

**TWO ESSAYS ON THE EFFECT OF POWER DISTANCE BELIEF ON CONSUMERS'  
DECISION MAKING IN THE RETAILING CONTEXT**

by

HAN MA

Presented to the Faculty of the Graduate School of  
The University of Texas at Arlington in Partial Fulfillment  
of the Requirements  
for the Degree of  
DOCTOR OF PHILOSOPHY

THE UNIVERSITY OF TEXAS AT ARLINGTON

May 2019

Copyright © by Han Ma 2019

All Rights Reserved



## **Acknowledgments**

I would like to thank my dissertation chair Dr. Narayanan Janakiraman and co-chair Dr. Zhiyong Yang for their patience and encouragement through all these five years. This dissertation would not have been possible without the support and guidance from these two great mentors. Thank you, Dr. Narayanan, for all your effort and patience to guide me through each stage in the research. You are always being there to provide the resources that I need, even financial ones. Thank you, Dr. Yang, for always believing in me and providing constructive advice to help me grow as a better researcher. I have learned so much from you, and I will carry this knowledge into my future academic career. I would also like to thank my dissertation committee members Dr. Ashok Lalwani and Dr. Traci Freling for providing me with insightful feedback and outstanding support. My grateful thanks are also extended to all the faculty and staff members in the UTA Marketing Department for always being supportive when I needed them. Further, I want to thank my fellow doctoral students, Sijie, Ashish, and Omar. Thanks for always having my back and helping me through my countless struggles.

I want to thank my mom and dad for their understanding and support for all these years. I greatly appreciated your respect for my decision to pursue my dream, even though that means we are thousands of miles apart. I would never have been able to come this far without your love, and I will be ever grateful to both of you. Last, but certainly not least, none of this would have been possible without the support of my fiancé, Hongchang Gao. You are my love, my friend, and my role model. Thank you for everything that you did for me.

May 2, 2019

## **Abstract**

### **TWO ESSAYS ON THE EFFECT OF POWER DISTANCE BELIEF ON CONSUMERS' DECISION MAKING IN THE RETAILING CONTEXT**

Han Ma, Ph.D.

The University of Texas at Arlington, 2019

Supervising Professor: Narayanan Janakiraman, Ph.D.

Co-supervising Professor: Zhiyong Yang, Ph.D.

Power distance belief (PDB) refers to the extent to which individuals expect and accept inequality and hierarchy. Recently studies have revealed that PDB impacts numerous aspects of consumer-related behaviors, such as impulsive buying, price-quality judgment, status consumption, and charitable behaviors. This dissertation aims to advance our knowledge of the effect of PDB on various consumer behaviors in the context of retailing. Specifically, Essay 1 explores the relationship between PDB and variety-seeking behavior. Using six studies with different operationalizations of PDB and variety seeking, I found the consistent result that high PDB consumers have a higher preference for the variety seeking than low PDB consumers. I argue that this difference is driven by high PDB consumers' propensity toward the boredom. Further, I found that externally inducing monotony or stimulation acted as boundary conditions to this effect. Essay 2 investigates the effect of PDB on discount evaluation. I propose that activating high-PDB among consumers enhances the appeal of discounts, and this leads to a greater preference for the discounted product. Further, I predict and show that categorization

tendency and perceived discount depth mediate the relationship between PDB and discount preference. Further, I show that either externally removing categorization tendency or altering discount magnitude would attenuate the effect of PDB on discount preference. In summary, the two essays together contribute to the literature on pricing strategy and product assortment management in the field of retailing.

## Table of Contents

Acknowledgments.....	iii
Abstract.....	iv
List of Figures.....	viii
List of Tables.....	ix
Essay 1: Power Distance Belief and Variety Seeking.....	1
Introduction.....	1
Theoretical Background.....	3
Power Distance Belief.....	3
Power Distance Belief and Boredom.....	4
Power Distance Belief, Boredom, and Variety Seeking.....	7
Experienced Monotony as Moderator.....	9
External Stimulation as a Boundary Condition.....	10
Methodology.....	11
Overview of the Studies.....	11
Pilot Study.....	11
Study 1A.....	13
Study 2.....	22
Study 3.....	24
Study 4.....	30
General Discussion.....	34
Theoretical Contributions.....	35
Managerial Implication, Limitations, and Future Research.....	36
Essay 2: Power Distance Belief and Discount Evaluation.....	39
Introduction.....	39
Theoretical Background.....	40
Power Distance Belief and Categorization.....	40
Categorization, Discount Depth, and Purchase Intention.....	42
Methodology.....	44
Overview of Study.....	44
Study 1.....	45
Study 2.....	48
Study 3.....	51

Study 4 .....	57
General Discussion .....	59
Theoretical Contributions .....	60
Managerial Implication.....	60
Appendix A: Essay 1 .....	62
A1: Example of Variety Seeking Task .....	62
A2: Stimuli for High External Stimulation (Study 4) .....	63
Appendix B: Essay 2.....	64
B1: Product Stimuli (Study 1, 2, 4).....	64
B2: Product Stimuli (Study 3).....	65
Appendix C: Measurements.....	66
Reference .....	69

## List of Figures

Figure 1: Essay 1 Overall Conceptual Model .....	11
Figure 2: The Effect of Monotony Conditions on the Relationship Between PDB and Variety Seeking.....	29
Figure 3: The Effect of Background Color on the Relationship Between PDB and Variety Seeking.....	32
Figure 4: Essay 2 Overall Conceptual Model .....	44
Figure 5: Serial Mediation Analysis Result .....	50
Figure 6: The Effect of Categorization Opportunity on the Relationship Between PDB and Purchase Intention Toward the Discounted Product.....	53
Figure 7: The Effect of Discount Magnitude on the Relationship Between PDB and Purchase Intention Toward the Discounted Product .....	58



## **List of Tables**

Table 1: Main Effect Result for Variety Seeking (Study 1A) .....	19
Table 2: Regression Results of Moderators on Variety Seeking (Study 1A) .....	20

## Essay 1: Power Distance Belief and Variety Seeking

### Introduction

Variety seeking—that is, a tendency for consumers to switch between brands across successive purchase occasions (Kahn 1995)—is prevalent among consumers worldwide (Tang and Chin 2007; Trijp, Hoyer, and Inman 1996). Sixty-one percent of surveyed consumers reported that they had switched brands at least once in the last year, which cost companies \$1.31 trillion each year (Urbanski 2013). To meet consumers' need for diverse experiences; marketers strive to provide more varied product assortments on the shelf. For example, when you walk into a local supermarket, you may find 27 varieties of Crest, 11 flavors of Cheerios, and 25 formulations of Head & Shoulders shampoo (Consumer Reports, 2014).

Decades of work acknowledges the importance of this phenomenon, and as a result, researchers have identified various factors that influence consumers' variety-seeking behavior, such as mood (Lin and Lin 2012; Kahn and Isen 1993; Roehm and Roehm 2005), social influences (Ariely and Levav 2000; Choi et al. 2006; Etkin 2016; Ratner and Kahn 2002), individual differences; e.g., political ideology, optimum stimulation level, chronic indecisiveness (Fernandes and Mandel 2014; Jeong and Drolet 2016; Menon and Kahn 1995b; Steenkamp and Baumgartner 1992), product characteristics (Baltas, Kokkinaki, and Loukopoulou 2017; Inman 2001; Trijp et al. 1996), decision-making context (Read et al. 2001; Simonson 1990; Wu and Kao 2011)

The existing literature has, however, devoted limited attention to the role played by culture on consumers' variety seeking (Kim and Drolet 2003; Yoon et al. 2011). Yet some evidence suggests that variety seeking may vary across different cultures. For example, using

panel data, the brand-switching rate across four grocery categories among Dutch customers ranged from 4.3% to 11.2% (Trijp et al. 1996), whereas Hong Kong consumers showed a relatively higher rate of brand switching, ranging from 20.0% to 49.7%. In this research, I aim to study how power distance belief (PDB), an understudied cultural variable, influences consumers' variety-seeking behavior.

PDB is the degree to which individuals accept and endorse hierarchy and inequalities in society (Hofstede 1984, 2001). Although no previous research has directly examined the link between PDB and variety seeking behavior, extending previous research findings suggests that PDB may reduce variety-seeking behavior. One line of reasoning would be to extend work by Hofstede (1983) that finds that high PDB consumers tend to be more risk averse than do low PDB consumers. Wu and Kao (2011) find that more risk averse consumers seek less variety and often purchase familiar brands than do risk seeking consumers. Taken together, these set of findings suggest that high PDB consumers should be less variety seeking than low PDB consumers. Another line of reasoning would be to extend findings by Zhang, Winterich, and Mittal (2010) that suggests that high PDB are less impulsive in their purchasing than are low PDB individuals. Given that consumer impulsiveness is highly correlated with variety seeking (Punj 2011; Sharma, Sivakumaran, and Marshall 2010), this line of reasoning too would suggest that high PDB would be linked with less variety seeking. In contrast to the prior research extension suggestions, I propose the opposite, that is, that high PDB consumers are likely to be more variety seeking than low PDB consumers. Specifically, I argue that high PDB consumers are more sensitive to rules and regulations in the society, thus they are more likely to experience boredom and seek more variety. Further, if high PDB consumers' boredom is alleviated then it is likely to attenuate the relationship between PDB and variety seeking.

The issues I address in this research have significant implications for PDB and variety-seeking literature. First, my research represents a first attempt to explicitly examine the effect of PDB on variety seeking. Such an examination brings a new perspective to the current cross-cultural literature that is dominated by the individualism-collectivism dimension (Kim and Drolet 2003). In addition, I advance theory by showing that high PDB individuals are more likely to seek variety than low PDB consumers, and that this relationship is driven by a novel mediator, i.e., boredom. Furthermore, I identify external stimulation as the moderator that can attenuate the effect between PDB and variety seeking. In the next section, I flesh out the assumptions behind my predictions and present the studies.

## **Theoretical Background**

### ***Power Distance Belief***

Power distance belief (PDB) refers to the extent to which individuals expect and accept inequality and hierarchy (Hofstede 2001; Winterich and Zhang 2014; Zhang, Winterich, and Mittal 2010). PDB can be chronically accessible (e.g., high PDB cultures: Malaysia and Philippines; low PDB cultures: Norway and New Zealand), and can also be temporarily heightened by experiment priming (Lalwani and Forcum 2016; Winterich and Zhang 2014; Zhang et al. 2010). Recently, a handful of studies have revealed that PDB impacts numerous aspects of consumer-related behaviors such as impulsive buying (Zhang et al. 2010), price-quality judgement (Lalwani and Forcum 2016), status consumption (Gao, Winterich, and Zhang 2016; Kim and Zhang 2014), charitable behavior (Han, Lalwani, and Duhachek 2017; Winterich and Zhang 2014), and brand personality evaluations (Wang et al. 2018). However, the relationship between PDB and variety seeking has been underexplored. To the best of my

knowledge, there is no prior research investigating the relationship between PDB and variety seeking.

Although no study directly examines the relationship between PDB and variety-seeking behavior, some previous research suggests that high PDB consumers may have a preference for variety. For instance, Sparks (2005) found that retailers in the high PDB countries tend to have a larger product assortment compared with low PDB countries. Similarly, Roth (1995) found that brands which used an image that emphasized variety seeking and stimulation would have better market performance in the high (versus low) PDB countries, indicating that consumers with high PDB tend to have a higher preference for variety than their low PDB counterparts. Moreover, a recent meta-analysis (Taras et al. 2010), suggests that PDB on the individual level is positively correlated with openness to experience, which is a predictor of variety seeking (Olsen et al. 2016).

Notwithstanding the research cited above, these studies do not systematically examine and provide theoretical explanation for the relationship between PDB and variety seeking. Thus, a clearer theorization of the mechanism through which PDB affects variety seeking will advance our understanding about why high PDB consumers seek more variety. As discussed next, I expect that high (versus low) PDB consumers seek greater variety because of the boredom that is inherently induced from PDB.

### ***Power Distance Belief and Boredom***

Although there is no research on the relationship between PDB and boredom, indirect evidence indicates there may be a positive relationship between the two. For example, Sundberg et al. (1991) found participants from China and Lebanon (i.e., high PDB cultures) scored higher on boredom proneness scales than participants from the United States and Australia (i.e., low

PDB cultures). Further, the value of hierarchy was found positively correlated with “boredom and anger” (Gaygisiz 2010).

Compared with low PDB consumers, high PDB consumers may be more sensitive to rules and regulations. One major characteristic of high PDB cultures is that people believe everyone should have a “defined” place within the social order (Winterich and Zhang 2014). To keep everyone in his/her defined place, rules are more widely used in the social life. For example, a typical Chinese banquet has an implicit rule for seating, which is based on social standing. Similarly, in Korea and Japan, people must follow specific language rules when talking to someone superior in status. Rules and regulations are not only widely used but also often written more strictly in the high PDB cultures. For example, in an organizational setting, the job description is often tightly specified in the high PDB organization, with greater control over employees than low PDB organizations (Khatri 2009). Moreover, even the rules about the display of emotions are more demanding in the high PDB countries, in that employees are expected to restrain and suppress their emotions, such as anger (Grandey et al. 2010; Matsumoto, Yoo, and Nakagawa 2008). Hence, high PDB consumers may perceive that rules and regulations are more salient than low PDB consumers.

On the one hand, rules and regulations help define and guide social behavior, but on the other hand, they may restrict and paralyze individuals from doing whatever they want. Compared with low PDB individuals, high PDB individuals, whether they are in low or high status, need to restrain their urges and cannot do things that deviate from rules and regulations. For example, students should not speak out to teachers (Zhang et al. 2010) and supervisors should not consult with their subordinates since that indicates that the supervisors are weak and incompetent (Hui, Au, and Fock 2004). The feeling of constraint, i.e., one can not do whatever he/she wants, or one

must do whatever he/she does not want to do, is the major characteristic and central experience with boredom (Eastwood et al. 2012; Elpidorou 2017). For example, at the workplace, employees reported increased boredom under the strict organizational rules and control practices such as prohibiting talking or limit breaks (Fisher 1993). Similarly, other studies have found that formalized rules and routinized procedures may invoke boredom (Loukidou, Loan-Clarke, and Daniels 2009). Thus, high (versus low) PDB individuals are more likely to experience boredom because rules and regulations are more salient for them.

Confined by rules and regulations, individuals in high PDB cultures are expected to be specialized on one single task, rather than perform multiple tasks. For example, people comprising the different castes in India (which is a high PD country) have set roles like carpenter, plumber, cleaner and were not expected to deviate from those roles. In line with this idea, research found that frontline employees who have lower role autonomy—a characteristic that high PDB cultures shares because of its prescribed and tightly controlled work procedures and content—tended to engage less in extra-role brand building behaviors, such as providing constructive suggestions and spreading positive word of mouth (Morhart, Herzog, and Tomczak 2009).

Therefore, to champion the designated single task, individuals in the high PDB society may strive to improve it by dreadful repetitive practices, which inevitably results in monotony. Indeed, there is a deep belief rooted in some high PDB cultures, that “practice makes perfect” (Fwu and Wang 2006). One study has found that students from China (i.e. a high PDB culture) tend to learn from memorization through repetition, which is a way develop understanding (Kember 1996). In addition, in the organizational setting, research found Asian cultures (normally high in PDB) are more likely to use information technology, which can lead to

decision routinization and centralization (Teng et al. 1999). To summarize, high PDB individuals are more likely to experience monotony than low PDB individuals due to their defined roles in the society.

Research has shown that monotony is strongly related with boredom in the workplace setting. A handful of studies have found that employees whose jobs require repetitive movements (such as working on an the assembly line) reported higher ratings on boredom than those whose jobs require variation (Cummings, Gao, and Thornburg 2016; Grubb 1975; O’Hanlon 1981; Perkins and Hill 1985; Straussberger and Schaefer 2007). This relationship has also been supported in the experimental setting, where participants reported higher level of boredom when they engaged in the repeated task (e.g., guessing how many squares on the screen for 100 trials) than participants who didn’t (van Tilburg and Igou 2011; van Tilburg and Igou 2017).

### ***Power Distance Belief, Boredom, and Variety Seeking***

In previous section, I posited that high (versus low) PDB individuals are more likely to experience boredom, because they are more likely to live with stricter rules and regulations. Next, I discuss how the relationship between PDB and boredom influences the variety-seeking tendency.

Boredom is “the aversive experience of wanting, but being unable to engage in stimulating and satisfying activity”(Eastwood et al. 2012; Fahlman et al. 2013). This is such a ubiquitous experience that research found that 63% of U.S. participants reported that they experienced boredom at least once over the study period of 7 to 10 days (Chin et al. 2017). Past research described boredom as an aversive experience that is characterized as a state of low arousal (Milkulas and Vodanovich 1993; Vogel-Walcutt et al. 2012). As people have a need to maintain an optimal level of stimulation (Berlyne 1960; Steenkamp and Baumgartner 1992),



when individuals get bored, they may have a strong desire to escape their current situations and to seek something exciting and stimulating to achieve a higher level of arousal, such as unsafe driving (Dahlen et al. 2005), gambling (Blaszczynski, McConaghy, and Frankova 1990), and of course, variety seeking.

