Living with Restrictions

The Duration of Restrictions Influences Construal Levels

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Abstract

Many people live with restrictions in their daily lives. Overlooked in past research is how individuals who experience restrictions construe information. We propose that individuals with temporary (permanent) restrictions adopt a more concrete (abstract) level of construal. Theoretically, perceptions of loss of control explain the construal level of consumers with temporary (vs. permanent) restrictions. We tested our hypotheses in a series of four quasi-experiment studies both in the field and online, including samples of individuals with diabetes and celiac disease. The results show that individuals who experience temporary (permanent) restrictions adopt more concrete (abstract) levels of construal, which results in their preference for products that communicate brand (category) attributes and shelves that contain only restriction-related (mixture of restriction- and no restriction-related) products. These findings extend developments in the literature on restrictions and construal level theory by showing the effects of duration of restrictions on individuals' mindset and generate actionable implications for marketers and policymakers.

Keywords: restrictions, information processing, construal level, loss of control

Living with Restrictions: The Duration of Restrictions Influences Construal Levels

People live with many kinds of restrictions that limit or confine their individual choices (Botti et al., 2008). For example, some people have dietary restrictions, such that they eat only gluten- or lactose-free food. Numbers show that the global market value for gluten-free products, accounts for approximately $5.6 billion in 2020; this market grows every year at CAGR of 8.1% and is expected to increase to $8.3 billion in 2025[1]. Other restrictions pertain to physical disabilities. In 2018, according to a report by Centers for Disease Control and Prevention, 61 million people (i.e., almost 26% of adults) in the United States were reported to have some kind of disability (Centers for Disease Control and Prevention, 2020). Adding to the physical or dietary restrictions that people experience, people's lives across 213 countries and territories around the world are restricted due to the COVID-19 pandemic (Worldometers, 2020).

To address the needs of consumers with restrictions, companies develop marketing strategies, and public policy makers develop interventions. For example, the European Union made it a requirement that a food can only be labeled gluten-free if it contains less than 20 mg/kg gluten and has adopted universal labeling laws for gluten-free food (Celiac Disease Foundation). Similarly, there are interventions related to signs for people with disabilities, such as signs for accessible toilets (Rackham, 2017).

Given the predominance of restrictions in everyday life, prior research has explored the behavior of consumers who are restricted (see Botti et al., 2008 for a review). Conceptualizing how people react to restrictions, Botti et al. (2008) identify four main components of restrictions,

[1] https://www.prnewswire.com/news-releases/global-gluten-free-products-market-2020-to-2025---increasing-prevalence-of-ibs-is-driving-the-industry-301145626.html

which include: nature of the restriction, factors (e.g., individual differences) that influence responses to a restriction, cognitive, emotional, and psychological reactions and the resulting behavior. Applying the conceptual model of restrictions by Botti et al. (2008), in this research, we focus on how the timeframe (i.e., nature) of physical or dietary restrictions influences consumer behavior.

Botti et al. (2008) categorize timeframe of the restriction as permanent, intermittent, or temporary, immediate or in the future. In this research, we focus on the restrictions that are experienced in the present and that vary based on whether they are temporary or permanent. Consistent with previous research (Chartrand & Seidman, 1996), we define temporary restrictions as those that last for a certain period of time (e.g., dieting to lose a specific amount of weight) and permanent restrictions as restrictions that last forever (e.g., having celiac disease, having diabetes). Despite a rich body of literature on restrictions in the marketing literature, extant research has mainly focused on restrictions of limited duration (Aarts, Dijksterhuis, & De Vries, 2001; Karau & Kelly, 1992; Polivy, 1996), overlooking how consumers respond to temporary (vs. permanent) physical or dietary restrictions.

Given the emergent evidence of temporary and permanent restrictions, including health-related restrictions, that people experience due to COVID-19 pandemic and the lack of research that investigates different responses to temporary (vs. permanent) restrictions, a question is raised regarding how consumers with temporary (vs. permanent) restrictions will construe information. Botti et al., (2008) suggests that an immediate (vs. anticipated future) restriction might shift the attention to more abstract (vs. concrete) features of the behavior. However, research is silent on how individuals construe temporary or permanent restrictions that they experience in the present. Applying the idea of construal level theory and perceptions of loss of

control, we develop hypotheses relating consumers' responses to different marketing strategies and public policy interventions following a temporary or permanent restriction they experience. We predict that experiencing a temporary (vs. permanent) restriction results with more perceptions of loss of control, leading to a more concrete (vs. abstract) level of construal.

We extend developments in the restrictions and construal level theory literature to develop hypotheses predicting how consumers with temporary and permanent restrictions construe information. For theory, the insights of this research extend the literature on restrictions. While previous research on restrictions examined the extent to which consumers respond to different types of restrictions and how it may depend on the type of the restriction (e.g., utilitarian vs. hedonic), variety of the restriction (e.g., limited vs. wide), quantity of the restriction (e.g., availability, range), information related with the restriction (e.g., absent vs. present; Botti et al., 2008), or whether the regulations that restrict individual freedom are perceived as absolute or not (Laurin, Kay, & Fitzsimons, 2012), indirect or direct (Sarial-Abi & Gürhan-Canli, 2016), research has overlooked how the duration of restrictions in general, and physical or dietary restrictions in particular, may result in different consumer responses. Our research on the effects of the duration of restrictions and its effects on consumer behavior addresses this gap in the literature. Second, our research contributes to the literature on construal level theory by introducing how the duration of restrictions influences the way consumers construe information. Previous research on construal level theory shows how linking the degree of mental abstraction to psychological distance triggers mechanisms that explains evaluations, predictions, and behaviors (Adler & Sarstedt, 2021). Specifically, previous research showed that reminder of the restriction (e.g., resource scarcity) can lead to higher construal level (Goldsmith, Roux, & Wilson, 2020). We extend this finding of previous research by showing the role of

duration of restriction on construal level, which is theoretically explained by the perceptions of loss of control by consumers when they experience different duration (e.g., temporary vs. permanent) of restrictions.

This research's findings are also managerially relevant. Previous literature has largely investigated the role of product assortment on consumer decision-making (Chernev, 2003), and has shown the benefit of categorization in increasing consumer satisfaction (Mogilner, Rudnick, & Iyengar, 2008). Category labels simplify the comparison between the options under the same category and increase the efficiency in the product search and decision-making process that ultimately result in better choices ((Bettman, 1979; Chakravarti & Janiszewski, 2003; Diehl, Huber & Klein, 1991; Kornish, & Lynch, 2003; Roberts & Lattin, 1991; Zhang & Fitzsimons, 1999). By testing the effect of duration of restrictions on product label preferences and shelf preferences, the findings of this research add to this body of research and are in particular relevant for retail marketing.

