomes respectively (Bagozzi et al., 2016; Baumgartner et al., 2008), suggesting specific division of labor in evoking future-oriented emotions. Overall, this study's research design combining positive emotion dominance with promotional carnival phenomena not only helps fundamentally correct the problem of existing research one-sidedly emphasizing negative emotions like anticipated regret but also enables 梳理 cognitive prerequisites of the four future-oriented emotions based on conditional clause grammatical components and their functions, better understanding specific emotion induction mechanisms.

Third, research neglects site-wide promotional tools like “threshold discounts” and the potential diminishing emotional arousal effect when multiple promotional inducements combine in online contexts. Examining deep and surface sentence structures, “threshold discounts” and similar tools naturally present conditional clause features that may produce “linguistic embellishment effects” (Mandel, 2014), causing consumers to focus only on surface structure while ignoring deep structure and full meaning, thereby generating cognitive biases and strong future-oriented emotions. Additionally, given bounded rationality and cognitive miserliness (Lu Changbao, Hu Peishan, 2018), when large-scale online sales promotions combine multiple conditions and benefits, although they may jointly elevate future-oriented emotions, lazy consumers may “equate” certain cues (Li Shu, 2016), focusing only on dominant linguistic cues and weakening the temptation from combined inducements. Overall, this study, based on deep and surface sentence structures and integrating theories of “linguistic embellishment effect,” “bounded rationality,” “cognitive miserliness,” and “equate-to-differentiate,” provides new explanations for cognitive biases and irrational behavior in promotional decisions from a psycholinguistic perspective, clarifying the consistency between information presentation methods in inducing cognitive biases and linguistic sentence structures in “framing” mental simulation processes.

### 3. Research Framework

Based on the above review and commentary, this study proposes to systematically reveal the linguistic-psychological process by which large-scale online sales

promotions ignite consumer emotions, according to psycholinguistic research frameworks, large-scale online sales promotion copy characteristics, prefactual thinking's "If...then..." "causal beliefs," and the relationship between emotions and cognitive appraisal. First, using conditional clauses formed by conditional limitations and material incentives, combined with prefactual thinking characteristics and four future-oriented emotion generation principles, the research explores cognitive antecedents of future-oriented emotions, positive-negative emotion dominance relationships, and the division of labor between conditional and incentive promotional language in emotion induction. Second, breaking through research inertia on key promotional language, the study examines auxiliary promotional language within sentences, sentence structures, and discourse context from perspectives of sentence components and structure, exploring new practical paths to improve promotional communication effectiveness and achieving systematic research on large-scale online sales promotions. Specifically, six research objectives are proposed: (1) Clarify cognitive antecedents of anxiety, hope, anticipated regret, and anticipated delight by connecting conditional clauses with prefactual thinking and examining prefactual thinking and appraisal characteristics in large-scale online sales promotions; (2) Clarify the dominance mechanism of positive future-oriented emotions based on relationships between upward/downward prefactual thinking and positive/negative emotions and upward thinking's motivational advantages; (3) Explore the division-of-labor mechanism between two key promotional vocabulary types—conditional vocabulary in evoking pre-outcome emotions and incentive vocabulary in evoking anticipated emotions—using correspondences between pre-outcome/anticipated emotions and possibility/expected outcomes; (4) Investigate the strengthening mechanism of different auxiliary vocabulary types on future-oriented emotions based on differences in concreteness/abstraction, part of speech, and emotional directionality; (5) Reveal the framing mechanism of surface structure on future-oriented emotions and explain promotional linguistic embellishment effects from a psycholinguistic perspective, based on condensed conditional clauses presented by complex discounts like "save when you spend" and the relationship between surface and deep sentence structures, using intuition-heuristic theory; (6) Explore the attenuation mechanism after combining multiple key promotional language cues and differences between abstract and concrete promotional discourse in affecting anticipated and pre-outcome emotions, considering large-scale online sales promotions' characteristic combined use of conditional limitations and material incentives. Ultimately, achieving these objectives will systematically reveal the psycholinguistic mechanisms by which such promotions elevate emotions. The theoretical framework is shown in Figure 1 [Figure 1: see original paper].