Variety seeking, which is simply alternating between familiar choices, will provide the stimulation that customers need and thus will enable them to escape from boredom (Steenkamp and Baumgartner 1992). Consumer research literature has shown the established relationship between boredom and variety seeking. For example, when consumers reported higher boredom in their dining experience, they had a higher intention of alternating among familiar restaurants and a higher intention to choose a new restaurant (Ha and Jang 2013). Similarly, Shen and Wyer (2010) found that participants who repeatedly employed the same decision rules, which would induce boredom, chose more different products in the later task. However, consumers do not have to experience boredom themselves before they engage in variety-seeking behavior. Research suggests that simply activating the concept of boredom prompts consumers to seek variety to the same extent (Fishbach, Ratner, and Zhang 2011). Fishbach, Ratner, and Zhang's (2011) study found that participants who were exposed to the concept of boredom (e.g., "boring" or "dull") were more likely to switch their decision for a snack in the second round in the later unrelated task, compared with those who exposed to the concept of loyalty (e.g. "loyal" or "reliable"). Therefore, I predict that variety seeking can help high PDB individuals alleviate boredom by provide adequate stimulation. To put it formally, I hypothesize the following:

*H<sub>1</sub>: Individuals high (versus low) in power distance belief have greater tendency to engage in variety seeking.*

*H<sub>2</sub>: The relationship between power distance belief and variety seeking is mediated by propensity to boredom.*

### *Experienced Monotony as Moderator*

To advance our understanding about the mediating role of boredom, I also examined potential moderators that may influence the effect of PDB on variety seeking. As I stated earlier, experiencing monotony can be the potential cause of boredom (O'Hanlon 1981). Boredom can be induced when participants are asked to do a series of repetitive tasks, such as counting the letters in a sentence (van Tilburg and Igou 2011); guessing the odds of a red versus a blue ball (van Tilburg and Igou 2017); and drawing simple patterns (van Tilburg and Igou 2011). Boredom can also be activated when participants recalled a boring episode, so that individuals do not need to actually engage in the repetitive tasks, but can simply recall such a repetitive and monotonous experience.

Experimentally manipulating the level of the monotony impacts the relationship between PDB and variety seeking, since the level of experience boredom changes accordingly. Therefore, I anticipate that, when participants are asked to recall a monotonous experience, low PDB consumers should increase their variety-seeking tendency, since their boredom has been made salient, thus they should behave like their high PDB counterparts. However, for high PDB consumers, their experienced boredom is already high, so there is little scope of elevating it further (i.e., ceiling effect). Hence, increasing the level of experience monotony should increase variety-seeking tendency for low PDB consumers, but not for high PD consumers, compared with control conditions.

Following the same logic, when participants are asked to recall a flexible and varied experience, high PDB consumers should reduce their variety-seeking tendency because their boredom has been alleviated. However, it should not impact low PDB consumers' variety

seeking tendency since their experienced boredom has already been low (i.e., floor effect). To put it formally, I hypothesize the following:

*H<sub>3a</sub>: High PDB consumers would decrease their variety seeking when their experienced monotony is low (versus control condition); whereas their preference for variety seeking would be unchanged when their experienced monotony is high.*

*H<sub>3b</sub>: Low PDB consumers would increase their variety seeking when their experienced monotony is high (versus control condition); whereas their preference for variety seeking would be unchanged when their experienced monotony is low.*

### ***External Stimulation as a Boundary Condition***

I have argued that high PDB individuals are more likely to engage in variety seeking to escape the experience of boredom than are low PDB consumers. The reason that high PDB individuals seek more variety is because that variety can help restore their agency and reestablish meaningfulness, which is an effective way to get out of boredom. But what will happen if high PDB individuals can alleviate boredom by other means?

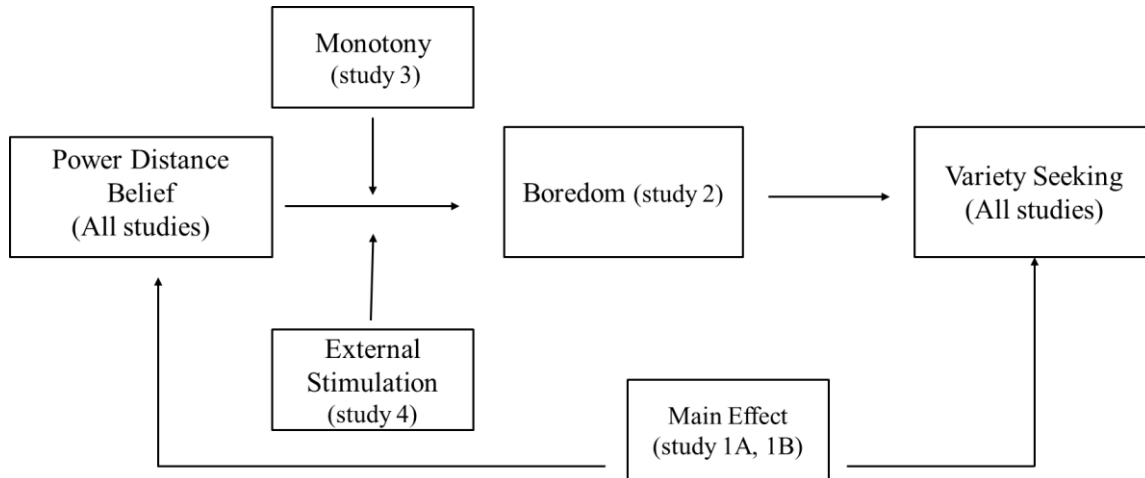
Struk, Scholer, and Danckert (2016) proposed that boredom can rise from both internal and external factors. People can get bored because they are unmotivated and not able to generate interest or engagement (internal factors), but at the same time they can also get bored because the need for stimulation cannot be satisfied in the environment (external factors). Experiencing boredom is often described as a “low arousal state” (Vogel-Walcutt et al. 2012, Mikulas and Vodanovich 1993). For example, one study has found that a prolonged target detection task—a task that participants most likely found boring—decreased participants’ heart rate over time (Pattyn et al. 2008). An optimum level of arousal and boredom rises when there is a mismatch between an individual’s need for arousal and the availability of environment stimulation.

Thus, if external stimulation (such as saturated color or highly pitched sound) is provided, high PDB individuals may behave no differently from low PDB individuals, since the boredom

is alleviated from exciting environments, even though their constrained agency stays the same.

To put it formally, I hypothesize the following:

*H<sub>4</sub>: The relationship between PDB and variety seeking is attenuated when the external stimulation is provided.*



**Figure 1: Essay 1 Overall Conceptual Model**

## Methodology

### *Pilot Study*

The purpose of the pilot study was to provide initial evidence of a positive relationship between PDB and variety seeking in the real life setting. I conducted the study in a local gourmet popcorn store in a major city in the United States. Customers were asked to indicate which flavors of popcorn they had just purchased. There were a total of 51 flavors of popcorn in the gourmet store, falling into three categories: sweet (18 flavors, e.g., cinnamon); savory (16 flavors, e.g., BBQ); and premium (17 flavors, e.g., dark chocolate). After they indicated their purchase, consumers were asked to complete the eight-item PDB scale developed and validated by Zhang et al. (2010) ( $\alpha = .73$ ). For example, one sample item was “Employees should be encouraged to express disagreement with their managers” (1 = Strongly disagree, 9 = Strongly agree).

As previous literature indicates that consumers choose more variety when they are purchasing for others than for themselves (Choi et al. 2006), I asked participants whether their purchase was for individual consumption or for as a gift. At the end of the survey, I asked customers to rate their satisfaction toward the popcorn store (1 = Extremely satisfied; 7 = Extremely dissatisfied).

## Result

Variety seeking was measured as the total number of categories customers purchased. For example, if customers only purchased 1 category of popcorn (e.g., 3 bags of sweet popcorn), the variety seeking is coded as 1. If customers purchase all three categories of popcorn (e.g., 1 bag of savory popcorn, 1 bag of sweet popcorn, and 1 bag of premium popcorn), the variety seeking is coded as 3. Therefore, the variety seeking in this study ranges from 1 to 3.

Two participants were removed from analysis due to an incomplete survey, leaving 89 participants in my final sample (84.6% female;  $M_{age} = 42.23$ ). As predicted, consumers' PDB was positively correlated with number of categories been purchased ( $r = .23, p = .03$ ).

To test whether there was a relationship between consumers' shopping purpose and their attitude toward the popcorn store, I ran a multiple regression. First, the shopping purpose was dummy coded (i.e., purchase as a gift = 1; purchase for self = 0). I then regressed variety seeking on PDB score, shopping purpose, and consumers' attitude toward the popcorn store. The relationship between PDB and variety seeking remained significant ( $b = .31, SE = .15, t = 2.08, p = .04$ ). However, neither shopping purpose ( $p = .76$ ), nor the attitude toward the store ( $p = .19$ ) significantly influenced variety seeking. All variances inflation factors (VIFs) were less than 2, indicating that multicollinearity was not a concern.

Using the real-life context, I was able to provide initial evidence that consumer's PDB is positively related with consumers' variety seeking. In next five studies, I will further validate my finding from the pilot study in a serial of lab experiments and a meta-analysis study.

### ***Overview of the Studies***

I tested my hypotheses in a pilot study and five studies and used a multimethod approach to ascertain the generalizability and robustness of the results (see Figure 1 for the conceptual framework). Study 1A, through a meta-analysis, provided initial evidence for the link between PDB and variety seeking at the country level, while controlling for other cultural, economic, and experiment design factors ( $H_1$ ). Study 1B and Study 2 examined the relationship between PDB and variety seeking using different ways to operationalize PDB, further indicating that PDB has a positive influence on variety seeking. Study 2 also demonstrated a propensity to boredom as the key mechanism underlying these effects ( $H_2$ ). Study 3 experimentally manipulated the experienced monotony to further confirm the mediating role of boredom ( $H_{3a}$  and  $H_{3b}$ ). Study 4 explored the moderating role of external stimulation: high PDB consumers will decrease variety seeking when they obtain the appropriate level of stimulation from external environment, such as background color of the survey ( $H_4$ ).

### ***Study 1A***

In study 1A, I conducted a meta-analysis to explore whether power distance belief has an effect on variety seeking.

### **Database Development**

For the meta-analysis, I identified relevant empirical work on variety seeking from different sources, including published papers from JSTOR, EBSCOhost, Emerald, and Google

Scholar, and unpublished papers from SSRN. I used the following keywords to identify relevant articles: *variety seeking*, *variety*, *perceived variety*, *consumer switching*, *varied assortment*, *assortment variety*, *diversification bias*. Among the articles identified this way, I found seminal articles exploring the variety-seeking phenomenon and reviewed the references of these articles for additional papers to be included in my meta-analytic database.

After identifying the first set of papers, I evaluated the pertinence of each one. I included only empirical studies that employed experimental designs in my dataset, thus excluding studies that were conceptual (Mcalister and Pessemier 1982) as well as studies using panel data (Kahn, Kalwani, and Morrison 1986) or survey instruments (Sharma et al. 2010). The approach yielded a total of 28 papers (including 27 published articles and one unpublished manuscripts), ranging from 1993 to 2017, which met my criteria and were included in my meta-analytic database, yielding a total of 199 effect sizes and 7,936 observations.

### Coding Procedures

I collected the means, standard deviations, and the sample size to calculate the effect size ( $r$ ). Specifically, I divided the participants' final numbers of chosen products/brands by the maximum choice size provided to measure the degree of variety seeking. For example, in a typical variety-seeking operation: participants were asked to choose five candies from five different brands, and they could have any combination they would like (Ratner and Kahn 2002). If participants chose 2 brands out of 5 brands provided, the degree of variety seeking ( $r$ ) was recoded as 0.4 (i.e.,  $2/5$ ).

To test the relationship between power distance and variety seeking tendency, I coded PDB using Hofstede's culture orientation score (<https://www.hofstede-insights.com/>). The higher

score indicates the higher level of PDB. In addition to PDB, I coded other four cultural dimension (individualism, uncertainty avoidance, masculinity, and long-term orientation) to control for their influence as previous studies indicate these cultural variables may also influence variety seeking (Kim and Drolet 2003).

To provide a more rigorous test on the relationship between power distance and variety seeking, I also included each country's GDP per capita and Gini coefficient as covariates. Studies have found that countries' PDB scores are negatively correlated with national economic performance (Hofstede 2001; Papamarcos and Watson 2006) and are positively correlated with unequal distribution of income (Basabe and Ros 2005; Husted 1999). Both GDP per capita and Gini coefficient came from the World Factbook.

Besides the cultural and economic factors mentioned above, I also coded experiment procedures that may influence participants' variety seeking. The first experimental factor I coded was choice of product type. Researchers employ various product categories for participants to choose from, ranging from hedonic products, such as ice cream and candies, to utilitarian products, such as highlighters and dish detergents. Inman (2001) found that consumers were more likely to switch between sensory attributes than nonsensory attributes. Therefore, I coded choice category to see whether participants seek more variety when the choice category is food than a nonfood category, which is less sensory arousing. The second experimental factor I coded is the decision frame (i.e., sequential choice versus simultaneous choice). Studies have shown that consumers display greater variety seeking when they were in the simultaneous condition than the sequential condition (Simonson 1990). The third experimental factor I coded was to see whether hypothetical choice differs from the real choice. Most of time, participants in the studies were asked to imagine making a choice, whereas in other cases participants made real choices



and received their choices as the reward at the end of the study (Goukens et al. 2007). It is possible that consumers under the real choice condition may perceive the scenario more realistically and thus may feel more accountable for their decisions, resulting in a higher level of variety seeking. Lastly, I coded student versus nonstudent samples to test whether sample characteristics may influence variety seeking, since research suggests that age can influence variety-seeking behavior (Novak and Mather 2007).

## Result

*Main Effect:* As shown in Table 1, the mean standardized  $r$  across the studies in my database was .742 ( $p < .001$ ) in the random effects model, which was significant as indicated by the 95% bootstrapped confidence interval around the mean ( $CI_{BS} = .731$  to  $.752$ ). This result suggests that, in general, consumers display a relative high level of variety seeking. Rosenthal's Fail-safe sample size ( $N_{FS} = 2,773$ ) indicated that this result was robust.

*Moderating Effects:* Although the main effect result showed a tendency toward variety seeking, there was substantial heterogeneity in it ( $\chi^2 = 776.43$ ,  $p < .001$ ), suggesting that an examination of key boundary conditions of variety seeking was warranted. The moderation analysis was performed through metaregression analysis using the CMA 3.0 software, with  $r$  as the common effect size metric. Independent variables included cultural factors (power distance, individualism-collectivism, uncertainty avoidance, masculinity, and long-term orientation); economic factors (GDP per capita and Gini coefficient); and experimental design factors (choice category, decision frame, hypothetical choice versus real choice, and student sample). I followed Lipsey, Wilson, and Lipsey's (2001) method and used a weighted least squares regression model to investigate the moderation effects. The generalized least squares (GLS) regression results presented in Table 2 identify significant moderators to variety seeking.

As predicted, a country's PDB score was positively related with variety seeking ( $\beta = 3.46$ ,  $Z = 3.44$ ,  $p = .001$ ). The other four cultural dimensions also significantly impact variety seeking (individualism:  $\beta = 2.22$ ,  $Z = 3.25$ ,  $p = .001$ ; uncertainty avoidance:  $\beta = .32$ ,  $Z = 3.48$ ,  $p < .001$ ; masculinity:  $\beta = -0.06$ ,  $Z = -1.93$ ,  $p = .053$ ; and long-term orientation:  $\beta = -.56$ ,  $Z = -3.18$ ,  $p = .001$ ). Moreover, I found that countries' economic development is positively related with variety seeking (GPD per capita:  $\beta = 1.20$ ,  $Z = 3.48$ ,  $p = .001$ ), whereas the unequal income distribution is negatively related with variety seeking (Gini coefficient:  $\beta = -1.69$ ,  $Z = -3.44$ ,  $p = .001$ ).

Among four experimental factors, only choice type ( $\beta = .16$ ,  $Z = 2.70$ ,  $p = .007$ ) and decision frame ( $\beta = -.12$ ,  $Z = -2.33$ ,  $p = .02$ ) came out significantly. I performed post-hoc univariate analyses on the choice type and simultaneous (versus sequential) choice. As I had predicted, I found that participants displayed greater variety seeking when the choice is food than nonfood ( $r_{\text{food}} = .76$ ;  $r_{\text{nonfood}} = .67$ ;  $\chi^2(1) = 51.79$ ,  $p < .001$ ). Consistent with literature, I also found that consumers sought greater variety when the decision was framed in simultaneous condition than sequential condition ( $r_{\text{simultaneous}} = .77$ ;  $r_{\text{sequential}} = .70$ ;  $\chi^2(1) = 41.84$ ,  $p < .001$ ).

## Discussion

In Study 1A, I used meta-analytic approach and provided evidence for H<sub>1</sub>. The result suggests consumers in high PDB cultures tend to seek greater variety than consumers in low PDB cultures, even after I controlled for the economic factors such as GDP per capita and Gini coefficient and other cultural variables. Despite the external validity it provided, Study 1A has its limitation, since it is possible that there are other underlying differences at the country level, which would influence-variety seeking behavior. To overcome these issues, I conducted subsequent studies on the individual level and explores the underlying mechanism of this finding.