We organize the rest of the paper as follows. We first provide an overview of the restrictions literature and then develop hypotheses. Next, we report the results of four studies that test and support the hypotheses. We conclude with a discussion of the theoretical contributions, managerial implications and limitations of the research, as well as opportunities for further research.

Overview of Restrictions

Previous research defines restrictions as "constraints that limit behavior and freedom of choice" (Botti et al., 2008). Restrictions come in all sizes and shapes. Restrictions can be

conceptualized by focusing on their source (i.e., externally or internally imposed), object (i.e., target of the restriction), characteristics (i.e., time frame), presentation (i.e., whether the restriction has been presented as a loss or a gain) or consequences (e.g., direct and indirect) (Botti et al., 2008; Sarial-Abi & Gürhan-Canli, 2016). In this research, we focus on restrictions that are temporary or permanent that individuals experience in the present. Furthermore, we specifically investigate physical and dietary restrictions.

There is a growing body of work in economics, psychology, and marketing literature on the behaviors of consumers with restrictions. Restrictions highlight the value consumers attach to restricted freedoms (Brehm, 1966; Laurin et al., 2012). For example, hockey players may respond by giving more value to the freedom of fighting if there is a ban on fighting. Similarly, people with dietary restrictions focus more on drink- and food-related cues, demonstrating heightened affective responses on anxiety measures, self-esteem, and narcissism (Aarts et al., 2001; Polivy, 1996). People with time restrictions respond to deadlines with more attention to the task they have to complete (Karau & Kelly, 1992), and those with financial restrictions have increased concerns about the lasting utility of their purchases (Tully, Hershfield, & Meyvis, 2015). Restrictions therefore change how people allocate attention by leading them to engage more deeply in some problems while neglecting others (Shah, Mullainathan, & Shafir, 2012) and increase prioritization (Fernbach, Kan, & Lynch, 2015).

Restrictions also motivate people to rationalize them (Aronson, 1989). Some people may be motivated to perceive the best in the restrictions and rationalize the restrictions as these people may want to maintain the status quo in their lives (Laurin et al., 2012). Research shows that when people feel vulnerable or helpless because of experiencing a chronic illness, these feelings can be offset by having a sense of personal power over the chronic illness (Taylor,

1983). Using a sample of participants with permanent restrictions such as cancer and paralysis caused by spinal cord injuries, Schulz and Decker (1985) noted that participants with such restrictions viewed themselves as better off than most participants with no restrictions and made favorable social comparisons with others not necessarily less fortunate than themselves. In the clinical context, temporary disabilities are those from which a person can recover, whereas permanent disabilities are those from which a person cannot recover (McDevitt, 1998), and the authors explained these results by noting that the permanently disabled participants focused on attributes that made them appear advantaged (Schulz & Decker, 1985). Consistently, people with permanent restrictions are more self-accepting and less neurotic compared to those with marginal restrictions (Colman, 1971).

The extent to which people respond to different types of restrictions may depend on whether the regulations that restrict individual freedom are perceived as absolute versus not (Laurin et al., 2012) or indirect versus direct (Sarial-Abi & Gürhan-Canli, 2016). For example, when people are exposed to indirect restrictions (i.e., regulatory restrictions that are not directly imposed on consumers but that have some consequences for consumers), they demonstrate source negativity. However, when people experience a direct restriction (i.e., regulatory restrictions that are imposed directly on them), they find a means to overcome those restrictions (Sarial-Abi & Gürhan-Canli, 2016).

In sum, the literature on restrictions is nascent, with most of the evidence focusing on limited duration restrictions and consequences of these restrictions for consumers, with limited clinical evidence on how people may respond to restrictions with different durations. Hence, we perceive a research gap on how consumers may differentially respond to temporary versus permanent restrictions. We also examine the role of construal level and perceptions of loss of

control on restricted consumers' preferences for product label descriptions, and shelf organizations.

Theory and Hypotheses

We first provide a brief overview of the construal level theory that we apply to develop the hypotheses in the context of temporary and permanent restrictions that consumers experience.

Construal Level Theory: A Brief Overview

Construal level theory (CLT) proposes that the same event or object can be construed mentally at less or more abstract levels (Liberman & Trope, 2008; Trope & Liberman, 2010). Mental representations can be arranged from low to high levels of abstraction, with higher levels of construal being more abstract and structured and lower levels of construal being more concrete and less structured (Ledgerwood, Trope, & Liberman, 2010). People who construe information at an abstract level leave out specific and peripheral details, and people who construe information at a concrete level lack a clear structure that differentiates important from peripheral and irrelevant features.

Consumers' judgments, decisions, and behaviors differ as a function of construal levels. Abstract versus concrete thinkers differ in their appreciation of why an action is undertaken over how it is performed (Liberman & Trope, 1998), preferences for desirability over feasibility (Liberman & Trope, 1998; Todorov, Goren, & Trope, 2007; Zhao, Hoeffler, & Zauberman, 2007), focus on pros over cons (Eyal, Liberman, Trope, & Walther, 2004), and attention to primary versus secondary features of objects (Trope & Liberman, 2000). When consumers have

an abstract (vs. concrete) mindset, they tend to form fewer (vs. more) categories when they organize information, and these categories tend to be inclusive and broad (vs. homogeneous and narrow; Liberman, Sagristano, & Trope, 2002). For events in the near (vs. distant) future, consumers engage in processing that captures color (vs. shape) with imagery that is colorful (vs. black and white) (Lee, Quinn, & Pascalis, 2017). Moreover, consumers rely on verbal processing when they evaluate distal targets, and they rely on visual processing when they evaluate proximal targets (Yan, Sengupta, & Hong, 2016).

Consumers construe events by adopting a concrete (vs. abstract) level of construal when they perceive themselves to be physically low (vs. high) in terms of height (Aggarwal & Zhao, 2015), when they evaluate artificial intelligence agents (Kim & Duhachek, 2020), and when they are rejected (vs. ignored) (Sinha & Lu, 2019). Situational factors such as high visibility on a clear day (vs. reduced visibility on a polluted day; Ding, Zhong, Guo, & Chen, 2021) and high (vs. low) frequency background music (Sunaga, 2018) also affect construal of information at a concrete (vs. abstract) level. When people construe information at an abstract level, their ability to think about and regulate psychologically distant events increases (Trope & Liberman, 2003). Adopting an abstract level of construal helps people use the information available for psychologically distant events by focusing on invariant essences. When people adopt a concrete level of construal, they adjust their decisions and behaviors depending on the demands of the immediate here-and-now (Ledgerwood et al., 2010). On the other hand, when they adopt an abstract level of construal, they adjust themselves to content that is beyond their direct experience in the distant future (Ledgerwood et al., 2010; Trope & Liberman, 2010). Consistently, the abstract level of construal is more important for psychologically distant events, and the concrete level of construal is more important for psychologically proximal events.

