

What Regulatory Mode tells us about Body Movement, Assortments and Missed Opportunities.

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What Regulatory Mode tells us about

Body Movement, Assortments and Missed Opportunities.

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I thesis in fulfillment of the requirements for the degree of

Doctor of Philosophy



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Glossary

Assessment. A motivation for “critically evaluating entities or states, such as goals or means, in relation to alternatives in order to judge relative quality” (Kruglanski et al., 2000, p.794)

Body Movement. A behavior that involves a change in the position of all or part of the body

Inaction inertia. The phenomenon where people, as a result of a missed opportunity to make a purchase, avoid making a slightly less attractive purchase (Tykocinski, 1995).

Locomotion. A motivation for “movement from state to state and with committing the psychological resources that will initiate and maintain goal-related movement in a straightforward and direct manner, without undue distractions or delays”

Movement. A change from one state to the next

PRM. A person’s predominant regulatory mode orientation (locomotion or assessment)

Regulatory mode theory. A theory that distinguishes between assessment orientations and locomotion orientations as two independent functions of self-regulation.

Regulatory fit theory. A theory that postulates how pursuing a goal in a manner that fits with customers’ goal orientation (such as assessment or locomotion) intensifies their experience of value (Higgins, 2006; Higgins, Idson, Freitas, Spiegel, & Molden, 2003).

Value-from-fit. The experience of value that results from pursuing a goal in a manner that fits goal orientations.

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Frank Mathmann, Sydney, Australia

Chapter 1. Introduction

1.1 The changing decision-making environment: Body movement, large assortments and missed opportunities

The demands that are placed onto consumers are changing dramatically. Today's decision-making environments require significantly less physical movement than those of the past. At the same time customers are faced with steadily increasing offers to evaluate and information to consider. A number of developments feed into this: Globally, rapidly urbanizing populations can expect to find convenience stores with a large offering of products within close proximity to their home and workplace. There is no need to walk to the next village for bare necessities. Online retailers such as Amazon, iTunes or Netflix allow customers to select from thousands of movies, hundreds of thousands of books, or millions of songs with little more body movement required than just reaching for the phone or activating voice control. New developments such as drone delivery services (e.g. DHLs "parcelcopter") and personal 3D printing companies such as MakerBot Industries promise a future in which customers are relieved from the necessity of leaving their homes while being provided with ever-more and ever-changing product assortments. While on the surface this seems to benefit customers, it is questionable whether these new one-size fits all changes really fit all consumers. This question is particularly important in a time where lack of exercise, excessive screen time and student cramming contribute to a number of health issues such as obesity and excessive stress.

This is also a problem for consumers at the point of purchase, as physically static shopping experiences often lack the experience of progress in ones' activities that body movement can provide. With physical or body movement we refer to a

behavior that involves a change in the position of all or part of the body. But decreasing movement is not the only change that consumers are confronted with. Growing assortments on the other hand require customers to evaluate perpetually expanding options, causing confusion and missed opportunities, placing demands on customers that might not be pleasurable to everyone. A small number of companies seem to go against this trend as they have now begun to reengineer physical movement into shopping experiences while at the same time simplifying decision-making environments. One example for this is Apple, who encourages customers to browse through its relatively small product assortment in highly walkable, wide and open retail stores. Pizza Hut allows pedestrians, to choose from a relatively small assortment at the express bar without having to sit down or physically remain static in a lengthy line. Similarly, Adidas installed treadmills in shopping centers that would reward runners with gifts based on their energy expenditure as part of a promotion for its Adidas Boost shoe. A remarkable detail about this example is that consumers don't actually need to change their physical position for physical movement. What these developments have in common is that they require less comparison and evaluation while allowing for more physical movement. It has remained virtually untested however whether customers do in fact differ in their reactions to body movement, large assortments and missed opportunities. In order to address this issue, we aim to develop insights into how these factors suit the needs of some customers but not others.

1.2 What we don't know about body movement, large assortments and missed opportunities.

Previous theorizing on the consequences of body movement, large assortments and missed opportunities for consumer decision-making has been oversimplified.

Individual difference considerations have found little attention in this literature. Previous research worked on the assumption that individuals react homogeneously to physical interactions with the environment (Meier, Schnall, Schwarz & Bargh, 2012), that all consumers profit from large opportunities and that everybody hates missing out on large assortments to the same degree. Across three research projects, we challenge these assumptions. Altogether, this dissertation emphasizes that while previous literature limited itself to the simple effects of these retail environments, what really drives valuation is their interplay with how consumers make decisions. Beyond this general contribution, we can identify three specific gaps in the literature.

Firstly, theories on value creation need to be extended in order to see whether physical movement can influence product valuation. Previous theorizing proposes that value is intensified when we pursue activities in a way that suits established concerns (Higgins, 2000, 2006). Building on this logic, previous studies showed that employing strategies that benefit established goals can increase value perceptions for products (Avnet & Higgins, 2003). Concrete behaviors, such as body movement as a tool for value creation, have found little attention in the literature, however. An example for such a behavior is a scenario where a customer tests running shoes on an in-store treadmill. Would this behavior intensify value perceptions for individuals with an established concern for psychological movement? The literature has yet to be extended in order to test whether such a match could increase product valuation.

While movement represents one important aspect of the changes in consumer decision-making environments, increasing assortment sizes and the resulting growth in information processing demands typifies the other side of the coin. Also within the literature on assortment size, there is a need for further research as current literature is contradictory. Studies on large assortments using the “option overload” perspective

has stressed the negative effects of assortments (i.e. Iyengar & Lepper, 2000), while research using the “more is better” perspective emphasize mostly positive effects (i.e. Kahn & Wansink, 2004) (for a review see Scheibehenne, Greifeneder, & Todd, 2010). In line with these contradictions, there is a need for research on conditions under which the “option overload” or the “more is better” perspective predominate (Chernev, Böckenholt, & Goodman, 2010).

A second aspect of this increase in demands for customer evaluation – missed opportunities – can be seen as a result of the increasing assortment sizes (Iyengar & Lepper, 2000). Research on missed opportunities, however, is an important field in its own right. Within this field, it has been demonstrated that missed purchase opportunities can decrease purchase likelihood for consecutive opportunities (Tykocinski, 1995). More specifically the size of the missed opportunity has been identified as a crucial factor. It remains largely unknown, however, what psychological mechanisms drive these effects. We will focus on individual or situational differences that sensitize individuals to the size of missed opportunities. Overall, we illustrate the importance of goal orientations in these environments in terms of individual differences as well as temporary situational inductions.

1.3 Regulatory mode and fit theory as a unifying framework

In order to address the aforementioned gaps in the literature, we turn to a theoretical framework with two components: regulatory mode and regulatory fit.

Firstly, we aim to understand different modes of decision-making in terms of individual and situational differences. Regulatory mode theory can help us to approach these challenges. Regulatory mode theory (Higgins, Kruglanski, & Pierro, 2003; Kruglanski et al., 2000) distinguishes between assessment and locomotion orientations as two independent functions of self-regulation. Assessment “constitutes

the comparative aspect of self-regulation concerned with critically evaluating entities or states, such as goals or means, in relation to alternatives in order to judge relative quality” (Kruglanski et al., 2000, p.794). Customers with a strong assessment orientation want to compare all options and search for new courses of action in order to make the right choice. They critically relate past and future actions to standards and aim to maximize investment of psychological resources towards this goal.

Locomotion, in contrast, “constitutes the aspect of self-regulation concerned with movement from state to state and with committing the psychological resources that will initiate and maintain goal-related movement in a straightforward and direct manner, without undue distractions or delays” (Kruglanski et al., 2000, p.794).

Individuals with strong locomotion concerns enjoy the experience of change from one state to the next. They “just do it”. Locomotion and assessment orientations can be differentially emphasized by individuals, either momentarily induced or chronically as a personality disposition. This adds to the practical value of this theory in Marketing because retailers can measure chronic assessment and locomotion as personality dispositions as part of their online and offline questionnaires when customers enter sales environments (i.e. Are you a critical person?) (Kruglanski et al. 2000). Alternatively, assessment and locomotion can also be induced momentarily as part of advertisements (Just do it) or sales talks (i.e. Think back to the times when you acted like a “doer”) (Avnet & Higgins, 2003). Also, from a theoretical point of view, Regulatory Mode theory is very interesting as it suggests that while locomotion and assessment can predominate one another in some situations and for some individuals, these two dimensions are relatively independent. (Kruglanski et al. 2000) Regulatory mode theory is unique and different from classic control theory in this way, which depicts assessment and locomotion orientations as inseparable components of any

action (e.g., Carver & Scheier, 1981). Consequently, regulatory mode theory allows us to test for the effect of these two motivations separately when this is more applicable from a theoretical point of view. This is important, as we argue that for the case of product assortment size and missed opportunity size, assessment, but not locomotion, is relevant. More specifically, we posit that for these cases, strength of assessment would be more relevant, as, uniquely this orientation is concerned with comparing options and evaluating present actions in terms of past standards.

In the second part of our theoretical framework, we consider the relation between the retail environment and these self-regulatory orientations in order to see how retailers can create value by knowing or changing customers' locomotion and assessment orientations. Regulatory fit theory can help us to achieve this objective. This theory is based on the idea that pursuing a goal in a manner that fits with customers' goal orientation (i.e. a high assessment orientation) intensifies their experience of value (Higgins, 2006; Higgins, Idson, Freitas, Spiegel, & Molden, 2003). Or, in terms of the regulatory mode theory fit means that, that for an assessor pursuing goals in a manner that involves thinking intensifies his or her experience of value. In line with this theory, previous studies showed that employing strategies to achieve goals in a manner that suits locomotion and assessment orientations can increase value perceptions for products (Avnet & Higgins, 2003). In a retail context, this implies that consumers with high (*vs.* low) assessments orientation should value a product more when purchasing that product involves making many comparisons. For high (*vs.* low) locomotors, on the other hand, purchases that involve change from one state to the next should have this effect. Heightened product valuations, in turn, could increase sales or enable retailers to ask for higher prices.

1.4 Research Questions and Objectives

The primary objective of this research is to employ and extend regulatory mode and regulatory fit theory as frameworks that capture customers' decisions in environments with varying degrees of physical movement, varying numbers of assortment options and missed opportunities. Consequently, three core questions are explored throughout this research:

1. Can physical movement create value from regulatory fit depending on consumers' locomotion and assessment orientations?
2. How do locomotion and assessment orientations influence perceived value for products chosen from small vs. large product assortments?
3. How do locomotion and assessment orientations influence purchase decisions after customers miss an attractive opportunity?

1.5 Structure

This dissertation is organized in a series of three related papers, each presented in a separate chapter. As part of these research projects, 9 studies demonstrate how the interplay between goal orientations (particularly assessment orientations) and the retail environment impact customers' purchase likelihood and value experiences. Chapters 2-4 describe a research project with three studies each. Research projects follow a paper-like structure beginning with an introduction. Each project then takes a unique perspective on regulatory mode theory, regulatory fit theory (chapter 2 and 3 only) and the concepts in discussion: In chapter 2, for example, we contribute to previous theorizing on regulatory fit theory, chapter 3 explores the importance of assessment concerns for understanding the effects of small (vs. large) assortments, and chapter 4 concludes by illustrating how assessment concerns sensitize consumers

to the size of missed opportunities. Every chapter features three experiments, each of which serves the larger contribution of that particular chapter by extending previous theorizing.

More specifically, in chapter 2 we show that physical movement during shopping experiences leads to regulatory fit, and thereby increases perceived product value for predominant locomotors, while physical stasis has this effect on predominant assessors. We generalize this effect to different types of body movement across three experiments and show that it increases customer's monetary offers for products (experiment 1), value perceptions (experiment 2) and likelihood of purchase (experiment 3). This project is of high relevance for Brick and Mortar retailers, specifically as it allows them to differentiate themselves from the predominantly static online shopping experiences by building physical movement into the shopping experience. Also from a theoretical perspective our finding is important, as regulatory fit theory has not yet been extended to simple behaviors such as physical movement as a source of fit.

In chapter 3, we illustrate how individuals with strong (vs. weak) assessment orientations assign higher value to products chosen from large (vs. small) assortments. Also, this finding has important implications for retailers, as these are constantly faced with the question of whether or not they should expand their assortments. Chapter 3 helps with this question as we show for which customers and in what situations investments in large assortments result in increased product valuation. This project also furthers theoretical development as we reconcile opposing views on the effects of product assortment size (Chernev, Böckenholt, & Goodman, 2010). Our theorizing is tested across three experiments: In the first experiment, we show that priming assessment, for example in an advertisement, increases the valuation of ice

cream customized from a large (vs. small) choice assortments. The second experiment replicates this finding by showing that individuals with chronically strong assessment orientations show increased value perceptions for cinema tickets chosen from a large assortment. This is important as companies could measure these orientations with market research surveys. A third experiment tests complete assortment as an important boundary condition. More specifically we illustrate that high assessment orientations increase product valuation for small rather than large assortments if these represent the entire market.

Chapter 4 demonstrates that individuals with strong assessment orientations are more sensitive to the size of missed opportunities on present purchase likelihood. From a theoretical perspective, this finding is interesting as it extends previous explanations for the effect of missed opportunity size. Retailers can use this knowledge to increase post-promotion sales. Also this project has three experiments. In the first one, we show that experimentally inducing assessment (vs. locomotion) motivations increases sensitivity to missed opportunities. In experiment 2, we extend this finding by also showing that also chronic individual differences in assessment orientations have this effect. Finally, the third experiment reproduces this finding for situations where the missed opportunity was strongly related to the focal purchase. Each chapter features its own discussion, including practical and theoretical implications, limitations and future research. The final chapter of this dissertation offers a general discussion of all three projects. Table 1.1 summarizes the structure of this document further, while Table 1.2 further illustrates the similarities among projects.

Table 1.1: Overview of research projects

Project	Body Movement	Assortment Size	Missed Opportunity size
Managerial contribution	Retailers can increase value perceptions for products by building physical movement into shopping experiences.	Retailers with large assortments can increase value by priming assessment or targeting customers with strong assessment orientations.	Retailers can increase sales after small promotions by priming assessment or targeting customers with strong assessment orientations.
Theoretical contribution	Regulatory fit theory extends to behaviors as a source of value-from-fit.	Effects of Assortment size depend on customers' assessment orientations.	assessment orientations increase sensitivity to the size of missed opportunities.
Hypothesis	Purchase experiences that involve body movement (<i>vs.</i> stasis) increase product valuation for predominant locomotors (<i>vs.</i> assessors).	Shoppers with strong (<i>vs.</i> weak) assessment orientation value a product more when it is chosen from a large (<i>vs.</i> small) product assortment.	Strong (<i>vs.</i> weak) assessment orientations increase the effect of the size of a past missed purchase opportunity on present purchases.
Main Contribution study 1	Body movement increases value perceptions for locomotors, while stasis has this effect on assessors.	Priming assessment increases the valuation of products chosen from large assortments.	Priming assessment (<i>vs.</i> locomotion) increases sensitivity to the size of missed opportunities.
Main Contribution study 2	Findings generalize to situations where body movement is highly monotonous.	Chronic differences in assessment orientations increase valuation of products chosen from large assortments.	Chronic differences in assessment orientations increase sensitivity to the size of missed opportunities.
Main Contribution study 3	Both monotonous as well as changing movement create locomotion-fit	Chronic differences in assessment increase valuation of products chosen from small assortments when these represent the entire market	Findings replicate when missed opportunities are strongly related to focal purchases.

Table 1.2: Communalities among research projects

	Similarities	Body Movement	Assortment Size	Missed Opportunity Size
Similarities in managerial contributions	Implications for retailing	X	X	X
	Implications for Market research through focus on individual differences	X	X	X
	Implications for Marketing Communications by focusing on assessment primes		X	X
	Value perceptions as dependent variable	X	X	
	Purchase likelihood as dependent variable	X		X
Theoretical framework similarities	Regulatory mode theory as theoretical framework	X	X	X
	Regulatory fit as theoretical framework	X	X	
	Assessment orientations as single moderator		X	X
Methodological similarities	Moderation Effects	X	X	X

Chapter 2: I Like to Move It: When Body Movement Is a Fit that Creates Value

Abstract

In recognition of the ongoing digitization of shopping that increasingly obsoletes body movement as part of the purchase experience, Brick and Mortar retailers have started to build physical movement back into shopping. In order to understand whether this can increase consumers' value perceptions for products, we extend regulatory-fit theory by using simple behaviors as a source of fit. In three experiments, we demonstrate how consumers' physical movements (versus stasis) lead to regulatory fit. We show that these effects depend on the consumer's relative regulatory mode orientation (i.e.: predominant locomotion or assessment orientation). Across three studies, we find that physical movement results in regulatory fit effects for locomotors, whereas stasis leads to fit effects for assessors.

Keywords: Body Movement, Locomotion, Assessment, Regulatory fit, Value-from-fit,

Introduction

Just as in the original song by the American house duo, Reel 2 Real, notably adapted in the DreamWorks's Madagascar films by the singing lemurs, some people simply like to 'move it.' Yet, the convenience and wide availability of online shopping has taken a great deal of physical movement out of the purchase experience. In recognition of this, a growing number of Brick and Mortar retailers have started to re-engineer movement and physical engagement into shopping. As part of this countermovement, the well-known DIY retailer, Home Depot, invites its customers to hammer, paint and polish in-store—presumably hoping to attract the “doers” among their customers. Similarly, Recreational Equipment Inc. engages customers by promoting physical interaction with sporting goods at in-store climbing walls, shoe testing-trails and mountain bike test tracks. Body movement is also very much a part of the stampedes that large retailers such as Wal-Mart, Target and BestBuy organize, as customers run to the deals on Black Friday and Super Saturday. Despite the growing interest in getting customers to move physically, it has remained virtually untested whether and how this actually pays off and if there are differences between customers. This is important, as companies increasingly seek to differentiate themselves through the value they create in the form of active and passive experiences (Pine & Gilmore, 1998). In order to address this issue, we aim to develop insights into how purchase situations that involve body movement suit the needs of customers and through which mechanisms movement creates value.

The above examples suggest that some retailers believe that the value of a product will increase when people associate products with body movement. Body movement can be defined as a behavior that involves a change in the position of all or part of the body. So can simple behaviors such as body movement create value?

Regulatory fit theory proposes that value is intensified when we engage in an activity in a way that fits our established concerns (Higgins, 2000, 2006). In line with this, previous studies showed that employing decision strategies to achieve goals in a manner that suits these concerns can increase value perceptions for products (Avnet & Higgins, 2003). Movement, however, is more concrete and contextual than strategies. Rather than a decision strategy, it should be seen as a behavioral enactment, which places it at a lower level in the service of strategies and tactics (Higgins, 1997). Walking to a shopping mall (*behavior*), for example, serves the *strategy* of creating access to all available products, which in turn serves the *goal* of finding the best option. Previous literature in the domain of regulatory focus and persuasion has established that nonverbal representations of strategies can increase persuasive appeals through regulatory fit. Regulatory fit theory has not yet been extended to the level of behavioral enactments as a direct source of fit for established concerns such as locomotion and assessment.

