

## Does Happiness Always Lead to Reliance on Feelings in Decision Making?

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### Abstract

Previous research has demonstrated that happy moods are known to promote feeling-based processing, whereas sad moods promote reason-based processing. The current research investigates a boundary condition for the effects of a happy mood on feeling-based decision making. This research proposes that the level of control (low vs. high) one exercises in a happy situation can promote a greater reliance on feelings (vs. reasons) in making judgments and decisions. Specifically, we hypothesize that (1) a happy individual in a situation where control level is low (vs. high) will be more likely to choose a cognitively (vs. affectively) superior option (hypothesis 1), and (2) a happy individual in a situation where control level is low (vs. high) will exert reason- (vs. feeling-) based processing (hypothesis 2). Consistent with the hypothesis 1, the results of two experiments show that happy individuals are more likely to choose cognitively versus affectively superior options in a situation where control level is low (vs. high). Moreover, the mediation analysis confirms that happy individuals are more likely to rely on cognitive, reason-based decision making when their control level is low, which supports the hypothesis 2.

**Keywords:** Happiness, Control, Feelings, Reasons

### 1. Introduction

Prior studies have suggested that consumer judgments and decisions can be made in either a cognitive, reason-based manner—by carefully assessing and weighing the target attributes [1] or in an affective, feeling-based manner—by using one’s subjective affective reactions toward the target or momentary feelings [2]. A growing body of studies have examined and identified a number of unique properties associated with these two modes of decision making. For instance, affective, feeling-based decision making tends to be faster [3] and more automatic [4]. Conversely, cognitive, reason-based decision making tends to be slower and more deliberate [3]. Moreover, compared to judgments and decisions based on cognitive reasoning, judgments and decisions based on affective feelings tend to be less sensitive to numerical quantities [5].

In addition, previous research has demonstrated that affects can lead to two modes of information processing styles (feelings vs. reasons). For example, happy moods are known to promote feeling-based, heuristic processing, while sad moods promote cognitive, reason-based, systematic processing [6]. In contrast, some

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findings suggest that the effects of a happy mood are flexible and context-dependent in such a way that happy moods may lead to analytic reasoning [7]. Thus, the current research focuses on happy moods and examines whether happy moods always lead to feeling-based decision making.

In particular, this research aims to examine a boundary condition for the effects of happiness on feeling-based decision making. That is, this research examines whether the level of control (low vs. high) one exercises in a happy situation may determine one's information processing style and judgment. Specifically, this research examines whether the high (vs. low) level of control one exercises in a happy situation can promote a greater reliance on feelings (vs. reasons) in making judgments and decisions.

## **2. Theoretical Background and Hypotheses Development**

In the consumer context, happiness has been described as people's evaluations of their lives and encompasses both cognitive judgments of satisfaction and affective appraisals of moods and emotions [8]. Subjective well-being views happiness as hedonic pleasure [9] and studies it as an overall evaluation of quality of life [10]. With time, in the consumer context, happiness was examined through the lens of subjective well-being [11], eudaemonism and hedonism [12]. Prior research has shown that a human's emotional state (happiness) influences decisions toward life [13]. Marketers realized the importance of happiness and acknowledged that happy consumers will be more satisfied and will generate significant revenue for the company [14]. Thus, marketing scholars directed their focus toward the consumer's happiness and explored basic questions such as what makes consumers happy [15-17]. Subsequently, the literature witnessed the recent growth of consumer happiness research [18-21].

Positive and negative moods may act as a motivator of behavioral predispositions, motives for action, and information processing [22, 23]. For example, happy individuals tend to process information in a less elaborated and systematic manner than do people in a negative mood, but happy people will process information more systematically if it helps them maintain their positive mood. Happy people also tend to be more creative and efficient in their decisions, and they may avoid negative events and outcomes in order to maintain their positive mood state [24, 25].

Control can be defined as "a feeling that one can affect things in predictable ways" [26]. Literature suggests that the situation controlled by self versus others is often used as one dimension for differentiating cognitive appraisals in emotion [27]. Thus, this research centers on whether the control is attributed to oneself or to others. When control is attributed to oneself (others), one has a high (low) level of control [28]. When a person has a high level of control (or perceives that he/she takes control of the environment), one feels a greater level of confidence and certainty [29]. The heightened sense of self-confidence may signal that everything is under control, and that there is no need to extend one's cognitive effort.