Restrictions, Perceptions of Loss of Control, and Construal Level

Perceived control refers to the extent to which people believe that they have (or not) control over an event (Pearlin & Schooler, 1978; Rapee, Craske, Brown, & Barlow, 1996; Skinner, 1996). People perceive control when they perceive their life is shaped by their own efforts and actions (Infurna & Mayer, 2015). Consistently, perceptions of control are susceptible to contextual events (McLeod, 2003). Negative outcomes in life diminish perceptions of control and positive outcomes in life increase perceptions of control (Mirowsky & Ross, 1998). Accordingly, restrictions are perceived as obstacles to achieving the desired outcomes, leading to a loss of perceived control (Skinner, 1996).

Individuals who perceive no control on their lives tend to experience psychological distress and individuals who perceive control on their lives tend to experience happiness and positive wellbeing (Heckhausen, 1999; Heckhausen, Wrosch, & Schulz, 2010; Seligman, 1975). It is also posited that a decreased sense of control results in increased compulsive behaviors to avoid and control negative events. Consequently, reduced perceptions of control result in various anxiety disorders, such as social phobia (Hofmann, 2005), hoarding (Raines, Capron, Bontempo, Dane, & Schmidt, 2014), and washing (Moulding & Kyrios, 2007).

There is increasing interest in investigating the concept of perceived control in relation to adjustment to chronic illnesses in the clinical context. According to the self-regulatory model (Leventhal, Nerenz, & Steele, 1984), chronic illness symptoms generate both emotional and cognitive representations of the illness and the cognitive representations include dimensions such as identity, cause timeline, consequences and beliefs about the control over the disease. Based on this model, an important element in managing chronic illnesses is the perception of sense of control, which results with desirable outcomes including greater satisfaction and increased

adherence to the treatment (Tennstedt, 2000). Early research on chronic illnesses also demonstrates that a loss of control with a chronic illness is only temporary and that regaining a sense of control is part of the adjustment to the illness (Helgeson, 1992; Taylor, 1983). Consistently, extant research shows how perceptions of control are beneficial when coping with different diseases, including cancer (Henselmans, Sanderman, Baas, Smink, & Ranchor, 2009; Tennen & Affleck, 2000). Supporting this view, studies among participants with arthritis and asthma show that perceived control influences the way these people cope with their conditions and predicts health outcomes (Chen, Katz, Eisner, Yelin, & Blanc, 2004). It was also found that participants with coeliac disease who had higher perceptions of control had more positive intentions to strictly adhere to the gluten-free diet (Sainsbury & Mullan, 2011; Sainsbury, Mullan, & Sharpe, 2013).

Experience of restrictions is not only related with chronic illnesses. Individuals can also experience temporary restrictions, including dietary restraints. Dietary restraint is defined as the extent to which individuals pursue to achieve or maintain their desired weight by exercising or dieting (Rotenberg et al., 2005). Research shows that individuals' perception of control over their dietary restraint serves as an implicit cognitive schema that affect the subsequent food intake (Grilo & Shiffman, 1994; Herman & Polivy, 1975; Westenhoefer, Broeckmann, Münch, & Pudel, 1994). Individuals who are high in dietary restraint tend to believe that they have little control over their food consumption compared to those who are low in dietary restraint (Rotenberg & Flood, 2000; Rotenberg et al., 2005). Consistently, those individuals who have dietary restrictions increased their food intake due to their lack of control cognitions (Herman & Polivy, 1975). Having the perception of high level of control is difficult for the restrained eaters, resulting with periods of indulgence after dieting success (Larsen, van Strien, Eisinger, Herman,

& Engels, 2007). As a result, counterintuitively, research shows that restrained eaters have more weight fluctuations compared to those unrestrained eaters (Heatherton, Polivy, & Herman, 1991). This loss of perceived control by the restrained eaters is also explained by goal conflict that they experience when they encounter a temptation such that although they might try to avoid the tempting but unhealthy foods, they may also exhibit approach tendencies for these products (Fishbach & Shah, 2006).

Integrating developments in restrictions that are related with chronic illnesses and dietary restraints and perceptions of control literature, we propose that consumers with temporary (vs. permanent) restrictions will perceive more loss of control over their restrictions. How will then these consumers who experience temporary (vs. permanent) restrictions construe information and respond to offerings in the marketplace? We suggest that as the duration of the restrictions increases, individuals will construe information at a more abstract level, suggesting that those consumers who experience temporary restrictions would construe information at more concrete level.

When individuals perceive a loss of control, they need to regain their perceived sense of control because the human psyche needs to maintain stable levels of psychological assets related to belongingness, self-esteem, feelings of power and control over one's environment (Crocker & Park, 2004; Kay, Wheeler, & Smeesters, 2008; Leary, Tambor, Terdal, & Downs, 1995; Whitson & Galinsky, 2008). As part of this process, individuals monitor the distance between their goal state and their present state and aim to reduce any self-discrepancy (Carver & Scheier, 1990; Higgins, 1987). For example, *The Compensatory Consumer Behavior Model* (Mandel, Rucker, Levav, & Galinsky, 2017) suggests that consumers can cope with the perceived self-discrepancy through different coping strategies including direct resolution (i.e., acquiring goods that are

instrumental in solving the cause of the self-discrepancy), symbolic self-completion (i.e., resolving discrepancy through the purchase of a good that symbolizes the desired identity), dissociation (i.e., separating from goods that would reinforce the discrepancy), escaping (i.e., distracting the consumers from thinking about the discrepancy), and fluid consumption (i.e., finding other means in another aspect of the self that would help to reduce the self-discrepancy). Moreover, research has provided evidence of the relationship between threatening stimuli and construal level, suggesting that when individuals are exposed to threatening images, they perceive the image to be closer to them (Cole, Balcetis, & Dunning, 2013). Similar to what has been proposed by *The Compensatory Consumer Behavior Model* (Mandel, Rucker, Levav, & Galinsky, 2017), past research shows that perceived proximity helps to motivate behavior that is goal-relevant and individuals are triggered to act when they perceive the threat as physically closer to them (Pichon et al., 2012). Hence, there is evidence that in the presence of a threat, in which individuals may perceive loss of control, individuals may construe information at a lower level because of their need to act to regain control.

All these show that consumers who experience a self-discrepancy need to adjust their decisions and behaviors depending on the demands of the immediate here-and-now (Ledgerwood et al., 2010), suggesting that these consumers who experience higher perceived loss of control due to their temporary restrictions will construe information at a more concrete level. On the other hand, those consumers who experience higher levels of perception of control due to the permanent restrictions will construe information at a more abstract level. In summary, we propose:

H1: Consumers with a temporary (vs. permanent) restriction construe information at a lower (vs. higher) level.

H2: Perceptions of loss of control mediate the effect of the duration of restrictions on how consumers construe information.