Beyond these general questions on regulatory fit theory, we also zoom in on physical movement specifically. How can it create value? While movement might be seen as enjoyable by some (such as when mounting an in-store climbing wall) and informative for others (such as when testing running shoes), we propose that the potential value of movement is more general than such cases, as it embodies a change of state. Building on this, we propose that how movement creates value is dependent on individual concerns. Movement, as a marker of progress, creates value for customers with a strong concern to “get on with things”.

Firstly, however, we focus on the fit between movement and people’s regulatory mode orientations – locomotion versus assessment. From a managerial perspective, this focus is chosen in order to explain why some consumers like to move,

and others do not. From a theoretical perspective, this is important as it allows us to extend regulatory fit theory beyond decision strategies to behavioral enactments of concerns. We expect enhanced value from fit for experiences that involve physical movements when consumers have strong locomotion concerns.

H1: Purchase experiences that involve body movement will increase the valuation of products for predominant locomotors.

Bodily movement, however, also requires cognitive resources (Lindenberger, Marsiske, & Baltes, 2000) that would otherwise be available for critical evaluation. This is in conflict with assessment concerns. Given this, we predict that stasis, rather than movement, would yield a value enhancing fit effect when consumers have strong assessment concerns.

H2: Purchase experiences that involve body stasis will increase the valuation of products for predominant assessors.

Study 1: Body movement vs. stasis as a fit for predominant locomotors

In the first experiment, we tested whether movement (walking around a table while selecting chocolates, like a buffet) increases value perceptions for locomotors, while stasis (sitting at a table while selecting chocolates, like in a café) provides fit effects for assessors.

Method

Subjects (N=128) from the subject pool of an Australian University (58 males, $M_{age}=22.4$, $SD=5.2$) participated for \$12. Participants were recruited, ensuring that they were not currently dieting and were willing to purchase chocolates for part of their \$12 participation money. Participants were randomly assigned to either the movement (N=56) or the static condition. In both conditions, participants choose

eight chocolates by selecting two out of four chocolates and repeating this four times. Respondents chose chocolates either while walking around a table where these chocolates were presented (movement condition) or while sitting in front of a table (stasis condition). Appendix 2.1 illustrates this setup. The dependent variable, the amount offered for the chosen chocolates, was measured using an established method (Avnet & Higgins, 2003) in which participants made an offer for the chocolates using their participation money. In order to control for effects of perceived experimental realism, we also conducted a two-item control measure for authenticity ($\alpha = .68$) (how authentic/ natural was the task). After this, locomotion and assessment were measured using the established scales (Kruglanski et al., 2000) (locomotion: $\alpha = .83$, assessment: $\alpha = .81$). In this study, the two scales were significantly positively correlated ($r = .30$, $p < .01$). Assessment ratings were subtracted from locomotion scores to compute a predominance of regulatory mode score (PRM). Positive difference scores reflected predominant locomotion and negative scores reflected predominant assessment. The experiment concluded with demographic questions, payment, thanking and debriefing of participants.

Results

Manipulation Checks

An ANOVA (controlling for age, gender and authenticity of the experimental procedure) yielded the expected effect of the movement manipulation for perceptions of movement ($F(1, 123) = 12.55$, $p < .01$, $\eta^2 = .09$). The movement condition was perceived to involve more movement ($M = 4.14$, $SD = 1.63$) than the stasis condition ($M = 3.31$, $SD = 1.66$).

Monetary Offers

We conducted a linear regression analysis to test the interaction between PRM orientation and movement. The main effect of (A) PRM orientation (B) the movement manipulation (Coding Static: 0 and Movement: 1) and the interaction between these variables (A X B) were entered in a linear regression analysis. We controlled for authenticity, gender and age. The results yielded a marginally significant main effect of PRM orientation ($\beta = -.62$; $p < .1$) and a borderline effect for Authenticity ($\beta = .23$; $p < .10$). The hypothesized 2-way interaction between PRM orientation and stasis versus movement was positive and significant, $\beta = .79$; $p < .05$, reflecting the fact that, as predicted, for predominant assessors, the static condition led to higher offers for the chocolates than the movement condition, with the opposite being true for predominant locomotors (see Figure 2.1). Table 1.1 shows an overview of the results.

Table 1.1

Regression coefficients, t values and standard errors for all predictors (study 1).

	β	SE	t	p
Constant	2.39	.98	2.45	.02
PRM	-.62	.35	1.75	.08
Stasis vs. Movement	-.39	.29	-1.37	.17
Interaction	.79	.39	2.01	.05
Age	-.02	.03	-.72	.47
Gender	.48	.30	1.62	.11
Authenticity	.23	.12	1.95	.05

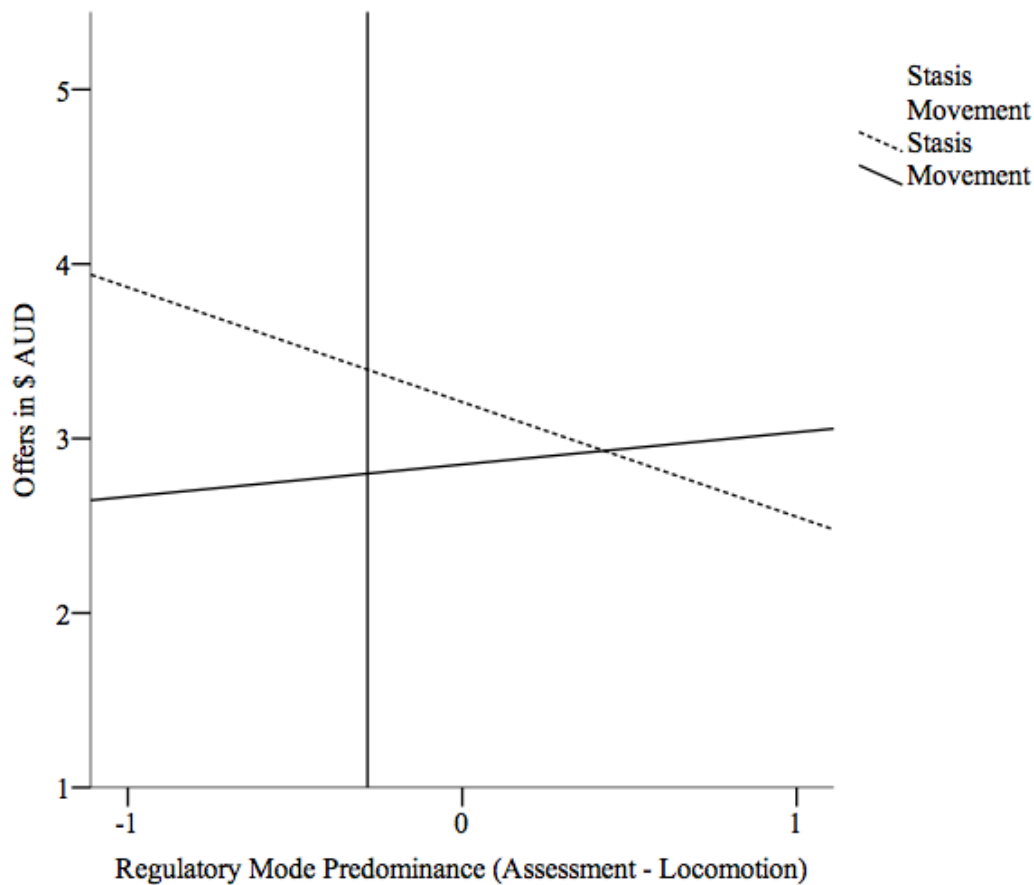


Fig. 2.1 Offers as a function of regulatory mode predominance and movement.

To further illustrate the nature of these interaction effects, we used the Johnson-Neymann (J-N) technique (using the SPSS script from Slater, Hayes, Reineke, Long, & Bettinghaus, 2009). This technique allowed us to directly identify points in the range PRM orientation where the effect of movement vs. stasis on value perceptions transitions from being significant to non-significant. The J-N technique finds the value of the moderator variable for which the ratio of the moderated effect to its standard error is equal to the critical t-score (Barnhofer, Duggan, & Griffith, 2011). The conditional effect of stasis vs. movement on value perceptions transitioned in significance at the centered assessment predominance value of -0.27 , $\beta = -0.59$, $SE = 0.30$, $t = -1.98$, $p = .05$, 95% CIs $[-1.19, .00]$. At the centered predominant locomotion side we found a non-significant trend ($p = .1$) at the value of -3.24 , $\beta =$

2.19, SE = 1.33, $t = 1.64$, $p = .95$, 95% CIs [-.45, 4.83]. While these findings support H2 by demonstrating an assessment fit effect from stasis, the fit effect for locomotion was less pronounced, providing only limited support for H1 in this study.

Study 2: Monotonous Movement

When studying body movement, it is crucial to acknowledge that it can vary in its degree of monotony. Monotonous body movement can be defined as a movement that repeats in terms of direction, speed and body parts involved. An example of this is hammering several nails into a shelf: direction, speed and body parts involved vary only minimally when performing this basic movement. As we are interested in investigating the effects of movement (a change in position of all or part of the body) rather than changes in direction, speed or body parts involved, we focused on monotonous movement as movement in its most basic form in the second study. Specifically, we tested whether monotonous movement (walking up and down a stepping stool) increases value perceptions for locomotors, while stasis (sitting still at a desktop computer and looking at a picture of the stepping stool) provides fit effects for assessors.

Method

Subjects ($N=36$) from the subject pool of a university in northeastern United States (9 males, $M_{age}=23.5$, $SD=9.9$) participated for \$7. We informed participants that as part of this experiment, they would evaluate a stepping stool. Participants were assigned to one of two conditions. In the movement condition ($N=18$), participants were asked to walk up and down the stepping stool as shown in the instruction video. The experimenter silently counted the climbs until they had reached 40. In the stasis condition, participants sat still at a desktop computer and watched a video that

showed the stepping stool from different angles. Pretesting ensured walking time in the movement condition was equal to sitting time in the static condition. The authenticity measure followed ($\alpha = .87$). After this, the dependent variable, value, was measured in both groups. Value assigned to the stepping stool was measured by asking participants how much they think the stepping stool is worth. A 7-point scale offered values from “< US \$20” to “US \$120 and higher” in US \$20 increments. Again we measured perceived experimental realism ($\alpha = .87$) (how authentic/ natural was the task). Furthermore, it could be argued that previously found movement-PRM interaction effects were driven by movement enhancing mood for predominant locomotors. Consequently, in order to support the argument that regulatory fit rather than mood is responsible for the increased value, we measured mood as a control variable using a standard measure ($\alpha = .91$) (Avnet & Higgins, 2003). Participants’ locomotion and assessment orientations were measured using the established scales (Kruglanski et al., 2000). In this sample each α for the locomotion and assessment scales was .88. Consistent with previous studies (Kruglanski et al., 2000), the two scales were not significantly correlated ($r = .22$, n.s.). The study concluded with demographic questions, payment and debriefing of the participants.

Results

Manipulation Check

An ANOVA (controlling for age, gender and authenticity of the experimental procedure) yielded the expected effect of the stepping stool manipulation for perceptions of movement ($F(1, 31) = 58.16$, $p < .001$, $\eta^2 = .65$). The movement condition was evaluated as more ‘moving’ ($M = 4.67$, $SD = 1.19$) than the static condition ($M = 1.72$, $SD = .96$).

Value Perception

We tested our prediction about the effect of the interaction between predominant regulatory mode orientation (PRM orientation) and movement on value perceptions using a linear regression analysis. The main effect of (A) PRM orientation (Locomotion vs. Assessment scoring according to Kruglanski et al., 2000) and (B) the movement manipulation (Coding Stasis: 0 and Movement: 1), and the interaction between these variables (A X B) were entered in a linear regression analysis. We controlled for age and gender since these variables might drive some of the variance in reactions to movement. The results yielded a significant main effect of PRM orientation ($\beta = -.60$; $p < .05$), a significant effect of age ($\beta = .04$; $p < .05$) and a borderline effect for Authenticity ($\beta = .20$; $p < .10$). These main effects indicated that older participants and predominant locomotors showed higher value perceptions for the stepping stool. There was no main effect from the movement manipulation. This means that walking up and down a stepping stool as opposed to looking at a video of it did not in itself influence the value people assigned to the stepping stool. More importantly to our central hypothesis, the predicted 2-way interaction between PRM and stasis vs. movement ($\beta = .77$; $p < .05$) was positive and significant, reflecting the fact that for predominant assessors the static condition led to higher perceived value for the stepping stool than the movement condition, whereas the opposite was true for predominant locomotors (see Figure 2.2). Table 1.2 presents an overview of these results. Repeating this analysis while including mood as a covariate did not change this effect, while mood did not predict valuation.

Table 1.2

Regression coefficients, standard errors and t values for all predictors (study 2).

	β	SE	t	p
Constant	.48	.51	.94	.35
PRM	-.60	.23	-2.57	.02
Stasis vs. Movement	-.27	.24	-1.12	.27
Interaction	.77	.29	2.64	.01
Age	.04	.01	2.96	.01
Gender	.10	.27	.39	.70
Authenticity	.20	.10	2.02	.05

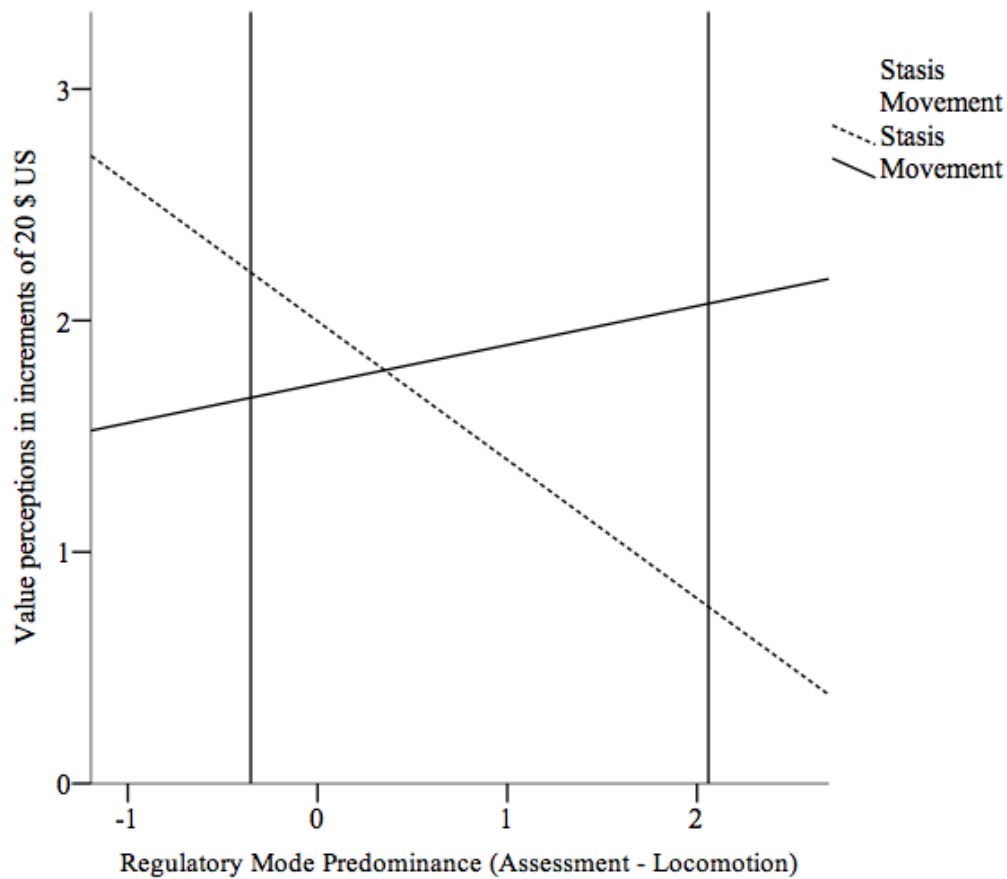


Fig. 2.2 Value perceptions in increments of 20 \$ US as a function of regulatory mode predominance and movement.

The J-N technique demonstrated that the conditional effect of Movement versus Stasis on amount offered transitioned in significance at the centered predominant assessment value of $-.35$, $\beta = -.54$, $SE = .26$, $t = -2.05$, $p = .05$, 95% CIs $[-1.08, .00]$, and the locomotion predominance value of 2.06 , $\beta = 1.31$, $SE = .64$, $t = 2.04$, $p = .05$, 95% CIs $[.00, 3.05]$. These findings support Hypotheses 1 and 2.

Study 3: Monotonous vs. Changing Movement

Previously, we established that for some consumers, physical movement creates value. In study 3 we aimed to further extend the internal validity of our findings by zooming in on monotonous movement. Study 2 supported Hypotheses 1 and 2 by showing that the effect of monotonous body movement (climbing up and down a stepping stool 40 times) on value perceptions varies with consumers' PRM orientation. It did not allow us to compare the effects of monotonous movements with more changing movements or check the perceived monotony in movement. Changing movement is different from monotonous movement in that there is additional change between movements in terms of the direction, speed and body parts involved. An example of this is testing a pair of basketball sneakers by playing basketball against a friend in-store: Dribbling, sprinting and shooting in changing orders can provide customers with an experience of change beyond movement in its basic sense. Consequently, in Study 3 we added changing movements as a third condition in order to compare monotonous versus changing movement.

Method

Subjects ($N = 95$) from the pool of a northeastern United States university (33 males, $M_{age} = 22.1$, $SD = 3.38$) participated for \$7. Participants were assigned to one of three conditions involving different body movements: Changing aerobic exercises

(N= 34), monotonous aerobic exercises (N= 32) or stasis (N= 29). In each condition, participants performed movements on a fitness mat in sync with an instruction video. In the changing movement condition, respondents performed 40 individual movements, each of which was randomly selected out of eight different exercises. In the monotonous condition, respondents were randomly assigned to one out of the eight exercises, which they repeated 40 times. In the static condition, participants were instructed to stand still while watching the image of the mat on the computer screen for the same amount of time.

This was followed by measurement of the dependent variable, the likelihood of buying a fitness mat in the future on a 7-point scale (1= Very unlikely, 7 = Very likely). We focused on the likelihood of purchase here, as we expected consensus among our participants about the store price of a fitness mat. As in Study 1, we measured authenticity ($\alpha = .76$). After this, participants completed the regulatory mode questionnaire (locomotion: $\alpha = .83$, assessment: $\alpha = .81$). Consistent with previous studies (Kruglanski et al., 2000), locomotion and assessment were not significantly correlated ($r = .01$, n.s.). We measured Mood, just like in study 2, in order rule out potentially confounding effects ($\alpha = .91$). Again, the study concluded with demographic questions, debriefing, and payment.