In a similar vein, consistent with the notion that power increases a sense of confidence, research has demonstrated that high- (vs. low-) power individuals are more likely to exhibit overconfidence in decision making [30], express (vs. inhibit) their attitudes [31], and take actions rather than stay put [32]. In addition, people are more likely to rely on their feelings under conditions of high (vs. low) personal certainty [33]. Given that certainty is closely related with confidence [34], thus, prior research has shown that consumers who feel powerful (vs. powerless) would exhibit a greater relative reliance on feelings versus reasons in decision making [35]. As a result, when a happy individual's control level is high, he/she is more likely to rely on feelings (vs. reasons) in decision making. In contrast, when the level of control is low (i.e., when others are in control of the environment), a lack of one's ability to control may alert oneself to engage in deliberative and careful

thinking for possible contingencies surrounding the environment.

Consequently, we hypothesize that a happy individual in a situation where control level is low (vs. high) will be more likely to choose a cognitively (vs. affectively) superior option (hypothesis 1). As these effects are driven by two different modes of information processing styles, we further predict that a happy individual in a situation where control level is low (vs. high) will exert reason- (vs. feeling-) based processing (hypothesis 2).

### **3. Experiment 1**

#### **3.1 Method**

Experiment 1 was conducted to test the hypothesis 1. That is, we examine whether a happy individual in a situation where control level is low (vs. high) will be more likely to choose a cognitively (vs. affectively) superior option. In Experiment 1, we recruited 142 US participants (female: 51.6%,  $M_{\text{age}} = 33.76$ ). They were randomly assigned to one of the three conditions: (1) happy & high-control, (2) happy & low-control, and (3) neutral conditions. For the mood induction, we followed the procedure from previous research [36]. Specifically, we asked participants to write one's personal experience when they felt happy and when the situation was controlled by self (or others). For the neutral condition, participants recalled and wrote their daily routine activities.

For a dependent variable, two types of calculators were presented to all the participants: a cognitively superior option and an affectively superior option [37]. Then, the participants indicated their purchase intention of the two calculators (1: definitely not, 9: definitely). We subtracted the scores of a cognitively superior option from an affectively superior option. Participants also rated how much of a certain emotion they felt (1: not at all, 7: very much) and evaluated items related to dimensional ratings [27]. Finally, they answered some demographic questions, and they were asked for the purpose of study. No one correctly guessed it.

#### **3.2 Results**

In Experiment 1, ANCOVA (covariates: preference toward calculators, gender, and age) was performed, and the results showed a significant main effect of control (low vs. high) on participants' purchase intention ( $p = .043$ ), which supports the hypothesis 1. That is, happy participants in a situation controlled by others (vs. oneself) were found to choose a cognitively (vs. affectively) superior option. Specifically, participants in the happy & low-control condition showed higher purchase intention toward the cognitively superior option than those in the happy & high-control condition ( $M_{\text{high}} = -.58$  vs.  $M_{\text{low}} = .07$ ;  $p = .02$ ). Also, participants in the happy & low-control condition showed higher purchase intention toward the cognitively superior option than those in the neutral condition ( $M_{\text{low}} = .07$  vs.  $M_{\text{neutral}} = .40$ ;  $p = .048$ ).

### **4. Experiment 2**

#### **4.1 Method**

Experiment 2 was conducted to test the hypotheses 1 and 2. That is, we examine whether (1) a happy individual in a situation where control level is low (vs. high) will be more likely to choose a cognitively (vs. affectively) superior option, and (2) a happy individual in a situation where control level is low (vs. high) will exert reason- (vs. feeling-) based processing. In Experiment 2, we recruited 88 US participants (female: 48.9%,  $M_{\text{age}} = 32.7$ ). The procedure of Experiment 2 was essentially similar to the one in Experiment 1, except for a few changes: (1) different stimuli (i.e., drinks) were used for the generalizability of the findings (i.e., a cognitively superior option and an affectively superior option), (2) the price level of the given stimuli was

controlled to be similar, and (3) participants reported their relative reliance on feelings versus reasons in making the decision (1: strongly disagree, 7: strongly agree). Two types of drinks were presented to all the participants: an affectively superior option (i.e., a drink with aesthetic package design) and a cognitively superior option (i.e., a drink with typical package design) [38]. Participants were randomly assigned to either of two conditions: happy & high-control and happy & low-control conditions.