Overview of the Studies

We tested the hypotheses with four studies, all of which are quasi-experiments, two conducted in the field and two in an online setting. As our empirical contexts, we tested for temporary (permanent) physical or dietary restrictions that limit individuals' behavior or freedom of choice. Across the different quasi-experimental studies, we report all variables collected and all conditions included in the study designs. The number of participants was determined before data collection based on the rule of thumb of more than 30 participants per cell for quasi-experimental field studies and approximately 100 participants per cell for online studies. No participants who completed our studies were excluded from the analyses unless otherwise noted for reasons identified prior to the conduct of the research (and the number of excluded participants is reported in each study). No participants were added after the initial analyses were conducted. Unless noted otherwise, we ran the analyses in SPSS Statistics 23 and 25 IBM software. The experiments were reviewed and approved by the Institutional Review Board of the authors' home institutions before the research began. All participants provided their informed consent before participating in the study.

Preliminary Study

In this preliminary study, we tested the prediction that individuals with temporary restrictions would adopt a more concrete level of construal than would individuals without any restrictions. We conducted this study in one of the central orthopedic clinics of a major European country. This study is a quasi-experiment. Quasi-experiments are the most common methodology when it is impossible to randomly assign participants to specific treatments (vs. control), and they have been previously used in psychology and consumer behavior research (e.g., Forehand, Deshpandé, & Reed, 2002).

Participants

Seventy (35 male; $M_{AGE} = 49.55$, $SD_{AGE} = 17.32$) adults visiting one of the central orthopedics clinics of a major European country participated in the study voluntarily. Seven participants did not complete all the questions of the study; hence, we performed all the analyses with the remaining sixty-three adults (32 male; M = 49.10 years, SD = 17.05). We conducted a Shapiro-Wilk's test ($p > .05$) (Shapiro & Wilk, 1965) and a visual inspection of the histograms together with the Q-Q plots to rule out distribution issues related to age and gender among the conditions. The results suggest an approximately normal distribution of age in the treatment and control conditions, with a skewness of 0.579 (SE = 0.414) and a kurtosis of 0.083 (SE = 0.809) in the treatment condition and a skewness of 0.602 (SE = 0.421) and a kurtosis of -0.464 (SE = 0.821) in the control condition. The z-scores are always in the suggested interval between -1.96 and +1.96. Similarly, we repeated the normality tests for gender distribution across conditions. The results suggest an approximately normal distribution of gender in the treatment and control conditions, with a skewness of 0.204 (SE = 0.421) and a kurtosis of -2.098 (SE = 0.821) in the treatment condition and a skewness of 0.602 (SE = 0.421) and a kurtosis of -0.464 (SE = 0.821) in the control condition. The z-scores are always in the suggested interval between -1.96 and

+1.96. Given the categorical nature of gender, we ruled out possible effects of gender on the conditions using a Chi-square test (Chi-square = 1.11, p = .574).

Procedure

We approached adults who had a broken arm or a broken leg in one of the central orthopedic clinics of a major European country and asked them about their willingness to participate in a study investigating people's preferences. The adults who agreed to participate in the study were exposed to the temporary restrictions condition. We also approached adults who were accompanying those with a broken arm or broken leg or who did not have any visible physical restrictions (e.g., a broken arm or broken leg) and who were visiting the same orthopedic clinics the same day. Those adults who agreed to participate in the study were allocated to the control condition. Participants in the temporary restrictions condition indicated that their broken arm or broken leg was their only restriction that limited their behavior. Participants in the control condition indicated that they did not have any restrictions that limited their behavior.

To test the relationship between restrictions and construal level, all participants completed the 24-item Behavior Identification Form (BIF; Vallacher & Wegner, 1987), which is a questionnaire to measure the level of construal. Previous research in consumer psychology uses the BIF to provide preliminary evidence of construal level (Bullard, Penner, & Main, 2019). Each item on the scale presented a target behavior (e.g., "locking a door"). We then asked participants which of two alternate descriptions they preferred: one describing the behavior in terms of its means (low-level identification, how it is performed, e.g., "putting a key in the lock") and one describing it in terms of its ends (high-level identification, why it is performed, e.g., "securing the house"). Preference for the low-level identification for any item was coded as 0,

whereas preference for the high-level identification was coded as 1 (Kuder-Richardson Formula 20 = .52). These item scores were then summed to create an index of level of action identification (M_{BIF} = 7.95, SD_{BIF} = 2.39), in which lower scores indicated stronger preferences for low-level action identification (i.e., concrete level of construal). The distribution of responses on the dependent variable did not significantly deviate from a normal distribution (Kolmogorov–Smirnov test = .098, p = .20). Finally, participants completed age and gender questions and were thanked.

Results and Discussion

We tested the hypothesis that participants who have temporary physical restrictions will adopt a more concrete level of construal compared to those who do not have any physical restrictions. Consistent with our prediction, a one-way ANOVA revealed that participants who had temporary restriction (i.e., broken leg or broken arm) scored lower ($M_{TEMPORARY}$ = 6.83, $SD_{TEMPORARY}$ = 2.38) on the BIF than did those in the control condition ($M_{CONTROL}$ = 8.10, $SD_{CONTROL}$=1.96; $F(1, 61) = 4.49$, p = .038, Cohen's d = 0.58). Furthermore, BIF scores were not significantly correlated with age (R = -.09, p = .50) or gender (R = .11, p = .38).

This preliminary study provided initial evidence that having a temporary restriction is associated with a higher concrete level of construal. Although this study provided initial evidence for the relationship between temporary restriction and a higher concrete level of construal, this study has one main limitation. In this preliminary study, we did not test for the construal level of participants with permanent restrictions. Hence, in study 1, we conducted the study with consumers who have temporary restrictions or permanent restrictions, including also a control condition.

Study 1

In study 1, we tested our prediction that temporary (permanent) restrictions cause individuals to adopt a more concrete (abstract) level of construal. We used the dietary restraint context to test our predictions. In this study we also added a control condition where people have neither a temporary nor a permanent dietary restraint. This study is a quasi-experiment with 3 levels of duration of restrictions (permanent or temporary) in a between-participants factorial design. We conducted this study with respondents on the online platform of Prolific Academic that declared either being diabetic (permanent restriction condition), or on a diet (i.e., following diets of Weight Watchers; temporary restriction condition). We also included a control group of respondents making sure to request in the sample respondents that had not declared being diabetic or following a diet. We measured participants' attitudes towards different food item descriptions that were formulated either in a concrete or in an abstract way, following the suggestions of Yi, Stuppy-Sullivan, Pickover, and Landes (2017).

Participants

Three hundred participants were invited to take part in the study (i.e., 100 participants per each condition). We ended up with three hundred and one respondents in total and we excluded 13 of them prior to analysis because they either were not diabetic but participated in the permanent restrictions condition (8) or they were in the temporary restrictions or control condition and they declared being diabetic (5). Hence, we conducted the analyses with the remaining 288 participants. (M = 32.10 years, SD = 12.45; 145 females).