Results

Manipulation Checks

Two ANOVAs controlling for age, gender and authenticity confirmed the expected differences in perception of movement between stasis vs. monotonous movement $F(1, 56) = 81.95$, $p < .001$ $\eta^2 = .59$; and stasis vs. changing movement $F(1, 58) = 115.85$, $p < .001$ $\eta^2 = .67$. Perceptions of movement were higher in the

monotonous ($M=4.69$, $SD= 1.47$) and the changing conditions ($M=5.09$, $SD= 1.31$) than for subjects in the static condition ($M=1.62$, $SD= 1.18$). Furthermore, we found differences between the monotonous versus changing movement conditions $F(1, 61) = 23.53$, $p < .001$ $\eta^2 = .28$. Subjects in the monotonous condition indicated more strongly that their task involved “doing the same thing” ($M=5.81$, $SD=1.36$) than participants in the changing movement condition ($M=3.32$, $SD=1.47$).

Stasis versus Monotonous Movement

As a conceptual replication of Study 1 (with a different product), we began by conducting a linear regression analysis to test the interaction between PRM orientation and stasis versus monotonous movement: The main effect of (A) PRM orientation (B) the movement manipulation (Coding Static: 0 and Monotonous movement: 1) and the interaction between these variables (A X B) were entered in a linear regression analysis. We found only the predicted positive 2-way interaction between PRM orientations and stasis vs. movement $\beta = 1.71$; $p < .01$, reflecting the fact that for predominant assessors, the static condition led to a higher likelihood of purchase than the monotonous movement condition; and for predominant locomotors, the opposite was true (see Figure 2.4). Table 1.3 also illustrates these results. Repeating this analysis while including mood as a covariate did not change this effect, while mood did not predict purchase likelihood.

Table 1.3

Regression coefficients, t values and standard errors for all predictors (study 3 –1 Static vs. Monotonous movement contrast).

	β	SE	t	p
Constant	.84	1.97	.43	.67
PRM	-.80	.41	-1.94	.06
Stasis vs. Monotonous Movement	.27	.48	.57	.57
Interaction	1.71	.61	2.80	.01
Age	.08	.07	1.17	.25
Gender	.76	.52	1.47	.15
Authenticity	-.02	.16	-.10	.92

The J-N technique further illustrated the nature of these effects. The conditional effect of Monotonous movement versus Stasis on likelihood to purchase transitioned in significance at the centered assessment predominance value of -1.07, $\beta = -1.50$, $SE = .75$, $t = -2.00$, $p = .05$, 95% CIs [-3.01, .00] and the centered locomotion predominance in significance at the value of .54, $\beta = 1.25$, $SE = .62$, $t = 2.00$, $p = .05$, 95% CIs [.00, 2.50]. These findings provide further support for Hypotheses 1 and 2.

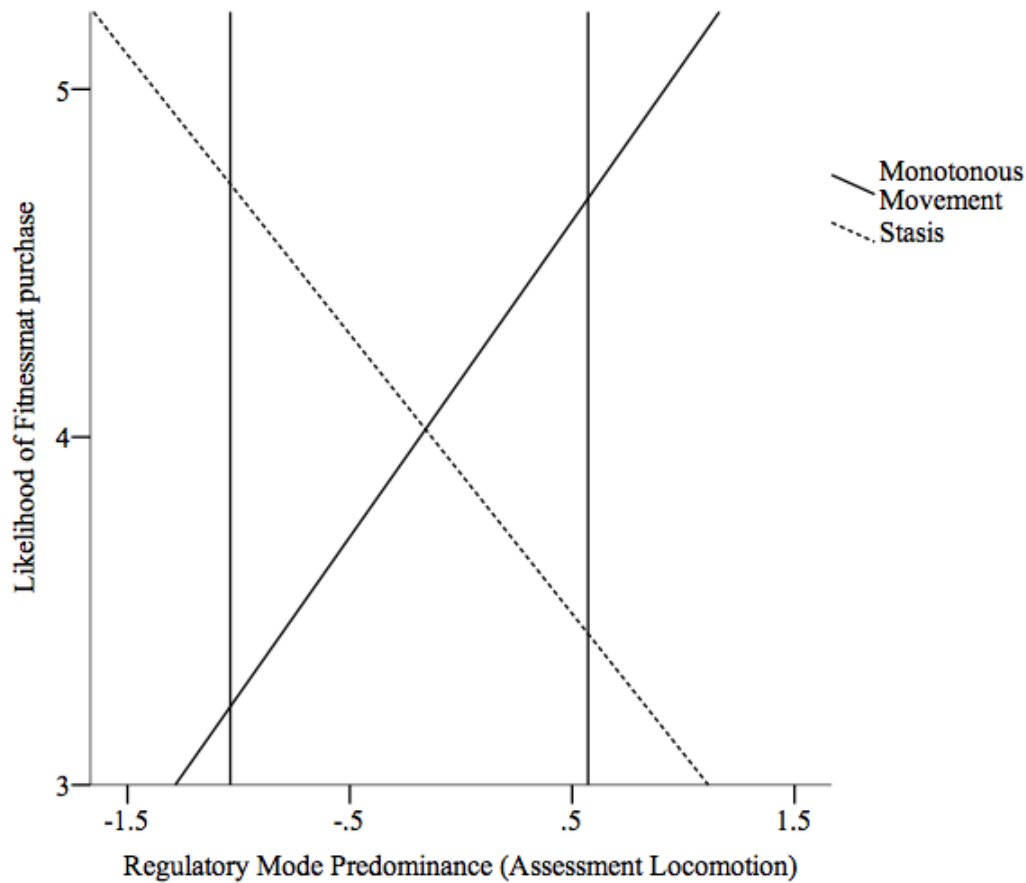


Fig. 2.4 Likelihood of purchase as a function of regulatory mode predominance and stasis vs. monotonous movement.

Stasis versus Changing Movement

We repeated the same analysis contrasting stasis with changing in place of monotonous movement. Our findings show a significant effect of regulatory mode $\beta = -.81$; $p < .05$, reflecting the fact that the likelihood of a fitness mat purchase was higher for predominant assessors than predominant locomotors. More importantly, for our central hypotheses, again the 2-way interaction between PRM orientation and stasis versus change $\beta = 1.12$; $p < .05$ was positive and significant. Table 1.4 shows the results of this analysis in more detail. The conditional effect of stasis versus change reached borderline significance ($p = .08$) at the centered assessment predominance value of -2.31 , $\beta = -2.03$, $SE = 1.12$, $t = -1.81$, $p = .08$, 95% CIs $[-4.28, .22]$ and

reached significance at the centered locomotion predominance value of .34, $\beta = .93$, $SE = .46$, $t = 2.00$, $p = .95$, 95% CIs [.00, 1.86]. Again, these results support Hypotheses 1 and 2, while extending the effect of movement versus stasis from monotonous movement to changing movement.

Table 1.4

Regression coefficients, t values and standard errors for all predictors (study 3 –2 Static vs. Changing movement Contrast).

	β	SE	t	p
Constant	1.63	1.34	1.21	.23
PRM	-.81	.37	-2.19	.03
Static vs. Changing movement	.51	.43	1.19	.24
Interaction	1.12	.46	2.45	.02
Age	.09	.06	1.53	.13
Gender	.70	.45	1.55	.13
Authenticity	-.03	.16	-.19	.24

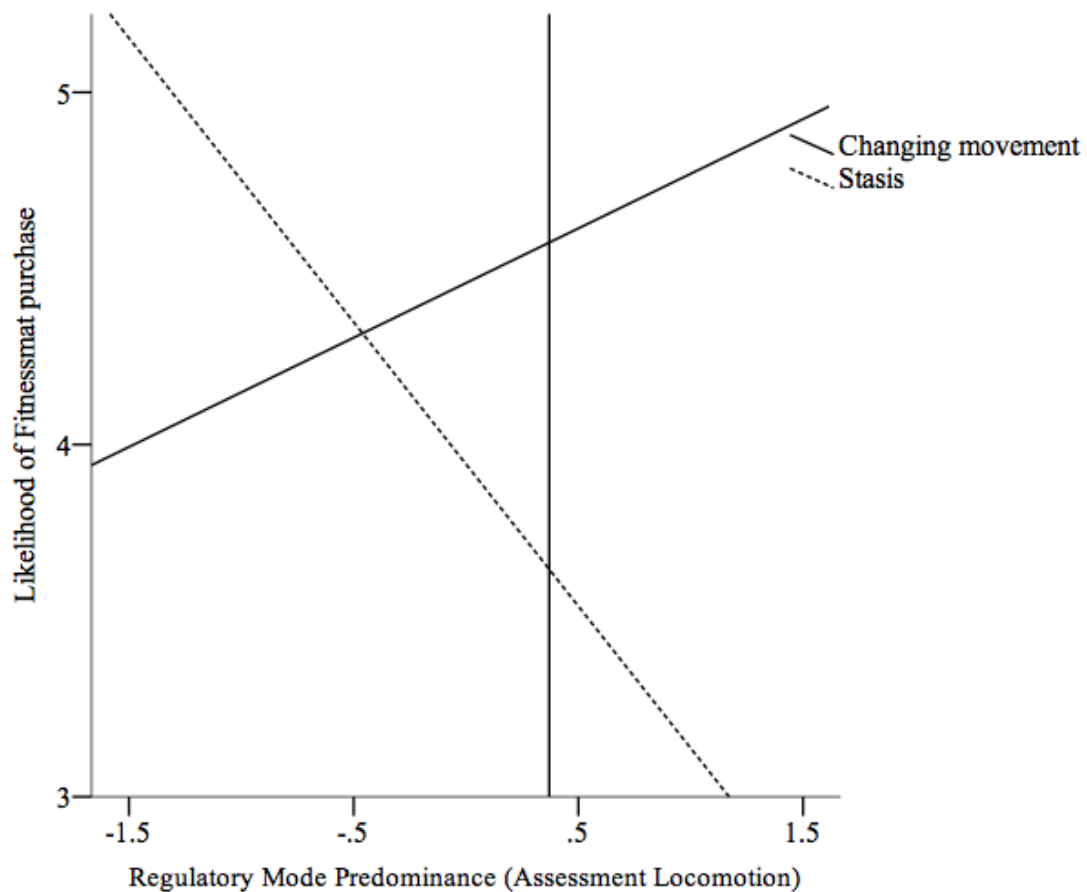


Fig. 2.5 Likelihood of purchase as a function of regulatory mode predominance and stasis vs. changing movement.

Monotonous versus Changing Movement

A linear regression analysis tested the interaction between PRM orientation and monotonous versus changing movement: The main effect of (A) PRM orientation, (B) the movement manipulation (Coding Monotonous: 0 and Changing: 1) and the interaction between these variables (A X B) were entered in a linear regression analysis. There were no significant main effects or interactions, reflecting the fact that what matters is movement, and not what kind of movement. These findings suggest that body movement as a change in position of all or part of the body is sufficient for locomotion fit. Additional change in terms of direction, speed or body parts does not contribute further to the fit effect.

Meta-analysis

In order to examine the interaction between PRM orientation and movement on value perceptions across the three studies, we conducted a meta-analysis with standardized dependent variables controlling for authenticity, gender and age. In addition, we controlled for the study number (2 Dummy variables: Study 1 vs. Study 2, 3; Study 2 vs. Study 1, 3). The results yielded significant main effects for PRM orientation ($\beta = -.19$; $p < .05$), gender ($\beta = .30$; $p < .02$) and Authenticity ($\beta = .13$; $p < .01$). Females and predominant assessors showed higher value perceptions. The hypothesized 2-way interaction between PRM orientation and Stasis versus Movement was positive and significant, $\beta = .34$; $p < .01$ (Please see table 1.5 for this analysis). The J-N technique demonstrated that the conditional effect of Movement versus Stasis on amount offered transitioned in significance at the centered predominant assessment value of $-.13$, $\beta = -.24$, $SE = .12$, $t = -1.97$, $p = .05$, 95% CIs $[-.49, .00]$. At the centered predominant locomotion side, the effect transitioned at the value of 2.58 , $\beta = .67$, $SE = .34$, $t = 1.97$, $p = .05$, 95% CIs $[.00, 1.34]$. These findings confirm H1 and H2.

Table 1.5

Regression coefficients, standard errors and t values for all predictors (meta-analysis).

	β	SE	t	p
Constant	-1.09	.37	-2.94	.00
PRM	-.19	.09	-2.02	.04
Stasis vs. Movement	-.20	.12	-1.63	.10
Interaction	.34	.12	2.76	.01
Age	.02	.01	1.62	.11
Gender	.30	.13	2.38	.02
Authenticity	.13	.05	2.88	.00
Study 1 vs. 2 and 3	.13	.19	.66	.51
Study 2 vs. 1 and 3	.11	.14	.76	.45

Discussion

In three experiments, we demonstrated how consumers' body movements (compared to stasis) can increase or decrease perceptions of product value depending on predominant regulatory mode orientation, with movement (vs. stasis) increasing value for locomotors and decreasing value for assessors. This interaction effect was replicated across three different settings involving different types of body movements. This is an important contribution to regulatory fit theory, as we are the first to illustrate that simple behaviors, such as body movement can create regulatory fit effects by sustaining higher order concerns, such as locomotion and assessment orientations.

What boundary conditions might there be for the locomotion-movement fit? Study 2 and 3 demonstrate regulatory fit effects with body movements that involve product usage, and therefore provide relevant information for product evaluation. By “relevant” information, we refer to the degree to which movement provides information that is “objectively relevant to the judgment task” (Krishna & Morrin, 2008, p. 807). Using a hammer is a good example of relevant movement, as it can provide us with good knowledge about the hammer’s ergonomics and durability. In contrast, running around in a large retail store to get a Super Saturday deal for a TV set does not provide additional information about the TV set. It is possible that a fit effect on value for locomotors only occurs when the movement is relevant. This would be consistent with the notion that, normatively, information that is not relevant to the product use should not influence judgments of product utility (Meyvis & Janiszewski, 2002). However, there is evidence that bodily cues that are not relevant to a product can still influence judgment (Chandler, Reinhard & Schwarz, 2012). Thus, it is possible that movement can produce a value fit effect for locomotors, even if it occurs only in the purchase process and is not relevant to the product per se. We hold this belief for three reasons: Firstly, study 1 showed fit effects from movement for participants that selected chocolates while sitting at a table (like in a café) or while walking around a table (like a buffet). Secondly, we measured subjective perceptions of product knowledge in study 3 and tested whether these varied between the Static and Monotonous movement conditions as well as Static and Changing movement conditions. We did not find any significant differences. Thirdly, while relevant movements might provide product relevant information, there is no a priori reason why this would increase product valuation for Locomotors only. If anything, Assessors should react more positively to better product knowledge.

What psychological mechanisms may underline changes in product value as a function of consumers' body movement for locomotors? Although it is clear that value creation can be influenced by regulatory fit (Avnet & Higgins, 2006; Higgins, 2000, 2006; Higgins & Scholer, 2009; Pham & Avnet, 2009), it is less clear what it is about body movement (*vs.* stasis) *per se* that leads to regulatory fit. One possibility builds on a recent finding that locomotors (*vs.* assessors) have a preference for multitasking (Pierro, Giacomantonio, Pica, Kruglanski, & Higgins, 2012). In line with this, it could be argued that purchase experiences that involve movement require multitasking, as consumers need to evaluate and move at the same time. This would then create a fit effect for predominant locomotors. A second possibility builds on the finding that locomotion is positively related to effort investment in work activities (Pierro, Kruglanski, & Higgins, 2006). Consequently, it could be argued that physical movement requires more effort than stasis, which locomotors view positively given that it relates to the experience of doing something (Pierro et al., 2006). We tested both possibilities in additional analyses in Study 2 for both the static *vs.* monotonous and the static *vs.* change contrasts. First, we entered the main effect of preference for multitasking ($\alpha = .79$) (measured after Locomotion and Assessment) (Hecht & Allen, 2005; Pierro et al., 2012) (Hecht & Allen, 2005; Pierro et al., 2012), as well as the interaction effect of multitasking preferences with body movement (static *vs.* monotonous movement/ static *vs.* changing movement), as predictors. Secondly, we added effort (Bettman, Luce, & Payne, 1998) and the interaction of effort with PRM orientations as predictors. None of the interaction effects reached significance, while the movement X PRM interaction remained significant.

If these explanations do not account for our results, what might account for them? As we discussed in the introduction, it is possible that body movement in itself

represents a change from one state to the next, which would be a fit for locomotors (Avnet & Higgins, 2003). In addition, as we also discussed in the introduction, bodily movement requires cognitive resources (Lindenberger et al., 2000) that could otherwise be used for evaluation. Limiting cognitive resources for evaluation would be a non-fit with assessment concerns for critical evaluation in order to “do the right thing” (Kruglanski et al., 2000). Future research is needed to test these possible underlying factors more directly.

The current project also has limitations that are important to note. One alternative interpretation for the findings described in the first study of this project is that, rather than movement being a fit for locomotion it could be a non-fit for assessment by distracting consumers during decision-making. More specifically it could be argued, that in this study movement takes away the possibility for consumers to focus on the decision-tasks at hand and therefore make an accurate assessment. So can distractions account for our findings? Is the locomotion- movement-fit effect in fact an assessment-distractions-non-fit-effect? We believe, that findings from study 2 and 3 argue against this notion. Firstly, while it could be argued, that in study 1 movement might distract from accurate decision-making in study 2 and 3 it is product related. This means movement rather than distracting from decision-making should increase judgment-accuracy. Secondly if movement creates a non-fit effect for assessment by draining cognitive resources then so should multitasking in general as both drain cognitive resources that assessment needs for accurate decision-making. However as we described earlier, preferences for multitasking could not account for found effects in study 2. It has to be noted as well however, that while our findings do not support the “movement as a distraction” perspective future research needs to

investigate this matter more directly, for example statistically controlling for distractions and contrasting physical movements with a distracting static condition.

Value creation as a function of consumers' body movement and their dominant regulatory mode is interesting to practitioners. Our exploration of how value can be created for locomotors is complementing trends in the marketplace to engineer physical movement into shopping experiences. The current research is particularly relevant for Brick-and-Mortar retailers seeking to understand which consumers are most likely to patronize retailers that offer these experiences. The practical relevance of this paper is further underlined by previous studies showing that assessment and locomotion predominance varies among countries (Higgins, Pierro, & Kruglanski, 2008), with Spain and Italy, for example, having high locomotion predominance, and Japan and South Korea, for example, having high assessment predominance. It would be interesting to replicate our results using online shopping in a predominant assessment country, versus Brick and Mortar stores where customers are encouraged to move around more and engage physically with products.