## 4.2 Results

Consistent with the hypothesis 1, the results of Experiment 2 also showed a significant effect of control (low vs. high) on participants' choice for a drink ( $\chi^2(1) = 4.507, p = .034$ ) (see Table 1). That is, happy participants in a situation controlled by others (vs. oneself) were found to choose a cognitively (vs. affectively) superior option. Specifically, participants in the happy & high-control condition chose more affectively superior drinks (64.4%) than those in the happy & low-control condition (41.9%). Likewise, participants in the happy & low-control condition chose more cognitively superior drinks (58.1%) than those in the happy & high-control condition (35.6%).

**Table 1. Results of experiment 2: choice**

	Happy & high control (n = 45)	Happy & low control (n = 43)
	Choice (%)	Choice (%)
Affectively superior drinks	64.4	41.9
Cognitively superior drinks	35.6	58.1

More importantly, to assess the extent to which relative reliance on feeling- (vs. reason-) based processing mediates the effect of happiness on choice under high (vs. low) control condition, we conducted a BC bootstrapping analysis [39]. Bootstrapping involves the repeated extraction of samples from the data set, in which we used 5,000 samples, and the estimation of the indirect effect in each resampled data set. In support of the hypothesis 2, happy participants in a situation controlled by others (vs. oneself) were found to exert reason- (vs. feeling-) based processing. Specifically, first, when the mediator was created by subtracting reason-based processing from feeling-based processing, the total indirect effect through relative reliance on feeling- (vs. reason-) based processing as a mediator has a 95% BC bootstrap CI of 0.0066 and 0.7371 with an estimate of .2256 (i.e., CI does not include zero) (see Figure 1). Next, when the mediator was created by dividing feeling-based processing by reason-based processing, the total indirect effect through relative reliance on feeling- (vs. reason-) based processing as a mediator has a 95% BC bootstrap CI of 0.0151 and 0.8918 with an estimate of .2732 (i.e., CI does not include zero) (see Figure 2). In summary, the results indicate that the mediation was significant. That is, the participants in the happy & high-control condition were found to rely on affective, feeling-based decision making, while the participants in the happy & low-control condition were found to be rely on cognitive, reason-based decision making.

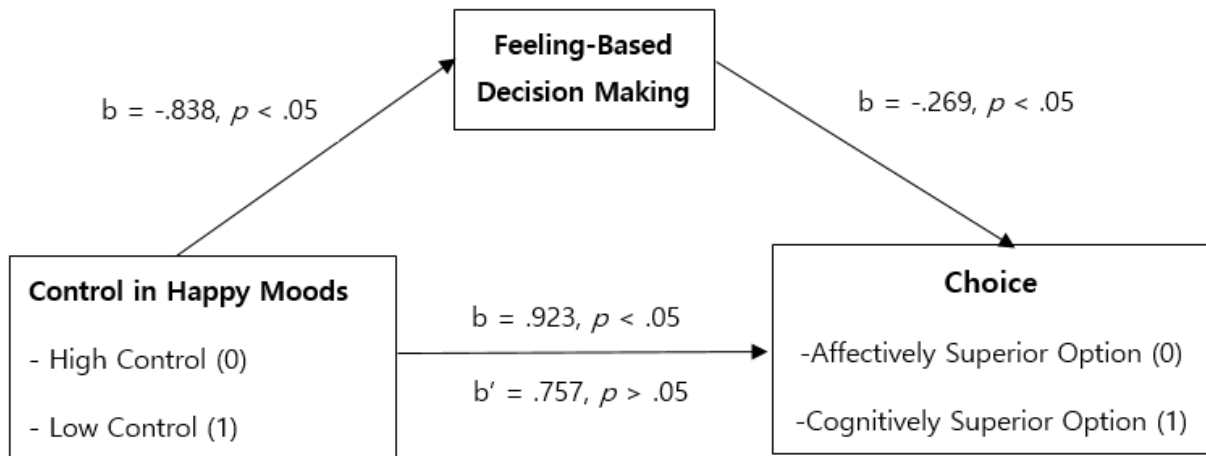


Figure 1. Results of mediation analysis (1)