### ***Study 1B***

Previous research demonstrates that PDB can also differ on the individual level (Lalwani and Forcum 2016; Winterich and Zhang 2014), as well as on the country level, such as that measured in Study 1A. The purpose of Study 1B is to examine whether individuals' PDB will influence consumers' variety seeking by using a cross-national sample (i.e., United States versus India). Further, I tested whether the influence of PDB on variety seeking was independent from self-construal, which is theoretically distinct from, but correlated with, PDB (G. H. Hofstede 2001; Lalwani and Forcum 2016).

#### **Participants, Design, and Procedure**

Ninety-six of Mechanical Turk participants were recruited in exchange for a small monetary payment (43.8% female;  $M_{age} = 33.58$ ). Following Hofstede (2001), participants from India ( $N_{Indian} = 46$ ) represented the high PDB group and participants from United States ( $N_{US} = 50$ ) represented the low PDB group. To assess PDB differences between these two countries, I measured participants' chronic belief using an eight-item PDB scale as in the pilot study ( $\alpha = .78$ ) (Zhang et al. 2010).

After participants indicated their agreement on the PDB scale, they were then instructed to complete the variety-seeking task. I adapted variety-seeking stimuli from Durante and Arsena (2015). Specifically, participants were asked to imagine that they needed to choose ice cream as their afternoon treat for the next 10 days at their place of work. I provided 15 flavors that are common in both countries (e.g., vanilla, chocolate, etc.) and participants were told that they could select as many or as few flavors as they would like. After participants read the scenario,

	Number of samples ( <i>k</i> )	Number of observations ( <i>N</i> )	Correlation ( <i>r</i> )	Standard Error	95% Confidence Interval ( <i>CI<sub>BS</sub></i> )	Unaccounted variance ( $\chi^2$ )	Fail-safe sample size ( <i>N<sub>fsR</sub></i> )
Variety Seeking	199	7936	.742***	.001	[.731, .752]	776.43***	2773

\*\*\* $p < .001$

**Table 1: Main Effect Result for Variety Seeking (Study 1A)**

	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z Value</b>
<b>Intercept</b>	.93***	.06	14.51
<b>GDP per capita</b>	1.20***	.35	3.48
<b>Gini Coefficient</b>	-1.69***	.49	-3.44
<b>Individualism</b>	2.22***	.68	3.25
<b>PDB</b>	3.46***	1.01	3.44
<b>Masculinity</b>	-.06***	.03	-1.93
<b>Long Term Orientation</b>	-.56***	.17	-3.18
<b>Uncertainty Avoidance</b>	.32***	.09	3.48
<b>Choice Category (food = 1; nonfood = 0)</b>	.16***	.06	2.70
<b>Decision Frame (sequential = 1; simultaneous =0)</b>	-.12**	.05	-2.33
<b>Hypothetical choice</b>	.03	.05	.63
<b>Student Sample</b>	-.07	.07	-.99

\*\*\*  $p < .001$

\*\*  $p < .05$

**Table 2: Regression Results of Moderators on Variety Seeking (Study 1A)**

they were instructed to select their flavor choice for each day with a provided dropdown list. I measured variety seeking as the number of unique ice cream flavors chosen out of the 15 flavors provided for 10 days as suggested in previous literature (Kahn and Isen 1993). For example, if the participant chose vanilla for 3 days, chocolate for 3 days and strawberry for 4 days in total, the variety seeking for this participant is calculated as 3 (i.e., vanilla, chocolate, and strawberry flavors).

To test whether the predicted relationship was influenced by consumers' self-construal, I measured consumers' self-construal at the end of the survey, using the 24-item scale developed by Singelis (1994) with 12 items ( $\alpha = .84$ ) on independent self-construal and 12 items ( $\alpha = .91$ ) on interdependent self-construal. A sample item to assess independence included, "I'd rather say 'no' directly, than risk being misunderstood." A sample item to assess interdependence included, "It is important for me to maintain harmony within my group." All 24 items were measured in Likert style (1 = "strongly disagree"; 7 = "strongly agree"). I deducted interdependent subscale from independent subscale to calculate the self-construal index.

## Result

As expected, Indian participants scored higher on the PDB scales than American participants ( $M_{\text{India}} = 5.09$ ,  $SD = .50$  versus  $M_{\text{US}} = 4.63$ ,  $SD = .81$ ;  $t(94) = 3.33$ ,  $p = .003$ ).

I measured variety seeking by the unique flavors that participants chose, ranging from 1 to 10. As I predicted, participants from India chose more unique flavors of ice cream compared with participants from the United ( $M_{\text{India}} = 8.73$ ,  $SD = 1.50$  versus  $M_{\text{US}} = 7.62$ ,  $SD = 2.52$ ;  $t(94) = 2.61$ ,  $p = .01$ ).

Next, to test whether my observed result was driven by consumers' self-construal, I conducted an ANCOVA with consumers' self-construal as the control variable. The main effect

of PDB on variety seeking remained significant ( $F(1, 93) = 4.17, p = .04$ ), whereas self-construal did not significantly impact variety seeking ( $F(1, 93) = 2.50, p = .12$ ).

### Discussion

The results of Study 1B is consistent with my previous finding from the meta-analysis. My result suggests that consumers in high PDB prefer greater variety than those in low PDB on the individual level, and that the effect of PDB on variety seeking acts independently from self-construal, thus supporting H<sub>1</sub>.

### *Study 2*

So far, I have used nationality operationalize PDB. Thus, the relationship between PDB and variety seeking is correlational in nature. Previous research has shown that PDB can be situationally activated by priming task (Lalwani and Forcum 2016; Zhang et al. 2010). In study 2, I manipulated power distance to overcome this limitation and aimed to establish the casual role of PDB on variety seeking. Moreover, in this study I aimed to show boredom as the underlying mechanism why high PDB consumers seek greater variety.

### Participants, Design, and Procedure

One hundred and forty-three members of Amazon Mechanical Turk signed up as participants to complete the study in exchange for a small monetary payment (59.4% female;  $M_{\text{age}} = 37.76$ ).

I used a sentence-completion task developed by Zhang, Winterich, and Mittal (2010) to elicit PDB and asked participants to form meaningful sentences from sets of scrambled words. In the high PDB condition, participants needed to complete 10 sentences related to social hierarchy. A sample sentence was, “Hierarchy is necessary for our social order.” In the low-PDB conditions,

participants needed to complete similar 10 sentences; however, these were related to social equality. A sample sentence was, “Hierarchy is unnecessary for our social order.”

After completing the sentence-completion task, participants continued the similar variety seeking task described in study 1B, with two exceptions. First, I changed ice cream flavors to candy brands, which are commonly used in the literature (Durante and Arsena 2015; Ratner and Kahn 2002; Roehm and Roehm 2005). Second, participants were asked to choose from 20 brands over 15 days, instead of 15 flavors over 10 days. As in the pilot study and study 1B, variety seeking was measured by the unique candy brands that were chosen, thus ranging from 1 to 15.

After participants made their choices, I measured participants’ state of boredom using the four-item, seven-point scale adapted from Fahlman, Mercer-Lynn, Flora, & Eastwood (2013) ( $\alpha = .91$ ). A sample item was, “At this moment, I feel bored,” anchored by 1 = “strongly disagree”, 7 = “strongly agree.” Higher scores represented higher propensity to boredom. At the end of the study, I used the three-item scales developed and validated by Zhang, Winterich, & Mittal (2010) ( $\alpha = .94$ ) as the manipulation check for my PDB prime. A representative item of the scale was, “For the time being, I mainly think that ...,” with endpoints 1 = “social equality is important” and 9 = “social hierarchy is important.”

## Result

*Manipulation check:* The manipulation of sentence scrambling was successful. Participants in the high PDB condition perceived the social hierarchy as more important than participants in the low PDB condition ( $M_{\text{highPDB}} = 3.41$ ,  $SD = 2.24$  versus  $M_{\text{lowPDB}} = 2.67$ ,  $SD = 1.96$ ;  $F(1,141) = 4.39$ ,  $p = .04$ ).

*Boredom as mediator:* I used Preacher and Hayes' (2008) bootstrapping procedure and corresponding SPSS macro (model 4) to test for a significant indirect effect of the PDB prime on



variety seeking tendency via consumers' state boredom, and I performed 5,000 bootstrap resamples.

The result of my analysis revealed a significant indirect effect of participants' PDB on their variety seeking related to the boredom ( $b = .32$ ,  $SE = .20$ ; 95% CI [.0433, .8640]. Consistent with results presented above, priming condition significantly predicted state boredom ( $b = .71$ ,  $SE = .28$ ;  $t = 2.59$ ,  $p = .01$ ). Furthermore, consistent with the logic of my hypothesis, as the state of boredom increased, so did a preference for variety seeking ( $b = .45$ ,  $SE = .21$ ;  $t = 2.16$ ,  $p = .03$ ). Although the total effect was not significant ( $b = -.25$ ,  $SE = .69$ ;  $t = -.36$ ,  $p = .72$ ), the establishment of mediation does not require a significant total effect (Zhao, Lynch, and Chen 2010). These results indicate that the effect of PDB prime on participants' variety-seeking preference was mediated by the increased state of boredom.

### Discussion

In Study 2, I replicated my findings in previous studies, but I manipulated PDB, rather than measuring it, further indicating that my result is robust. More importantly, in this study, I showed that boredom was the underlying reason that drives high- versus low-PDB consumers to seek greater variety.

### **Study 3**

Research suggests that boredom can be induced through monotonous and repetitive tasks (Fahlman et al. 2013). Moreover, exposing participants to the concept of repetition and boredom would also increase boredom (Fishbach, Ratner, and Zhang 2011). In this study, I asked participants to recall a boring (i.e., repetitive and monotonous) experience to directly manipulate participants' boredom. I predicted that participants in the low PDB condition would seek more variety when they recalled a repetitive and monotonous experience (versus the control condition),

whereas participants in the high PDB condition would seek less variety when the experience they recalled was more flexible and less monotonous (versus control condition).

The second aim of this study is to generalize my finding by using a different method to measure variety seeking, namely, the switch from previous option. In the variety seeking literature, the phenomenon has mainly operated in two ways: the unique brands/product chosen—as I measured in Study 1B and Study 2—and the measure of alternation, which is the number of switches from previous option (Kahn and Isen 1993; Roehm and Roehm 2010). To illustrate, a 5-sequential choice pattern is as {A, B, A, B, A}. In this case, the unique number of choices for this set is 2, whereas the switch number is 4. In this study, I employed consumer switch as my dependent variable to generalize my findings.

### Participants, Design, and Procedure

Two hundred and fifty-one members of MTurk participants completed the study in exchange for a small monetary payment (61.4% female;  $M_{\text{age}} = 36.14$ ).

The study was a 2 (PDB prime: high versus low) x 3 (monotony: high versus low versus control) between-subject design. Participants first completed the PDB priming using the sentence scrambling task as in Study 3.

Participants were then randomly assigned to three conditions: high monotony, low monotony, and control. Participants were asked to describe a MTurk study that they completed in the recent past. In the high monotony condition, the study needed to be extremely monotonous, repetitive, and rigid; whereas in the low monotony condition, the study needed to be extremely flexible and not at all monotonous. Participants in the control condition were just asked to describe a typical MTurk survey without information of repetition nor monotony. A pre-test ( $N =$

244 Mturk participants;  $M_{age} = 36.27$ ,  $SD = 12.02$ , 61.2% female) indicated the monotony manipulation significantly influenced participants' experienced boredom ( $F(2, 241) = 7.39$ ,  $p = .001$ ). The boredom was measured with the same four-item scale ( $\alpha = .88$ ) used in Study 2. A LSD post-hoc analysis revealed that participants felt higher boredom in the high monotony condition ( $M_{high} = 4.32$ ,  $SD = 1.47$ ) than in the control condition ( $M_{high} = 4.32$ ,  $SD = 1.47$  versus  $M_{control} = 3.78$ ,  $SD = 1.79$ ,  $p = .03$ ) and low monotony condition ( $M_{low} = 3.29$ ,  $SD = 1.57$ ,  $p < .001$ ). Participants in the low monotony condition indicated a lower level of boredom than those in the control condition, though the difference is marginally significant ( $M_{low} = 3.29$ ,  $SD = 1.57$  versus  $M_{control} = 3.78$ ,  $SD = 1.79$ ,  $p = .056$ ).

After the writing task, I measured the participants' variety seeking using the same candy choice task as in the previous Study 2. As discussed above, I measured variety seeking by counting consumers' switches from their previous choice. Since participants were asked to choose candies for next 15 days, the maximum switches would be 14, whereas the minimum switches would be 0.

After participants indicated their choice, I measured the manipulation check for PDB prime using the same three-item scales ( $\alpha = .96$ ) used in Study 3 (Zhang et al. 2010). I construed a three-item scale ( $\alpha = .72$ ) to check the manipulation of the monotony tasks: "At this moment, I feel that everything in life seemed repetitive and routine to me"; "At this moment, I feel there is not much opportunity for me to decide for myself how to do things in my daily life"; and "At this moment, I feel like I am free to decide for myself how to live my life (recoded)." All these three items are on seven-point Likert scales.

## Result

*Manipulation check:* I first ran a two-way ANOVA with PDB prime and monotony manipulation as independent variables and PDB manipulation check items as dependent variables. The result revealed a significant main effect: participants in the high (versus low) PDB conditions reported greater momentarily accessible PDB ( $M_{\text{hPDB}} = 3.93$ ,  $SD = 2.53$  versus  $M_{\text{lPDB}} = 3.15$ ,  $SD = 2.40$ ,  $F(1, 245) = 5.77$ ,  $p = .02$ ). The main effect of monotony manipulation ( $F(2, 245) = .58$ ,  $p = .56$ ) and the two-way interaction between PDB and monotony manipulation ( $F(2, 245) = .13$ ,  $p = .88$ ) were not significant. Thus, the manipulation of PDB is significant.

I then ran a similar a two-way ANOVA with PDB prime and monotony manipulation as independent variables and monotony check items as dependent variables. Only the main effect of monotony manipulation is significant ( $F(1, 245) = 3.93$ ,  $p = .02$ ). A planned comparison revealed that participants who recalled a flexible and less monotonous MTurk study scored significantly lower than those in the high monotony condition ( $M_{\text{low}} = 3.16$ ,  $SD = 1.37$  versus  $M_{\text{high}} = 3.67$ ,  $SD = 1.34$ ;  $p = .03$ ), and control condition ( $M_{\text{low}} = 3.16$ ,  $SD = 1.37$  versus  $M_{\text{control}} = 3.74$ ,  $SD = 1.55$ ;  $p = .01$ ). There was no significant difference between high monotony and control condition ( $M_{\text{high}} = 3.67$ ,  $SD = 1.34$  versus  $M_{\text{control}} = 3.74$ ,  $SD = 1.55$ ;  $p = .73$ ). Neither the main effect of PDB prime ( $F(1, 245) = 2.90$ ,  $p = .09$ ) nor the interaction effect between PDB prime and monotony manipulation ( $F(2, 245) = .11$ ,  $p = .89$ ) was significant.

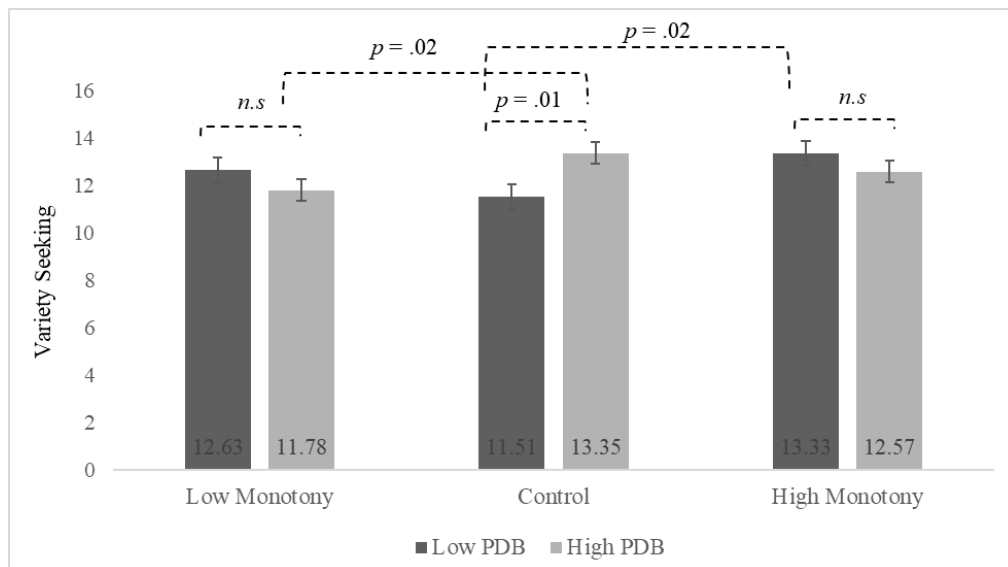
*Monotony as Moderator:* I conducted a two-way ANOVA with PDB prime, monotony manipulation as independent variable and consumers' switches as dependent variable. The analysis indicated there were no main effects of PDB prime ( $F(1, 245) = .031$ ,  $p = .86$ ), or main

effects of monotony manipulation ( $F(1, 245) = .97, p = .38$ ), but more importantly, it revealed a significant interaction effect ( $F(1, 245) = 4.52, p = .01$ ).