Our findings also potentially have implications for health interventions. For example, if the goal is weight loss, it might be more effective to persuade high locomotors to engage in exercise, while high assessors might be more easily persuaded to sit down and evaluate the caloric value of their food options. Finally, future field research could, instead of experimentally manipulating movement, measure movement unobtrusively using accelerometer, gyroscope, camera or GPS technologies common in smart phones and video games in order to relate movement to increases or decreases in value for locomotors versus assessors.

The second chapter illustrates that fitting retail environments to consumers' regulatory mode orientations can increase customer valuation. More specifically, we

focused on building body movement into shopping experiences. In the third chapter, we use a similar fit approach. However, rather than by using body movement vs. stasis, this time we aim to enhance customer valuation by matching the assortment size to regulatory mode orientations. The third chapter links to the first one from a managerial perspective, as it provides retailers with an additional tool to create value for customers. The following chapter, however, can also be seen as a theoretical extension of the findings from research project one: While the first research project extended regulatory fit, our second research project uses this theory in order to further theoretical development of consumer decision-making in small and large assortments.

Chapter 3: Is there Value in Abundance? Assessment Orientations Increase the Valuation of Choices in Large Assortments

Abstract

Present-day retailers are burdened with the cost of ever-expanding product assortments while having no clarity about whether these actually result in higher value experiences for customers. This research instigates how the perceived value of product depends on the interaction between the size of a retailer's assortment and customer's assessment orientation. We shed light on the ambiguity of assortment size literature (whether large or small assortments create the most value) and demonstrate that customers' perceived product valuation in small or large assortments depends on their regulatory assessment orientation. In two experiments, we illustrate the reliability of large-assortment-assessment fit effect. We show that this effect holds when assessment orientations are primed as a state, for example in an advertisement, or measured as a trait, like in market research surveys on a company website. It also holds when we account for extra effort, time investment. In a third experiment we investigate complete assortments as an important boundary condition. Throughout the article, we discuss step-by step how retailers can use these findings to maximize product valuation.

Keywords: Assortment size, Choice Overload, Assessment, Regulatory Mode, Value-from-fit

Introduction

Retailers spend millions of dollars managing an exploding abundance of consumer products. Companies such as the frozen yogurt restaurant “16 Handles” offer their customers up to 174 flavors of frozen yogurt. Online retailers like Amazon, iTunes or Netflix challenge consumers with the selection of thousands of movies, hundreds of thousands of books, or millions of songs. Even simple Wal-Mart Neighborhood Markets amaze their customers with an average of 29,000 items (Wal-Mart, 2013). However, expanding assortments come at a disproportionate cost. In the US, almost three quarters of supermarket merchandise does little more than fill up shelf space, selling less than one product per week (“The downside of too many product choices”, 2014). In terms of relative store traffic, one fifth of the products account for four fifths of the sales (“The downside of too many product choices”, 2014). Retailers bear the cost of pricing, reviewing and managing expanding assortments (Drèze, Hoch & Purk, 1994). At the same time, it is not clear whether an endless product variety enhances perceived value for customers. This raises the question of whether limiting retail assortments can be a viable strategy for market advantage. In order to address this managerially relevant problem, we aim to develop insights into how large assortments may increase perceived value for some retail customers, but not others. More specifically, we illustrate how retailers can increase customer valuations by 1) identifying and targeting assessment oriented customers 2) using priming methods to induce assessment orientations via their marketing communications.

Beyond this managerial contribution, the current research offers an explanation for an ambiguity of previous findings by examining the effect of the assortment size. Current thinking on this topic can be classified according to two contrasting

perspectives: the “option overload” perspective (Iyengar & Lepper, 2000) and the “more is better” perspective (Kahn & Wansink, 2004) (for a review see Scheibehenne, Greifeneder, & Todd, 2010). The option overload perspective suggests negative effects from large assortments. In line with this view, large product assortments have been linked to a decrease in purchases (Iyengar & Lepper, 2000), reduced satisfaction (Schwartz, 2000), and increased difficulty of choice (Fasolo, Carmeci, & Misuraca, 2009). On the other hand, the “more is better” perspective suggest that large assortments increase anticipated consumption utility, as well as actual consumption (Kahn & Wansink, 2004). They facilitate comparison (Hutchinson, 2005), increase purchase likelihood (Koelemeijer & Oppewal, 1999) and improve evaluations of the assortment (Oppewal & Koelemeijer, 2005; Kahn & Lehmann, 1991). In line with these seemingly contrasting perspectives, scholars have posted recent calls for further investigation of the conditions under which the “option overload” or the “more is better” perspective predominate (Chernev, Böckenholt, & Goodman, 2010).

We reconcile these opposing perspectives on large assortments, build a common conceptual ground and thereby promote further theoretical development. Again, we turn to regulatory mode and regulatory fit theory in order to approach these issues.

Value-from-fit: Assessment and large assortments

We propose that large product assortments create value from regulatory fit for customers who have a high assessment orientation by prompting comparisons between products. A large assortment creates a condition where many products must be critically compared in order to make the right purchase. High assessment orientation implies that customers value such comparisons as this helps with making good decisions. This creates regulatory fit. Previous research suggests that value results from fit. Avnet and Higgins (2003), for example, created regulatory fit for

assessment-primed consumers by instructing them to use a full evaluation strategy. Individuals made choices by critically comparing each product to all the other products on each available evaluative criterion. Fit effects resulted in feelings of “rightness” that led to higher payment offers for the products. In the market, retailers might create similar effects by priming assessment orientations using advertisements (i.e. Don’t just travel. Travel right. – Expedia.com) when consumers enter their webpage, and then follow this up with a decision-making environment that fits assessment. It is important to note, however, that the Avnet and Higgins (2003) study was not concerned with assortment size, but decision-making strategies. Avnet and Higgins’ (2003) study varied the number of comparisons that had to be made, rather than the numbers of products the customers were presented with. Nonetheless, their full evaluation strategy, like large product assortments, required making many critical comparisons among multiple options, and this was a fit for individuals with a high assessment orientation. In turn, the fit enhanced the value of the chosen option. Expanding on these findings, we expect that customers faced with large assortments will experience value-from-fit only if they have a high (vs. low) assessment orientation. Fit effects matter because retail environments need to match their customers’ orientation in order to maximize the value from choice (Avnet & Higgins, 2003). Specifically for retailers, this means they can increase the value of products they offer by matching the size of their assortment to customer’s assessment orientations. Conversely, they could also attempt to induce assessment orientation through point of sale advertising (i.e. “No rules, just right” – Outback steakhouse). Accordingly, we propose the key hypothesis that:

H1: Shoppers with a high assessment orientation will value a product more when it is chosen from a large product assortment.

Alternative accounts

Critical observers might point out that the predicted interaction between high assessment and large assortments might be driven by locomotion rather than assessment orientations. That is, high locomotion orientations could drive devaluations of large assortments, as these create too many possible alternatives and impede progress towards the final choice. This is important for the assessment-fit account as the locomotion orientation has been found to dominate assessment in certain situations (Kruglanski, Pierro, Mannetti, & Higgins, 2013). Consequently, we need to consider whether customers high in locomotion devalue offerings in large product assortments. We explore this alternative locomotion-fit account by taking advantage of regulatory mode theory, which describes locomotion and assessment as two distinct orientations (Kruglanski et al., 2000). More specifically, we test whether the effects of large assortments on product valuation varies by assessment and locomotion separately for each of these two orientations.

A second alternative account, based on recent findings in regulatory mode theory, suggests that priming assessment (vs. locomotion) in an experimental setting produces slower (but more accurate) decision performance (Mauro, Pierro, & Mannetti, 2009). Specifically, in a cognitively demanding task, groups that received assessment (vs. locomotion) primes took longer to integrate information (a proxy for effort), but were more accurate in their decisions. Similarly, it could be argued that in retail settings, assessors (vs. locomotors) might expend more effort when confronted with large assortments. Such a higher effort investment may in turn increase the perceived value of the chosen product (Norton et al., 2011). After rigorously going through an abundance of movies in an online store, a high assessment customer might use his effort investment as proxy to how much he likes the particular movie he chose.

In order to rule out this alternative explanation, we measure effort across each of our three studies.

A related alternative mechanism is based on time investment rather than effort. Confronting high assessment customers with a large retail assortment could produce a sharp rise in time spent during product choice. In the absence of strong reference prices, time investment may act as a proxy for perceived value of a product. Customers might apply lay theories such as “a quick choice is a bad choice” (Inbar, Botti, & Hanks, 2011). For example, consider customers in an ice cream store. Those who review additional flavors, and thereby spend more time, may not necessarily better match some of the exotic flavors with their established tastes; but having spent more time, they may gain a sense of a thorough decision-making or a ‘job well done’.

We account for the above alternative accounts by (i) manipulating locomotion in study 1 and measuring it in study 2 and 3, (ii) measuring effort in all three studies, (iii) measuring time investment in Study 2, and by manipulating equivalent time pressures in Study 3. Figure 3.1 illustrates all tested models.

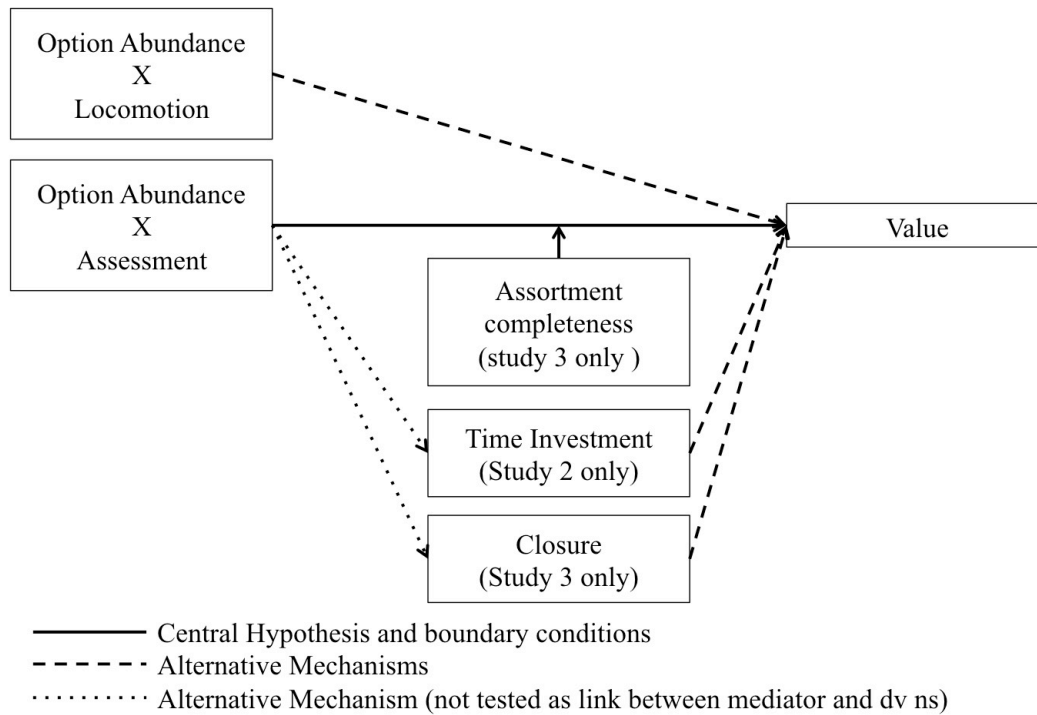


Fig. 3.1 Conceptual model tested across all three studies

Study 1: Value of Large vs. Small Assortments as a Function of Assessment

Study 1 is a 2 X 3 design. It tests whether perceived product value of frozen yogurts depends on the assortment size (Small/Large) in terms of flavors and toppings and customer regulatory mode primes (Control/Assessment/Locomotion). Testing our key hypothesis (H1) with priming is important for companies with large assortments as they might use priming techniques in their stores to increase the valuation of their products. More specifically, vendors could prime customers by asking customers to “compare all the flavors” or notify them that free taste samples are provided to help customers “make the right decision”. We recruited participants (N=133) from the pool of a large private University in northeastern United States for US \$7 each. Five participants were excluded, one was an outlier in terms of valuation, and the other four did not follow instructions on the priming task. For the remaining sample of 128

participants, 38 were males, 120 currently studied and 74 already had a bachelor's or graduate degree.

At the beginning of the experiment, participants were randomly assigned to one of three conditions: assessment prime, locomotion prime and control. We primed locomotion and assessment using an established method of asking people to recall and write about either past assessment or locomotion type behavior (i.e. Think back of a time when you acted like a critical person)(Avnet & Higgins, 2003). Following this, we randomly assigned half the participants to a Large assortment and half to a Small assortment condition. In either condition, participants were asked to customize a frozen yogurt in three steps. Firstly, choose frozen yogurt flavor (Small assortment: 3 vs. Large assortment: 9 options). Secondly, choose toppings (Small assortment: 3 vs. Large assortment: 9 options). Thirdly, choose fruits (Small assortment: 3 vs. Large assortment 9 options). Each option consisted of a photo and short description below (see figure 3.2). A manipulation check and some filler items followed this treatment. The dependent variable, product value, was measured using the perceived value measure (Sweeney & Soutar, 2001), which was adapted and shortened to fit our context ($\alpha = .89$) (See Appendix 3.1). In addition, effort was measured using an established self-report measure (Bettman, Johnson, & Payne, 1990).

Imagine it is a hot summer day and you decide to have a large frozen yogurt. Please choose the one of the following frozen yogurt flavors that you would like most.



Coffee



Green Tea



Chocolate Hazelnut

(Next page)

Please choose the one of the following toppings that you would like most on the frozen yogurt. All ingredients are organic and freshly prepared.



Crushed Hazelnut
Wafer Rolls



Waffle Cookie



All Natural Nuts



Coconut



Organic Fruit Bears



Chocolate Pretzels

(Next page)

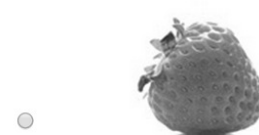
Please choose the one of the following organic fruits that you would like most on the frozen yogurt. The fruit you pick will be freshly cut open in front of you.



Raspberry



Kiwi



Strawberry

Fig. 3.2 Screen shot of options in Small assortment condition (study 2 & 3)

Results

Manipulation Check

An ANCOVA controlling for hunger yielded the expected effect of the large assortments manipulation for perceived assortment size $F(1, 122) = 63.80$ $p < .001$, $n^2 = .34$ (Beyond covariates listed in individual studies, we controlled across all analyses of this chapter for gender, student status and education). The large assortment condition was evaluated as having a larger assortment ($M=5.82$, $SD = .80$) than the small condition ($M=4.15$, $SD = 1.48$).

Results

As a first step, we performed a 2 X 3 (small and large assortment; assessment, locomotion and control) between participants analysis of covariance (ANCOVA), with perceived value as dependent variable. We entered hunger, education, student status and gender as covariates since these variables might drive some of the variance in reactions to large assortments and frozen yogurts. In a second step we also entered effort investment. The first step revealed a significant effect of hunger ($\beta = -.04$; $p < .05$), gender ($\beta = -.28$; $p < .05$) and education ($\beta = -.10$; $p < .05$). More importantly for hypothesis H1, this first step also revealed a significant effect of assortment size and regulatory mode condition, $F(1, 118) = 3.86$ $p < .02$, $n^2 = .06$. Pairwise comparisons further demonstrated that there was a difference in valuations between small and large assortments for the assessment prime group $F(1, 118) = 12.69$ $p < .01$, $n^2 = .10$. For more details please see table 2.1. Participants in the assessment prime condition assigned higher value to the frozen yogurt when customizing these from a large assortment ($M=6.09$, $SD = .58$) than from a small one ($M=5.36$, $SD = .71$). In the second step, we entered effort as a control variable. While effort did have an effect on

valuation ($\beta = .14$; $p < .05$), the interaction effect between assessment and assortment size remained significant ($F(1, 118) = 14.92$ $p < .001$, $\eta^2 = .11$). We did not find such a difference in either the control condition or the locomotion prime group. Figure 3.3 illustrates these differences. These effects suggest that, as predicted in the assessment-fit hypothesis H1, assessment participants in the Large assortment condition produced higher perceived value for frozen yogurts. Furthermore, we rule out effort investment as the driving factor behind this effect.

Table 2.1

Mean Square, df and F values for all predictors (study 1).

	Type III Sum of Squares	df	Mean Square	F	p.
Corrected Model	11.13	8	1.39	3.04	.01
Intercept	45.00	1	45.00	98.29	.00
Hunger	1.64	1	3.59	.06	.05
Gender	1.68	1	1.68	3.66	.06
Student status	1.01	1	1.01	2.21	.14
Effort	1.49	1	1.49	3.25	.08
Education	1.91	1	1.91	4.17	.05
Limited vs. Abundant options	2.69	1	2.69	5.88	.02
Assessment vs. Control	.00	1	.00	.02	.89
Interaction	3.86	1	3.86	8.42	.01
Error	34.79	76			
Total	2806.76	85			
Corrected Total	45.92	84			

While these results confirm the predicted interaction effects, we are also interested in understanding whether the influence of assessment primes on product valuation was significant both for small and large assortments. Consequently, we conducted 2 ANCOVAs using the same control variables as in step 2: One ANCOVA to look at the differences in perceived value between assessment and control conditions for large assortments only, and one for small assortments only. As expected,

we found that for the large assortment condition, participants showed higher valuation when they were in the Assessment prime condition rather than the control condition $F(1, 37) = 4.25, p < .05, \eta^2 = .10$ (Assessment: $M=6.09, SD=.57$; Control: $M=5.70, SD=.73$). In the Small assortment condition, we found the opposite pattern $F(1, 34) = 5.85, p < .05, \eta^2 = .15$ (Assessment: $M=5.36, SD=.71$; Control: $M=5.69, SD=.79$). These findings support the large-assortment-assessment-fit hypothesis H1. Consistent with our expectations, Study 1 demonstrated that the effect of large assortments on product valuation depends on individuals' assessment orientation. More specifically, our finding demonstrates that when customizing products by making multiple choices, having multiple options for each choice produces value-from-fit effects on value for individuals in a strong assessment state.