### 3.1 Study 1: The Influence Mechanism of Conditional Limitation and Material Incentive Grammatical Relationships on Cognitive Antecedents of Future-Oriented Emotions

Emotions are caused by important life events and are purposeful, socially meaningful phenomena that help individuals seize opportunities and meet challenges (Reeve, 2008). All cognitive emotion theorists agree that: first, without cognitive appraisal antecedents of events, emotions will not occur; second, appraisals rather than events evoke emotions (Reeve, 2008). Conditions (life events) trigger appraisals (good/bad), which evoke emotions (like/dislike), ultimately leading to action (approach/avoid). Lazarus (1991) also notes that when making appraisals, people first assess whether the situation relates to their well-being. If well-being may be at risk, they evaluate potential threats or benefits. Overall, appraisal involves both the relationship between events and individual welfare, goals, and self-relevance, and the “threatening, manageable, and beneficial” nature of events themselves (Reeve, 2008), comprising two levels: primary appraisal related to self-relevance, and secondary appraisal involving coping methods, capabilities, and outcomes (Lazarus, 1991).

In summary, when consumers realize large-scale online sales promotions are important consumption events, they naturally evaluate promotional language and generate corresponding decision emotions, which is particularly important for online transactions. Literature review shows language is the foundation of cognition and decision-making, crucial for understanding causal relationships between different events and individual thinking patterns and psychological processes. Therefore, in large-scale online sales promotions inducing “fast thinking” (Kahneman, 2012) and carnivals, the role of “language as a communication tool” cannot be ignored. Comparing psycholinguistic research findings, conditional clauses and grammatical relationships formed by conditional limitations and material incentives not only determine the evaluation process but also become important clues for deducing cognitive antecedents of future-oriented emotions. Specifically, key research questions need clarification.

First, since prefactual thinking patterns are logically highly consistent with promotional conditional clauses, we can assume that when consumers conduct mental simulations around large-scale online sales promotions, they are more likely to engage in parallel-processing “prefactual thinking,” thereby determining evaluation processes and patterns. Second, since future-oriented emotion generation is highly related to prefactual thinking, we can assume that prefactual thinking simulations around conditional limitations and material incentives determine the content of cognitive antecedents for future-oriented emotions. Third, since upward and downward prefactual thinking involve evaluations of good versus bad future outcomes and determine future-oriented emotion characteristics, we can assume that cognitive antecedents of anxiety and anticipated regret relate to downward prefactual thinking, while those of hope and anticipated delight relate to upward prefactual thinking. Fourth, combining cognitive appraisal processes of emotion generation, we can assume: (1) The generation of all four

future-oriented emotions first relates to self-relevance, meaning the desire to participate in large-scale online sales promotions is an important prerequisite for evoking corresponding emotional responses; (2) Based on relationships between pre-outcome emotions and possibility and between anticipated emotions and imagined outcomes, we can examine relationships between “missing out on discounts” appraisal and anticipated regret, “obtaining discounts” appraisal and anticipated delight, “time too short/quantity too little” appraisal and anxiety, and “possibility exists regardless” appraisal and hope. We can also examine relationships between “If you don’t act according to conditions, then you will miss discounts” and anticipated regret, “If you act according to conditions, then you will obtain discounts” and anticipated delight, “If you don’t act according to conditions, then you won’t buy such discounted goods” and anxiety, and “If you act according to conditions, then you have a chance to buy such discounted goods” and hope. Ultimately, based on all these studies, we can summarize the cognitive antecedents of the four future-oriented emotions in large-scale online sales promotion decisions.

### **3.2 Study 2: The Influence Mechanism of Upward and Downward Prefactual Thinking on Positive-Negative Future-Oriented Emotion Dominance**

Language and emotion, as two important human psychological activities, interact. On one hand, language significantly influences emotion perception (Barrett et al., 2007), with semantic concepts affecting emotion perception and playing roles in emotion regulation (Liu Hongyan et al., 2009). On the other hand, emotions affect how people interpret linguistic information (Peng et al., 2006). For example, emotional contexts (e.g., emotional images), internalized emotional response patterns (e.g., physiological responses, facial expressions), and emotion information carried by language itself significantly impact information processing. These findings suggest that research on future-oriented emotions in large-scale online sales promotion decisions should examine both promotional language presentation methods and communication characteristics, and explore semantic concepts formed after language dissemination.