To decompose the interaction, I ran two separate ANOVAs to compare high (low) monotony condition with the control condition. In the first ANOVA, I compared high monotony condition with the control condition, with the PDB prime and monotony manipulation as independent variables and variety seeking as dependent variable. The PDB and monotony interaction was significant ( $F(1, 174) = 7.06, p = .01$ ). The result revealed no significant effect of PDB prime ( $F(1, 174) = 1.23, p = .27$ ), nor the monotony manipulation ( $F(1, 174) = 1.14, p = .29$ ). I ran two sets of contrasts (see Figure 2). First, I compared high PDB with low PDB participants within each monotony condition. I was able to replicate my previous findings that in the control condition, high PDB participants sought more variety than their low PDB counterparts ( $M_{\text{hPDB}} = 13.35, SD = 1.82$  versus  $M_{\text{lPDB}} = 11.51, SD = 4.74, F(1, 97) = 6.38, p = .01$ ). In contrast, there was no significant difference between high PDB and low PDB participants across high monotony condition ( $M_{\text{hPDB}} = 12.57, SD = 3.43$  versus  $M_{\text{lPDB}} = 13.33, SD = 1.56, F(1, 77) = 1.58, p = .21$ ).

Then I ran a second contrast to test how high PDB and low PDB participants behaved across different monotony conditions respectively. I found that high PDB participants showed a similar level of variety seeking when they recalled a repetitive and monotonous MTurk experience, compared with those in the control condition ( $M_{\text{high}} = 12.57, SD = 3.43$  versus  $M_{\text{control}} = 13.35, SD = 1.82, F(1, 86) = 1.85, p = .18$ ). However, low PDB participants sought greater variety when they were in high monotony condition than those who were asked to recall a typical MTurk study ( $M_{\text{high}} = 13.33, SD = 1.56$  versus  $M_{\text{control}} = 11.51, SD = 4.74, F(1, 88) = 5.32, p = .02$ ).  $H_{3a}$  was supported.

I then conducted a second ANOVA to compare low monotony condition and control condition (see Figure 2). Again, only the interaction effect between PDB prime and monotony manipulation came out significant ( $F(1, 168) = 5.58, p = .02$ ). All other effects were not significant (PDB prime:  $F(1, 174) = .75, p = .39$ ; monotony manipulation:  $F(1, 174) = .15, p = .70$ ). Similarly, I ran two contrasts where the first contrast was between high and low PDB participants, and the second contrast was between low monotony condition and control condition. Again, I replicated my previous finding that high PDB (versus low PDB) participants had greater variety seeking in the control condition ( $M_{\text{hPDB}} = 13.35, SD = 1.82$  versus  $M_{\text{lPDB}} = 11.51, SD = 4.74, F(1, 97) = 6.38, p = .01$ ), whereas this difference was attenuated in the low monotony condition ( $M_{\text{hPDB}} = 11.78, SD = 4.21$  versus  $M_{\text{lPDB}} = 12.63, SD = 3.31, F(1, 71) = .93, p = .34$ ).



**Figure 2: The effect of monotony conditions on the relationship between PDB and variety seeking**

When high PDB participants recalled a flexible and less monotonous experience, they switched much less than those in the control condition ( $M_{\text{low}} = 11.78, SD = 4.21$  versus  $M_{\text{control}} = 13.35, SD = 1.82, F(1, 83) = 5.39, p = .02$ ). However, this difference was not significant for

those with low PDB ( $M_{\text{low}} = 12.63$ ,  $SD = 3.31$  versus  $M_{\text{control}} = 11.51$ ,  $SD = 4.74$ ,  $F(1, 85) = 1.52$ ,  $p = .22$ ).  $H_{3b}$  was supported.

## Discussion

Study 3 replicated my previous findings that high PDB (versus low PDB) participants sought greater variety when they were in the control condition. However, this difference was not significant for both high and low monotony conditions.

More importantly, Study 3 showed that low PDB individuals sought greater variety when they recalled a rigid and monotonous experience (versus control condition), resulting from the induction of boredom from the monotony manipulation. Moreover, there was no significant difference in variety seeking between participants in the low monotony condition and control condition.

On the other hand, when the task was less repetitive and more flexible for high PDB participants, they sought less variety compared with those in the control condition; whereas there was no significant difference between high monotonous condition and control condition. Because high PDB individuals already have a high level of boredom, their boredom may not rise much when they recalled a boring experience (i.e., monotonous task), indicating a ceiling effect. However, when they were asked to recall a flexible and less monotonous experience, high PDB individuals' boredom may be well released, thus showing a relative low level of variety seeking since the need has been met.

## ***Study 4***

In this study, I aimed to identify a boundary condition for the relationship between PDB and variety seeking. In previous studies, I showed that high PDB consumers had a higher need

for variety because of their higher need to deviate from the boredom. Previous studies documented that low arousal due to inadequate external stimulation may cause boredom (Mikulas and Vodanovich 1993), and individuals may cope with boredom by engaging stimulating activities such as unsafe driving (Dahlen et al. 2005) and gambling (Blaszczynski et al. 1990). Thus, I hypothesized that an appropriate level of stimulation may mitigate the experience of boredom and that high PDB consumers will not seek variety, since they can escape from boredom from other sources.

In Study 4, I explored the role of external stimulation as the boundary condition for the relationship between PDB and variety seeking. In this study, I manipulated the external stimulation level by varying website background color, as done previously by Menon and Kahn (2002).

#### Participants, Design, and Procedure

One hundred and forty members of MTurk participants completed the study in exchange for a small monetary payment (38.6 % female,  $M_{age} = 31.99$ ). The study was a 2 (background color: red versus control) x 2 (PDB: high versus low) between-subjects design.

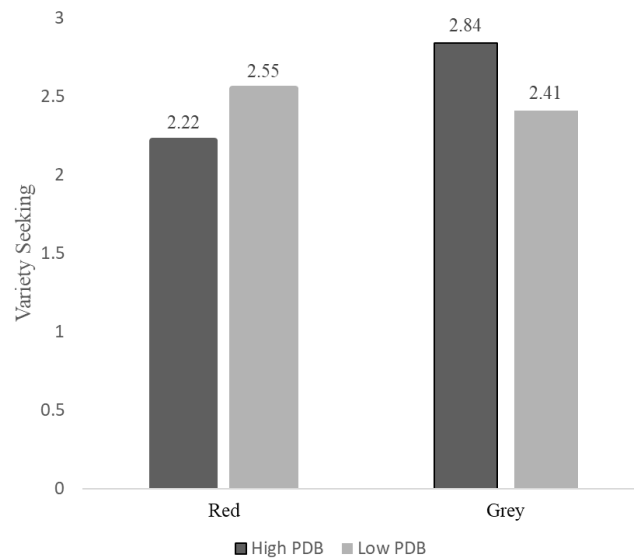
Participants were randomly assigned with two different background colors: red (i.e. high arousal condition) and control (i.e. low arousal condition). In the red condition, I designed the background screen color into bright red which surrounded the question block, with the “next button” also been designed as red. In the control condition, the background screen color and the “next button” were displayed in grey. I chose these two colors based on prior research on color and their arousal effects among websites (Menon and Kahn 2002). Participants completed the study with the background color that they were assigned. Participants first completed the PDB manipulation task by unscrambling the correct sentence, the same manipulation that I used in



Study 2 and Study 3. Then participants moved to the product choice task. In this study, to generalize my finding, I measured consumers' variety seeking among four common snack brands. Participants were asked to imagine that they were going to buy snacks for next four weeks and could choose from four different brands: Herrs-Potato Chips, Frito Corn Chips, Cheetos Cheese Curls, and Dorito Tortilla Chips (Menon and Kahn 1995a). As in Study 3, I used consumer switch as my dependent variable, which ranged from 0 to 3 with the higher score indicating greater variety seeking.

### Result

I conducted two (background color: red versus control) x 2 (PDB: high versus low) ANOVA and the result revealed a significant interaction effect between PDB and background color ( $F(1, 136) = 4.70, p = .03$ ). Neither the main effect of PDB ( $F(1, 136) = .10, p = .76$ ), nor background color ( $F(1, 136) = 1.94, p = .17$ ) was significant.



**Figure 3: The effect of background color on the relationship between PDB and variety seeking**

To further explore the direction of the interaction effect, I ran simple contrasts. When the survey background was grey, i.e., low arousal condition, high PDB consumers sought more

variety than their low PDB counterparts, which replicated my previous finding ( $M_{\text{hpdb}} = 2.84$ ,  $SD = .53$  versus  $M_{\text{lpdb}} = 2.41$ ,  $SD = .99$ ,  $F(1, 136) = 5.35$ ,  $p = .02$ ). When the survey background was red, there was no significant difference on variety seeking between high and low PDB consumers ( $M_{\text{hpdb}} = 2.22$ ,  $SD = 1.26$  versus  $M_{\text{lpdb}} = 2.55$ ,  $SD = 1.06$ ,  $F(1, 136) = 1.21$ ,  $p = .27$ ).

More importantly, as I predicted, high PDB consumers sought less variety when the background was red (i.e., high arousal) than grey (i.e., low arousal) ( $M_{\text{red}} = 2.22$ ,  $SD = 1.26$  versus  $M_{\text{grey}} = 2.84$ ,  $SD = .53$ ,  $F(1, 136) = 5.73$ ,  $p = .02$ ). For low PDB consumers, there was no significant difference on variety seeking between two background color conditions ( $M_{\text{red}} = 2.55$ ,  $SD = 1.06$  versus  $M_{\text{grey}} = 2.41$ ,  $SD = .99$ ,  $F(1, 136) = 1.21$ ,  $p = .27$ ).

### Discussion

In Study 4, I identified a boundary condition for the effect of PDB on variety seeking. Specifically, I found that when providing high PDB consumers with appropriate level of stimulation (i.e., red webpage background color), they behaved no differently from their low PDB counterparts. Further, I showed that the attenuation of the relationship between PDB and variety seeking in the red condition was driven by high PDB consumers. High PDB consumers' preference for variety seeking is due to their desire to deviate from boredom. Thus, when appropriate external stimulation is provided, high PDB consumers are able to alleviate the boredom without engaging in variety seeking. The finding indirectly evinced that the relationship between PDB and variety seeking was mediated by boredom, that high PDB consumers reduce variety seeking when their boredom is mitigated by other external sources (e.g., appropriate external stimulation).

## **General Discussion**

My goal in the current research was to examine the link between PDB and variety seeking, as well as the underlying mechanism. A series of six studies revealed that high PDB individuals seek more variety than low PDB individuals, and that this relationship is driven by high PDB individuals' greater tendency to experience boredom. Study 1A provided the initial evidence by summarizing a vast range of literature, showing that consumers' PDB positively related with their variety seeking, after controlling for economic factors and other cultural variables. Study 1B found that Indian participants who were from high PDB culture displayed a greater degree of variety seeking than participants from the United States, who were from a low PDB culture, and the effect remained after I controlled participants' self-construal. In Study 2, I further replicated the main effect by manipulating participants' PDB and more importantly, provided evidence for the mediating role of the boredom. Study 3 further demonstrated the mechanism underlying the relationship between PDB and variety seeking by manipulating different levels of boredom. Specifically, I found that for high PDB consumers, compared with the control condition, their variety seeking decreased when they experienced boredom was low; however, there was no significant difference on variety seeking between high boredom condition and control condition (i.e., ceiling effect). For low PDB consumers, compared with the control condition, their variety seeking increased when they experienced boredom was high; however, there was no significant difference on variety seeking between low boredom condition and control condition (i.e., floor effect). When experienced boredom is low (versus control condition), high PDB consumers' variety seeking decreased significantly; when experienced boredom was high (versus control), low PDB consumers' variety seeking increased significantly. Finally, Study 4 revealed that when potential external stimulation was provided, the effect of PDB on variety seeking was attenuated,

since boredom could be eliminated with adequate arousal level. Collectively, the five studies provided converging and robust evidence for the role of PDB in variety seeking on both the country level (Study 1A and 1B) and on the individual level (Study 2, 3, and 4).

### ***Theoretical Contributions***

My findings offer contributions to the variety-seeking literature by identifying an understudied cultural influencer: PDB. Previous literature on consumers' variety seeking devoted limited attention to the role played by culture, and most of literature focuses on the dimensions of collectivism and individualism. Research shows consumers in individualist cultures seek more variety in satisfying their self-expression needs as displaying uniqueness than do those in collectivist cultures (Kim and Drolet 2003; Yoon et al. 2011). At first glance, this research seemed contradictory to my finding, since the dimension of PDB and collectivism-individualism is correlated on the country level (Hofstede 2001). However, it is questionable to equate PDB and individualism-collectivism. First, it is possible for countries to be high in collectivism and low on PDB (e.g., Costa Rica) and low on collectivism but high on PDB (e.g., South Africa). Second, there is mixed evidence showing the relationship between the two. Rathod and Miranda (1999) found lower level of interdependence when power distance belief was high. Third, the correlation between PDB and individualism-collectivism made by Hofstede (2001) may be spurious, since the relationship between the two disappeared after controlling for national wealth. More importantly, empirically, my finding remained significant after I controlled for the individualism-collectivism, both on the country level (study 1A) and on the individual level (Study 1B). These results indicated that my finding is robust and independent from the individualism-collectivism.

Further, revealing boredom as the mechanism underlying the relationship between PDB and variety seeking—that is, high PDB consumers seek more variety than low PDB consumers because of their propensity to boredom—contributes to the literature of PDB by identifying a novel downstream effect. Previous research indicates PDB may influence consumer behaviors through motivational route (e.g., need for status, Gao et al. 2016; Kim and Zhang 2011) and cognitive route (e.g., preference for order, Lalwani and Forcum 2016); however, my finding shows that PDB can also influence consumer behaviors through the affective route. Specifically, I argue that high PDB consumers may be more vulnerable to boredom than low PDB consumers because of their sensitivity to rules and regulations. I demonstrate the mediating role of boredom by both measuring it (Study 2) and directly manipulating it (Study 3). Study 4 further revealed the role of boredom by identifying a boundary condition. Specifically, by providing the external stimulation (e.g., bright color), high PDB consumers may be able to escape from boredom. Thus, they don't have the motivation to engage in variety seeking as their boredom has been elevated from other means. My finding that high PDB consumers have a greater propensity to boredom answers the call for more literature on culture and consumers' emotion (Cordaro et al. 2018)).

### ***Managerial Implication, Limitations, and Future Research***

This research offers several managerial and practical implications as well. Retailers that operate in the multicultural market (e.g., Walmart) may need to adapt their store stocking based on consumers' cultural background. In low PDB cultures, retailers may be able to carry a relatively narrow range of products and focus on better known or dominant product. In contrast, retailers in high PDB cultures may need to carry a wider range of products, as high PDB consumers are more likely to diversify their choices. However, carrying a wide range of stock may bring more costs for retailers and even more of a burden for small retailers. Thus, small

retailers can utilize the store environment by painting the wall in bright colors or playing arousing music (rather than soothing) in the store to discourage high PDB's variety seeking. Further, companies can also adapt their advertising and promotion materials to promote customer loyalty (i.e., discouraging variety seeking) by emphasizing equality and egalitarianism. For example, Nike has the campaign to advocate equality with the slogan "The ball should bounce the same for everyone" and "Equality has no boundaries."

The current investigation has several limitations. First, I was able to investigate the effect of PDB on variety seeking in limited products categories, and mainly in the experiential categories (e.g., ice cream, candies, snacks, and popcorn). Future research should examine whether the findings may be generalized to functional product categories, as PDB may affect the information processing that the acceptance of hierarchy would induce instrumental (versus consummatory) motivations (Tu and Zhang 2017), which would further influence consumers' choice decisions (Botti and McGill 2011). Second, participants in my studies were asked to choose for themselves. Previous literature suggests that consumers may behave differently when they choose for others compared with choosing for themselves (Kim, Choi, and Yi 2006). Future study should examine whether choosing for others, especially between choosing for bosses (i.e., superordinate) and employees (i.e., subordinate), can be the potential moderator between PDB and variety seeking. It is possible that high PDB consumers would display more variety seeking when they choose for bosses than employees, since choosing for bosses is more accountable. However, for low PDB consumers, the variety seeking may be no different when choosing for bosses and employees since they believe everyone should be equal and the boss is no more superior than employees. Lastly, in the current research, I found that high PDB consumers seek more variety than low PDB consumers because of their propensity to boredom. Besides variety

seeking, nostalgia has also been found to be the antidote to boredom (Van Tilburg, Igou, and Sedikides 2013). It is worthwhile to test whether high PDB consumers will be more attracted to the advertisement using nostalgia appeal.

## **Essay 2: Power Distance Belief and Discount Evaluation**

### **Introduction**

Discount is one of the most commonly seen promotion tools that retailers can utilize. Compared with other promotion tools such as coupon or rebate, discount can be easily managed by the store employees with little operational cost, especially with the trending of the digital shelf display. With its strong relevance with the industry, marketing scholars have extensively researched what may influence the effectiveness of the sales display. One major stream of studies is to explore how the framing of the discount would influence consumers choice. For example, González et al. (2016) found out the amount off worked better than the percentage off for higher priced products. Further, Kim and Kramer (2006) found the novel presentation “paying 80% of the regular price” were perceived greater than the common presentation “Get 20% off the regular price”. Similarly, the reframing of the discount by comparing it against the sale price versus the original price (e.g., “was X% higher” versus “now Y% lower”) influence consumers perception of the discount depth (Guha et al. 2018). Moreover, studies have also shown the position of the original price and sale price may also influence consumers’ evaluation (e.g., left versus right, horizontal versus vertical) (Biswas et al. 2013; Feng et al. 2017).