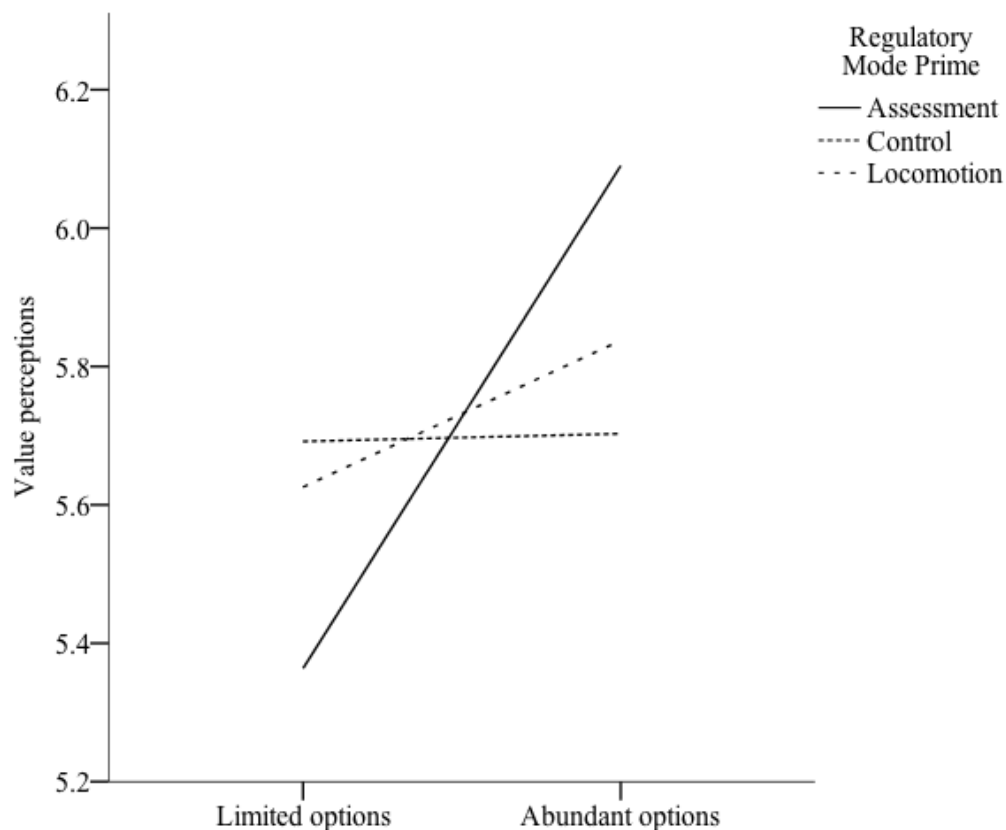


Fig 3.3 Valuation as a function of Regulatory Mode Prime Conditions and small vs. large assortments

Study 2: Single Choice and Completion Time

Study 2 extends our findings by demonstrating that large assortments increase product valuation for assessors in one off decisions (rather than customizing a product in a sequence of multiple choices). From a theoretical perspective, this is important as it allows for a more conservative test of our hypothesis H1. This is also important from a managerial perspective. Many purchases involve a single choice and offer no customization at the point of purchase (i.e. choosing a movie at a cinema, buying an artwork or purchasing an animal in pet store). We also rule out further alternative explanations, as it could be argued that the combination of high assessment and assortment size would lead to increased time investments. These greater time investments could potentially influence valuation as consumers might apply the lay theory that “a quick choice is a bad choice” (Inbar, Botti, & Hanks, 2011) and a “slow choice is a good choice”. In order to rule out this alternative account, we measure the time participants spent on their choices in order to use it as a control variable. In Study 2, a strong assessment orientation was a chronic individual tendency rather than a situationally induced state. Assessment measurement rather than manipulation also translates into an important tool for retailers and market researchers, as these could in principle measure customers’ assessment orientations before entering an online movie purchase interface (i.e. “how much do you like critically evaluating movies”) or possibly even infer this from the number of reviews customers leave for a movie.

Subjects (N = 54) from an online labor marketplace participated for US \$0.50. 2 participants were excluded based on long completion times (>3 times interquartile range). Of the remaining sample of 52 participants, 24 were males, 12 currently studied and 27 already had a bachelor’s or graduate degree. Participants were randomly assigned to one of two conditions, both of which allowed them to choose a

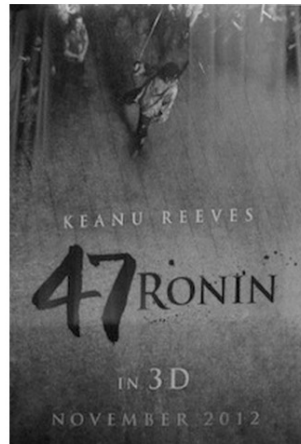
movie for online rental using a web interface. We adapted the procedure used by Inbar, Botti, & Hanks (2011) in which participants either chose from 30 movies (a large assortment condition) or were randomly assigned to one of six subsets in which they chose from 6 movies of the larger set (a small assortment condition) (see Figure 3.4). Movie plots (20-40 words) and posters from the “upcoming movies” section of an Internet movie database were presented in order to prevent familiarity effects. After the choice procedure, which measured the dependent variable, value assigned to the chosen movies was measured using an established method (Avnet & Higgins, 2003) in which participants indicated how much they would be willing to spend to watch the movie (See Appendix 3.2 for the original measure). This was followed by filler questions.

Next, participants’ locomotion and assessment orientations were measured using the established scales (Kruglanski et al., 2000). The Locomotion and Assessment Scales (Kruglanski et al., 2000) have two 12-item self-report measures each. These are designed to measure individual differences in locomotion and assessment orientations. Specifically, respondents rated statements reflecting locomotion ($\alpha = .83$) (e.g., “I am a doer”) or assessment ($\alpha = .87$) (e.g., “I am a critical person”) depending on their level of agreement (strongly disagree to strongly agree). Consistent with previous studies (Kruglanski et al., 2000), the two scales were not correlated ($r = -.06$, n.s.). At the end of the study, participants answered some standard demographic questions and the study concluded with the participants being debriefed.



World War Z

A U.N. employee is racing against time and fate, as he travels the world trying to stop the outbreak of a deadly Zombie pandemic.



47 Ronin

An 18th century set story centered on a band of samurai who set out to avenge the death of their master.



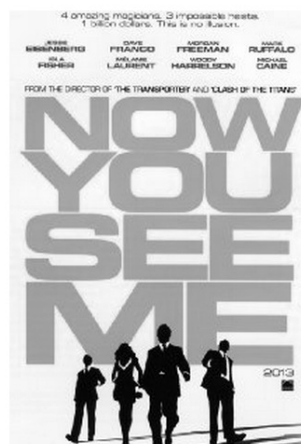
Monsters University

A look at the relationship between Mike and Sulley during their days at the University of Fear -- when they weren't necessarily the best of friends.



Runner, Runner

A businessman who owns an offshore gambling operation finds his relationship with his protégé reaching a boiling point.



Now You See Me

FBI agents track a team of illusionists who pull off bank heists during their performances and reward their audiences with the money.



Man of Steel

An alien infant is raised on Earth, and grows up with superhuman abilities. He sets out to use these abilities to guard his adopted world.

Fig. 3.4 Screen shot of options in Small assortment condition (study 2 & 3)

Results

Manipulation Check

An ANOVA yielded the expected effect of the assortment size manipulation for perceived assortment size $F(1, 44) = 32.12$, $p < .001$, $\eta^2 = .42$. The Large assortment condition was evaluated as having a larger assortment ($M=5.91$, $SD = 1.00$) than the Small assortment condition ($M=3.80$, $SD = 1.67$).

Valuation

Our prediction about the effect on valuation of the interaction between the assessment orientation and assortment size was tested using a linear regression analysis. In a first step the main effect of (A) assessment (scoring according to Kruglanski et al., 2000) and (B) the assortment size manipulation (Coding: Small assortment: 0 Large assortment: 1) and interaction between these variables (A X B) were entered in a linear regression analysis. We controlled for online rental frequency, purchase frequencies, cinema visit frequency since these variables might drive some of the variance in reactions to movies. In a second step we also entered the main effects of completion time, effort investment, the locomotion orientation and the interaction term of locomotion with the abundance condition.

In the first step the results yielded a marginally significant main effect of online movie rental frequencies $\beta = .62$, $p < .10$, significant effect of cinema visit frequency $\beta = .85$, $p < .05$, current enrollment as a student $\beta = -2.73$; $p < .05$ and education $\beta = -1.08$; $p < .01$. More importantly to our Hypothesis H1 is the result that for valuation the predicted 2-way interaction between the assessment orientation and small versus large assortments $\beta = 3.27$; $p < .05$ was positive and significant (for more

detail see table 2.2). This effect remained significant ($\beta = 3.37$; $p < .05$) after also controlling, in the second step, for completion time, effort investment, the locomotion orientation and the interaction term of locomotion with the abundance condition.

Table 2.2

Regression coefficients, t values and standard errors for all predictors (study 2).

	β	SE	t	p
Constant	16.08	3.34	4.81	.00
Assessment	-1.67	1.15	-1.44	.16
Limited vs. Abundant options	1.14	.97	1.17	.25
Interaction	3.27	1.44	2.27	.03
Rental frequency	.63	.31	2.02	.05
Purchase frequency	-.53	.40	-1.32	.19
Cinema visit frequency	.85	.38	2.22	.03
Education	-1.08	.33	-3.26	.00
Gender	-.94	.87	-1.09	.28
Student status	-2.73	1.06	-2.57	.01

None of these variables had any significant effect. These 2-way interaction effects suggest that, as predicted, for assessment participants, the Large assortment condition rather than the Small assortment condition produced relatively higher perceived value for the movie tickets (see fig. 3.5). None of the alternative explanations accounts for this effect.

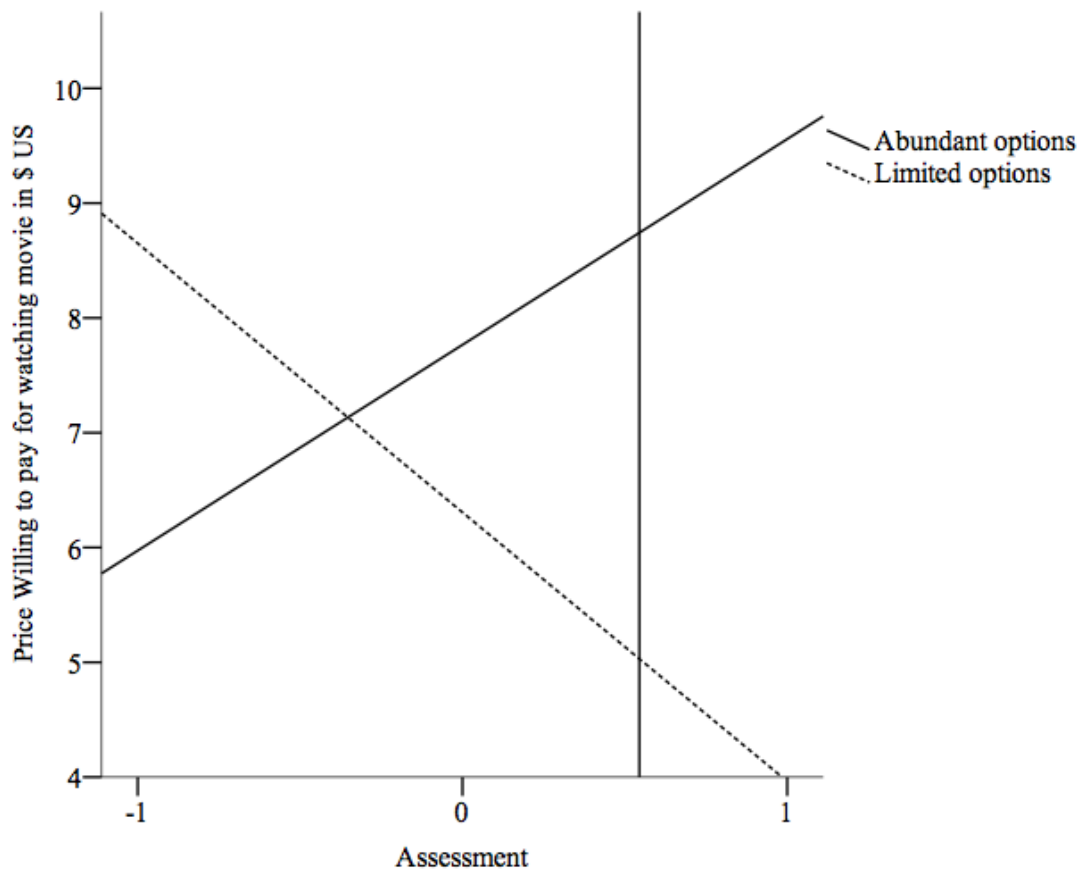


Fig. 3.5 Valuation in \$ US as a function of participants' assessment orientation and small vs. large assortments (study 2).

To further illustrate the nature of these interaction effects, we used the Johnson-Neymann (J-N) technique in step 1 (using the SPSS script from Slater, Hayes, Reineke, Long, & Bettinghaus, 2009). This technique allowed us to directly identify points in the range assessment orientation where the effect of large versus small assortments on valuation transitions from being significant to non-significant. The J-N technique finds the value of the moderator variable for which the ratio of the moderated effect to its standard error is equal to the critical t-score (Barnhofer, Duggan, & Griffith, 2011). The conditional effect of Small versus Large Assortment on valuation transitioned in marginal significance at the centered assessment value of -1.41, $\beta = -3.46$, $SE = 2.03$, $t = -1.71$, $p < .1$, 95% CIs [-7.55, .62] and .44, $\beta = 2.58$,

SE = 1.28, $t = 2.02$, $p = .05$, 95% CIs [.00, 5.17]. These findings provide additional support for our hypothesis H1.

In Studies 1 and 2, we found an increase in valuation when large assortments fit consumers' strong assessment orientation. We propose a regulatory fit mechanism as underlying this effect. This theory was placed under scrutiny by testing it against plausible alternative accounts based on effort and time investment. Study 1 and 2 demonstrate that neither effort nor time investments account for the interaction effect of assortment size and assessment orientation on value.

Study 3: Assortment completeness as a boundary condition

Our findings suggest that assessors value large assortments because this sustains their concern to make comparisons. Originally we argued, that Assessors care about comparing options because it serves their goal of “making the right choice”. If this is true the large-assortment-assessment fit effect should not emerge in cases where evaluating more options do not result in the experience of having made the right choice. One such case might be a situation where the limited options a consumer is faced with represents the entire market. One could think of a room booking service that is almost booked out for a particular date or choosing a smart phone based on the operating system. Even though a consumer just chooses from a limited assortment such a situation might still allow assessors to feeling right about ones choice, because they feel did everything they could to come to the best decision. Moreover when a small assortment represents the entire market assessors might even experience stronger fit effects in small rather than large assortments. Choosing from a small assortment that contains all options in the market means they can dedicate more cognitive resources to all relevant options without the feeling of having missed

anything. When faced with a complete assortment growing numbers of options could result in a feeling of having overlooked something, which would create a non-fit for assessors.

H2: Shoppers with a high assessment orientation will value a product more when it is chosen from a small product assortment if this assortment represents the entire market.

To investigate this boundary condition in study 3 we informed participants ahead of the experiment, that the assortment they would choose from contains all available options in the market. Subjects ($N = 90$) from an online labor marketplaces participated for US 1. Participants were randomly assigned to one of two conditions, both of which allowed them to choose a room to rent for a holiday in Brazil. Again participants chose between 30 (a large assortment condition) or were randomly assigned to one of six subsets in which they chose from 6 movies of the larger set (a small assortment condition) (see Figure 3.5). Pictures of rooms were collected from a popular online room rental marketplace. The value measure was identical to the one used in study 2. Again filler questions followed. Locomotion ($\alpha = .87$) and Assessment ($\alpha = .85$) were measured as in study 2 ($r = .05$, n.s.). Furthermore we asked participants how much they felt in need for a holiday. We believed this to be an important covariate as it relates to participants capability to process large numbers of options, while it could at the same time influence room valuation. The study finished with demographic questions and debrief.

Fig. 3.5 Screenshot of options in Small assortment condition (study 3)



Results

Manipulation Checks

An ANOVA yielded the expected effect of the assortment size manipulation for perceived assortment size $F(1, 88) = 18.28$ $p < .001$, $\eta^2 = .38$. The Large assortment condition was evaluated as having a larger assortment ($M=6.13$, $SD = .21$) than the Small assortment condition ($M=4.33$, $SD = .22$).

Valuation

We tested the effect of the interaction between assessment orientation and assortment size on the dependent variable of perceived product value using a linear regression analysis. In the first step, the main effect of (A) assessment and (B) the assortment size manipulation (Coding; Small: 0 Large: 1) and interaction between these variables (A X B) were entered in a linear regression analysis. We controlled for participants need for a holiday as well as education, student status and gender. In the second step, we also entered the main effects of effort investment, the locomotion orientation, the interaction term of locomotion with the abundance condition. In the first step, we found that assessment orientation ($\beta = 16.27$; $p < .5$) had a significant effect on value. Table 2.3 presents more detail on these analyses. This was also true in the second step ($\beta = 16.69$; $p < .5$). More importantly the predicted 2-way interaction between assessment orientation and small versus large assortments reached significance ($\beta = -19.57$; $p < .05$). This effect remained significant ($\beta = -18.56$; $p < .05$) after entering the control variables in the second step.

Table 2.3

Regression coefficients, t values and standard errors for all predictors (study 3).

	β	SE	t	p
Constant	40.47	35.26	1.15	.25
Assessment	16.27	6.77	2.40	.02
Limited vs. Abundant options	4.47	7.59	.59	.56
Interaction	-19.57	8.85	-2.21	.03
Need for Holiday	-1.00	.93	-1.07	.29
Education	-.99	7.72	-.13	.90
Gender	-4.47	7.69	.58	.56
Student status	13.34	16.46	.81	.42

The 2-way interaction effects between the assessment orientation and assortment size suggests that, as predicted, for high assessment participants, the Large assortment condition, rather than the Small assortment condition, created higher perceived value for the movie tickets. These findings are illustrated via the predicted mean values showed in Fig. 3.6.