Overall, while research on anticipated regret and regret from not buying reflects promotional decisions’ intuitive nature (Lu Changbao, Hu Peishan, 2018) and aligns with corporate communication appeals like “miss this opportunity and it’s gone,” we should also recognize that e-commerce has transformed large-scale online sales promotions into national carnivals and tools for boosting consumption. In fact, research exploring the carnival characteristics of large-scale online sales promotions not only identifies positive emotions like hope and pleasure but also finds their overall impact exceeds that of corresponding negative emotions. Additionally, according to Chandon et al. (2000), promotions bring consumers not only monetary savings and other utilitarian benefits but also emotional experiences like joy and self-satisfaction during shopping. Therefore, positive emotions like hope and anticipated delight warrant not only study but also

comparison with negative emotions like anticipated regret and anxiety from a carnival perspective, clarifying why they dominate large-scale online sales promotion decisions.

First, as previously noted, upward prefactual thinking considers futures better than the present, while downward thinking does the opposite (Epstude et al., 2016). Therefore, we can infer that upward thinking evokes stronger positive emotions, while downward thinking evokes stronger negative emotions (Epstude et al., 2016; Simonson, 1992). Second, since upward thinking better motivates action than downward thinking (Epstude et al., 2016; Simonson, 1992), we can infer that compared to negative future-oriented emotions (anxiety and anticipated regret), positive emotions (hope and anticipated delight) are more likely to dominate in such decisions. If true, this could further reveal the emotional motivations behind people's enthusiasm for participating in large-scale online sales promotions and viewing them as "carnivals." Third, given that positive emotions can evoke positive purchase intentions (Zhu Huawei et al., 2009), we can infer that large-scale online sales promotions combining multiple benefits, as e-commerce platforms advertise, can bring consumers more "sense of gain" rather than other negative perceptions. Fourth, based on these results, we can infer that hope dominates over anxiety in pre-outcome emotions, and anticipated delight dominates over anticipated regret in anticipated emotions. In other words, positive future-oriented emotions are the key force driving large-scale online sales promotion decisions and deserve attention.

### **3.3 Study 3: The Division-of-Labor Mechanism Between Conditional and Incentive Promotional Language in Evoking Pre-Outcome and Anticipated Emotions**

Language expression has clear cue effects (Dou Wenfei, Hu Qingfen, 2018). Decision-makers tend to capture specific linguistic cues and process and utilize them. Regarding large-scale online sales promotions, on one hand, since online shopping lacks support from other sensory experiences, consumers mainly make rapid decisions based on promotional language and related cues. On the other hand, language carries special meanings, and since the two types of key promotional language have different orientations, consumers interpret them differently, leading to different thinking patterns and emotional responses.

Furthermore, from a grammatical perspective, promotional sentences naturally present as "real conditional clauses," reflecting causal and hypothetical relationships between promotional benefits and conditional limitations. Such complex sentences generally propose conditions in subordinate clauses and specify results from fulfilling conditions in main clauses (Huang Borong, Li Wei, 2016). When interpreting, individuals judge the possibility of obtaining results based on conditions (Epstude et al., 2016), or assess participation necessity based on result magnitude. Examining key large-scale online sales promotion language, time, quantity, and spending thresholds are condition-related language located in sub-

ordinate clauses, while massive discounts and prizes are result-related language located in main clauses. For research convenience, we define the conditional part (conditional limitations) as “conditional promotional language” and the result part (material incentives) as “incentive promotional language” according to their corresponding “If” and “then” positions. In summary, since these two language types occupy different sentence positions with different grammatical functions, their roles in emotion induction should differ.

From grammatical structure perspective, after design and combination, various conditional limitations and material incentives in large-scale online sales promotions exhibit both sequential relationships in communication order and phenomena where arbitrarily changing either element’s degree induces different promotional outcomes. Therefore, research must address the internal connections between these two language types and future-oriented emotions. First, since conditional limitations generally relate to obtaining possibility, they may trigger consumers’ imagination about urgency or panic buying contained in participation numbers, product quantities, and promotional time. Existing research confirms that changing conditional limitations alters pre-outcome emotion intensity, suggesting conditional key promotional language more easily evokes pre-outcome emotions related to possibility (Baumgartner et al., 2008). Second, since material incentives mainly relate to obtained benefits, they may trigger consumers’ imagination about how much benefit or savings they will gain. Existing research confirms that changing material incentive intensity alters anticipated emotion intensity, suggesting incentive key promotional language more easily evokes anticipated emotions related to opportunity costs (Bagozzi et al., 2016; Baumgartner et al., 2008). We can thus infer that conditional and incentive promotional language have specific division of labor in evoking future-oriented emotions.