However, the way in which culture influences the discount evaluation received limited attention and most of these studies focused on the dimension on collectivism and individualism (Coulter and Coulter 2010; Winterich and Barone 2011), leaving power distance belief (PDB), the extent people accept and endorse hierarchy and inequality (Hofstede 1984), understudied. In the current research, I am interested exploring the relation between PDB and consumer’s purchase intention toward the discounted products, and I argue that high PDB consumers have a higher purchase intention toward the discounted product because they have a greater



categorization tendency, and they may be more likely to perceive the original price and sales price as two different categories, thus perceiving larger discount depth and having higher purchase intention toward the discounted products.

This research intends to contribute to literature in several ways. First, by examining the role of PDB, I extend the discount literature by bringing an understudied cultural dimension into the discount literature. Second, I test the underlying mechanism by showing the effects was driven through consumers' categorization tendency which further impacts their perceived discount depth, creating a serial chain. Third, I contribute to the categorization literature by proposing discount preference is one of its downstream implications. Specifically, I argued that the categorization of the original price and sale price would influence consumers' perceived discount depth, which would then impact their discount preference.

## **Theoretical Background**

### ***Power Distance Belief and Categorization***

An important tenet of high PDB cultures is that people believe everyone should have a “defined place” within the social order (Zhang et al. 2010). High PDB consumers perceive that superiors and subordinates are two distinct groups (G. Hofstede 2001), and they are expected to act accordingly based on their social status. For example, in high PDB cultures such as Japan and Korea, different language forms and grammars are applied when addressing a person in the different social status (e.g., the older versus younger or higher position versus lower position) (Soo 2012). Similarly, in the high PDB workplace, subordinates are expected to obey and respect the superiors, and the superiors should guide, aid, and protect the subordinates (Han et al. 2017; Rai and Fiske 2011).

As the result of the need to engage in different practices toward different social classes, high PDB consumers are more sensitive to the difference across social classes, as they need to be alert to the type of the person they are encountering. However, low PDB consumers hold the egalitarian value that everyone should have an equal status in society and should be treated equally. Therefore, low PDB consumers are not motivated to pay attention to the difference across social classes, compared to their high PDB counterparts. Studies have documented that high PDB consumers are more sensitive to the class difference. For example, in a meta-analysis, PDB on the individual level were found positively related to a sensitivity to others (Daniels and Greguras 2014; Taras, Kirkman, and Steel 2010). Further, Gao, Winterich, and Zhang (2016) found that an awareness of another's status may moderate high PDB consumers' status consumption. Specifically, researchers found that high PDB consumers were less likely to engage in status consumption when others' status was superior (versus similar or inferior). In order to adapt their behavior based on status of the person they are encountering, high PDB consumers are motivated to classify the person into different categories (i.e., superior versus inferior; older versus younger, etc.) Therefore, high PDB consumers are more likely to engage in social categorization (Wang et al. 2018), and I argue that this tendency to categorize would extend to the nonsocial domain. Studies have provided evidence that social categorization may influence the cognitive process that is independent of social knowledge, such as the perception of the image size (Stapel and Koomen 1997). Particularly in the marketing literature, Wang et al. (2018) found that PDB impacted the brand evaluation due to the social categorization tendency.

Apart from the societal perspective, high PDB consumers have a higher tendency to categorize due to the motivational perspective. Distinct from low PDB consumers, high PDB consumers are motivated to avoid uncertainty and ambiguity (Carl et al. 2004) and have a higher

need for structure (Lalwani and Forcum 2016). To categorize—the process to divide the world into groups of entities whose members share similarity (Jacob 2004)—is, in essence, to translate the information into a more ordered and structured way, thus making the world more manageable and predictable (Rosch 1978). Thus, high (versus low) PDB consumers may be more likely to engage in categorization since the process provides the structure and predictability that high PDB consumers prefer. Several studies indicate that individual differences in needs to seek and impose structure determine the extent to which individuals choose to categorize their world and the experiences therein (Moskowitz 1993; Neuberg and Newsom 1993).

One thing to point out here is that I am interested in studying the categorization tendency. Similar to Park et al. (2019), in the current research, categorization tendency means *the extent to which* consumers engage in the categorization, or put in another way, whether consumers engage in the categorization task in the first place. It is different from the *breadth* of categorization (i.e., the number of the sub-categories).

### ***Categorization, Discount Depth, and Purchase Intention***

The act of categorization essentially is the process of comparing, which focuses on the assimilation within the categories and on the contrast between the categories (Quellar, Schell, and Mason 2006). Therefore, as the consequence of the categorization, the perceived difference between two categories are exaggerated (Tversky 1992). Research has empirically documented such an effect in the spatial categories. For example, participants perceive the physical distance between two cities larger if the two cities belonging to different states (i.e., different categories) than belonging to the same state (i.e., the same category) (Maki 1982). A similar effect was also found by Mishra and Mishra (2010): participants perceived that natural disasters had a larger impact when the event happened within the same state, than when the event happened in another

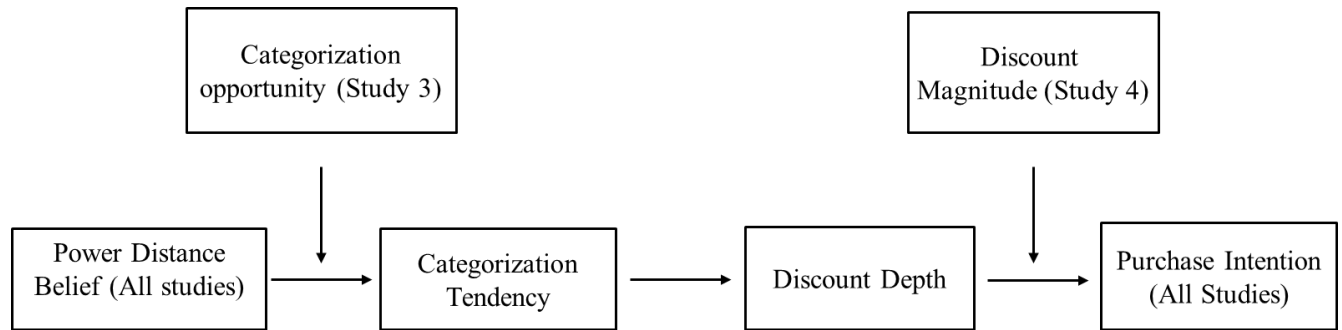
state. In the domain of consumer research, the same bias was also found in terms of the product ranking. That is, consumers mentally categorized the list into smaller subgroups and exaggerated difference between consecutive items adjunct to category boundaries (Isaac and Schindler 2013). For example, consumers prefer the improvements from rank 11 to rank 10 (i.e., different same categories) to the improves from rank 10 to rank 9 (same category). Particular to the pricing literature, Thomas and Morwitz (2005) found the left-digit effect that \$2.99 was perceive much smaller than \$3.00 whereas such effect was not found between the pair of \$3.59 and \$3.60 because \$2.99 belongs to a distinct category (i.e., category 2) compared with \$3 (i.e., category 3), whereas both \$3.59 and \$3.60 belong to the same category (i.e., category 3).

As high PDB consumers have the higher tendency to categorize, they are more likely to categorize the original price and sale price as two distinct groups. Therefore, based on the rational that the distance between two items is perceived larger if two items belongs to two different categories, than if both items belong to the same category, I predict that high PDB consumers will perceive higher discount depth between original price and sale price.

Finally, I note that prior work has shown that while evaluating sale prices, those who have higher estimates of discount depth have higher purchase intentions (Biswas et al. 2013; Guha et al. 2018) Combining the reasoning above, I hypothesize the following:

*H<sub>1</sub>: High PDB consumers have a higher purchase intention toward the disocunted product than low PDB consumers.*

*H<sub>2</sub>: High PDB consumers have a greater tendency to categorize, in turn leading to higher discount depth perception and further leading to higher purchase intention than low PDB consumers.*



**Figure 4: Essay 2 Overall Conceptual Model**

## Methodology

### *Overview of Study*

Four studies were conducted to establish reliability and generalizability between the link of PDB and purchase intention toward the discounted products. Study 1 provides the initial evidence between PDB and purchase intention, revealing that high PDB consumers have a higher purchase intention toward the discounted products and ruling out self-construal and numeracy as the alternative explanation. Study 2 reveals that categorization tendency and discount depth are underlying mechanisms by using a serial mediation analysis which indicates that high PDB consumers have higher categorization tendency, thus perceiving greater discount depth, which in turn leads to the higher purchase intention toward the discounted depth. Study 3 identifies a boundary condition that high PDB consumers would decrease their purchase intention toward the discount product when the categorization opportunity is not provided and ruled out sales proneness as the alternative explanation. Study 4 examines the role of discount magnitude that the effect of PDB and purchase intention toward the discounted products would disappear if the discount level is too small to be meaningful.

## *Study 1*

The purpose for study 1 was twofold. First, I aimed to provide the initial evidence that high PDB consumers are more likely to purchase discounted products. Second, previous studies have shown that consumers' self-construal (Lalwani and Wang 2018; Winterich and Barone 2011) may influence their perceived discount depth and preference for the discounted products. Further, numeracy (Guha et al. 2018) was also shown to influence consumers' perceived discount depth. Therefore, it is possible that high PDB (versus low PDB) consumers are better at numbers since Chinese and Indian students (versus American students) are better at mathematics, and so can easily calculate the difference between original price and sale price, thus perceiving higher discount depth. In the current study, I wanted to test whether the effect of PDB on the purchase intention toward the discount product may be influenced by consumers' self-construal and numeracy.

### Participants, Design, and Procedure

Eighty-eight Mechanical Turk participants were recruited in exchange for a small monetary payment (53.4% female;  $M_{\text{age}} = 45.81$ ).

Participants were randomly assigned into high and low PDB conditions. PDB was primed with a writing task from previous research (Han et al. 2017; Lalwani and Forcum 2016; Zhang et al. 2010). Participants were told that they needed to read a short sentence and answer the questions. For high PDB participants, they read, "There should be an order of inequality in this world in which everyone has a rightful place; high and low are protected by this order." Participants were then instructed to write three reasons to support the statement. Low PDB participants read the same sentence and were asked to provide three reasons against the statement. After the writing task, participants completed a three-item scale ( $\alpha = .97$ ) that was previously

developed and validated by Zhang et al. (2010) to assess PDB manipulation. A representative item of the scale is “For the time being, I mainly think that ...,” with endpoints 1 = “social equality is important” and 9 = “social hierarchy is important.”

Next, participants were shown advertisements for a pack of instant coffee (Guha et al. 2018). Previous literature indicates the discount magnitude may influence consumers’ product purchase intention (Biswas et al. 2013). For example, if the discount was set too low (e.g., 4% off), consumers may believe the retailer is trying to trick them into buying the products, whereas if the discount was too high (e.g., 85% off), consumers may become suspicious and assume such a low discount is to hide poor product quality (Biswas et al. 2013). Therefore, the products were discounted at the moderate level (i.e., 50% off) (Guha et al. 2018). Specifically, instant coffee was shown with the original price as \$16.25, with the sale price at \$8.13. Participants were asked to indicate their purchase intention using a three-item scale ( $\alpha = .96$ ). A representative item of the scale is “The likelihood that I would buy the product at the sale price is ...”, with 1 = “very low”, and 7 = “very high” (Biswas et al. 2013).

Next, I measured participants’ self-construal using the 24-item scale by Singelis (1994). A representative item of the independent subscale ( $\alpha = .83$ ) is “I’d rather say ‘no’ directly, than risk being misunderstood.” A representative item of the interdependent subscale ( $\alpha = .83$ ) is “It is important for me to maintain harmony within my group.” All items were on the seven-point Likert-type scale (1 = “Strongly disagree”, 7 = “Strongly agree”). Numeracy was measured from 11 items (Peters et al. 2006), which required participants to solve simple probability problems. A sample question is “If the chance of getting a disease is 10%, how many people would be expected to get the disease out of 100?” The scale was calculated as the total number of problems that were correctly answered.

## Result

The manipulation of PDB priming was successful. Participants in the high PDB condition scored higher than low PDB participants ( $M_{\text{highPDB}} = 4.11$ ,  $SD = 2.97$  versus  $M_{\text{lowPDB}} = 2.90$ ;  $F(1, 87) = 4.79$ ,  $p = .03$ ).

As I predicted, high PDB participants have high purchase intention for the instant coffee ( $M_{\text{highPDB}} = 4.88$ ,  $SD = 1.72$  versus  $M_{\text{lowPDB}} = 3.89$ ,  $SD = 1.73$ ;  $F(1, 87) = 7.15$ ,  $p = .01$ ).

Therefore,  $H_1$  was supported.

To test whether self-construal contributed to the above finding, I conducted an ANCOVA analysis, including self-construal as the covariate. As I predicted, my result stayed consistent after I controlled for the self-construal ( $F(1, 84) = 4.69$ ,  $p = .03$ ). Consistent with the previous literature (Lalwani and Wang 2018), consumers' interdependence positively influenced their purchase intention toward the discounted products ( $\beta = .08$ ,  $F(1, 84) = 24.4$ ,  $p < .01$ ), whereas independence did not ( $F(1, 84) = .19$ ,  $p = .67$ ).

To test whether high PDB consumers are higher on numeracy, I conducted an ANOVA analysis with PDB as the independent variable and numeracy as the dependent variable, and I found there were no significant difference between high and low PDB consumers ( $F(1, 87) = .81$ ,  $p = .37$ ).

## Discussion

As I predicted, high PDB consumers have higher purchase intention toward the discount depth than low PDB consumers. Further, I was able to rule out self-construal and numeracy as the alternative explanations.



## *Study 2*

Study 1 provided the initial evidence on the effect of PDB on purchase intention toward the discounted product. Study 2 aims to further replicate the finding in Study 1, but more importantly, shed light on the underlying mechanism. In this study, I measured participants' categorization tendency and perceived discount depth, and examined whether PDB may influence participants' categorization tendency, which would further impact their perception of discount depth and purchase intention toward the discounted product.

### Participants, Design, and Procedure

Seventy-five Mechanical Turk participants were recruited in exchange for a small monetary payment (54.7% female;  $M_{\text{age}} = 39.47$ ).

The procedure for Study 2 was similar to Study 1. Participants were firstly randomly assigned into high and low PDB conditions. The manipulation of PDB was the same as it was in Study 1. After the writing task, I measured participants' categorization tendency using a three-item scale ( $\alpha = .88$ ) (Park, Lalwani and Silvera 2019). A representative item of the scale is "I find myself geared toward categorizing things," with 1 = "strongly disagree", and 7 = "strongly agree". Next, participants moved to the product evaluation task. I used the same coffee stimuli in Study 1 as my focal product, with discount magnitude as 50% off. Next, I measured participants perceived discount depth using the three-item scale ( $\alpha = .91$ ) (Guha et al. 2018). A representative item of the scale is, "The discount for the mattress instant coffee in the advertisement is very attractive", with 1 = "strongly disagree", and 7 = "strongly agree". Purchase intention ( $\alpha = .94$ ) was measured using the same scale as in study 1.

### Result

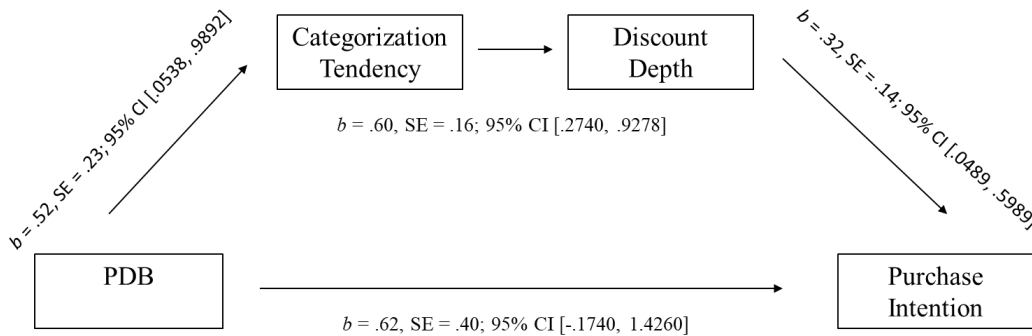
First, I conducted ANOVA with PDB as the independent variable and purchase intention as the dependent variable. As predicted, high PDB participants have a higher purchase intention toward the discounted product than low PDB participants ( $M_{\text{highPDB}} = 3.92$ ,  $SD = 1.76$  versus  $M_{\text{lowPDB}} = 3.05$ ,  $SD = 1.70$ ,  $F(1, 73) = 4.77$ ,  $p = .03$ ).

I then conducted a second ANOVA with PDB as the independent variable and categorization as the dependent variable. The result aligned with my hypothesis that high PDB participants have a higher categorization tendency than low PDB participants. ( $M_{\text{highPDB}} = 5.24$ ,  $SD = .88$  versus  $M_{\text{lowPDB}} = 4.72$ ,  $SD = 1.11$ ,  $F(1, 73) = 4.94$ ,  $p = .03$ ).