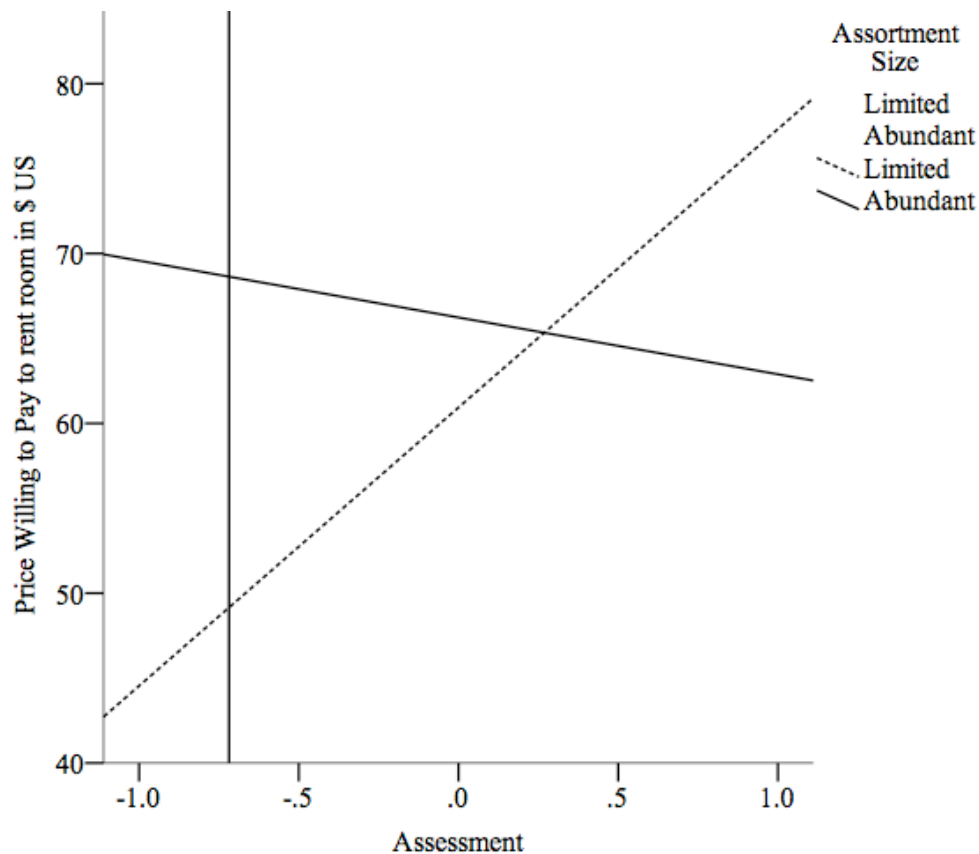


Fig. 3.6 Valuation in \$ US as a function of participants' assessment orientation and small vs. large assortments (study 3).

The J-N technique demonstrated that the conditional effect of Small versus Large assortment on valuation transitioned in significance at the centered assessment value of -0.89 , $\beta = 21.97$, $SE = 11.04$, $t = 1.99$, $p < .05$, 95% CIs $[.00, 43.93]$. These findings support our hypothesis H2.

Discussion

Our results provide important insights for retailers. We show that the debate about assortment size (Chernev, Böckenholt, & Goodman, 2010), whether a large or small assortment size provides a market advantage, depends on customers' assessment orientation. This insight is important because it suggests the knowledge of

customers' psychology is needed to guide assortment size decisions. We verify this key insight in three related studies.

In the first study, we illustrate how retailers with large assortments can boost the perceived value of any product by dealing with customers who are assessment oriented. This may be achieved by selective market segmentation, or by selective priming at the point of sale. Study two is particularly relevant for retailers with customers who vary in their assessment orientations. Retailers can increase product valuation solely by reducing their assortments for low assessors or expanding assortments for high assessors. Study three expands on these findings by pointing at an important boundary condition. More specifically we illustrate that high assessment orientations increase product valuation for small rather than large assortments if these represent the entire market. Our findings present a clear contrast to earlier studies. Previous research either embraced the positive or the negative effects of large product assortments, while paying less attention to the conditions under which one or the other perspective might be true (Chernev, Böckenholt, & Goodman, 2010). Building on our results, we believe future researchers can move beyond the dichotomy, and focus on aspects of customer segmentation for optimum assortment decisions.

Implications for theory

So how can we make sense of these findings? We explain our findings with reference to regulatory fit. Large assortments produce value-from-fit for customers predisposed or primed towards high (vs. low) assessment orientation. This explanatory mechanism was tested against alternative theories. First, we test across all three studies whether the locomotion orientation could account for the perceived value effects. Across all three studies, we find that the interaction between the

locomotion orientation and assortment size did not lead to a significant portion of the variance in perceived value of assortment. We also consider the possibility that a combination of high assessment orientation and large assortments could lead to an escalation in effort or time investments. What we found was that our predicted results remained significant even when controlling for effort and time investment. Importantly however we also found, that the effects turn around, when limited options represent the complete market. These results are important for the theoretical implications of regulatory mode in relation to perception of value from assortment size. In the least, they imply that common conceptual basis behind our results is robust.

Implications for managers

There is a variety of ways in which Marketers can profit from our findings. Our first study shows that an assessment prime created higher appreciation for large assortments. This is particularly interesting for retailers that are not in a position to limit their product assortments. Retailers with large fixed assortments may, with additional calibration, be able to use assessment primes at the point of sale. More specifically, adverts could prime customers to “go compare,” like in the commercials of the British financial services comparison website, Gocompare.com. Alternatively, point of sale communications might prime a slogan like that of Mediamarkt, a German consumer electronics retail store: “don’t be stupid”. Similarly, retailers with large assortments instruct their sales staff to remind customers that they have time to compare and evaluate. Retailers with small product assortments should refrain from such advertisements on the other hand.

In addition to the psychological state effects, we also show that assessment orientation can be a trait variable that increases the valuation in large assortments.

Customers who are generally predisposed towards high assessment tend to assign higher value to products chosen from large retail assortments. Since the stable predisposition towards assessment orientation can be identified via market research, assortment size may be tailored by market segment, distribution channel or location. Online retailers like Amazon could, for example, ask customers whether they like comparing products before entering their website. Subsequently, they could adapt their website by presenting many products to customers that like comparing products and fewer ones for customers that score low on this measure. Furthermore, assessment orientations might be inferred from the number of critical reviews written by individual customers or the types of words these use in reviews (i.e. assessment, critical, right decision, evaluate etc.)

Consequently, retailers, big or small, offline or online, who seek to maximize the value of their assortment should consider the differences between customers in terms of their assessment orientation. Looking beyond retailing, software engineers and app developers might also wonder whether lengthy menus with dozens of options are right for everyone (e.g, Social Network privacy settings). Asking users to fill in a short assessment questionnaire when signing up could be a way to get hold of customers' assessment traits. Restricting assortments for the low assessor segment of the market and building a more extensive menu for the high assessors could boost perceived value of a service or a brand.

Limitations and Future research

How can our results be extended by future research to provide further utility to retailers? One avenue is to look at additional ways to measure assessment unobtrusively by looking at customers' non-verbal behaviors, such as abrupt stopping

or hesitation when looking at products. Furthermore, online retailers might have additional means to infer assessment from looking at the wording and number of product reviews or by observing browsing behavior. Future research should investigate how retailers can build assessment inductions strong enough to affect shopper behaviors in often stimulus overloaded retail environments. While point of purchase advertisements (i.e. “Don’t be vague, ask for Haig.” Haig Scotch Whiskey) and priming by sales staff (i.e. “Take your time to make the right decision”) seem like promising tools, their performance needs to be measured in field studies. Further tool development beyond these techniques is necessary.

Moreover, future research should further advance our understanding of the divergent findings in the literature. One pathway for this is to explore the heterogeneity of research participants studied in the literature. Previous research on US respondents demonstrated that large assortments increase anticipated consumption utility as well as actual consumption (Kahn & Wansink, 2004) and perceived quality (Berger et al., 2007). Spanish participants, on the other hand, were more satisfied when choosing from relatively small assortments (Reutskaja & Hogarth, 2009). Taking into account cross-cultural differences in assessment orientations could help to explain some of these findings. Studies on regulatory mode have found that Spanish individuals are relatively low in assessment as compared to US customers (Higgins, Pierro & Kruglanski, 2007). This would suggest that US customers would value large assortments due to their high assessment orientation whereas Spanish individuals would prefer small assortments given that their assessment orientations are less strong. Future research is needed, however, to test this theory.

A third avenue for future research lies in differences in the kinds of products that have been used in previous research. Ratchford (1987) found that products can be

classified according to whether cognitive or affective modes of information processing are involved with their purchase. It could be argued that choosing products that involve predominantly cognitive information processing temporarily puts consumers in an assessment state because they have a strong concern to evaluate and compare. This would explain why option overload effects were found in studies that used products classified as affective (Ratchford, 1987), such as wine (Scheibehenne 2008), while “more is better” effects were found for cognitive products, such as sun cream (Soellner & Newell, 2008 as cited in Scheibehenne et al., 2010).

Finally, we should note that like any research, our findings have limitations. The current study focuses only on valuation in forced choice environments as an outcome variable. Our findings do not permit drawing conclusions about whether high assessment customers are more likely to defer choice when confronted with large assortments. In fact, it could be argued that when faced with a large assortment, assessors might be afraid to miss something (as seen in study 3) and will continue making comparisons and looking for new products without making a choice. Future research is needed to establish whether assessment fit effects from large assortments extends to making a choice when not choosing is an alternative.

While the third chapter illustrates how the measurement and induction of Assessment of customers faced with small or large assortments can increase product valuation and purchase likelihood, the project described in the fourth chapter takes advantage of this method in the context of missed opportunities. Similar to our third chapter, the fourth chapter furthers theorizing on decision-making environments by looking at the cognitive demands they place on consumers. Consequently, we zoom in again on how individual and situational differences in Assessment orientations can further our understanding of customer decision-making.

Chapter 4: What Did I Just Miss? Sensitivity to Missed Opportunities Increases With Assessment Motivation

Abstract

We show in three studies how the strength of people's assessment motivation increases the sensitivity to the size of a past missed opportunity when considering a purchase in the present. In Study 1, we found that the experimental induction of an assessment (vs. a locomotion) motivation increases the sensitivity to the size of a past missed opportunity on present purchase likelihood. Studies 2 and 3 show that the strength of individuals' chronic assessment motivation also increases the sensitivity to the size of a past missed opportunity on present purchase likelihood. Strength of chronic locomotion motivation was not a moderator.

Keywords: Inaction Inertia, Missed Opportunity Size, Assessment, Regulatory mode, Post-promotion purchase, Decision making

Introduction

“Our lives are defined by opportunities, even the ones we miss” (Fitzgerald, 1922)

What most people have in common with Benjamin Button in the short story by F. Scott Fitzgerald is that they do not like to miss out on a good deal. Yet, due to the abundance of offers, today’s shoppers inevitably miss out on good bargains, which, paradoxically, seem to be eternally positioned as ‘for a limited time only.’

Significantly, missed opportunities can have consequences for motivation and behavior that go far beyond the initial deal itself. Travellers decide to change travel destinations because they missed out on an early bookers bonus for their preferred destination. Consumers fail on their New Year’s resolution to join a fitness center because they missed the sign-up period for the option with the shortest commute. Finally, hungry customers decide to leave their favorite restaurant because the lunch special is not available. These behaviors can come at high costs for individuals as they abandon their plans or miss out on achieving their goals as a result of this missed opportunity. Businesses are also affected as they fail to market their products and services. So when do missed opportunities impair the likelihood to act on present opportunities, and do individuals vary in these behaviors?

In order to understand this phenomenon it is important to look at research on inaction inertia. Research found that missed opportunities to make a purchase can decrease the likelihood of making a slightly less attractive purchase (Tykocinski, 1995). In inaction inertia research, the size of this missed opportunity has been identified as a crucial factor (Tykocinski, 1995; Van Putten et al., 2009). More specifically, studies propose that the size of a missed purchase is used as an anchor to evaluate the present opportunity (Tykocinski, 1995; Van Putten et al., 2009). Whether

or not consumers perceive a vacation offer as valuable depends on the size of the discount on this vacation they just missed out on. We extend this thinking by focusing on a motivational state that might create sensitivity to the size-of-the-missed-opportunity. More specifically, we theorize that sometimes individuals are not sensitive to the size of the missed opportunity, but at other times, they are sensitive. Regulatory mode theory provides a useful perspective on this issue, as well as a way to address it. The theory (1) allows us to identify a motivational state that produces evaluation of present states in terms of a missed past opportunity functioning as a standard; (2) allows us to investigate whether there are individual differences in considering the size of the missed opportunity, and, finally, (3) uniquely enables us to distinguish whether the size-of-the-missed-opportunity effect is driven by “critical evaluation” (Assessment) or the desire to “just get on with things” (locomotion). This is important because previous research posited that inducing locomotion might counteract inaction inertia effects (Van Putten et al., 2013). We propose, however, that for the case of sensitivity to the size of missed opportunities, strength of assessment motivation would be more relevant because this orientation is concerned uniquely with evaluating present actions in terms of standards.

Assessment Orientations and Missed Opportunity Size

We base our proposal on previous research that explained the effect of the size of missed opportunities in terms of a devaluation of the present opportunity (Arkes, Kung & Hutzel, 2002; Zeelenberg, Nijstad, Van Putten & Van Dijk, 2006; Sevdalis, Harvey & Yip, 2006). According to this theoretical account, people use selling prices as an anchor or reference point in judging the value of products (Burger, 1986). Supporting this explanation, Arkes, Kung & Hutzel (2002) found that individuals who missed out on a large opportunity (\$60 discount instead of the current \$10 discount on

a \$100 Ski pass) as opposed to a small discount (\$20 discount) were willing to pay less for this ski pass (\$84.05 vs. \$96.97), which, in turn, influenced purchase likelihood for present opportunities.

If this explanation is correct, then individuals with strong assessment motivations should be more sensitive to the size of missed opportunities when evaluating present opportunities because they are more inclined to estimate the value of present opportunities in terms of standards, such as the size of a past discount compared to a current discount. Research testing regulatory mode theory supports this reasoning. Individuals who are chronically strong (as opposed to weak) in assessment are more likely to use representations of significant others in their lives when forming impressions of novel people (Pierro, Orehek & Kruglanski, 2009). Similarly, individual differences in chronic assessment orientation, as well as priming an assessment state, have been found to increase nostalgia, which involves comparing the present to the past (Pierro, Pica, Klein, Kruglanski & Higgins 2013). In line with these studies, we propose that when considering a purchase after a missed opportunity, assessors should go beyond noticing the mere presence of a missed opportunity (i.e., “This deal is not the best, there was a better one”), but rather, they should form a critical evaluative judgment about how much it differed: “this deal is good enough/not good enough, because the missed opportunity was similar/ a lot better”. Hence, we formulated a central hypothesis:

H: Strong (*vs.* weak) assessment motivation increases the effect of the size of a past missed purchase opportunity on a present purchase.

Another possibility that needs to be mentioned is based on counterfactual thinking and regret: Missed opportunities might be experienced like a failure

that produces counterfactual thinking, which in turn results in regret. Previous research supports this because regret has been proposed to increase the effect of missed opportunities. More specifically, it was theorized that individuals who missed a large opportunity would anticipate regretting this miss if they acted on the present opportunity (for a review on this account see Van Putten, Zeelenberg, Van Dijk & Tykocinski, 2014). From this perspective, it could be suggested that there should be a stronger effect of missed opportunity size for individuals with strong Assessment, and a weaker missed opportunity size effect for strong Locomotion orientations. This is because strong Assessment motivations have been found to increase counterfactual thinking and regret, while strong Locomotion motivations have been found to decrease counterfactual thinking and regret (Pierro et al., 2008). Our studies permit testing this alternative possibility as well.

Study 1: Assessment and Locomotion Primes

The aim of the first experiment was to test the interaction effect of missed opportunities' sizes and assessment orientations using a priming method. Using an experimental manipulation, as opposed to measurement of chronic assessment dispositions, allows us to draw stronger causal inferences. Also, from a practical point of view, this methodological choice has advantages because it allows marketers to match assessment primes (i.e. advertisements) to the missed opportunity they are faced with.

Method

Undergraduate students ($N=92$) from the subject pool of a large public Australian university (39 males, $M_{age}=20.8$, $SD=3.9$) participated. 50 participants indicated being born in Australia, 42 indicated being born abroad. All participated for

course credit. We use a 2 (assessment prime versus locomotion prime) X 2 (large missed opportunity versus small missed opportunity) design. For the assessment and locomotion prime, we used an established procedure (Avnet & Higgins, 2003) in which participants were asked to recall and write down instances in which they acted either like assessors (e.g. Think back to a time when you compared yourself with other people) or like locomotors (e.g. Think back to a time when you acted like a “doer”). Following, we presented participants with an established inaction inertia scenario (Tykocinski & Pittman, 2001; Tykocinski et al., 1995). Inaction inertia scenarios typically involve a case in which participants are asked to imagine that they wanted to make a purchase (i.e. book a holiday). As part of this purchase, there is an attractive opportunity (book a holiday and get a gift free). This opportunity comes in different conditions (i.e. small missed opportunity: the gift is a toiletry bag; large missed opportunity: a toiletry bag and two fitting suitcases) (Tykocinski & Pittman, 2001; Tykocinski et al., 1995). The scenario also states that participants missed this purchase opportunity (the offer expired). Following, participants are asked to indicate how likely they would be to make another less attractive purchase (book a holiday without a gift). This indicated likelihood is our dependent variable (for scenario, see appendix 4.1). Next, participants indicated how much they would regret having missed out on the first opportunity. Finally, participants answered some standard demographic questions for Australian samples and the study concluded with debriefing participants.

Results and Discussion

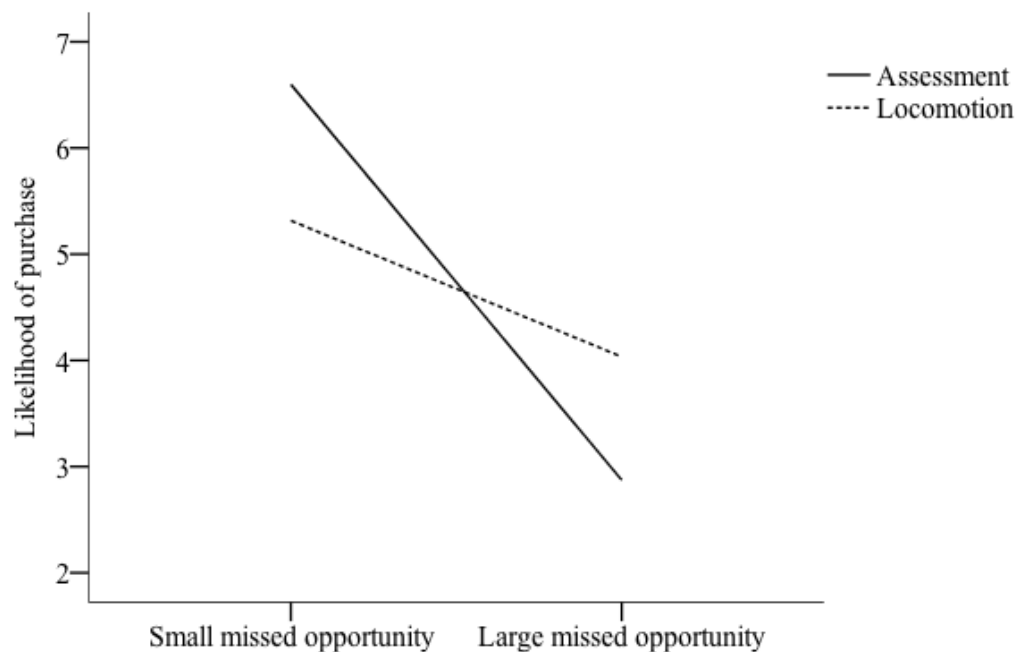
We performed a 2 X 2 (small and large missed opportunity; Assessment and Locomotion Prime) between participants analysis of variance (ANOVA) controlling for regret, country of birth and age with likelihood of purchasing the tour as the

dependent variable (see table 3.1 for more detail). This analysis revealed a significant effect of missed opportunity size ($F(1, 85) = 27.67, p < .001, \eta^2 = .25$). Participants in the small missed opportunity group indicated to be more likely to purchase the holiday ($M=6.02, SD = 2.52$) than participants in the large missed opportunity group ($M=3.27, SD = 1.65$). None of the control variables reached significance. Importantly for our Hypothesis, we found a significant effect of the interaction between missed opportunity size and assessment versus locomotion prime ($F(1, 85) = 7.74, p < .01, \eta^2 = .08$), reflecting the fact that, as shown in Figure 4.1, although the size of the missed opportunity was significant in both the Assessment and Locomotion conditions, the effect of size was stronger in the Assessment condition (Mean difference = 3.73, $SD = .65, F(1, 85) = 32.51, p < .001, \eta^2 = .28$) than in the Locomotion condition (Mean difference = 1.28, $SD = .64, F(1, 85) = 3.99, p < .05, \eta^2 = .05$). These results suggest, as predicted, that individuals with a strong assessment motivation are more sensitized to the size of the missed opportunity than individuals with a strong locomotion motivation. Regret did not account for these findings.