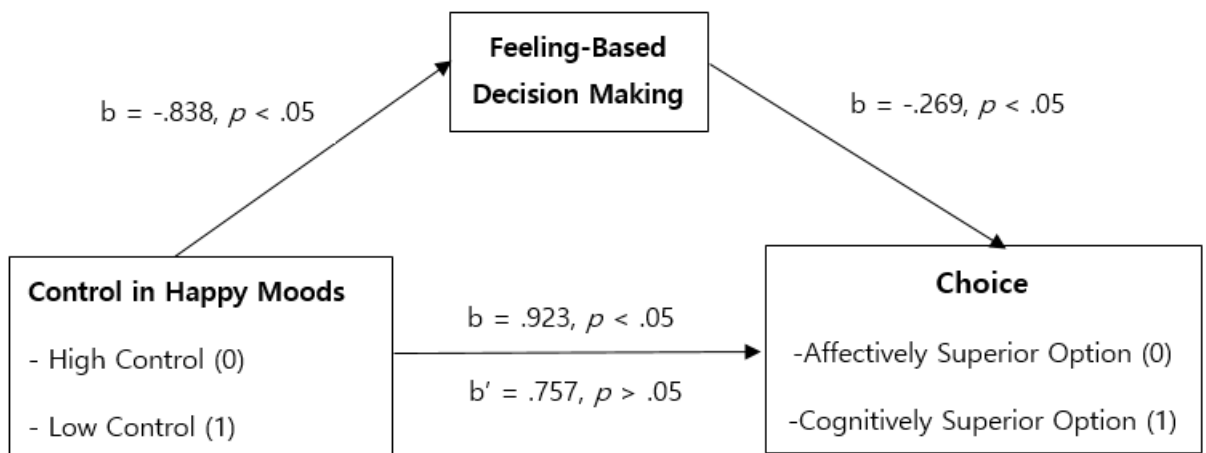


Figure 2. Results of mediation analysis (2)

## 5. Conclusion

The present research examined a boundary condition for the effects of happiness on feeling-based decision making. This research examined whether the high (vs. low) level of control one exercises in a happy situation can promote a greater reliance on feelings (vs. reasons) in making judgments and decisions. Specifically, we proposed that (1) a happy individual in a situation where control level is low (vs. high) will be more likely to choose a cognitively (vs. affectively) superior option (hypothesis 1), and (2) a happy individual in a situation where control level is low (vs. high) will exert reason- (vs. feeling-) based processing (hypothesis 2).

Two experiments were conducted to test the hypotheses 1 and 2. Consistent with the hypothesis 1, the results of two experiments show that happy participants in a situation controlled by others (vs. oneself) were found to choose a cognitively (vs. affectively) superior option. That is, it was found that happy individuals are more likely to choose cognitively versus affectively superior options in a situation where control level is low (vs. high). Furthermore, in support of the hypothesis 2, the results of mediation analysis show that happy

participants in a situation controlled by others (vs. oneself) were found to exert reason- (vs. feeling-) based processing. That is, it was found that happy individuals are more likely to rely on affective, feeling-based decision making when their control level is high, whereas happy individuals are more likely to rely on cognitive, reason-based decision making when their control level is low.

In sum, our findings suggest that happy moods may not always lead to decisions based on feelings. More importantly, the findings show that happy individuals use two modes of decision making (feelings vs. reasons) depending on the level of control (i.e., whether the controllability originates from others as opposed to one's self). In a theoretical perspective, we contribute to extant literature by showing two modes of decision making (feelings vs. reasons) of a happy mood, suggesting that the level of control (low vs. high) may influence which modes of processing to use. In a managerial perspective, these findings are important for practitioners to consider. Marketers who attempt to sell cognitively (affectively) superior items should not only make their consumers feel happy but also coax the consumers' perception of their own level of control to be low (high) in order to increase sales.