### **3.4 Study 4: The Strengthening Mechanism of Auxiliary Promotional Language on Pre-Outcome and Anticipated Emotions**

During large-scale online sales promotion communication, certain words typically modify key promotional language or enhance atmosphere. For example, aggregation can be modified with “whole platform” or “how many brands participating”; time limits can be expressed as “limited-time activity” or “flash sale”; discounts can be written as “save X” or “reduce X.” Data crawling shows large-scale online sales promotions prefer provocative vocabulary like “crazy rush” and “instant reduction.” Research shows vocabulary helps activate corresponding contexts, aiding people’s full understanding of discourse experiential meaning (Han Xueke et al., 2019). Although these words do not affect obtained benefits, they can better create atmosphere to a greater extent, playing non-negligible roles in strengthening emotional experiences and improving purchase intentions.

According to the Linguistic Category Model (LCM), words can be divided into four categories: “descriptive action verbs,” “interpretive action verbs,” “state verbs,” and “adjectives” (Semin & Fiedler, 1991). Since each category differs in abstraction level, and language processing automatically triggers psychological responses (Anderson, 2017; Solso et al., 2008), different vocabulary types as important cues trigger different levels of emotional and cognitive processing while driving and attracting attention (Semin & Fiedler, 1991). Therefore, auxiliary promotional vocabulary may play special emotional strengthening roles in online transactions. We can use LCM to explore different auxiliary promotional vocabulary’s emotion-evoking functions and strengthening effects on future-oriented emotions.

First, different vocabulary conveys different emotions or feelings (Semin & Fiedler, 1991). From a verb perspective, descriptive verbs like “reduce” and “instantly reduce” better represent presence, suggesting they are more effective than interpretive verbs like “discount” in elevating future-oriented emotions in large-scale online sales promotion decisions. Second, since different auxiliary promotional languages differ in emotional directionality, their impacts on pre-outcome and anticipated emotions vary. For instance, “crazy rush” expresses presence, while “regret to death” expresses result state, suggesting different directional auxiliary vocabulary will differentially affect future-oriented emotion intensity. Third, since vocabulary differs in abstraction level (Hall, 2010) and higher abstraction increases outcome uncertainty or reduces possibility of obtaining concrete items, abstract auxiliary language like “whole platform rush” versus concrete “10,000 people rushing” (example only) should differentially affect pre-outcome emotions. Additionally, more concrete vocabulary yields clearer outcomes, suggesting auxiliary language like “whole platform brand products simultaneously discounted” versus “10,000 brands simultaneously discounted” (numbers are examples) also differentially affects anticipated emotions.

### **3.5 Study 5: The Influence Mechanism of Complex Discounts’ Surface and Deep Structures on Pre-Outcome and Anticipated Emotions**

As representatives of site-wide promotions, large-scale online sales promotions widely use complex discounts like “save when you spend,” “gift when you spend,” and “count when you deposit.” Research shows actual discount calculations for such promotions exceed ordinary imagination, being affected by purchase amounts, future coupon or deposit usage, and remaining balances (Lu Changbao, Wang Chuansheng, 2018). While actual discount ranges can be calculated via induction, ordinary consumers facing such discounts often experience so-called discount illusions (cognitive biases), unconsciously estimating actual discounts as X% off. The most common explanation is anchoring effect, but closer analysis reveals room for improvement in this explanation.

In fact, from a sentence pattern perspective, complex discounts like “save when

you spend” have special language design characteristics. Unlike ordinary promotions requiring association to think of conditional clauses, such promotions themselves are condensed conditional clauses belonging to implicit conditional sentences, making them important for exploring sentence structure impacts in large-scale online sales promotions. Solso et al. (2008) note that while a sentence pattern’s deep meaning may be consistent, different surface meanings often lead to inconsistent cognition—meaning sentence meaning determined by deep structure remains unchanged, but people are more likely influenced by surface structure. Applied to threshold discounts and gifts, this means people habitually process language’s presented surface structure while ignoring deep meaning (Carroll, 2007), leading to insufficient consumer cognition of such promotions’ true discount levels. Therefore, it is necessary to use threshold discounts to explore how conditional clauses’ surface and deep structure cognition affects discount illusions and future-oriented emotions. This exploration will provide new perspectives for revealing framing effect mechanisms.