Table 3.1

Mean Square, df and F values for all predictors (study 1).

	Type III Sum of Squares	df	Mean Square	F	p.
Corrected Model	219.56	6	219.56	8.42	.00
Intercept	100.19	1	100.19	23.05	.00
Age	3.90	1	3.90	.90	.35
Ethnicity (Australian vs. Not Australian)	3.32	1	3.32	.76	.39
Regret	4.20	1	4.20	.97	.33
Small vs. Large Missed Opportunity	120.28	1	120.28	27.67	.00
Prime	.08	1	.08	.02	.89
Prime X Missed Opportunity	33.66	1	33.66	7.74	.01
Error	369.52	85			
Total	2627.00	92			
Corrected Total	589.08	91			



Covariates appearing in the model are evaluated at the following values:
age = 20.76, country of birth = .4565, regret = 4.74

Fig 4.1 Purchase likelihood as a function of Regulatory Mode Prime Conditions and missed opportunity size

Study 2: Chronic Locomotion and Assessment Motivations and the Action versus State Orientation

It is not clear from Study 1 whether the difference found between assessment and locomotion in sensitivity to the size of the missed opportunity derives from stronger assessment increasing sensitivity, stronger locomotion decreasing sensitivity, or both. It is possible, for example, that individuals with a strong locomotion motivation simply want to “move on,” and therefore, are less sensitive to the size of missed opportunities. One way to answer this question is to compare individuals who are strong versus weak in assessment motivation, and to compare individuals who are strong versus weak in locomotion motivation. There could be significant effects on

sensitivity to the size of the missed opportunity from just the former (more sensitive), from just the latter (less sensitive), or from both.

Study 2 also addressed the possibility that the greater sensitivity to the size of the missed opportunity for individuals with a strong assessment motivation might be due in part to assessors being generally more state rather than action oriented. The Action orientation refers to the tendency to have attention focused on the relationship between the present and a desired future state, alternatives for the actions and commitments required for the future state. Van Putten et al. (2009) demonstrated that people with state rather than action orientation were less likely to purchase a product after large missed opportunities, but not after small missed opportunities. To address this possibility, Study 2 measured and controlled for the action versus state orientation.

Method

Native English speakers located in the United States ($N = 67$) from an online panel participated for \$1. After excluding 2 outliers on purchase likelihood (both from the small missed opportunity condition), we had a sample of 65 (36 males, $M_{\text{age}} = 33.6$, $SD = 10.9$). We used the same inaction inertia scenario and regret measure as in Study 1, involving a small missed opportunity and large missed opportunity condition. Next, participants' locomotion and assessment orientations were measured using the established scales (Kruglanski et al., 2000). The Locomotion and Assessment Scales have two 12-item self-report measures each. These are designed to measure individual differences of locomotion and assessment. We found locomotion ($\alpha = .86$) and assessment ($\alpha = .88$) scales not to be correlated ($r = .12$, $p < .1$). A standard action versus state orientation questionnaire (Kuhl & Beckmann, 1994) followed. In accordance with previous research (Van Putten et al., 2009), we only used the action

orientation failure subscale ($\alpha = .79$) in our analysis. Again, demographic questions and debrief concluded the study.

Results and Discussion

We tested our prediction about the effect of the interaction between the assessment orientation and the missed opportunity size on purchase likelihood using a linear regression analysis. The main effect of (A) missed opportunity size (Coding Small missed opportunity: 0 Large missed opportunity: 1), (B) Assessment (scoring according to Kruglanski et al., 2000) and interaction between these variables (A X B) were entered in a linear regression analysis. As in Study 1, we entered Locomotion (scoring according to Kruglanski et al., 2000), and the interaction between Locomotion and missed opportunity size as control variables. Furthermore, we controlled for regret, action versus state orientation, age, ethnicity (Coding White: 0, N= 51 Minority: 1, N=14) and education (Coding No Bachelor: 0, N= 26 Bachelor or higher: 1, N=39).

The results yielded a significant effect for the size of the missed opportunity on the likelihood of purchase ($\beta = -1.57$; $p < .05$) that replicated Study 1 and the previous literature—a larger past missed opportunity decreases the likelihood of a purchase in the present. Furthermore we found a significant effect for locomotion ($\beta = -1.42$; $p < .05$) illustrating that individuals with high locomotion scores were more likely to purchase in general. There was also a marginally significant main effect of assessment strength ($\beta = 1.15$; $p < .1$) that was qualified by the predicted 2-way interaction between assessment strength and small versus large missed opportunity ($\beta = -1.66$; $p < .05$). More detail on this analysis can be found in table 3.2. As shown in Figure 4.2, strong assessors, in their present purchase, were much more sensitive to

the size of the missed opportunity than were weak assessors. Simple slopes analyses were performed using the model from step 1. These analyses revealed that the relationship between size of missed opportunity and purchase likelihood within each of the two levels of assessment strength (strong = 1 SD above the mean; weak = 1 SD below the mean) was highly significant for participants with strong assessment motivation ($\beta = -2.80$; $p < .01$) but not for participants with weak assessment motivation ($\beta = -.04$; n.s.). Neither regret nor Action versus state orientation did reach significance.

Table 3.2

Regression coefficients, standard errors and t values for all predictors (study 2).

	β	SE	t	p
Constant	5.27	1.13	4.65	.00
Assessment	1.15	.63	1.81	.08
Small vs. Large Missed Opportunity	-1.58	.68	-2.32	.03
Assessment X Missed Opportunity	-1.66	.73	-2.28	.03
Education (No Bachelor vs. Bachelor and higher)	-.21	.56	-.38	.71
Ethnicity (White vs. Minority)	-.66	.67	-.99	.33
Age	.02	.03	.61	.54
Action vs. State Orientation	-.00	.10	-.05	.96
Regret	.00	.11	-.02	.99
Locomotion	1.42	.69	2.07	.04
Locomotion X Missed Opportunity	-1.38	.99	-1.40	.17

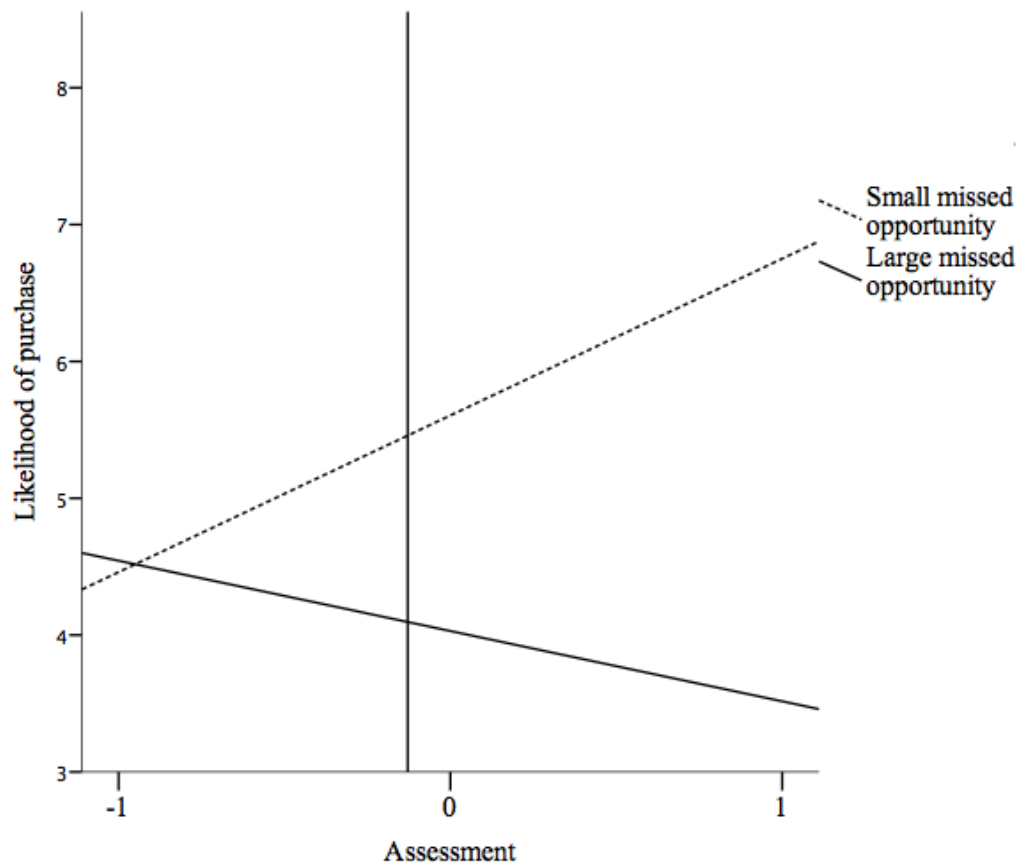


Fig. 4.2. Purchase likelihood as a function of Assessment orientation and missed opportunity size

Study 3: Missed Opportunities Related to the Focal Purchase

In Study 1 and 2, we found that individuals with strong assessment motivation (situationally induced or chronic) showed increases sensitivity to the size of the missed opportunity when making a present purchase. It could be argued that individuals' strong assessment motivation encourages searching for additional information beyond the focal purchase in order to reach the best decision. This would mean that strong assessment only increases sensitivity to the size of the missed opportunity because it is presented as additional information (e.g. missing out on bonus luggage unrelated to the focal vacation purchase), which in turn would mean that the influence of assessment strength would be limited to situations where missed opportunities are unrelated to the focal purchase. In order to address this potential

boundary condition, Study 3 involved a scenario in which the missed opportunity (commuting time to a fitness center) was a feature of the focal purchase itself (fitness center membership), rather than an unrelated bonus as in Studies 1 and 2.

Method

Native English speakers located in the United States ($N = 55$) from an online panel participated for \$1. After removing 2 participants (one from each condition) due to noncompliance (study completion time > 3 times interquartile range), we ended with a sample of 53 (33 males, $M_{\text{age}} = 32$, $SD = 11.3$). The experiment started with an established inaction inertia scenario (Tykocinski, 1995). Unlike Studies 1 and 2, however, the purchase (joining a fitness center) was preceded by a missed opportunity that was a feature of the focal purchase (i.e., small missed opportunity: 25 minute commute to fitness center; large missed opportunity: 5 minute commute) (Tykocinski & Pittman, 2001; Tykocinski et al., 1995). Again the scenario stated that participants missed this purchase opportunity (membership rolls closed) and another less attractive purchase was offered as dependent variable (joining a fitness center, that requires a 30 minute commute) (for scenario see appendix 4.2). Following the scenario, participants indicated how much they would regret having missed out on first opportunity. Next, we measured locomotion ($\alpha = .83$) (e.g., “I am a doer”) and assessment motivations ($\alpha = .81$) (e.g., “I am a critical person”) ($r = -.12$, n.s.). The experiment concluded with standard demographic questions and debrief of the participants.

Results

We tested our prediction about the effect of the interaction between assessment motivation and size of the missed opportunity on purchase likelihood using a linear

regression analysis each. The main effect of (A) size of missed opportunity (Coding Small missed opportunity: 0 Large missed opportunity: 1) and (B) Assessment (scoring according to Kruglanski et al., 2000) and interaction between these variables (A X B) were entered in a linear regression analysis. We also entered regret, age, ethnicity (Coding White: 0, N= 46 Minority: 1, N=7) and education (Coding No Bachelor: 0, N= 31 Bachelor or higher: 1, N=22) as covariates. Furthermore, we controlled for locomotion and the interaction between locomotion and the size of the missed opportunity.

The results once again showed a significant effect for the size of the missed opportunity on likelihood of purchase ($\beta = -2.83$; $p < .01$) that replicated Studies 1 and 2 and the previous literature—a larger past missed opportunity decreases the likelihood of a purchase in the present. Ethnicity also had a significant effect ($\beta = 2.88$; $p < .05$), showing that minorities are relatively more likely to purchase after a missed opportunity. Table 3.3 presents more detail. Most important, as shown in Figure 4.3, there was also a significant main effect of assessment ($\beta = 2.24$; $p < .05$) that was qualified by a 2-way interaction between strength of assessment and small versus large missed opportunity ($\beta = -2.96$; $p < .05$).

Table 3.3

Regression coefficients, standard errors and t values for all predictors (study 3).

	β	SE	t	p
Constant	4.17	1.54	2.71	.01
Assessment	2.24	.97	2.31	.03
Small vs. Large Missed Opportunity	-2.83	.92	-3.07	.00
Assessment X Missed Opportunity	-2.96	1.40	-2.11	.04
Education (No Bachelor vs. Bachelor and higher)	-.99	.88	-1.13	.27
Ethnicity (White vs. Minority)	2.88	1.23	2.33	.02
Age	.03	.04	.86	.40
Regret	.19	.14	1.38	.17
Locomotion	-.64	1.12	-.57	.57
Locomotion X Missed Opportunity	-.56	1.70	-.33	.74

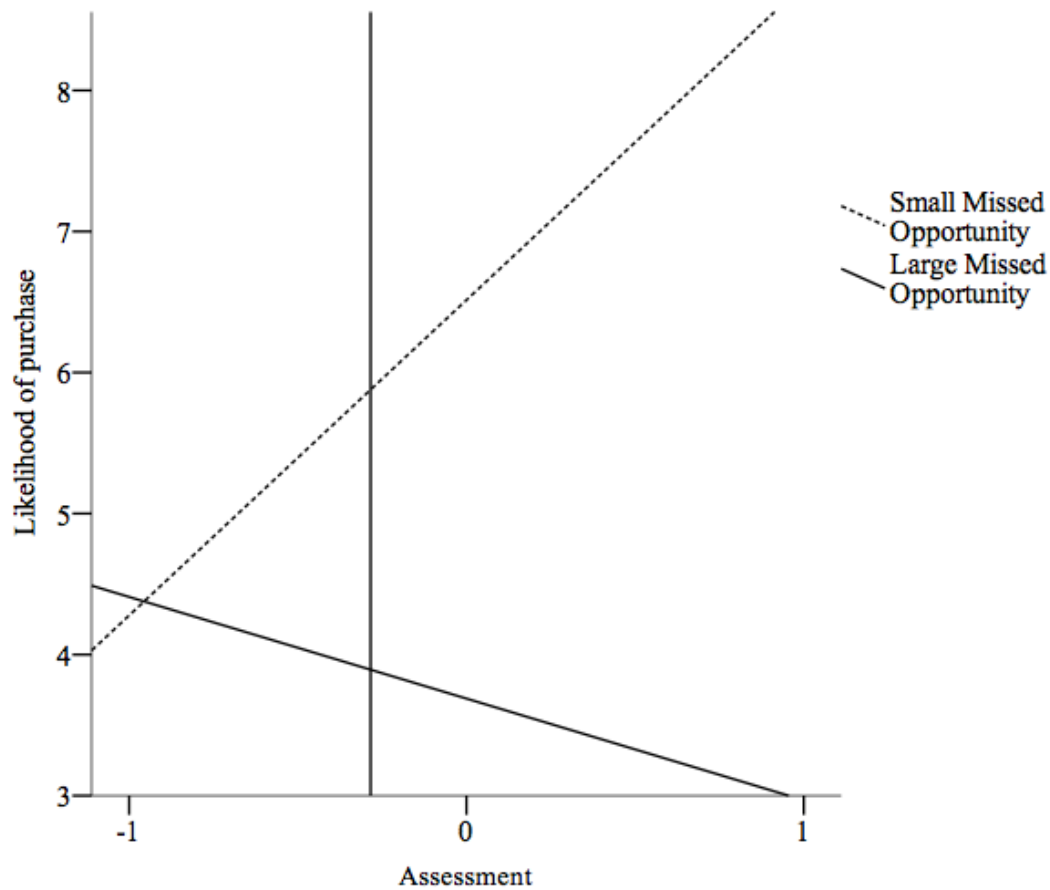


Fig. 4.3 Purchase likelihood as a function of missed opportunity size and individuals' Assessment orientation.

Simple slopes were performed to demonstrate the nature of this interaction effect. These analyses revealed that the relationship between the size of the missed opportunity and purchase likelihood within each of the two levels of participants' strength of assessment motivation (strong = 1 SD above the mean; weak = 1 SD below the mean) was significant for participants with strong assessment ($\beta = -4.67$; $p < .01$) but not for participants with weak assessment ($\beta = -.98$; n.s.).

There was no effect on likelihood of purchase as a function of strength of locomotion motivation or its interaction with the size of the missed opportunity, and the interaction effect for strength of assessment and size of missed opportunity remained significant when controlling for these locomotion variables. These findings

replicate Study 2 for the new case in Study 3 where the missed opportunity is directly related to the focal purchase.

Discussion

We propose that individuals' assessment tendencies sensitize them for the size of missed opportunities. In three studies, assessment sensitized to the size of missed opportunities on the likelihood of purchase. This holds true when individual assessment orientations are situationally induced as well as when they are measured. Our finding was tested against alternative theories. In Studies 2 and 3, we examined whether individuals locomotion orientation could account for this effect. We also considered the possibility that the assessment-size of the missed opportunity interaction effect might be driven by action versus state orientations. Study 2 suggests that this is not the case. Finally in Study 3, we generalized our findings to situations where the missed opportunity was directly related to the focal purchase (rather than presented as additional bonus). Our findings remained consistent and robust across all studies. We build on and support previous explanations according to which individuals use the size of missed opportunities as an anchor or reference point to judge the value of present offerings (Arkes et al., 2002, Zeelenberg et al., 2006, Sevdalis et al., 2006). Our findings support this explanation as we illustrate how motivations to compare a present opportunity against the standard of a missed past opportunity moderate this effect. The pattern of findings did not support a possible alternative account of stronger Assessment decreasing and stronger Locomotion increasing regret over the missed opportunity. Neither regret nor the interaction of locomotion with missed opportunities predicted purchase likelihood.