Next, I conducted a third ANOVA with PDB as the independent variable and perceived discount depth as the dependent variable. The effect is marginally significant, in that high PDB participants perceived the discount depth larger than low PDB participants ( $M_{\text{highPDB}} = 5.68$ ,  $SD = 1.19$  versus  $M_{\text{lowPDB}} = 5.06$ ,  $SD = 1.77$ ,  $F(1, 73) = 3.03$ ,  $p = .086$ ).

To test the serial mediation, I used model 6 in PROCESS (Hayes 2013). I entered PDB manipulation as the independent variable, the purchase intention as the dependent variable, categorization tendency as the first mediator and discount attractiveness as the second mediator (PDB → categorization tendency → perceived discount depth → purchase intention), and performed 5,000 bootstrap resamples. The analysis revealed a significant indirect effect of the serial mediation ( $b = .10$ ,  $SE = .07$ ; 95% CI [.0053, .2870]), consistent with my hypothesis that PDB positively influenced the categorization tendency ( $b = .52$ ,  $SE = .23$ ; 95% CI [.0538, .9892]). Further, categorization tendency positively influenced the discount attractiveness ( $b = .60$ ,  $SE = .16$ ; 95% CI [.2740, .9278]). And the discount attractiveness positively influence the purchase intention ( $b = .32$ ,  $SE = .14$ ; 95% CI [.0489, .5989]). Neither of the other indirect

pathways in the model was significant (i.e., PDB → categorization tendency → purchase intention,  $b = .05$ ,  $SE = .12$ ; 95% CI [-.1746, .3194]; PDB → perceived discount depth → purchase intention,  $b = .10$ ,  $SE = .12$ ; 95% CI [-.0867, .3849]). When I switched the order of the two mediators (i.e., PDB → perceived discount depth → categorization tendency → purchase intention), the indirect effect was not significant ( $b = .02$ ,  $SE = .04$ ; 95% CI [-.0600, .1014]).



**Figure 5: Serial Mediation Analysis Result**

Discussion

Using serial mediation analysis, I was able to illustrate that high PDB consumers differed significantly on their categorization tendency than their low PDB counterparts. The difference on the categorization tendency further facilitated their perception of the discount depth: that is, high PDB consumers perceived higher discount depth than low PDB consumers because they were more likely to treat original price and sale price as two distinct categories, which lead to the higher purchase intention toward the discounted product. Thus, H<sub>2</sub> was supported. In next study, I experimentally manipulated the categorization tendency to show it as the boundary condition.

### *Study 3*

As I argued previously, high PDB consumers have a higher categorization tendency than low PDB consumers. Therefore, high PDB consumers may find the difference between the original price and the sale price higher than low PDB consumers, thus perceiving the discount depth as larger and having a higher intention to purchase the discounted products. To test this hypothesis, I added a condition: participants only saw the sale price without the information of the original price. I predicted that in this condition there would be no difference on discounted product purchase intention between high and low PDB participants since it was not feasible to calculate the discount difference.

Further, it could be argued that high (versus low) PDB consumers have a higher purchase intention toward discounted products because high PDB consumers are just more price sensitive and value consciousness. For example, Korean consumers (i.e., high PDB culture) have a higher level of sales proneness than US consumers (i.e., low PDB culture) (Jin and Sternquist 2003). Additionally, Lalwani and Wang (2018) found PDB had a marginal effect on the tendency to use coupons. If high (versus low) PDB consumers are more price sensitive and prefer the discounted product because it is a great deal, I should replicate the finding in Study 1 even the original price is not shown.

Lastly, I wanted to generalize my finding into a different product type. In previous studies, I used instant coffee as my focal product, which is relatively inexpensive. In the current study, I aimed to replicate my finding using the product that is more expensive to show the effect is robust using products in different price ranges.

### Participants, Design, and Procedure

One hundred and ninety-five Mechanical Turk participants were recruited in exchange for a small monetary payment (66.2% female;  $M_{age} = 41.45$ ).

The study was a 2 (PDB: high versus low) x 2 (Categorization opportunity: original price shown versus not shown) between-subject design. Participants were firstly randomly assigned into high and low PDB conditions. The manipulation of PDB was the same as it is in Study 1; participants were asked to write three reasons either to support (high PDB condition) or against (low PDB condition) hierarchy.

Similar to Study 1 and Study 2, participants then moved to the product evaluation task. Half of participants saw an advertisement of a mattress with both original price and sale price shown, whereas the rest half participants only saw the sale price. Then participants were asked to indicate their perceived discount depth and their purchase intention. Participants' perceived discount depth ( $\alpha = .95$ ) and purchase intention ( $\alpha = .96$ ) were measured using the same scale as in study 2.

To measure whether high PDB participants were more prone to sales, I used the six-item sales proneness scale ( $\alpha = .88$ ) from Alford and Biswas (2002) at the end of the survey. A representative item of the scale is "If a product is on sale, that can be a reason for me to buy it," with 1 = "strongly disagree", and 7 = "strongly agree".

## Result

I conducted a two-way ANOVA with PDB manipulation and categorization opportunity as independent variables and purchase intention to buy the discounted product as the dependent variable. The analysis indicated there was no main effect of PDB manipulation ( $F(1, 194) = .32$ ,  $p = .57$ ). Not surprisingly, the categorization opportunity influenced participants' purchase

intention toward the discounted product ( $F(1, 194) = 7.25, p = .008$ ), revealing that participants have a higher intention to purchase when the original price was shown (versus not) ( $M_{\text{original}} = 4.43, SD = 1.74$  versus  $M_{\text{nooriginal}} = 3.76, SD = 1.83$ ). More importantly, there was a significant interaction effect of PDB manipulation and categorization opportunity on purchase intention ( $F(1, 194) = 5.50, p = .02$ ). A planned contrast indicated high PDB participants have a higher purchase intention than low PDB participants when the original price was shown alongside the sale price ( $M_{\text{highPDB}} = 4.81, SD = 1.63$  versus  $M_{\text{lowPDB}} = 4.07, SD = 1.78, F(1, 191) = 4.21, p = .04$ ), which replicated the finding in Study 1. However, when the original price was not shown, there was no significant difference on purchase intention between high and low PDB participants ( $M_{\text{highPDB}} = 3.53, SD = 1.75$  versus  $M_{\text{lowPDB}} = 3.98, SD = 1.90, F(1, 191) = 1.60, p = .21$ ).



**Figure 6: The effect of categorization opportunity on the relationship between PDB and purchase intention toward the discounted product**

I next examined the impact of PDB manipulation and original price display condition on participants' perceived discount depth, which I predicted would drive the purchase intention

toward the discounted products. I conducted a two-way ANOVA with PDB manipulation and categorization opportunity as independent variables and participants' perceived discount depth as the dependent variable. The analysis indicated that there was no main effect of PDB manipulation ( $F(1, 194) = .45, p = .50$ ). Categorization opportunity significantly influenced participants' perception of discount depth ( $F(1, 194) = 42.13, p < .001$ ), showing that participants perceived the discount depth larger when the original price is shown (versus not) ( $M_{\text{original}} = 5.34, SD = 1.71$  versus  $M_{\text{nooriginal}} = 3.92, SD = 1.70$ ). The interaction effect of PDB manipulation and original price display was also significant ( $F(1, 194) = 6.60, p = .01$ ). When the original price was shown, high PDB participants perceived the discount depth larger than low PDB participants ( $M_{\text{highPDB}} = 5.70, SD = 1.37$  versus  $M_{\text{lowPDB}} = 4.99, SD = 1.38, F(1, 191) = 5.22, p = .02$ ); however, this difference disappeared when the original price was not shown ( $M_{\text{highPDB}} = 3.70, SD = 1.71$  versus  $M_{\text{lowPDB}} = 4.12, SD = 1.68, F(1, 191) = 1.81, p = .18$ ).

Next, to test whether high PDB participants' purchase intention was driven by their increased perceived discount depth, I conducted moderated mediation analysis using PROCESS Model 7 (Hayes 2013) and performed 5,000 bootstrap resamples. This analysis revealed a significant index of moderated mediation ( $b = .89, SE = .35; 95\% \text{ CI } [.2245, 1.6196]$ ). As predicted, when the original price was shown, participants' perceived discount depth mediated the relationship between PDB and purchase intention; that is, high PDB consumers perceived the discount as more attractive, and thus had a higher intention to purchase the discounted product compared with low PDB participants ( $b = .56, SE = .22; 95\% \text{ CI } [.1309, 1.0044]$ ). However, when the original price was not shown, high PDB participants perceived the discount depth at the same level with low PDB participants, therefore the indirect effect was not significant ( $b = -.33, SE = .27; 95\% \text{ CI } [-.8673, .1808]$ ).

Finally, to rule out sale proneness as the alternative explanation, I conducted a two-way ANOVA with PDB manipulation and original price display as independent variables and sales proneness as the dependent variable. However, neither the main effect of the PDB ( $F(1, 191) = .03, p = .88$ ), and original price display condition ( $F(1, 191) = .03, p = .86$ ), nor the interaction effect is significant ( $F(1, 191) = .17, p = .68$ ).



## Discussion

In Study 3, I was able to replicate the finding in Study 1 and Study 2 using a different product category: mattress. Same as previous studies, I found that high PDB participants have a higher purchase intention toward the discounted products than low PDB participants, when the original price was shown. Consistent with my hypothesis, the difference between the high and low PDB participants disappeared when only the sale price was shown. I argued that when original price and sale price were shown together, high PDB participants who have higher categorization tendency would automatically categorize sale price and discount price as two distinct categories, thus perceiving the larger discount depth and having a higher purchase intention. When the original price was removed, it is impossible to do the categorization task, thus leaving no difference on perceived discount attractiveness between high and low PDB participants. The moderated mediation analysis provided the empirical evidence for the underlying mechanism of categorization tendency and perceived discount depth.

Also, I was able to rule out participants' sales proneness as the alternative explanation. If high PDB consumers just simply have high sales proneness and price sensitive, they would prefer the discounted products no matter the original price was provided or not. The lack of a difference between high and low PDB participants when the original price was not provided indicated that participants' sales proneness should not explain the finding in Study 1. Moreover, I did not observe significant difference on sales proneness between high and low PDB participants. Altogether, I could conclude participants' sales proneness is not the underlying reason that high PDB participants have a higher purchase intention than low PDB participants.

#### ***Study 4***

In Study 4, I aimed to identify discount magnitude as another boundary condition. Previous studies indicate that participants are motivated to buy the products only when the discount delivers enough value (Guha et al. 2018). Therefore, when the discount is relatively low (i.e., 10% off), consumers may not be motivated to purchase the product even when they were able to perceive the difference between original price and discount price. I tested this hypothesis in Study 4.

#### **Participants, Design, and Procedure**

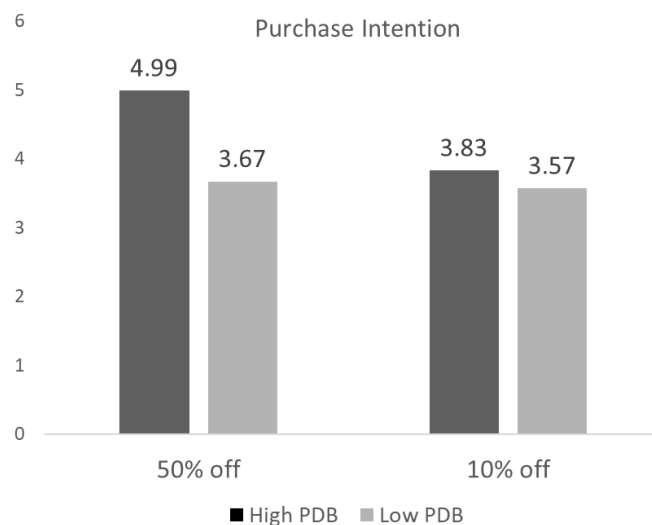
One hundred and seventy-three undergraduate students from a large U.S. university participated in the study (27.7% female;  $M_{age} = 20.66$ ).

The study was a 2 (high versus low PDB manipulation) x 2 (10% off versus 50% off) between-subject design. Participants were randomly assigned into high and low PDB conditions. The PDB manipulation was same as in the previous studies. Next, participants moved to the product evaluation task. As in Study 3, I used instant coffee as the focal product in this study. Half of the participants evaluated the product which was only discounted for 10% off (e.g., the original price was \$16.25, the discount price was \$14.62); the other half saw the product that was 50% off (e.g., the discount price was \$8.13). Then participants completed the surveys about their purchase intention toward the discounted product ( $\alpha = .96$ ).

#### **Result and Discussion**

I conducted a two-way ANOVA with PDB manipulation and discount depth level as independent variables and purchase intention to buy the discounted product as the dependent

variable. PDB had a significant main effect on purchase intention: high PDB participants overall had a higher purchase intention than low PDB participants ( $M_{\text{highPDB}} = 4.41$ ,  $SD = 1.70$  versus  $M_{\text{lowPDB}} = 3.63$ ,  $SD = 1.69$ ,  $F(1, 172) = 10.24$ ,  $p = .002$ ). Not surprisingly, the discount depth also had a main effect on the purchase intention, indicating that participants had higher purchase intention when the product was discounted at 50% off (versus 10% off) ( $M_{50\%} = 4.32$ ,  $SD = 1.70$  versus  $M_{10\%} = 3.72$ ,  $SD = 1.46$ ,  $F(1, 172) = 6.44$ ,  $p = .012$ ). More importantly, there was a significant interaction effect between PDB manipulation and discount depth on purchase intention ( $F(1, 172) = 4.63$ ,  $p = .033$ ). A planned contrast indicated high PDB participants have a higher purchase intention than low PDB participants when the discount is meaningful, such as 50% off ( $M_{\text{highPDB}} = 4.99$ ,  $SD = 1.57$  versus  $M_{\text{lowPDB}} = 3.67$ ,  $SD = 1.85$ ,  $F(1, 172) = 15.62$ ,  $p < .001$ ). However, when the discount was set as 10% off, the difference between high and low PDB participants was attenuated ( $M_{\text{highPDB}} = 3.83$ ,  $SD = 1.47$  versus  $M_{\text{lowPDB}} = 3.57$ ,  $SD = 1.46$ ,  $F(1, 172) = .51$ ,  $p = .48$ ).



**Figure 7: The effect of discount magnitude on the relationship between PDB and purchase intention toward the discounted product**

As predicted, I was able to identify the discount magnitude as the boundary condition where the difference between high and low PDB consumers would be attenuated when the perceived discount depth is too low. It is important to note that the discount magnitude moderated the relationship between perceived discount depth and purchase intention and that high PDB consumers may be able to perceive higher discount depth than low PDB consumers: however, the discount was not attractive enough to translate into the purchase.

## **General Discussion**

Throughout four studies, I found the consistent result that high PDB consumers have higher purchase intention toward discounted products than low PDB customers. I proposed and showed that high (versus low) PDB consumers have a greater categorization tendency. Therefore, they may perceive the original price and sale price as two distinct categories, which leads to greater perceived discount depth. Specifically, Study 1 provides the initial evidence of the relationship between PDB and purchase intention toward discounted products and ruled out self-construal and numerosity as an alternative explanation. Study 2 shed light on the mediating role of the categorization tendency and the discount depth and also illustrated that the effect of PDB on purchase intention toward discounted products was serially mediated by categorization tendency and discount depth (i.e., PDB → categorization tendency → perceived discount depth → purchase intention). Study 3 further examined the opportunity to categorize as the boundary condition, and I found that the effect between PDB and purchase intention toward the discounted products was attenuated when there is no opportunity to engage in the categorization task. Lastly, Study 4 identified discount magnitude as the moderator when high PDB consumers are not motivated to purchase the discounted products when the discount is small (10% off), even though they were able to perceive the discount difference.

### ***Theoretical Contributions***

My research contributes to the related literature in several ways. First, it contributes to the discount literature by introducing a understudied cultural dimension, PDB. Previous literature mainly focuses on how the collectivism-individualism dimension influences the discount strategy. Moreover, conflicted results are found on the link between cultural and discount promotion evaluation. For example, Winterich and Barone (2011) found that independent consumers rated more favorably on the discount promotion than interdependent consumers. However, research also indicates that Korean consumers are more likely to buy the product if the product is on sale than U.S. consumers (Jin and Sternquist 2003). Moreover, Coulter and Coulter (2010) found no significant difference on perceived price discount between native English-speaking participants and native Chinese-speaking participants. I argue that PDB can be the potential factor to address these conflict findings.

Second, recent research has explored a few characteristics of high PDB consumers, such as the need for structure (Lalwani and Forcum 2016); conformity to authority (Paharia and Swaminathan 2019; Winterich, Gangwar, and Grewal 2018); and sensitivity to status difference (Gao et al. 2016; Wang and Lalwani 2018). I contribute to the PDB literature by identifying that high and low PDB consumers may differ on the cognitive processing, i.e., categorization tendency.

### ***Managerial Implication***

Besides the theoretical contributions, this research also has important implications for marketing practices. First, it provides the guidance for the selection of promotion tools for retailers (e.g., Walmart, Nike, etc.) that operate in the multicultural market. For example, retailers targeting customers in low PDB cultures should choose promotion tools such as rebates

and premiums over the discount, since a discount is less effective in the low PDB cultures. Moreover, retailers that operate in the high PDB cultures need to list the original price if they want to utilize the discount promotion, since high PDB consumers can not engage in the categorization task without an indication of the original price to help them calculate the discount depth. Lastly, retailers that operate in the low PDB cultures can use the point-of-display material that emphasizes hierarchy to elicit high PDB consumers to further promote the discount effectiveness.