Here, using “save when you spend” as an example to elaborate research questions: First, from surface structure, “save when you spend” means “spend enough...then save enough...” As an implicit conditional sentence omitting specific conjunctions, its deep structure contains “if you spend enough...then you save enough...” This meaning easily triggers consumer imagination about conditions and benefits, suggesting that fully presenting the threshold discount conditional clause will reduce discount illusion and future-oriented emotion intensity. Second, if further prompted with deep structures like “if you don’t spend enough...then there’s no discount...” and “if spending exceeds the threshold but doesn’t reach the next discount condition...then only the reached portion gets discounted...”, illusions and emotion intensity will further decrease. Third, since complex discounts like “spend 200, save 100” present external anchors that easily anchor estimation bases, we can infer consumers will use the two data points given in surface structure for estimation. Moreover, when external anchors become precise numbers like “spend 199, instantly save 99,” increased calculation difficulty leads to more estimation biases, suggesting its impact on discount illusion and emotions shows no significant difference from “50% off discount.”

### **3.6 Study 6: The Influence Mechanism of Large-Scale Online Sales Promotion Key Language Combinations on Future-Oriented Emotions**

Large-scale online sales promotions aggregate multiple inducements, characterized by simultaneous use of various restrictive conditions and material incentives, creating unique promotional contexts. Literature review shows context level affects language choice: in low-context situations, people prefer concrete, explicit language, whereas in high-context situations, language information is implicitly embedded, with specific communication relying on external environments and internalized values and norms, allowing more abstract language use

(Hall, 2010). Given that the internet represents a low-context environment, studying language style impacts in such contexts is necessary.

Furthermore, literature review indicates that key promotional language like time limits and discounts alone evokes limited emotion intensity. Large-scale online sales promotion practice shows that combining multiple promotional inducements aims to maximize consumer participation enthusiasm. However, from cue utilization theory and cue dominance research (Lazarus, 1991; Li Shu, 2016; Yang Yang, Zhang Xinmin, 2009), once linguistic cues appear densely, cognitive miserliness is easily activated, and people's evaluations of specific matters shift to assessments of high-diagnostics cues (Corcoran & Mussweiler, 2010; Lu Changbao, Hu Peishan, 2018), meaning the effect of multiple key promotional language combinations may be moderated by cognitive miserliness.

First, in low-context online conditions where language is the primary communication medium, we can infer that concrete discourse like “2000 brands, 50,000 hot items! All items 50% off” will affect future-oriented emotions more effectively than abstract discourse like “Thousands of products, countless discounts.” Second, when time limits, quantity limits, and spending thresholds combine, due to cognitive miserliness (Lu Changbao, Hu Peishan, 2018) and “equate-to-differentiate” decision modes (Li Shu, 2016), we can assume that multiple combinations will not significantly enhance pre-outcome emotion intensity. Third, when discounts, gifts, and coupons combine, such as “Lowest price 50% off, plus get gift or coupon for 1 yuan,” we can similarly assume that multiple combinations will not significantly enhance anticipated emotion intensity. In summary, after combining multiple key promotional languages, emotion intensity exhibits “marginal diminishing” due to cognitive miserliness, ultimately leaving only a vague impression of “especially favorable prices” in consumers' minds.

#### 4. Theoretical Construction and Innovation

The role of promotional communication is increasingly prominent. Compared with ordinary promotions, large-scale online sales promotions show more interactivity with consumers, indicating that promotional communication creativity and language design have become important marketing practice components. Although classic marketing works have long regarded promotion as an integrated marketing communication tool (Belch & Belch, 2014), and numerous studies find that different language presentation methods (promotional framing effects) can affect promotional effectiveness (Mandel, 2014), compared with advertising's systematic creativity and communication system, existing promotional research only focuses on combinations, specific scales, and presentation differences of conditional limitations and material incentives. This defect prevents existing promotional decision theory from fully revealing how large-scale online sales promotions, which exhaustively combine inducements and use highly provocative language, leverage language to 撬动 consumer emotions and achieve good sales results. While existing research has discovered linguistic embellishment effects in promotional decision-making (Tversky & Kahneman, 1981) and that

time limits and material incentives can evoke various future consumption-related imaginations, leading to regret from not buying, anxiety, hope, anticipated regret, and anticipated delight (Lu Changbao et al., 2021), exploration remains insufficient regarding “promotional language’s role, promotional language’s impact on consumer thinking patterns and future-oriented emotions, and different promotional languages’ division of labor in evoking and strengthening future-oriented emotions,” failing to integrate promotional language, promotional inducements, and emotion generation in promotional decisions under one premise for systematic theoretical consideration. Therefore, this study, grounded in psycholinguistics and closely examining promotional conditional clauses, large-scale online sales promotion communication cases, and language design characteristics, investigates the linguistic-psychological mechanisms of future-oriented emotion generation in such contexts, aiming to systematically improve promotional decision emotion theory while summarizing the psycholinguistic foundations of promotional communication and creative design.