Procedure

Upon welcoming participants to the study, we asked them to indicate if they were diabetic and/or on a diet as a reminder of their restriction condition. Next, we told participants that we would show them a series of food items with two descriptions for each of them (one abstract and one concrete, please see Web Appendix A). We used the method from Yi et al. (2017) to describe the items either in a concrete or abstract way. For example, to evaluate the label of the brand in the beverage category, the beverage brand was described either in terms of its corresponding superordinate product category (i.e., abstract level of construal) or as possessing subordinate product attributes (i.e., concrete level of construal): "CEY—A beverage to control your glucose level" (category-brand association) and "CEY has nutrition to control your glucose level" (brand-attribute association). Participants indicated their preferences between the two labels across three product categories (beverage, biscuits, and ice-cream). As a dependent variable, we used the sum of the times the respondent chose the labels that emphasized category-brand association (i.e., abstract level of construal). Hence, lower scores indicated a more concrete level of construal, and higher scores indicated a more abstract level of construal (M = 1.35, SD = 0.79, Median = 1.00). Finally, participants completed age and gender questions and were thanked.

Results and Discussion

To test our hypothesis, we were interested in the contrast between participants in the temporary restrictions condition and those in the permanent restriction condition. Results of the one-way ANOVA suggest a significant difference between these two conditions ($M_{TEMPORARY}$ = 1.20, SD = 0.76 vs. $M_{PERMANENT}$ = 1.48, SD = 0.80, p = .012). There was a marginal difference between the temporary restriction condition and the control condition ($M_{CONTROL}$ = 1.38, SD =

0.79, $p = .098$), and no difference was spotted between control and permanent restriction conditions ($p = .376$). The overall one-way ANOVA was significant ($F = 3.274$, $p = .039$).

Given the nature of our dependent variable, we also analyzed the normality of its distribution (Goerg & Kaiser, 2009). The distribution of responses on the dependent variable significantly deviates from a normal distribution (Kolmogorov-Smirnov test = 0.25, $p < .001$). Given the nonnormality of the variable, we used a nonlinear model, with the variable being coded as 1 if the sum of abstract product choices was greater than the median (i.e., 1.00) and 0 if the sum of abstract product choices was smaller than the median. Hence, we followed with a test of frequency as a robustness check. The test of frequency revealed a marginal effect of the duration of restrictions (temporary vs. permanent vs. control) on choices that are consistent with a concrete versus abstract level of construal ($Chi^2 = 5.05$, $p = .08$).

The results of this study provide replication of the previous study, by also introducing a control condition. Moreover, the results suggest that what differs from the control condition, albeit marginally, is the more concrete thinking of participants in the temporary restriction condition (e.g., on diet), rather than those in the permanent restriction condition (e.g., diabetic). We suggest that the reason why we did not find any significant difference among participants who were in the control condition and who were in the permanent restrictions condition is consistent with previous research on chronic illnesses and perception of control, which demonstrates that a loss of control with a chronic illness is only temporary and that regaining a sense of control is part of the adjustment to the illness (Helgeson, 1992; Taylor, 1983). Since people with permanent restrictions adjust to the illnesses over time, our findings also support the view that over time these individuals act similar to those who do not have any restrictions as they

perceive control over their lives. In the next study, we replicate these effects, and we provide evidence for the mechanism behind this relationship.

Study 2a

In study 2a, we tested our prediction that temporary (permanent) restrictions cause individuals to adopt a more concrete (abstract) level of construal. Moreover, we also tested our prediction that perceptions of loss of control mediate the effect of the duration of restrictions on the construal level. As in the previous studies, this study is a quasi-experiment, and here we used 2 levels of duration of restrictions (temporary or permanent) in a between-participants factorial design. We conducted this study with customers of a specialized store that sells only gluten-free products and customers of a specialized store that sells only dietary weight-loss products in a major European country. We measured participants' attitudes towards different shelf formats across different gluten-free product categories and perceptions of loss of control.

Participants

Sixty-five adults (29 women) participated in the study in two different places. Thirty-five participants were approached in a specialized store in a major European city that sold only gluten-free products. The remaining participants were approached in a store that sold only dietary weight-loss products in a major European city. All participants indicated that they were aged between 16 and 68 years (M = 31.66 years, SD = 11.40).

Procedure

We conducted the study in two different specialty stores. One of the specialty stores sells only gluten-free products, and the other store sells only dietary weight-loss products in a major

European country. For the temporary restrictions condition, we approached participants in the specialty store that sold only dietary weight-loss products and asked whether they were on diet. Individuals voluntarily participated in the study if they indicated that they were on a diet, purchased gluten-free products to lose weight and wanted to participate in the study. Participants in the temporary restrictions condition indicated that they did not have any restriction other than a dietary restriction and that the reason why they were on diet was not related to a health problem (e.g., obesity, celiac disease, diabetes). For the permanent restrictions condition, we approached participants in the specialty store that sold only gluten-free products and asked whether they had celiac disease. Participants who indicated that they had celiac disease and who wanted to participate in the study voluntarily participated in the study. Participants in the permanent restrictions condition also indicated that they did not have any restrictions other than celiac disease.

We informed participants that the store was planning to organize its shelves for its gluten-free products. In the temporary restrictions condition, we informed participants: “Recent reports state that the gluten-free market in the United States is $4.2 billion and is on the rise all around the world. Recent studies also show that gluten-free products help people lose weight. In this study, we try to elicit your preferences when you shop for gluten-free products.” For participants in the permanent restrictions condition, we informed them that “Recent reports state that the gluten-free market in the United States is $4.2 billion and on the rise all around the world. In this study, we try to elicit your preferences when you shop for gluten-free products.”

Next, we showed participants a set of supermarket shelf formats across six product categories (i.e., beer, biscuits, bread, chocolate, pasta, and snacks). We informed participants that in one supermarket, the gluten-free product shelf is separate from the other products. In the other

supermarket, they are sold within each product category to which they belong. We asked participants to choose one of the two shelf formats that the store should adopt to sell its gluten-free products. To make the study as realistic as possible, we showed participants shelf formats from two real supermarkets that either placed the gluten-free products separately as a different category or together with other products in the product category (see Web Appendix B). Previous research has shown that when consumers have an abstract (vs. concrete) mindset, they tend to form fewer (vs. more) categories when they organize information, and these categories tend to be inclusive and broad (vs. homogeneous and narrow; Liberman et al., 2002). Hence, we predicted that consumers with temporary (vs. permanent) restrictions will be less likely to prefer the shelf format, in which there is a mixture of gluten-free and non-gluten-free products.