Although this research has some important implications for academic researchers and practitioners, it is not without limitations. First, it would be good for future research to examine if the findings are applicable to other types of cognitively or affectively superior options in order to enhance the generalizability. Second, it would be necessary for future research to investigate if individuals' level of control impacts their reliance on reasons versus feelings in making judgments and decisions when individuals are in different types of moods (e.g., sad moods). Finally, future research should consider other factors affecting happy individuals' reliance on feelings (vs. reasons) in making judgments and decisions.

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## References

- [1] E. Shafir, I. Simonson, and A. Tversky, "Reason-Based Choice," *Cognition*, Vol. 49, pp. 11-36, October–November 1993. DOI: [https://doi.org/10.1016/0010-0277\(93\)90034-S](https://doi.org/10.1016/0010-0277(93)90034-S).
- [2] M. T. Pham, "Representativeness, Relevance, and the Use of Feelings in Decision Making," *Journal of Consumer Research*, Vol. 25, No. 2, pp. 144-159, September 1998. DOI: <https://doi.org/10.1086/209532>.
- [3] M. T. Pham, J. B. Cohen, J. W. Pracejus, and G. D. Hughes, "Affect Monitoring and the Primacy of Feelings in Judgment," *Journal of Consumer Research*, Vol. 28, No. 2, pp. 167-188, September 2001. DOI: <https://doi.org/10.1086/322896>.
- [4] R. B. Zajonc, "Feeling and Thinking: Preferences Need No Inferences," *American Psychologist*, Vol. 35, No. 2, pp. 151-175, February 1980. DOI: <https://doi.org/10.1086/322896>.
- [5] C. K. Hsee and Y. Rottenstreich, "Music, Pandas, and Muggers: On the Affective Psychology of Value," *Journal of Experimental Psychology: General*, Vol. 133, No. 1, pp. 23-30, March 2004. DOI: <https://doi.org/10.1037/0096-3445.133.1.23>.
- [6] J. S. Lerner, Y. Li, P. Valdesolo, and K. S. Kassam, "Emotion and Decision Making: Online Supplement," *Annual Review of Psychology*, Vol. 66, pp. 799-823, January 2015. DOI: <https://doi.org/10.1146/annurev-psych-010213-115043>.
- [7] M. Hunsinger, L. M. Isbell, and G. L. Clore, "Sometimes Happy People Focus on the Trees and Sad People Focus on the Forest Context-Dependent Effects of Mood in Impression Formation," *Personality and Social Psychology Bulletin*, Vol. 38, No. 2, pp. 220-232, February 2012. DOI: <https://doi.org/10.1177/0146167211424166>.
- [8] N. Dhiman and A. Kumar, "What We Know and Don't Know About Consumer Happiness: Three-Decade Review,