First, this study aims to systematically reveal the mechanisms by which promotional conditional clauses affect consumer thinking patterns, emotional appraisal, and emotion generation by clarifying cognitive antecedents of future-oriented emotions and positive emotion dominance mechanisms in large-scale online sales promotion decisions. Compared with existing research that reveals connections between conditional limitations/material incentives and specific emotions based on information characteristics, this study conducts holistic exploration of large-scale online sales promotions’ impact on future-oriented emotions based on promotional language’s presented conditional clauses, being more comprehensive and profound. First, considering sentences and grammar’s psychological functions, promotional conditional clauses highly correspond with prefactual thinking processes, naturally triggering holistic associations or systematic thinking about conditional limitations and material incentives in large-scale online sales promotions. This thinking concerns future consumption decisions, determines goal-directed decision characteristics (Bagozzi et al., 2003), makes consumption more planned, better reflects consumers’ shopping efforts and pursuits, and prepares cognition for future-oriented emotions (Baumgartner et al., 2008), establishing a thinking foundation for passion and carnival generation. Second, during thinking, consumers evaluate promotional self-relevance, controllability and executability of conditional limitations, and realization/non-realization of expected benefits (Lazarus, 1991), with results determining cognitive antecedents of the four future-oriented emotions: anxiety, hope, anticipated regret, and anticipated delight. Compared with existing research focusing more on emotion generation facts and their impacts, this study reveals both the cognitive foundation of emotion generation and theoretical basis for clarifying how promotions create emotions through language. Moreover, while promotional induction of “If I do (don’t) do something, then I will (won’t) get something” prefactual thinking simulations has been confirmed by anticipated regret and time pressure research (Inman & Mcalister, 1994; Liu Hongyan et al., 2012), research on positive emotions like hope and anticipated delight remains insuffi-

cient, causing neglect of the sense of gain and hedonism brought by promotions, especially large-scale online sales promotions. This study's examination and dialectical consideration of prefactual thinking pattern differences also lay foundations for exploring different types of future-oriented emotions, especially positive emotions' cognitive antecedents and functions. Finally, since large-scale online sales promotion language centrally displays conditional limitations and material incentives, consumers should first associate with what they will get by following conditions, unless companies emphasize opportunity costs of not acting. Therefore, combining internal connections between upward/downward prefactual thinking and positive/negative emotions and upward thinking's stronger motivation, large-scale online sales promotion decisions more easily evoke positive rather than negative future-oriented emotions. This research conception provides reasonable explanations for positive emotion dominance, helping reveal the emotional mechanisms behind large-scale online sales promotion carnival characteristics and further correcting existing promotional decision research's overemphasis on anticipated regret.

Second, this study aims to systematically clarify the division of labor between conditional limitations and material incentives in conditional clauses and the strengthening role of auxiliary promotional vocabulary on future-oriented emotions, further revealing correspondences between pre-outcome/anticipated emotions and key promotional language, and the influence mechanism of promotional language atmosphere construction on emotions. This fundamentally overturns traditional research concepts of improving promotional effectiveness by increasing benefits or changing conditions, providing new perspectives for designing ideal consumption emotions and comprehensively improving promotional effectiveness. First, since decision-makers make overall decisions based on different cues' decision weights (Kim & Choi, 2012; Wang et al., 2016), and considering language's impact on emotion perception and its role as an event evaluation basis (Barrett et al., 2007; Liu Hongyan et al., 2009), different language importance levels differently affect emotions. Second, since different languages have clear directionalities in content and requirements (Gu Jiaqi, 2019), leading to different cognitive appraisals and thus different emotions, conditional, incentive, and auxiliary promotional languages may all affect future-oriented emotions. Third, from conditional clause grammatical order perspective (Halliday & Hasan, 1989), conditional limitations show possibility of obtaining benefits, causing consumers to evaluate probability and uncertainty, highly consistent with pre-outcome emotion generation mechanisms. Material incentives show benefits obtained by following conditions, guiding consumers to evaluate obtained outcomes and opportunity costs, highly consistent with anticipated emotion generation principles. This analysis suggests large-scale online sales promotion conditional limitations and benefit designs may have specific division of labor in evoking future-oriented emotions, advancing previous emotion research by clarifying relationships between different emotions and conditional clause structures. Finally, based on LCM research on word types and functions (Semin & Fiedler, 1991), various words describing conditional limitations and