We asked participants to indicate their preference for the different supermarket shelf formats across the six product categories. We coded a preference for a shelf that includes only gluten-free products as 0 and a preference for a shelf that includes a mixture of gluten-free and other products in the product category as 1. We summed the preferences for a shelf that contains a mixture of gluten-free and other products in the product category to compose our abstract construal measure. Higher scores indicated a more abstract level of construal (M = 3.49, SD = 1.78, Median = 3.00). The distribution of responses on the dependent variable significantly deviates from a normal distribution (Kolmogorov-Smirnov test = .15, p = .002). Again, given the nonnormality of the variable, we used a nonlinear model, with the variable being coded as 1 if the sum of abstract shelves choices was greater than the median (i.e., 3.00) and 0 if the sum of abstract shelves choices was smaller than the median. Finally, participants completed age and gender questions and were thanked.

To account for participants' attitudes towards each of the product categories, we collected data on a series of control variables: to what extent the product was a necessity for the participants and to what extent they loved, relied on, felt good about, and would recommend the product to others in each category on a five-point scale (1 = not at all and 5 = very much).

To test for the role of perceptions of loss of control, participants answered an adapted version of the 7-item perceptions of control scale (Pearlin & Schooler, 1978). Sample items include "I would feel helpless to find the products that I want to purchase" and "It would be hard for me to find the products that I want to purchase if they are all mixed up". We reverse coded five-items (e.g., I would need no help to find the products that I want to purchase; I would have control over how I can find products in the supermarket) and then averaged the scores on all the items to compose the perception of loss of control measure ($\alpha = .63$, $M = 4.02$, $SD = 1.13$), with higher values indicating higher perceptions of loss of control. Finally, participants indicated their age and gender.

Results and Discussion

Construal level. As a proxy for shelf preference that is consistent with the abstract level of construal, we used the binary variable that was coded as 1 if the sum of choices for the shelves that contain both gluten-free and non-gluten free products (i.e., abstract level of construal) was greater than or equal to the median (i.e., 3.00) and 0 if the sum of choices for the shelves that contain both gluten-free and non-gluten free products (i.e., abstract level of construal) was smaller than the median. The test of frequency revealed a significant effect of the duration of restrictions (temporary vs. permanent) on choices that are consistent with a concrete versus abstract level of construal ($Chi^2 = 6.34$, $p = .012$). Consistent with our prediction, participants who have a temporary restriction chose shelf formats that include a mixture of gluten-free and

non-gluten-free products (50% mixed vs. 50% non-mixed) less often than participants who have a permanent restriction (80.6% mixed vs. 19.4% non-mixed). The results persist if the dependent variable is calculated as the sum of choices that are consistent with the abstract (vs. concrete) level of construal (i.e., total number of shelves they chose that include both gluten-free and non-gluten-free products vs. total number of shelves they chose that include only gluten-free products). Due to the nonnormality of the dependent variable, we are not reporting the statistics here, but the results are available upon request to the authors.

Perception of loss of control. We next tested our prediction that perceptions of loss of control mediate the effect of duration of restrictions on shelf preference. Consistent with our prediction, participants in the temporary restriction condition perceived more loss of control than participants in the permanent restrictions condition did ($M_{TEMPORARY} = 4.36$, $SD_{TEMPORARY} = 0.95$ vs. $M_{PERMANENT} = 3.74$, $SD_{PERMANENT} = 1.19$; $F(1,63) = 5.32$, $p = .024$, Cohen's $d = 0.58$).

We next formally tested for the mediation prediction. We first regressed shelf preference on the temporary versus permanent restrictions condition in a logit model. The results suggested that being under temporary (vs. permanent) restrictions (the independent variable) resulted in a less preference for a shelf that contains a mixture of gluten-free and other products in the product category, with this dependent variable being dichotomous (1 = preference for a shelf that contains both gluten-free and non-gluten-free products greater than the median and 0 = preference for a shelf that contains both gluten-free and non-gluten-free products lower than the median) (B = -0.968, $p = .032$). Then, we regressed perception of loss of control on the temporary versus permanent restriction condition. The results suggested that being under temporary (vs. permanent) restrictions increased the perception of loss of control (B = 0.623, $p = .024$). We then regressed the shelf preference (our proxy for the level of construal being greater

or lower than the median) on perceptions of loss of control. The results suggested that a greater perception of loss of control was linked to a less preference for a shelf that contains a mixture of gluten-free and other products in the product category (B = -0.994, p = .003). When we regressed the shelf preference on both the temporary versus permanent restriction condition and perceptions of loss of control, the effect of the temporary versus permanent restriction condition on shelf preference was not significant anymore, but only marginal (B = -1.179, p = .067).

As a further test for mediation, we followed Preacher and Hayes's (2004) recommended bootstrapping procedure to compute a confidence interval around the indirect effect. We tested this using the Process Procedure for SPSS 3.1, with 10,000 iterations. The results revealed a significant indirect effect via perceptions of loss of control (B = -0.63, SE = 0.40, 95% CI: [-1.70; -0.08]; see figure 1[2]). The effects are robust upon inclusion of the control variables (i.e., extent to which the product is a necessity for the participants; extent to which participants love, rely on, feel good about, and would recommend the product to others) in the model (ps > .07).

Insert figure 1 about here

Study 2a provided further evidence that the duration of restrictions influences the level of construal. Moreover, study 2a also provided evidence for the mediating effect of the perceptions of loss of control on the relationship between the duration of restrictions and the level of construal. Although study 2a replicated the effect of the previous study and provided initial evidence for the mediation effect, the study had some limitations due to its nature of being conducted in the field. In this study, to be as realistic as possible in the retail context, we provided participants with images of a shelf that contains only gluten-free products or a shelf that

[2] The results replicate if we assume a normal distribution and we use the sum of shelf choices that are consistent with abstract (vs. concrete) level of construal as the dependent variable. The results are available upon request to the authors.

contains a mixture of gluten-free and non-gluten free products across different product categories. As in real life, the images differed on the extent to which the shelves were organized, included the same number of products, included the same brands, or displayed in the same direction (e.g., horizontal, vertical). However, despite the natural limitations of conducting studies in the field, this study provided support for our predictions. In study 2b, we replicate the findings of study 2a in a controlled experimental setting.

Study 2b

In study 2b, we tested our prediction that temporary (permanent) restrictions cause individuals to adopt a more concrete (abstract) level of construal. We further tested our prediction that perceptions of loss of control mediate the effect of temporary (vs. permanent) restrictions on construal level. As in study 1, we used the dietary restraint context to test our predictions. This study is a quasi-experiment with 2 levels of duration of restrictions (temporary or permanent) in a between-participants factorial design. As in study 1, we conducted this study with respondents on the online platform of Prolific Academic that declared either being diabetic (permanent restriction condition), or on a diet (i.e., following diets of Weight Watchers; temporary restriction condition). We measured participants' attitudes towards different food item descriptions that were formulated either in a concrete or in an abstract way, following the suggestions of Yi et al. (2017) as in study 1. We pre-registered this study at AsPredicted.org (#64316).