- Synthesis, and Research Propositions,” *Journal of Interactive Marketing*, Vol. 58, No. 2-3, pp. 115-135, 2023.  
DOI: <https://doi.org/10.1177/10949968221095548>.
- [9] Y. Chen, M. Yao, and W. Yan, “Materialism and Well-Being Among Chinese College Students: The Mediating Role of Basic Psychological Need Satisfaction,” *Journal of Health Psychology*, Vol. 19, No. 10, pp. 1232-1240, 2014.  
DOI: <https://doi.org/10.1177/1359105313488973>.
- [10] S. Ni and K. Ishii, “The Influence of Shopping on Subjective Well-Being in China: Tradition-Directedness and Trust as Moderators,” *Asia Pacific Journal of Marketing and Logistics*, Vol. 31, No. 1, pp. 184-201, 2019.  
DOI: <https://doi.org/10.1108/APJML-12-2017-0320>.
- [11] J. S. Lapinski, C. R. Riemann, R. Y. Shapiro, M. F. Stevens, and L. R. Jacobs, “Welfare State Regimes and Subjective Well-Being: A Cross-National Study,” *International Journal of Public Opinion Research*, Vol. 10, No. 1, pp. 2-24, 1998. DOI: <https://doi.org/10.1093/ijpor/10.1.2-a>.
- [12] E. Diener, E. M. Suh, R. E. Lucas, and H. L. Smith, “Subjective Well-Being: Three Decades of Progress,” *Psychological Bulletin*, Vol. 125, No. 2, pp. 276-302, 1999. DOI: <https://doi.org/10.1037/0033-2909.125.2.276>.
- [13] S. Lyubomirsky, L. King, and E. Diener, “The Benefits of Frequent Positive Affect: Does Happiness Lead to Success?” *Psychological Bulletin*, Vol. 131, No. 6, pp. 803-855, 2005.  
DOI: <https://doi.org/10.1037/0033-2909.131.6.803>.
- [14] M. A. M. D. Basari and M. F. Shamsudin, “Does Customer Satisfaction Matters?” *Journal of Undergraduate Social Science and Technology*, Vol. 2, No. 1, pp. 1-15, 2020. DOI: <http://abrn.asia/ojs/index.php/JUSST/article/view/59>.
- [15] A. De Keyser and B. Lariviere, “How Technical and Functional Service Quality Drive Consumer Happiness: Moderating Influences of Channel Usage,” *Journal of Service Management*, Vol. 25, No. 1, pp. 30-48, 2014.  
DOI: <https://doi.org/10.1108/JOSM-04-2013-0109>.
- [16] D. Li and L. Atkinson, “The Role of Psychological Ownership in Consumer Happiness,” *Journal of Consumer Marketing*, Vol. 37, No. 6, pp. 629-638, 2020. DOI: <https://doi.org/10.1108/JCM-09-2019-3420>.
- [17] G. Zhan and Z. Zhou, “Mobile Internet and Consumer Happiness: The Role of Risk,” *Internet Research*, Vol. 28, No. 3, pp. 785-803, 2018. DOI: <https://doi.org/10.1108/IntR-11-2016-0340>.
- [18] O. Berezan, A. S. Krishen, S. Agarwal, and P. Kachroo, “The Pursuit of Virtual Happiness: Exploring the Social Media Experience Across Generations,” *Journal of Business Research*, Vol. 89, pp. 455-461, August 2018.  
DOI: <https://doi.org/10.1016/j.jbusres.2017.11.038>.
- [19] M. C. Gupta, “Appreciation and Happiness,” *Indian Journal of Positive Psychology*, Vol. 10, No. 1, pp. 34-37, 2019.  
DOI: <https://doi.org/10.15614/ijpp/2019/v10i1/185285>.
- [20] C. Mogilner, N. Aaker, and S. D. Kamvar, “How Happiness Affects Choice,” *Journal of Consumer Research*, Vol. 39, No. 2, pp. 429-443, August 2012. DOI: <https://doi.org/10.1086/663774>.
- [21] L. Van Boven and T. Gilovich, “To Do or To Have: That is the Question,” *Journal of Personality and Social Psychology*, Vol. 85, No. 6, pp. 1193-1202, 2003. DOI: <https://doi.org/10.1037/0022-3514.85.6.1193>.
- [22] M. Luce, J. Bettman, and J. W. Payne, “Choice Processing in Emotionally Difficult Decisions,” *Journal of Experimental Psychology: Learning, Memory, and Cognition*, Vol. 23, No. 2, pp. 384-405, 1997.  
DOI: <https://doi.org/10.1037/0278-7393.23.2.384>.
- [23] R. Raghunathan and M. T. Pham, “All Negative Moods Are Not Equal: Motivational Influence of Anxiety and Sadness on Decision Making,” *Organizational Behavior and Human Decision Processes*, Vol. 79, No. 1, pp. 56-77, July 1999. DOI: <https://doi.org/10.1006/obhd.1999.2838>.
- [24] J. P. Forgas, “Mood and Judgment: The Affect Infusion Model (AIM),” *Psychological Bulletin*, Vol. 117, No. 1, pp. 39-66, 1995. DOI: <https://doi.org/10.1037/0033-2909.117.1.39>.
- [25] H. Mano, “Judgments under Distress: Assessing the Role of Unpleasantness and Arousal in Judgment Formation,” *Organizational Behavior and Human Decision Processes*, Vol. 52, No. 2, pp. 216-245, July 1992.  
DOI: [https://doi.org/10.1016/0749-5978\(92\)90036-7](https://doi.org/10.1016/0749-5978(92)90036-7).
- [26] K. van den Bos, “Making Sense of Life: The Existential Self Trying to Deal with Personal Uncertainty,” *Psychological Inquiry*, Vol. 20, No. 4, pp. 197-217, December 2009.  
DOI: <https://doi.org/10.1080/10478400903333411>.
- [27] C. A. Smith and P.C. Ellsworth, “Patterns of Cognitive Appraisals in Emotion,” *Journal of Personality and Social*