discount levels in large-scale online sales promotion copy differ in ability to display promotional presence, urgency, and sense of gain. Although these words don't change promotional conditions and benefits, their different emotional orientations and varying abilities to render virtual scenes more concrete enhance promotional experiences and attract more attention in online spaces. This indicates auxiliary words like "crazy rush" and "instant reduction" help create situations and strengthen future-oriented emotion intensity, further building foundations for promotional communication and creative systems.

Third, this study aims to explore how surface structures of conditional clauses frame consumer cognition and emotion through complex discounts like "save when you spend" and the overall utility attenuation mechanism after combining multiple key promotional languages, further revealing connections between psycholinguistic analysis processes and intuition heuristics/cognitive miserliness, thereby integrating existing research on affective evaluation in promotional decisions into the emotional appraisal theoretical system. This distinguishes the study from previous research using intuition heuristics to explain why promotions enable rapid decisions (Lu Changbao, Hu Peishan, 2018) and provides deeper explanations for why promotions can quickly evoke "hot" emotional states. Regarding sentence structure, while deep structure or sentence meaning may be consistent (Solso et al., 2008), a sentence can have multiple expressions creating diverse surface structures. Viewed this way, information presentation differences are actually surface structure differences after language combines into sentences, and resulting "linguistic embellishment effects" essentially arise from surface structure framing (Tversky & Kahneman, 1981). Based on this, this study argues that conditional clauses formed by large-scale online sales promotions significantly influence future-oriented emotions through their presented surface structures. Two specific scenarios in such promotions provide approaches for exploring conditional clause structure impacts. On one hand, analyzing surface and deep structures of minimalist conditional clauses like "save when you spend" can summarize why such promotions easily cause "discount illusions" (Lu Changbao, Wang Chuansheng, 2018). Since site-wide promotions are themselves minimalist conditional sentences, they easily induce consumers to think according to surface structure. Combined with cognitive laziness and intuition heuristics theories, ignoring deep structure is both an inevitable result of cognitive miserliness and concentrated manifestation of consumers' lack of deep thinking in promotional decisions. This research reveals both the cognitive reasons for increasing popularity of "save when you spend" tools and the psycholinguistic mechanisms by which consumers are easily blinded by surface benefits while ignoring true conditional limitations, advancing promotional framing effect (linguistic embellishment effect) research. On the other hand, studying discourse context formed by overlapping multiple key promotional languages can reveal psychological mechanisms of cognitive miserliness and intuition heuristics in moderating promotional language effects. When too many promotional inducements overlap, consumers tend to over-focus on dominant inducements while ignoring others, showing that excessive inducements cannot

infinitely enhance large-scale online sales promotions' ability to evoke future-oriented emotions. Additionally, in online low-context environments, concrete and abstract discourse may produce different effects (Hall, 2010). These explorations show different key promotional inducements may have varying influence, and promotional activities must combine with specific environments to improve communication and incentive effects of promotional language in different contexts.

Compared with previous research, this study's theoretical contributions are as follows: First, it contributes to improving and enriching promotional and large-scale online sales promotion communication and decision-making theories. (1) Through innovative conditional clause research, it establishes a psycholinguistic foundation for promotional communication and creative design, addressing existing research's focus on conditional limitations and material incentives while pointing out new ideas for improving promotional conditional clause framing persuasiveness and temptation through auxiliary promotional vocabulary research, laying foundations for exploring language's creative power in creating and enhancing shopping pleasure. (2) Through research on conditional clauses, key promotional vocabulary, and auxiliary promotional vocabulary, it clarifies internal connections between emotional appraisal and prefactual thinking in promotional decisions (Bagozzi et al., 2003), identifying different future-oriented emotions' evocation methods and basic functions. Research on cognitive antecedents, positive emotion dominance, and auxiliary vocabulary strengthening effects not only clarifies future-oriented emotion generation mechanisms in large-scale online sales promotion decisions but also provides solid theoretical bases for creating these emotions, enabling companies to evoke emotions as needed in the future. (3) By leveraging large-scale online sales promotions' innovations and combined applications of multiple promotional inducements (Lu Changbao et al., 2022; Raymen & Smith, 2016), it clarifies the overall influence of multiple key promotional languages, sentence structures, and discourse context on future-oriented emotions, identifying roles of cognitive miserliness and intuition heuristics in promotional decisions and their underlying psycholinguistic environments. Overall, this study can integrate existing research findings into a unified system while creating conditions for online promotional theory construction.