Participants

Two hundred participants were invited to take part in the study (i.e., 100 participants per each condition). We ended up with two hundred and nine respondents in total and we excluded 37 of them prior to analysis because they either were not diabetic but participated in the permanent restrictions condition (18) or they were in the temporary restrictions and they declared being diabetic (19). Hence, we conducted the analyses with the remaining 172 participants. (M = 31.93 years, SD = 13.52; 89 females).

Procedure

Upon welcoming participants to the study, we asked them to indicate if they were diabetic and/or on a diet. Next, we told participants that we would show them a series of food items with two descriptions for each of them (one abstract and one concrete, please see Web Appendix A). As in study 1, we used the method from Yi et al. (2017) to describe the items either in a concrete or abstract way. Participants indicated their preferences between the two labels across three product categories (beverage, biscuits, and ice-cream). As a dependent variable, we used the sum of the times the respondent chose the labels that emphasized category-brand association (i.e., abstract level of construal). Hence, lower scores indicated a more concrete level of construal, and higher scores indicated a more abstract level of construal (M = 2.42, SD = 1.39).

To test for the role of perceptions of loss of control, participants answered the state version of the 7-item perceptions of control scale (Pearlin & Schooler, 1978). Sample items include “I have little control over the things that happen to me” and “There is little I can do to change many of the important things in my life”. We averaged the scores on these items after reverse coding two items (i.e., I can do just about anything I really set my mind to; what happens to me in the future mostly depends on me) and composed our perception of loss of control

measure (α = .90, M = 3.41, SD = 1.38), with higher values indicating higher perceptions of loss of control.

As a check for manipulation, we asked participants to indicate the extent to which they feel restricted because of the dietary restriction they have for a long time (1 = not at all and 7 = very much). As a control variable, we asked participants to indicate whether they have any other restrictions other than the dietary restraints that they indicated to have (1 = not at all and 7 = very much) and to what extent they feel they are following a diet (1 = far too little and 7 = far too much). Finally, participants completed age and gender questions and were thanked.

Results and Discussion

Manipulation check. As intended, participants in the temporary (vs. permanent) restrictions condition scored lower in the extent to which they feel restricted because of the dietary restriction they have for a long time, $M_{TEMPORARY}$ = 3.61, SD = 1.43 vs. $M_{PERMANENT}$ = 4.19, SD = 1.44, $t(170) = -2.64$, $p = .009$.

Construal level. We next tested our prediction that consumers with a temporary (permanent) restriction construe information at a lower (higher) level. Supporting our prediction, participants in the temporary (vs. permanent) restriction condition chose product labels that are more consistent with a concrete (abstract) level of construal, $M_{TEMPORARY}$ = 2.19, SD = 1.35 vs. $M_{PERMANENT}$ = 2.66, SD = 1.40, $F(1,170) = 4.82$, $p = .029$.

The result of ANCOVA showed that the effect is robust upon inclusion of the control variables (i.e., whether participants have any other restrictions other than the dietary restraints that they indicated to have, $F(1,168) = 0.65$, p=.41 and to what extent they feel they are following a diet, $F(1,168) = 1.00$, $p = .32$) in the model ($F(1,168) = 4.41$, p =.037).

Perception of loss of control. We next tested our prediction that perception of loss of control mediates the effect of duration of restrictions on construal level. Consistent with our prediction, participants in the temporary restriction condition perceived more loss of control than participants in the permanent restrictions condition did ($M_{TEMPORARY} = 3.93$, $SD_{TEMPORARY} = 1.44$ vs. $M_{PERMANENT} = 2.86$, $SD_{PERMANENT} = 1.07$; $F(1,170) = 29.95$, $p < .001$).

We next formally tested for the mediation prediction. We first regressed construal level on the temporary versus permanent restrictions condition. The results suggested that participants in the temporary (vs. permanent) restrictions condition preferred product labels that are more consistent with a concrete (abstract) level of construal, resulting in lower values of the dependent variable (B = -0.46, $p = .029$). Then, we regressed perception of loss of control on the temporary vs. permanent restriction condition. The results suggested that as the duration of the restrictions increases, the perception of loss of control also decreases, suggesting that those who are in a temporary (vs. permanent) restrictions condition perceive more loss of control (B = 1.06, $p < .001$). We then regressed the construal level on both the duration of restrictions and the perceptions of loss of control conditions. The results suggested no effect of duration of the restrictions condition (temporary vs. permanent; B = -0.30, $p = .187$), but a marginally significant effect of the perception of loss of control (B = -0.152, $p = .067$) on construal level.

As a further test for mediation, we followed Preacher and Hayes's (2004) recommended bootstrapping procedure to compute a confidence interval around the indirect effect. We tested this using the Process Procedure for SPSS 3.1, with 10,000 iterations. The results revealed a significant indirect effect via perceptions of loss control (B = -0.162, SE = .102, 90% CI: [-0.35; -0.02]; see figure 2).

Insert figure 2 about here

Study 2b provided further evidence that the duration of restrictions influences the level of construal. Moreover, study 2b also provided evidence for the mediating effect of the perceptions of loss of control on the relationship between the duration of restrictions and the level of construal in a controlled experimental setting.

General Discussion

The experience of temporary or permanent restrictions is growing dramatically for consumers across the world. However, there are few insights in the marketing literature on how consumers with temporary or permanent restrictions construe information. Addressing this research gap, we develop and find robust support for a theory of the construal level of consumers with temporary or permanent restrictions. We find support for the main effect and the mediation effect of perceptions of loss of control in theoretically explaining the relationship between the duration of restrictions and the construal level. The findings from four quasi-experimental studies are robust across different samples (e.g., consumers with diabetes, with celiac disease, with a broken leg or arm, or dieting) and different marketing strategies, including product label descriptions and shelf organization. We conclude with a discussion of the paper's theoretical contributions, the managerial implications of the findings, and limitations and opportunities for further research.

Theoretical contributions

We discuss the contributions of the research's various findings to the literature on restrictions and construal level theory.

Restrictions. Existing research on restrictions shows how restrictions can be conceptualized. Restrictions can be conceptualized by focusing on their source (i.e., externally or internally imposed), object (i.e., target of the restriction), characteristics (i.e., timeframe), presentation (i.e., whether the restriction has been presented as a loss or a gain) or consequences (i.e., direct and indirect) (Botti et al., 2008; Sarial-Abi & Gürhan-Canli, 2016). Previous research has overlooked how the duration of restrictions can have different effects on consumers. The results of this paper contribute to this stream of research by showing that consumers with temporary or permanent restrictions construe information differently.