Inaction inertia is of high practical relevance due to the soaring prevalence of missed opportunities in consumers' daily lives, which come as a consequence to two

key changes in retail environments. Firstly, growing product assortments mean that consumers are more likely to miss out on the most attractive offerings. Secondly, digital offerings are increasingly stored and accessible online indefinitely, which makes consumers more likely to find out about them once they are expired.

Beyond contributing to Inaction Inertia, our findings also underline the importance of regulatory mode theory. While classic control theories looked at the locomotion and assessment orientations as one dimension (e.g., Carver & Scheier, 1981) regulatory mode theory emphasizes two dimensions. Building on regulatory mode theory, the current research emphasizes that for inaction inertia, assessment, and not locomotion orientation, that matters. This is important because previous research proposed locomotion as the driving orientation (Van Putten et al., 2013). Building on this, we suggest that future research that investigates decision-making using control theories should take into account locomotion and assessment independently, as well as in terms of one dimension. One example is the sunk costs fallacy, which describes people's tendency to stay committed to a goal once an investment towards this goal has been made (Arkes & Blumer, 1985). Following the logic of the current study, we believe that it would be fruitful to investigate whether locomotion, assessment or both might moderate sunk cost effects. The shopping moment effect is another example. Here, an initial purchase increases the likelihood of a second unconnected purchase (Dhar, Huber & Khan, 2007). Consumers wanting to move from one state to the next (locomotion) should be motivated to progress to the second purchase, while the tendency to make comparisons might be less relevant.

Are there other important alternative mechanisms that may underlie Assessors' sensitivity to missed opportunities? One variable that might provide an alternative explanation for our findings is confidence. Missing out on a large missed opportunity

might decrease one's confidence in making a good decision. Low confidence in decision making in turn might decrease purchase likelihood especially for individuals high in assessment, as these might be particularly sensitive to this. We performed additional analyses to test the influence of missed opportunity size on confidence. However we did not find any significant difference in confidence between the small and large missed opportunity conditions $F(1, 52) = .65$ $p > .1$.

Limitations

Like any research, the current paper is not without limitations. All of the presented studies have been conducted using fictional decision-making scenarios. Studies that involve real consequences for participants could further increase external validity. It has to be noted, however, that previous research already generalized the inaction inertia phenomena to situations that involve real consequences (Tykocinski, 1995). Likewise, for marketing practitioners, it would be interesting to see how inferences about consumers' assessment orientations can be made less obtrusively, or how inductions can be done using advertisements or sales representatives. Previous literature already hints at solutions by illustrating that predominant assessment orientated individuals react more positively to comparative advertisements (Pierro et al., 2012). Consequently, it could be tested whether comparative advertisements strengthen assessment orientations and therefore sensitize to the size of missed opportunities. This could be a particularly effective strategy after relatively small promotions.

Implications

Our findings can help companies better understand the role of consumers' assessment orientations in consumer post-promotion decision-making. Consumers might not have the time to act on exceptional deals during a short period and might

only compare prices when the sale is over. Our research suggests that under these conditions, retailers should restrain from marketing communications that prompt consumers to compare in general. Retailers that only make use of small discounts, on the other hand, could increase their sales with marketing communications that prompt consumers to compare. Our findings are also relevant for consumers that missed out on exceptional opportunities because they need to know that comparing these opportunity to present ones will make them less likely to act on those.

Taken together, these studies suggest a powerful addition to Benjamin Button's thoughts on missed opportunities. Whether we let missed opportunities define our lives depends on more than just what we miss. What matters is how we think about them. This thinking is a product of our environment (Study 1) and who we are (Study 2 and 3).

Chapter 5: General Conclusion

While previous chapters already discussed projects in isolation, the proceeding discussion will provide a take on the synergies of the projects and uniquely connect findings from the previous three chapters. More specifically, we will discuss overall theoretical and managerial contributions, future research and limitations at the dissertation level. We believe that it is important to present these research projects together due to the large amount of synergy between them. This is true for managerial and theoretical contributions alike. From a managerial point of view, each of these projects illustrates how to maximize customer valuation and purchases by matching customers' modes of decision-making with the retail environment. Looking at body movement, assortment size and missed opportunities in conjunction is also important due to the practical interrelatedness of these problems. It could be argued, for example, that it is difficult to process a lot of options or missed opportunities while being physically on the move, that missing opportunities might result in a wider search for options or that having too many options results in missed opportunities. Also, from a theory development point of view, there are many synergies. In chapter 2, we extended regulatory fit theory while research chapter 3 exports this theory to show how uniquely individual differences in assessment can explain conflicting accounts on assortment size. Chapter 4 further widens the scope by showing the importance of these orientations in retail settings irrespective of regulatory fit.

Theoretical contributions

Our research furthers theoretical development on consumer decision-making in a variety of environments by looking at these through the lens of regulatory mode and fit theory. Previous research worked with the oversimplified assumption that

consumers are best served when uniformly treated as inert evaluation and comparison machines. It was assumed that all customers prefer to remain physically static when making purchases, that everybody prefers to choose from a large set of options, and each individual dislikes missing out small and large promotions to the same degree. Overall, this dissertation disputes these assumptions. We illustrate that customer purchase likelihood and value experiences in these environments depend largely on the interplay between consumers' goal orientations (particularly on assessment orientations) and the retail environment, rather than just the environment itself. Each of our three research projects also offers a unique managerial and theoretical contribution to specific marketing problems.

The first research project, for example, illustrates that body movement creates value-from-fit effects for predominantly locomotion-oriented individuals while stasis has this effect on predominant assessors. We show across three studies that this effects holds for different types of movement. From a theory development perspective this research project is very important, as it is the first attempt to show that simple behaviors such as body movement can create regulatory fit effects.

While our first research project extended regulatory fit, our second research project uses this theory in order to further understanding of consumer decision-making in a different body of literature. More specifically, the second research project advances our understanding about how retailers can create value-from-fit effects by the matching retail environment with regulatory mode orientations. This project illustrates that large product assortments only increase product valuation for individuals with strong (as opposed to weak) assessment orientations. Experiment 1 demonstrates how to increase valuation for products chosen from large assortments by priming assessment orientations. Experiments 2 extends this finding by showing

increased value perceptions for choices made from small (vs. large) assortments when individuals with chronically weak (vs. strong) assessment. Experiment 3 shows that this effect turns around when small assortments represent the entire market. These findings represent an important advancement to current theory, as we reconcile contradictory research on the effects of large product assortments.

Similar to our second project, the third project also furthers theorizing on decision-making environments by looking at the demands for evaluation and comparison they place on consumers. Consequently, we zoom in again on how individual and situational differences in assessment orientations can further our understanding of customer decision-making. More specifically, in chapter 4 we illustrate that individuals with strong assessment orientations are particularly sensitive to the size of missed opportunities – which in some cases come as a result of large assortments. Similar to our research approach in the assortment size project, the first study illustrated that this statement holds true when assessment orientations are induced. Following the second and third experiment, we replicated this finding for cases when assessment orientations are measured. Also, this research project offers an important contribution to current theorizing on consumer decision-making, as it builds on previous explanations on the effect of small vs. large missed opportunities and extends these by showing their conditionality on assessment orientations.

Managerial contributions

It should come to no surprise to marketers that making a decision “on the go,” choosing from a small assortment or choosing a product that had previously been discounted influences how much consumers value their decisions. What had not been known, however, was that firstly under which conditions this influence would be

negative or positive, and secondly what marketers could do about it. This dissertation offers a simple answer to both questions. Firstly, we illustrate that what matters less in these decision-making scenarios (as previously assumed) is the context by itself, and what matters more is how the environment interacts with people's locomotion and assessment orientations. Zooming in deeper to the processes, we showed that these interactions could come in the form of fit to a goal orientation (i.e. such as the fit between high assessment and large assortments) or sensitization to certain types of information (i.e.: such as the increased responsiveness of high assessment individuals to missed opportunity size). Secondly, we offer retailers simple tools to increase customer valuation and purchase likelihood. Regulatory mode can either be induced as a state or measured as a trait. This allows managers to maximize value in two ways: Measurement or Manipulation.

Managers might decide to measure Locomotion and assessment orientations in market research surveys or on a company website. This is particularly effective when the decision-making contexts can be fitted to customer needs. After finding that their customers have predominant locomotion orientations, a restaurant manager might decide to encourage customers to move physically by installing a buffet. Similarly, for predominantly assessment-oriented customers, preventing shoppers from walking around by instructing waiters to seat them as soon as possible might be more profitable. Online retailers should profit even more from this, as they can quickly and freely tailor sales environments to customers. So when an online retailer finds that their customers enjoy critically evaluating products and writing reviews (which should be indicative of a strong assessment orientation), they might decide to limit offerings and engage in small (as opposed to large) sales promotions to prevent large losses once the promotion fades out.

Marketers do not always have such high levels of control on the decision-making environment, however. For these situations, manipulating Regulatory mode by induction rather than measuring it might be more effective. A large supermarket, for example, might be forced to offer a large product assortment because customers would leave if they can't get all of the items they need. Similarly, this supermarket might also only be able to offer small promotions due to narrow profit margins. Under these restrictions, inducing assessment orientations might be a viable strategy. Inductions would still have to be piloted outside the lab, as none of our studies were conducted in a field setting. However, under the condition where effects generalize to field environments, inductions could be done in a number of ways. Firstly, advertisements could persuade customers to compare prices with competing supermarkets. Price matching promotions might motivate customers to do so. Alternatively, a sales clerk might use priming techniques in their communication with customers. A salesman might, for example, approach customers at the entrance with the greeting "Welcome to our market. Only here can you compare all the options."

Limitations & Future research

Like any research project, this dissertation is not without limitations. One limitation that is common to all studies conducted is that they have not been conducted in field settings. However our findings do generalize across student and online labor marketplace populations. In addition to this, both Australian and US respondents showed similar patterns. Furthermore, findings are consistent in online and lab settings. External validity could be further enhanced, however, by conducting studies with real customers on Brick and Mortar or online field settings.

Beyond looking at future research opportunities on a chapter basis, it also makes sense to look across chapters. One example is the strong synergy between managerial findings from the second and third chapter. Across these chapters, we found that individuals who are predominantly locomotion rather than assessment oriented value products more after engaging in physical movement. Individuals with low assessment orientations value products chosen from small assortments more. Does that mean, that products that are chosen “on the go”, should be offered in small assortments? A number of environments already work in sync with this idea. One example is the success story of food carts in New York where pedestrians choose between the limited options the carts house. Similarly, McDonald’s offers customers that are walking by the express window with a limited assortment of options. Future research could establish whether small assortments do in fact fit customers on the move.

A second avenue for future research lies in the interface of the findings from chapter 3 and 4. In chapter 3, it was found that individuals with high assessment orientations value products chosen from large assortments. This raises the question of whether large assortments conversely also activate assessment orientations. If this is the case, then large assortments (as opposed to small assortments) might in turn also increase purchase likelihood after small missed opportunities. Retailers could make use of this knowledge by presenting customers with more options after the end of a relatively small discount period (as in chapter 4).

Finally, while this dissertation offers a thorough examination of possible boundary conditions and underlying processes, we argue that more research is needed to arrive at a better understanding of the process and boundary conditions of found effects. One possible example of such a boundary condition could be the effect of

expert recommendations and curated assortments. Would individuals with strong assessment motivations show sensitivity to missed opportunities if a reliable expert assured them that the decision they made is “right”? Would they show the same aversion to small assortments if assured that a connoisseur curated it? Future research is needed to answer these questions. Beyond these boundary conditions, more exploration is also needed on the processes that underlie found effects. What is it about large assortments and small missed opportunities that individuals with strong assessment orientations like and why do predominant locomotors respond so positively to body movement?

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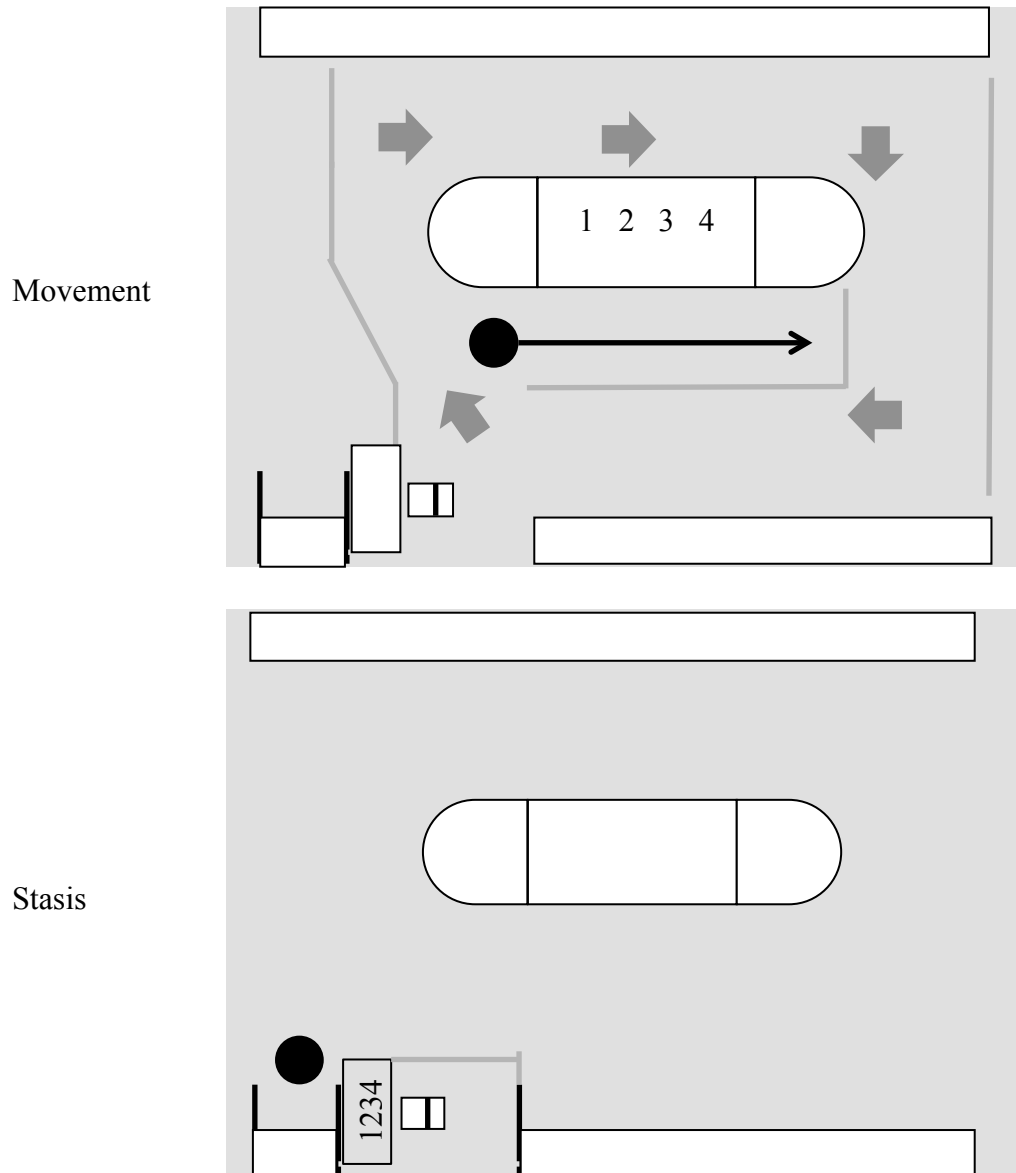
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Appendixes

Appendix 2.1: Floor plan for movement and stasis conditions Study 3.



Symbol key:

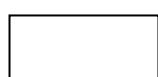
Large Table



Experimenter movement



Small Table



Experimenter



Location of chocolates

1234

Experimenter office cubicle



Participant



Chair for



movement
Belt Barrier



participant

Appendix 3.1: Value measure Study 1

Please indicate whether the following statements are true about the frozen yogurt and toppings you chose. The frozen yogurt:

	Strongly Disagree	Disagree	Somewh at Disagree	Neither Agree nor Disagree	Somewh at Agree	Agree	Strongly Agree
has consistent quality (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is well made (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
has an acceptable standard of quality (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is one that I would enjoy (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
would make me want to taste it (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
would make me feel good (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
would give me pleasure (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix 3.2: Value measure Study 2 & 3

Imagine you would get the opportunity to watch the movie that you just selected in a cinema. The price you pay is up to you; it can vary from \$1 to any amount you think the cinema ticket for that movie is worth. If you would not like to buy the cinema tickets for any price please indicate 0. However imagine on the next page you would find the price of the cinema tickets for that movie, which you would see later. If you offer a price that is more than or equal to the price on the next page, then you get to watch the movie for the price you offer. If the price you offer is below the price on the next page then you do not get to watch the movie and keep your money. So how much would you be willing to watch it in the cinema?

Slider: US Dollar for watching it in the cinema 0-30

Appendix 4.1: Vacation Inaction Inertia Scenario:

Imagine you want to go on a short vacation to Thailand. At the beginning of the week you saw a newspaper ad for “Fun Tours” Travel Agency offering a special flight and hotel deal in Phuket for \$ 1200 not including airport taxes. Although you thought about the deal, and it sounded good, you did not manage to get to the travel agency to find out more about this deal before Friday. At the travel agency you find out from the agent that the deal includes the flight, and six nights in a three-star hotel including breakfast, all for \$ 1200. The agent tells you that it is unfortunate that you did not get to the travel agency sooner, because until yesterday clients who decided to join the tour received as a special bonus, (two elegant suitcases and a matching) a toiletry bag, compliment of the travel agency. The bonus offer, however, was good only as long as supplies lasted, and it ended yesterday. The agent also adds that for airport fees you will have to pay an additional \$ 106, and that although the hotel is not of the highest quality it is clean and comfortable.

Please indicate how likely you would be to join the tour.

1	2	3	4	5	6	7
Definitely						Definitely
would not						would join
join						

Appendix 4.2: Fitness center Inaction Inertia Scenario:

Imagine the following scenario: you spend the summer at home. You took on a summer job that keeps you very busy from Monday to Thursday. You think that on the days that you don't work you would like to exercise at a Fitness Center. Your friend tells you that there are two new Fitness Centers in town. One is located 5 minutes away from your house, but your friend tells you that they are only taking a few more members, so you better hurry up or it might be too late to join. By the end of the week, you haven't gotten around to picking up a membership application, but then your friend tells you it is too late because their membership rolls had just closed. The second Fitness Center is located 30 minutes away from your house. Would you join this second Fitness Center?

Would you like to join this second fitness center?

1	2	3	4	5	6	7
Definitely						Definitely
would not						would join
join						