Second, it contributes to improving anticipated regret and future-oriented emotion theory research. (1) By combining future-oriented emotion research, it identifies shortcomings in promotional decision emotion research, enriches research approaches for large-scale online sales promotion decision emotions, and clarifies emotional diversity in promotional decisions. (2) Based on connections between prefactual thinking, promotional language, and conditional clauses, it clarifies the relationship between anticipated regret and "missing better opportunities by not acting," and based on characteristics that event evaluation good/bad can coexist and the same prefactual thinking has upward and downward forms, points out the cognitive principle that anticipated delight must occur and coexist with anticipated regret, advancing anticipated regret research

and providing an analytical framework for exploring cognitive antecedents of four future-oriented emotions. (3) It clarifies future-oriented emotion generation mechanisms in decision frames with benefits and conditional limitations. Due to benefits' existence, upward/downward prefactual thinking about benefits coexists, but upward thinking's dominance (Epstude et al., 2016) causes anticipated delight to become the key force inducing participation, providing reasonable explanations for consumers' mixed feelings of love and regret when participating in promotions. Additionally, combining conditional limitation thinking in upward/downward prefactual thinking further analyzes internal connections between pre-outcome emotion generation and possibility evaluation. (4) It reveals the universality of future-oriented emotions in future consumption through forward-looking thinking, also occurring in shopping efforts induced by large-scale online sales promotions.

Third, it contributes to expanding the Linguistic Category Model and psycholinguistics research fields. (1) It introduces psycholinguistics into complex consumer behavior research, further understanding language's role in consumer decision-making. Conditional clauses have unique advantages in explaining the linguistic mechanisms of prefactual thinking induced by promotions, helping understand cognitive modes before promotional decisions. (2) Research on key and auxiliary vocabulary in large-scale online sales promotions can not only grasp commercial language creativity principles but also extend Linguistic Category Model research to more general "enterprise-consumer communication," greatly benefiting model development. (3) Through research on context level's influence on communication, it clarifies that low-context online consumption situations rely more on concrete language expression (Hall, 2010), identifying correspondences between specific contexts and promotional language design. (4) Through targeted research on sentence surface and deep structures, it deepens promotional linguistic embellishment effect research, identifying psycholinguistic mechanisms where sentence structure cognitive order differences (Kahneman, 2012; Li Shu, 2016) and cognitive laziness (Lu Changbao, Hu Peishan, 2018) cause individual cognitive biases. (5) Research on "marginal diminishing effects" after combining multiple key promotional languages further identifies mediation roles of intuitive decision-making and cognitive miserliness. Overall, this study provides a psycholinguistic pathway for promotional decision and consumer behavior research.

The theoretical model's expected research results also have important practical value. First, they significantly help improve retail promotional communication capabilities. (1) Traditional retail enterprises should enhance retail marketing differentiation capabilities from creative design, especially comprehensive promotional language utilization perspectives. (2) E-commerce platforms should reasonably set and concretize promotional product scales according to online communication and language dissemination characteristics, highlighting both abstract elements like "massive products" and "exceptional discounts" and clear language information about product types, quantities, and brands to make promotional scale presentation clearer and evoke positive affective evaluation. (3)

Large-scale online sales promotions should combine conditional language cues like time limits, quantity limits, and threshold discounts to induce participation urgency, comprehensively utilize benefit language like discounts to enhance consumers' value evaluation of promotional items, and employ auxiliary vocabulary to create atmosphere and enhance positive emotions and promotional sense of gain.

Second, it helps government departments strengthen promotional supervision. Specifically, it targets promotional language design's cognitive bias problems, requiring companies to list all conditional limitations while displaying "purchase price" and "promotional price." Third, it helps consumers make rational decisions. (1) It helps them resist promotional language temptation, allow more decision time, and avoid irrational consumption and "post-purchase regret." (2) It encourages them to think more about deep structures of promotional clauses, grasp true promotional motivations, conditions, and benefits, and prevent deception. (3) It helps them avoid emotional highs from large-scale online sales promotion advertising bombardment that lead to irrational decisions.

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*Note: Figure translations are in progress. See original paper for figures.*

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