## Appendix A: Essay 1

### A1: Example of Variety Seeking Task

#### ICE CREAM

1- Vanilla	2- Chocolate	3- Chocolate chips	4- Cookie and cream	5- Coconut cream
6- Strawberry	7- Caramel	8- Mint chocolate chip	9- Mango	10- Lemon
11- Pistachio	12- Blackberry	13- Coffee	14- Vanilla Chocolate	15- Brownie

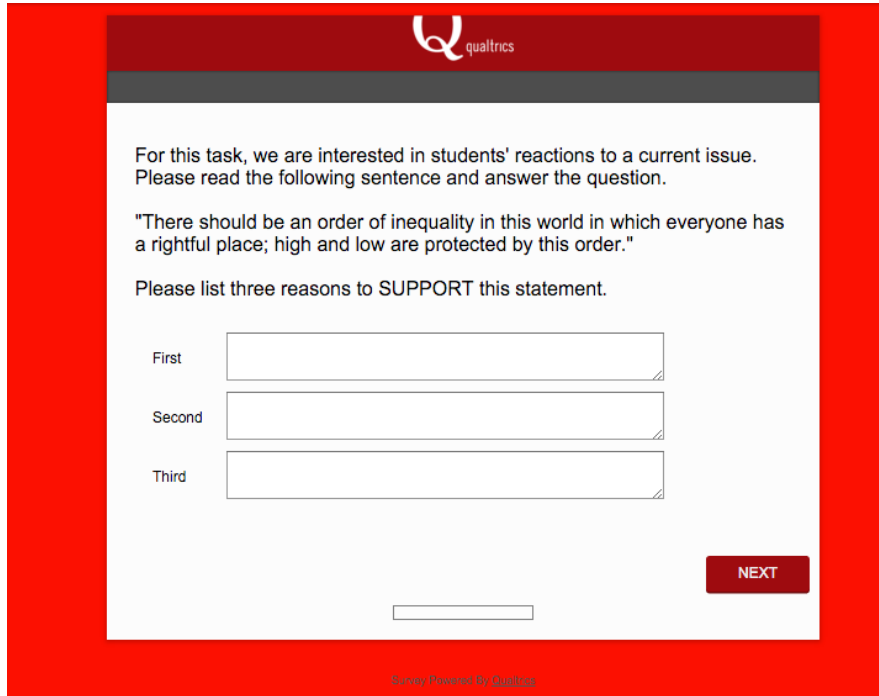
(Study 1B)

#### CANDY BARS

1 - Twix	2 - Hershey's Chocolate	3- Mars	4 - Snickers	5 - Wonder Bar
6 - Reese's Cups	7 - Rolos	8 - Nestle Crunch	9 - M&Ms	10 - Butterfingers
11 - Hershey's Kisses	12 - Kit Kat	13 - Baby Ruth	14 - Milky Way	15 - Three Musketeers
16 - 1000 Grand	17 - Almond Joy	18 - Whatchamacallit	19 - Milk Duds	20 - Oh Henry!

(Study 2, 3)

## A2: Stimuli for High External Stimulation (Study 4)



The image shows a Qualtrics survey interface. At the top, there is a red header with the Qualtrics logo. Below the header, the survey content is displayed on a white background. The text reads: "For this task, we are interested in students' reactions to a current issue. Please read the following sentence and answer the question." followed by a quote: "There should be an order of inequality in this world in which everyone has a rightful place; high and low are protected by this order." Below the quote, it asks the respondent to list three reasons to support the statement. There are three text input fields labeled "First", "Second", and "Third". A "NEXT" button is located at the bottom right of the survey area. At the bottom of the page, there is a small text "Survey Powered By Qualtrics".

qualtrics

For this task, we are interested in students' reactions to a current issue.  
Please read the following sentence and answer the question.

"There should be an order of inequality in this world in which everyone has  
a rightful place; high and low are protected by this order."

Please list three reasons to SUPPORT this statement.

First

Second

Third

Survey Powered By Qualtrics



## Appendix B: Essay 2

### B1: Product Stimuli (Study 1, 2, 4)

#### Premium Instant Coffee Single-serve Sachets, 80/box



~~Original price \$16.25~~ Sale price \$8.13

**B2: Product Stimuli (Study 3)**

**Hill Top Pillow Top Firm Mattress**



~~Original price \$1597.99~~    Sale price \$798.99

Categorization Opportunity Available Condition

**Hill Top Pillow Top Firm Mattress**



Sale price \$798.99

Categorization Opportunity Not Available Condition

## Appendix C: Measurements

### Measurements Used in Both Essay 1 and Essay 2

PDB manipulation check (Zhang et al. 2010), 1 = social equality is important; 9 = social hierarchy is important

1. For the time being, I mainly think that ...
2. At this moment, I feel that ...
3. On top of my mind right now are thoughts in agreement with saying that....

Self-Construal (Singelis 1994), 1= Strongly Disagree; 7 = Strongly Agree

1. I have respect for the authority figures with whom I interact.
2. It is important for me to maintain harmony within my group.
3. My happiness depends on the happiness of those around me.
4. I would offer my seat in a bus to my professor.
5. I respect people who are modest about themselves.
6. I will sacrifice my self-interest for the benefit of the group I am in.
7. I often have the feeling that my relationships with others are more important than my own accomplishments.
8. I should take into consideration my parents' advice when making education/career plans.
9. It is important to me to respect decision made by the group.
10. I will stay in a group if they need me, even when I'm not happy with the group.
11. If my brother or sister fails, I feel responsible.
12. Even when I strongly disagree with group members, I avoid an argument.
13. I'd rather say "no" directly, than risk being misunderstood.
14. Speaking up during a class is not a problem for me.
15. Having a lively imagination is important to me.
16. I am comfortable with being singled out for praise or rewards.
17. I am the same person at home that I am at school.
18. Being able to take care of myself is a primary concern for me.
19. I act the same way no matter who I am with.
20. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am.
21. I prefer to be direct and forthright when dealing with people I've just met.
22. I enjoy being unique and different from others in many respects.
23. My personal identity independent of others, is very important to me.
24. I value being in good health above everything

### Measurements Used in Essay 1

PDB measurement (Zhang et al. 2010), 1= Strongly Disagree; 9 = Strongly Agree

1. As citizens we should put high value on conformity.
2. It is great to work with a manager who gives subordinates reasons for the decisions and answers any questions they may have. (R)
3. Employees should be encouraged to express disagreement with their managers. (R)

4. I would like to work with a manager who expects subordinates to carry out decisions loyally and without raising questions.
5. In work-related matters, managers have a right to expect obedience from their subordinates.
6. Employees should respect their supervisors highly.
7. I would like to work with a manager who usually consults with subordinates before reaching her/his decisions. (R)
8. Disagreement with our bosses will promote productivity. (R)

Boredom (Mercer-Lynn et al. 2013), 1= Strongly Disagree; 7 = Strongly Agree

1. At this moment, I feel bored.
2. At this moment, I felt that everything in life seemed repetitive and routine to me.
3. At this moment, I felt stuck in situations that were irrelevant.
4. At this moment, I felt I was doing things that had no value to me.

## Measurements Used in Essay 2

Purchase Intention (Biswas et al. 2013), 1 = Very Low; 7 = Very High

1. The likelihood that I would buy the product at the sale price is:
2. The probability that I would consider buying the product is:
3. My willingness to buy the product at the sale price is:

Discount Depth (Guha et al. 2018), 1= Strongly Disagree; 7 = Strongly Agree

1. The discount for the product in the advertisement is very fair.
2. The discount for the product in the advertisement provides very good value.
3. The discount for the product in the advertisement is very attractive.

Categorization Tendency (Park et al. 2018), 1= Strongly Disagree; 7 = Strongly Agree

1. I find myself geared toward categorizing things (e.g., objects, products, events, personalities).
2. I enjoy grouping things in my mind.
3. It feels easy for me to see similarities between things.

Numeracy (Peters et al. 2006)

1. Which of the following numbers represents the biggest risk of getting a disease?
2. Which of the following represents the biggest risk of getting a disease?
3. If the chance of getting a disease is 10%, how many people would be expected to get the disease out of 100?
4. If the chance of getting a disease is 10%, how many people would be expected to get the disease out of 1000?
5. If the chance of getting a disease is 20 out of 100, this would be the same as having a \_\_\_\_\_% chance of getting the disease.
6. If person A's risk of disease is 1% in ten years, and person B's risk is double that of A's, what is B's risk?

7. If person A's risk of disease is 1 in 100 in ten years, and person B's risk is double that of A's, what is B's risk?
8. In the BIG BUCKS lottery, the chances of winning a \$10 prize is 1%. What is your best guess about how many people would win a \$10 if 1000 people each buy a single ticket from BIG BUCKS?
9. Imagine that we roll a fair, six-sided die 1000 times. Out of 1000 rolls, how many times do you think the die would come up even (2, 4, or 6)?
10. The chance of getting a viral infection is .0005. Out of 10,000 people, about how many of them are expected to get infected?
11. In the ACME PUBLISHED SWEEPSTAKES, the chance of winning a car is 1 in 1000. What percent of tickets of ACME PUBLISHING win a car?

*Sales Proneness* (Alford and Biswas 2002), 1= Strongly Disagree; 7 = Strongly Agree

1. If a product is on sale, that can be a reason for me to buy it.
2. When I buy a brand that's on sale, I feel that I am getting a good deal.
3. I have favorite brands, but most of the time I buy the brand that's on sale.
4. One should try to buy the brand that's on sale.
5. I am more likely to buy brands that are on sale.
6. Compared to most people, I am more likely to buy brands that are on a deal.

## Reference

- Alford, Bruce L. and Abhijit Biswas (2002), “The Effects of Discount Level, Price Consciousness and Sale Proneness on Consumers’ Price Perception and Behavioral Intention,” *Journal of Business Research*, 55(9), 775–83.
- Ariely, Dan and Jonathan Levav (2000), “Sequential Choice in Group Settings: Taking the Road Less Traveled and Less Enjoyed,” *Journal of Consumer Research*, 27(3), 279–90.
- Baltas, George, Flora Kokkinaki, and Apostolia Loukopoulou (2017), “Does Variety Seeking Vary between Hedonic and Utilitarian Products? The Role of Attribute Type,” *Journal of Consumer Behaviour*, (March), 1–12.
- Basabe, Nakane and María Ros (2005), “Cultural Dimensions and Social Behavior Correlates: Individualism-Collectivism and Power Distance,” *International Review of Social Psychology*, 18(1), 189–225.
- Berlyne, D. E. (1960), *Conflict, Arousal, and Curiosity.*, New York, NY: McGraw-Hill Book Company.
- Biswas, Abhijit, Sandeep Bhowmick, Abhijit Guha, and Dhruv Grewal (2013), “Consumer Evaluations of Sale Prices: Role of the Subtraction Principle,” *Journal of Marketing*, 77(4), 49–66.
- Blaszczynski, Alex, Neil McConaghy, and Anna Frankova (1990), “Boredom Proneness in Pathological Gambling,” *Psychological Reports*, 67(1), 35–42.
- Botti, Simona and Ann L. McGill (2011), “The Locus of Choice: Personal Causality and Satisfaction with Hedonic and Utilitarian Decisions,” *Journal of Consumer Research*, 37(6),

1065–78.

Carl, Dale, Vipin Gupta, and Mansour Javidan (2004), “Power Distance,” in *Culture, Leadership, and Organizations*, ed. Robert J. House, Paul J. Hanges, Mansour Javidan, Peter W.

Dorfman, and Vipin Gupta, Thousand Oaks, CA: SAGE Publications, 513–63.

Chin, Alycia, Amanda Markey, Saurabh Bhargava, Karim S. Kassam, and George Loewenstein

(2017), “Bored in the USA: Experience Sampling and Boredom in Everyday Life.,”

*Emotion*, 17(2), 359–68.

Choi, Jinhee, B. Kyu Kim, Incheol Choi, and Youjae Yi (2006), “Variety - Seeking Tendency

in Choice for Others: Interpersonal and Intrapersonal Causes,” *Journal of Consumer*

*Research*, 32(4), 590–95.

Consumer Reports (2014), “Supermarket Product Choices - Consumer Reports Magazine,”

<https://www.consumerreports.org/cro/magazine/2014/03/too-many-product-choices-in-supermarkets/index.htm>.

Cordaro, Daniel T., Rui Sun, Dacher Keltner, Shanmukh Kamble, Niranjana Huddar, and Galen

McNeil (2018), “Universals and Cultural Variations in 22 Emotional Expressions across

Five Cultures,” *Emotion*, 18(1), 75–93.

Coulter, Keith S. and Robin A Coulter (2010), “Small Sounds, Big Deals: Phonetic Symbolism

Effects in Pricing,” *Journal of Consumer Research*, 37(2), 315–28.

Cummings, Mary L., Fei Gao, and Kris M. Thornburg (2016), “Boredom in the Workplace,”

*Human Factors: The Journal of the Human Factors and Ergonomics Society*, 58(2), 279–

300.

- Dahlen, Eric R., Ryan C. Martin, Katie Ragan, and Myndi M. Kuhlman (2005), "Driving Anger, Sensation Seeking, Impulsiveness, and Boredom Proneness in the Prediction of Unsafe Driving," *Accident Analysis & Prevention*, 37(2), 341–48.
- Daniels, Michael A. and Gary J. Greguras (2014), "Exploring the Nature of Power Distance," *Journal of Management*, 40(5), 1202–29.
- Durante, Kristina M. and Ashley Rae Arsena (2015), "Playing the Field: The Effect of Fertility on Women's Desire for Variety," *Journal of Consumer Research*, 41(6), 1372–91.
- Eastwood, John D., Alexandra Frischen, Mark J. Fenske, and Daniel Smilek (2012), "The Unengaged Mind," *Perspectives on Psychological Science*, 7(5), 482–95.
- Elpidorou, Andreas (2017), "The Bored Mind Is a Guiding Mind: Toward a Regulatory Theory of Boredom," *Phenomenology and the Cognitive Sciences*, 1–30.
- Etkin, Jordan (2016), "Choosing Variety for Joint Consumption," *Journal of Marketing Research*, 53(6), 1019–33.
- Fahlman, Shelley A., Kimberley B. Mercer-Lynn, David B. Flora, and John D. Eastwood (2013), "Development and Validation of the Multidimensional State Boredom Scale," *Assessment*, 20(1), 68–85.
- Feng, Shan, Rajneesh Suri, Mike Chen Ho Chao, and Umit Koc (2017), "Presenting Comparative Price Promotions Vertically or Horizontally: Does It Matter?," *Journal of Business Research*, 76, 209–18.
- Fernandes, Daniel and Naomi Mandel (2014), "Political Conservatism and Variety-Seeking," *Journal of Consumer Psychology*, 24(1), 79–86.



- Fishbach, Ayelet, Rebecca K. Ratner, and Ying Zhang (2011), “Inherently Loyal or Easily Bored?: Nonconscious Activation of Consistency versus Variety-Seeking Behavior,” *Journal of Consumer Psychology*, 21(1), 38–48.
- Fisher, Cynthia D. (1993), “Boredom at Work: A Neglected Concept,” *Human Relations*, 46(3), 395–417.
- Fwu, Bih-jen and Hsiou-huai Wang (2006), “Practice Makes Perfect on the Blackboard: A Cultural Analysis of Mathematics Instructional Patterns in Taiwan,” *ZDM*, 38(5), 368–75.
- Gao, Huachao, Karen Page Winterich, and Yinlong Zhang (2016), “All That Glitters Is Not Gold: How Others’ Status Influences the Effect of Power Distance Belief on Status Consumption,” *Journal of Consumer Research*, 43, 1–54.
- Gaygisiz, Esma (2010), “Economic and Cultural Correlates of Subjective Wellbeing in Countries Using Data from the Organisation for Economic Co-Operation and Development (OECD).,” *Psychological reports*, 106(3), 949–63.
- González, Eva M., Eduardo Esteva, Anne L. Roggeveen, and Dhruv Grewal (2016), “Amount off versus Percentage Off-When Does It Matter?,” *Journal of Business Research*, 69(3), 1022–27.
- Goukens, Caroline, Siegfried Dewitte, Mario Pandelaere, and Luk Warlop (2007), “Wanting a Bit(e) of Everything: Extending the Valuation Effect to Variety Seeking,” *Journal of Consumer Research*, 34(3), 386–94.
- Grandey, Alicia, Anat Rafaeli, Shy Ravid, Jochen Wirtz, and Dirk D. Steiner (2010), “Emotion Display Rules at Work in the Global Service Economy: The Special Case of the Customer,”

- Journal of Service Management*, 21(3), 388–412.
- Grubb, Eric A (1975), “Assembly Line Boredom and Individual Differences in Recreation Participation,” *Journal of Leisure Research*, 7(4), 256–69.
- Guha, Abhijit, Abhijit Biswas, Dhruv Grewal, Swati Verma, Somak Banerjee, and Jens Nordfält (2018), “Reframing the Discount as a Comparison against the Sale Price: Does It Make the Discount More Attractive?,” *Journal of Marketing Research*, 55(3), 339–51.
- Ha, Jooyeon and SooCheong Shawn Jang (2013), “Variety Seeking in Restaurant Choice and Its Drivers,” *International Journal of Hospitality Management*, 32(1), 155–68.
- Han, Dahee, Ashok K. Lalwani, and Adam Duhachek (2017), “Power Distance Belief, Power, and Charitable Giving,” *Journal of Consumer Research*, 44(1), 182–95.
- Hayes, Andrew F (2013), *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, New York, NY: Guilford Publications Inc.
- Hayes, Andrew F and Kristopher J Preacher (2008), “Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models,” *Behavior Research Methods*, 40(3), 879–91.
- Hofstede, Geert (1984), “Cultural Dimensions in Management and Planning,” *Asia Pacific Journal of Management*, 1(2), 81–99.
- (1983), “The Cultural Relativity of Organizational Practices and Theories,” *Journal of International Business Studies*, 14(2), 75–89.
- Hofstede, Geert H. (2001), *Culture’s Consequences : Comparing Values, Behaviors, Institutions, and Organizations across Nations*, Thousand Oaks, CA: Sage Publications.