Restrictions highlight the value consumers attach to restricted freedoms (Brehm, 1966; Laurin et al., 2012). Restrictions also motivate people to rationalize the restrictions (Aronson, 1989). The extent to which people respond to different types of restrictions may depend on whether the regulations that restrict individual freedom are perceived as absolute or not (Laurin et al., 2012) or as indirect or direct (Sarial-Abi & Gürhan-Canli, 2016). The results of this paper contribute to this body of research by investigating how durations of restrictions influence the construal level of consumers. The results show that consumers who experience a temporary restriction respond more favorably to restriction-related information that is construed at a concrete (vs. abstract) level.

Companies increasingly develop marketing strategies, and public policy makers increasingly develop interventions to meet the needs of consumers with temporary or permanent restrictions. Prior research on restrictions shows how consumers respond to restrictions. For example, when people are exposed to indirect restrictions (i.e., regulatory restrictions that are not directly imposed on consumers but have some consequences for consumers), they demonstrate source negativity. However, when they experience a direct restriction (i.e., regulatory restrictions

that are imposed directly on them), they find a means to overcome those restrictions (Sarial-Abi & Gürhan-Canli, 2016). The results of this paper add to the growing literature in this area by showing how consumers who experience temporary or permanent restrictions respond to consumer-related measures such as product label descriptions or shelf organizations.

Overall, the results of this paper contribute to the literature on restrictions by showing how the duration of restrictions differentially influences how consumers construe information and how different construals of information result in different preferences for product label descriptions and shelf organizations.

Construal level theory. Construal level theory (CLT) proposes that the same event or object can be construed mentally in less or more abstract ways (Ledgerwood et al., 2010; Liberman & Trope, 2008; Trope & Liberman, 2010). Consumers construe events by adopting a concrete (vs. abstract) level of construal when they perceive themselves to be physically low (vs. high) in terms of height (Aggarwal & Zhao, 2015), when they evaluate artificial intelligence agents (Kim & Duhachek, 2020), and when they are rejected (vs. ignored) (Sinha & Lu, 2019). Previous research has overlooked how the duration of restrictions influences construal level. The results of this paper contribute to this stream of research by showing that consumers who have temporary (permanent) restrictions adopt a more concrete (abstract) level of construal.

When people construe information at an abstract level, their ability to think about and regulate psychologically distant events increases (Trope & Liberman, 2003). When people adopt a concrete level of construal, they are able to adjust their decisions and behaviors depending on the demands of the immediate here-and-now (Ledgerwood et al., 2010). Adopting an abstract level of construal helps people use the information available for psychologically distant events by focusing on invariant essences. When people adopt a concrete level of construal, they are able

to adjust their decisions and behaviors depending on the demands of the immediate here-and-now (Ledgerwood et al., 2010). The results of this paper add to the extant research in this area by showing that temporary restrictions, result in more perceptions of loss of control than do permanent restrictions, leading to different consumer responses in terms of product label preferences and shelf preferences.

Overall, the results of this paper contribute to the literature on construal level theory by showing how the duration of restrictions influences construal level differentially, leading to different perceptions of control and consumer responses.

Practical implications

The findings of this research offer some novel insights and actionable guidance to managers and public policy makers in developing strategies to offer products and communicate with consumers who experience temporary or permanent restrictions. First, although temporary and permanent restrictions are widespread at a societal level, there is limited evidence on how companies develop their strategies to respond to consumer needs during times when consumers experience temporary or permanent restrictions. The COVID-19 pandemic is just one example of how consumers at a societal level may experience temporary and permanent restrictions. The findings of this research suggest that in situations in which consumers experience temporary or permanent restrictions, companies should develop different marketing strategies, as these consumers with temporary or permanent restrictions construe information differently. The findings of this research show that while consumers with temporary restrictions prefer products that communicate brand-attribute information or shelves that include only restrictions-related products, consumers with permanent restrictions prefer products that communicate brand-category information or shelves that include a mixture of restriction- and no restriction-related

products. In showing these, the findings of this research suggest that companies need to take into consideration the duration of restrictions that consumers experience when they develop marketing strategies for consumers with restrictions.

Second, the findings of this research suggest that public policy makers should not use the same communication when individuals experience temporary or permanent restrictions. The pattern of the findings in this research shows that when communicating with people who have temporary restrictions, public policy makers should use communications that have images (vs. text) or that emphasize how people should behave rather than why they should behave in the way that is recommended to them by public policy makers. However, when communicating with people who have permanent restrictions, public policy makers should use communications that have text (vs. images) or that emphasize why they should behave in the way that is recommended to them by public policy makers rather than how they should behave.

Overall, our findings provide clear actionable insights for practitioners and public policy makers. Initially, practitioners and public policy makers should consider the duration of restrictions when determining different marketing strategies or how to communicate with them. This is particularly relevant in situations when consumers are generally experiencing temporary or permanent restrictions such as the lockdown policies introduced during the COVID-19 pandemic.

Limitations and future research

Our research has some limitations that offer opportunities for further work. First, in this initial study of developing and testing a theory on how consumers with temporary or permanent restrictions construe information, we focused on consumers who have only a temporary restriction or consumers who have only a permanent restriction. We did not consider consumers

who have both temporary and permanent restrictions. Further research on restrictions can investigate how consumers with a mixture of temporary and permanent restrictions construe information and respond to different marketing strategies and public policy interventions.

Second, in examining the effect of duration of restrictions on construal of information, we used quasi-experimental designs and two controlled online studies. While quasi-experimental designs have strengths in investigating contexts that cannot be manipulated easily in a controlled experimental context, as in our paper, where it is difficult to manipulate people's temporary and permanent restrictions without truly experiencing them, the quasi-experiments we ran had limitations such as having small sample sizes. Although it is not very easy to run quasi-experiments with participants who have temporary or permanent restrictions due to the approval process of conducting a study taking long, future research can replicate and extend the findings of this research by using larger sample sizes and conducting quasi-experiments with participants who have different temporary and permanent restrictions than the ones we used in this paper. Relatedly, in our studies, as part of the permanent restrictions condition, we used samples that experience chronic illnesses (e.g., having a celiac disease, having diabetes) and we found no difference on information processing across these people and people who have no restrictions. Future research can investigate whether different types of permanent restrictions (e.g., financial) have differential effects on information processing compared to people who have no restrictions.

Third, for empirical testing, we focused on a few product categories, which enabled a clean test for our predictions. The categories that we use mainly include food products. We did not test the predictions on categories with more non-necessities. Additional research that shows whether there are any category effects on the effect of the duration of restrictions on construal level can extend the findings of this research.

In summary, we view this study as a useful first step in exploring how consumers with temporary or permanent restrictions construe information. We hope that this research stimulates further work on the role of the duration of restrictions in influencing consumers' responses to different marketing strategies and public policy interventions.

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FIGURE LEGEND

Figure 1. Mediation model of the effect of duration of restrictions on shelf preference through the mechanism of perceptions of loss of control – Study 2a

Figure 2. Mediation model of the effect of duration of restrictions on product label preference through the mechanism of perceptions of loss of control – Study 2b