- Psychology*, Vol. 48, No. 4, pp. 813-838, April 1985. DOI: <https://doi.org/10.1037/0022-3514.48.4.813>.
- [28] K. M. Cutright and A. Samper, "Doing It The Hard Way: How Low Control Drives Preferences for High-Effort Products and Services," *Journal of Consumer Research*, Vol. 41, No. 3, pp. 730-745, October 2014. DOI: <https://doi.org/10.1086/677314>.
- [29] E. J. Langer, "The Illusion of Control," *Journal of Personality and Social Psychology*, Vol. 32, No. 2, pp. 311-328, August 1975. DOI: <https://doi.org/10.1037/0022-3514.32.2.311>.
- [30] N. J. Fast, D. H. Gruenfeld, N. Sivanathan, and A. D. Galinsky, "Illusory Control: A Generative Force Behind Power's Fast-Reaching Effects," *Psychological Science*, Vol. 20, No. 4, pp. 502-508, April 2009. DOI: <https://doi.org/10.1111/j.1467-9280.2009.0231>.
- [31] C. Anderson and A. D. Galinsky, "Power, Optimism, and Risk-Taking," *European Journal of Social Psychology*, Vol. 36, No. 4, pp. 511-536, July 2006. DOI: <https://doi.org/10.1002/ejsp.324>.
- [32] A. D. Galinsky, D. H. Gruenfeld, and J. C. Magee, "From Power to Action," *Journal of Personality and Social Psychology*, Vol. 85, No. 3, pp. 453-466, 2003. DOI: <https://doi.org/10.1037/0022-3514.85.3.453>.
- [33] P. Müller, R. Greifeneder, D. Stahlberg, K. Van den Bos, and H. Bless, "Shaping Cooperation Behavior: The Role of Accessibility Experiences," *European Journal of Social Psychology*, Vol. 40, No. 1, pp. 178-187, 2010. DOI: <https://doi.org/10.1002/ejsp.632>.
- [34] B. W. Pelham, "On Confidence and Consequences: The Certainty and Importance of Self-Knowledge," *Journal of Personality and Social Psychology*, Vol. 60, No. 4, pp. 518-530, 1991. DOI: <https://doi.org/10.1037/0022-3514.60.4.518>.
- [35] Y. Huang, H. Chang, and J. Hong, "The Impact of Power on Reliance on Feelings versus Reasons in Decision Making," *Association for Consumer Research*, Vol. 44, pp. 490-492, October 2016.
- [36] L. Z. Tiedens and S. Linton, "Judgment Under Emotional Certainty and Uncertainty: The Effects of Specific Emotions on Information Processing," *Journal of Personality and Social Psychology*, Vol. 81, No. 6, pp. 973-988, December 2001. DOI: <https://doi.org/10.1037/0022-3514.81.6.973>.
- [37] C. Townsend and S. Sood, "Self-Affirmation Through the Choice of Highly Aesthetic Products," *Journal of Consumer Research*, Vol. 39, No. 2, pp. 415-428, August 2012. DOI: <https://doi.org/10.1086/663775>.
- [38] M. Reimann, J. Zaichkowsky, C. Neuhaus, T. Bender, and B. Weber, "Aesthetic Package Design: A Behavioral, Neural, and Psychological Investigation," *Journal of Consumer Psychology*, Vol. 20, No. 4, pp. 431-441, October 2010. DOI: <https://doi.org/10.1016/j.jcps.2010.06.009>.
- [39] K. J. Preacher and F. H. Andrew, "Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models," *Behavior Research Methods*, Vol. 40, No. 3, pp. 879-891, August 2008. DOI: <https://doi.org/10.3758/BRM.40.3.879>.