- Hui, Michael K, Kevin Au, and Henry Fock (2004), "Empowerment Effects across Cultures," *Journal of International Business Studies*, 35(1), 46–60.
- Husted, Bryan W. (1999), "Wealth, Culture, and Corruption," *Journal of International Business Studies*, 30(2), 339–59.
- Inman, J. Jeffrey (2001), "The Role of Sensory - Specific Satiety in Attribute - Level Variety Seeking," *Journal of Consumer Research*, 28(1), 105–20.
- Isaac, Mathew S. and Robert M. Schindler (2013), "The Top-Ten Effect: Consumers' Subjective Categorization of Ranked Lists," *Journal of Consumer Research*, 40(6), 1181–1202.
- Jacob, Elin K (2004), "Classification and Categorization : A Difference That Makes a Difference," *Library Trends*, 52(3), 515–40.
- Jeong, Hyewook G. and Aimee Drolet (2016), "Variety-Seeking as an Emotional Coping Strategy for Chronically Indecisive Consumers," *Marketing Letters*, 27(1), 55–62.
- Jin, ByoungHo and Brenda Sternquist (2003), "The Influence of Retail Environment on Price Perceptions: An Exploratory Study of US and Korean Students," *International Marketing Review*, 20(6), 643–60.
- Kahn, Barbara E. (1995), "Consumer Variety-Seeking among Goods and Services. An Integrative Review," *Journal of Retailing and Consumer Services*, 2(3), 139–48.
- Kahn, Barbara E and Alice M Isen (1993), "The Influence of Positive Affect on Variety Seeking among Safe, Enjoyable Products," *Journal of Consumer Research*, 20(April), 257–70.
- Kahn, Barbara E, Manohar U Kalwani, and Donald G Morrison (1986), "Measuring Variety-Seeking and Reinforcement Behaviors Using Panel Data," *Source Journal of Marketing*

*Research*, 23(2), 89–100.

Kember, David (1996), “The Intention to Both Memorise and Understand: Another Approach to Learning?,” *Higher Education*, 31(3), 341–54.

Khatri, Naresh (2009), “Consequences of Power Distance Orientation in Organisations,” *Vision: The Journal of Business Perspective*, 13(1), 1–9.

Kim, Heejung S and Aimee Drolet (2003), “Choice and Self-Expression: A Cultural Analysis of Variety-Seeking,” *Journal of personality and social psychology*, 85(2), 373–82.

Kim, Hyeong Min and Thomas Kramer (2006), “‘Pay 80%’ versus ‘Get 20% off’: The Effect of Novel Discount Presentation on Consumers’ Deal Perceptions,” *Marketing Letters*, 17(4), 311–21.

Kim, Youngseon and Yinlong Zhang (2011), “Does Power-Distance Influence Consumers’ Preference For Luxury Status Brands?,” *Advances in Consumer research*, 39, 511–12.

——— (2014), “The Impact of Power-Distance Belief on Consumers’ Preference for Status Brands,” *Journal of Global Marketing*, 27(1), 13–29.

Lalwani, Ashok K. and Lura Forcum (2016), “Does a Dollar Get You a Dollar’s Worth of Merchandise? The Impact of Power Distance Belief on Price-Quality Judgments,” *Journal of Consumer Research*, 43(2), 317–33.

Lalwani, Ashok K and Jessie J Wang (2018), “How Do Consumers’ Cultural Backgrounds and Values Influence Their Coupon Proneness? A Multimethod Investigation,” *Journal of Consumer Research*, 45(5), 1037–50.

Lin, Chien-Huang and Hung-Chou Lin (2010), “How Health Information Affects College

- Students' Inclination toward Variety-Seeking Tendency," *Scandinavian Journal of Psychology*, 51(6), 503–8.
- Lipsey, Mark W. and David B. Wilson (2001), *Practical Meta-Analysis*, Thousand Oaks, CA: SAGE Publications.
- Loukidou, Lia, John Loan-Clarke, and Kevin Daniels (2009), "Boredom in the Workplace: More than Monotonous Tasks," *International Journal of Management Reviews*, 11(4), 381–405.
- Maki, Ruth H. (1982), "Why Do Categorization Effects Occur in Comparative Judgment Tasks?," *Memory & Cognition*, 10(3), 252–64.
- Matsumoto, David, Seung Hee Yoo, and Sanae Nakagawa (2008), "Culture, Emotion Regulation, and Adjustment.," *Journal of Personality and Social Psychology*, 94(6), 925–37.
- Mcalister, Leigh and Edgar Pessemier (1982), "An Seeking Behavior : Interdisciplinary Review," *Journal of Consumer Research*, 9(3), 311–22.
- Menon, Satya and Barbara Kahn (2002), "Cross-Category Effects of Induced Arousal and Pleasure on the Internet Shopping Experience," *Journal of Retailing*, 78(1), 31–40.
- Menon, Satya and Barbara E Kahn (1995), "The Impact of Context on Variety Seeking in Product Choices," *Journal of Consumer Research*, 22(3), 285–95.
- Mikulas, William L. and Stephen J. Vodanovich (1993), "Essence of Boredom," *The Psychological Record*, 43(1), 3–12.
- Mishra, Arul and Himanshu Mishra (2010), "Border Bias," *Psychological Science*, 21(11), 1582–86.
- Morhart, Felicitas M, Walter Herzog, and Torsten Tomczak (2009), "Brand-Specific Leadership:

- Turning Employees into Brand Champions,” *Journal of Marketing*, 73(5), 122–42.
- Moskowitz, Gordon B. (1993), “Individual Differences in Social Categorization: The Influence of Personal Need for Structure on Spontaneous Trait Inferences,” *Journal of Personality and Social Psychology*, 65(1), 132–42.
- Neuberg, Steven L. and Jason T. Newsom (1993), “Personal Need for Structure: Individual Differences in the Desire for Simple Structure,” *Journal of Personality and Social Psychology*, 65(1), 113–31.
- Novak, Deanna L. and Mara Mather (2007), “Aging and Variety Seeking,” *Psychology and aging*, 22(4), 728–37.
- O’Hanlon, James F. (1981), “Boredom: Practical Consequences and a Theory,” *Acta Psychologica*, 49(1), 53–82.
- Olsen, Svein Ottar, Ana Alina Tudoran, Pirjo Honkanen, and Bas Verplanken (2016), “Differences and Similarities between Impulse Buying and Variety Seeking: A Personality-Based Perspective,” *Psychology & Marketing*, 33(1), 36–47.
- Paharia, Neeru and Vanitha Swaminathan (2019), “Who Is Wary of User Design? The Role of Power-Distance Beliefs in Preference for User-Designed Products,” *Journal of Marketing*, 83(3), 91–107.
- Papamarcos, Steven D. and George W. Watson (2006), “Culture’s Consequences for Economic Development: An Empirical Examination of Culture, Freedom, and National Market Performance,” *Journal of Global Business and Technology*, 2(1), 48–57.
- Park, Hanyong, Ashok K. Lalwani, and David H. Silvera (2019), “The Impact of Resource

- Scarcity on Price-Quality Judgments,” *Journal of Consumer Research*, forthcoming.
- Pattyn, Nathalie, Xavier Neyt, David Henderickx, and Eric Soetens (2008),  
“Psychophysiological Investigation of Vigilance Decrement: Boredom or Cognitive  
Fatigue?,” *Physiology & Behavior*, 93(1–2), 369–78.
- Perkins, R. E. and A. B. Hill (1985), “Cognitive and Affective Aspects of Boredom,” *British  
Journal of Psychology*, 76(2), 221–34.
- Peters, Ellen, Daniel Västfjäll, Paul Slovic, C.K. Mertz, Ketti Mazzocco, and Stephan Dickert  
(2006), “Numeracy and Decision Making,” *Psychological Science*, 17(5), 407–13.
- Punj, Girish (2011), “Impulse Buying and Variety Seeking: Similarities and Differences,”  
*Journal of Business Research*, 64(7), 745–48.
- Quellar, Sarah, Terry Schell, and Winter Mason (2006), “A Novel View of Between-Categories  
Contrast and within-Category Assimilation,” *Journal of Personality and Social Psychology*,  
91(3), 406–22.
- Rai, Taze Shakti and Alan Page Fiske (2011), “Moral Psychology Is Relationship Regulation:  
Moral Motives for Unity, Hierarchy, Equality, and Proportionality.,” *Psychological Review*,  
118(1), 57–75.
- Rathod, Monika M. and Shaila M. Miranda (1999), “Telework and Psychological Distance,” in  
*Proceedings of the 1999 ACM SIGCPR Conference on Computer Personnel Research -  
SIGCPR '99*, New York, New York, USA: ACM Press, 268–75.
- Ratner, Rebecca K. and Barbara E. Kahn (2002), “The Impact of Private versus Public  
Consumption on Variety - Seeking Behavior,” *Journal of Consumer Research*, 29(2),

246–57.

Read, Daniel, Gerrit Antonides, Laura van den Ouden, and Harry Trienekens (2001), “Which Is Better: Simultaneous or Sequential Choice?,” *Organizational Behavior and Human Decision Processes*, 84(1), 54–70.

Roehm, Harper A. and Michelle L Roehm (2005), “Revisiting the Effect of Positive Mood on Variety Seeking,” *Journal of Consumer Research*, 32(2), 330–36.

Roehm, Michelle L. and Harper A. Roehm (2010), “The Relationship between Packaging Uniformity and Variety Seeking,” *Psychology & Marketing*, 27(12), 1122–33.

Rosch, Eleanor (1978), “Principles of Categorization,” in *Cognition and Categorization*, ed. Eleanor Rosch and B. Barbara Lloyd, Hillsdale, NJ: Lawrence Erlbaum Associates, 27–48.

Roth, Martin S. (1995), “The Effects of Culture and Socioeconomics on the Performance of Global Brand Image Strategies,” *Journal of Marketing Research*, 32(2), 163–75.

Sharma, Piyush, Bharadhwaj Sivakumaran, and Roger Marshall (2010), “Impulse Buying and Variety Seeking: A Trait-Correlates Perspective,” *Journal of Business Research*, 63(3), 276–83.

Shen, Hao and Robert S. Wyer (2010), “The Effect of Past Behavior on Variety Seeking: Automatic and Deliberative Influences,” *Journal of Consumer Psychology*, 20(1), 33–42.

Simonson, Itamar (1990), “The Effect of Purchase Quantity and Timing on Variety-Seeking Behavior,” *Journal of Marketing Research*, 27(2), 150–62.

Singelis, Theodore M. (1994), “The Measurement of Independent and Interdependent Self-Concepts,” *Personality and Social Psychology Bulletin*, 20(5), 580–91.



- Sparks, Roland J. (2005), "Cultural Influences on the Development of Marketing Strategy for Multinational Retailers," unpublished dissertation, Southern New Hampshire University.
- Stapel, Diederik A. and Willem Koomen (1997), "Social Categorization and Perceptual Judgment of Size: When Perception Is Social," *Journal of Personality and Social Psychology*, 73(6), 1177–90.
- Steenkamp, Jan-Benedict E. M. and Hans Baumgartner (1992), "The Role of Optimum Stimulation Level in Exploratory Consumer Behavior," *Journal of Consumer Research*, 19(3), 434–48.
- Straussberger, Sonja and Dirk Schaefer (2007), "Monotony in Air Traffic Control," *Air Traffic Control Quarterly*, 15(3), 183–207.
- Struk, Andriy. A., Abigail. A. Scholer, and James. Danckert (2016), "A Self-Regulatory Approach to Understanding Boredom Proneness," *Cognition and Emotion*, 30(8), 1388–1401.
- Sundberg, Norman D., Carl A. Latkin, Richard F. Farmer, and Jihad Saoud (1991), "Boredom in Young Adults," *Journal of Cross-Cultural Psychology*, 22(2), 209–23.
- Tang, Esther P. Y. and Iris O. K. Chin (2007), "Analyzing Variety Seeking Behavior Using Panel Data," *Journal of International Consumer Marketing*, 19(4), 7–31.
- Taras, Vas, Bradley L. Kirkman, and Piers Steel (2010), "Examining the Impact of Culture's Consequences: A Three-Decade, Multilevel, Meta-Analytic Review of Hofstede's Cultural Value Dimensions," *Journal of Applied Psychology*, 95(3), 405–39.
- Teng, James T. C., Kenneth J. Calhoun, Myun Joong Cheon, Scott Raeburn, and Willy Wong

- (1999), "Is the East Really Different from the West: A Cross-Cultural Study on Information Technology and Decision Making," *Proceedings of the 20th international conference on Information Systems*, 40–46.
- Thomas, Manoj and Vicki Morwitz (2005), "Penny Wise and Pound Foolish: The Left - Digit Effect in Price Cognition," *Journal of Consumer Research*, 32(1), 54–64.
- Urbanski, Al (2013), "Customer Switching Costs U.S. Marketers \$1.3 Trillion Annually," <https://www.dmnews.com/customer-experience/news/13058537/customer-switching-costs-us-marketers-13-trillion-annually>.
- van Tilburg, Wijnand A. P. and Eric R. Igou (2017), "Can Boredom Help? Increased Prosocial Intentions in Response to Boredom," *Self and Identity*, 16(1), 82–96.
- (2011), "On Boredom and Social Identity," *Personality and Social Psychology Bulletin*, 37(12), 1679–91.
- van Tilburg, Wijnand A.P., Eric R. Igou, and Constantine Sedikides (2013), "In Search of Meaningfulness: Nostalgia as an Antidote to Boredom," *Emotion*, 13(3), 450–61.
- Trijp, Hans C M Van, Wayne D Hoyer, and J Jeffrey Inman (1996), "Why Switch? Product Category: Level Explanations for True Variety-Seeking Behavior," *Journal of Marketing Research*, 33(3), 281–92.
- Tu, Lingjiang Lora and Yinlong Zhang (2017), "How Accepting Hierarchy Impacts Information Processing," in *Advances in Consumer Research*, ed. Ayelet Gneezy, Vladas Griskevicius, and Patti Williams, Duluth, MN: Association for Consumer Research, 922–23.
- Tversky, Barbara (1992), "Distortions in Cognitive Maps," *Geoforum*, 23(2), 131–38.

- Vogel-Walcutt, Jennifer J., Logan Fiorella, Teresa Carper, and Sae Schatz (2012), “The Definition, Assessment, and Mitigation of State Boredom Within Educational Settings: A Comprehensive Review,” *Educational Psychology Review*, 24(1), 89–111.
- Wang, Jessie J. and Ashok K. Lalwani (2018), “The Distinct Influence of Power Distance Perception and Power Distance Values on Customer Satisfaction in Response to Loyalty Programs,” *International Journal of Research in Marketing*, Article in press.
- Wang, Xuehua, Xiaoyu Wang, Xiang Fang, and Qingyun Jiang (2018), “Power Distance Belief and Brand Personality Evaluations,” *Journal of Business Research*, 84(March 2017), 89–99.
- Winterich, Karen Page and Michael J Barone (2011), “Warm Glow or Cold, Hard Cash? Social Identify Effects on Consumer Choice for Donation Versus Discount Promotions,” *Journal of Marketing Research*, 855–68.
- Winterich, Karen Page, Manish Gangwar, and Rajdeep Grewal (2018), “When Celebrities Count: Power Distance Beliefs and Celebrity Endorsements,” *Journal of Marketing*, 82(3), 70–86.
- Winterich, Karen Page and Yinlong Zhang (2014), “Accepting Inequality Deters Responsibility: How Power Distance Decreases Charitable Behavior,” *Journal of Consumer Research*, 41(August), 274–93.
- Wu, Pei-Hsun and Danny Tengti Kao (2011), “Goal Orientation and Variety Seeking Behavior: The Role of Decision Task,” *Journal of Economic Psychology*, 32(1), 65–72.
- Yoon, Song Oh, Kwanho Suk, Seon Min Lee, and Eun Young Park (2011), “To Seek Variety or Uniformity: The Role of Culture in Consumers’ Choice in a Group Setting,” *Marketing Letters*, 22(1), 49–64.

Zhang, Yinlong, Karen Page Winterich, and Vikas Mittal (2010), "Power Distance Belief and Impulsive Buying," *Journal of Marketing Research*, 47(5), 945–54.

Zhao, Xinshu, John G. Lynch, and Qimei Chen (2010), "Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis," *Journal of Consumer Research*, 37(2), 197–206.