Understanding Managers' Predictions of Consumer Preferences

A Self-Referential Bias of Cognitive Empathy

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Vorwort

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Abbreviations

ANOVA	Analysis of Variance
CEO	Chief Executive Officer
CEmpathy	Cognitive Empathy
cf.	compare
CI	Confidence Interval
CPrediction	Managers' Predicted Consumer Preference
Eds.	Editors
e.g.	exempli gratia
et al.	et alia
i.e.	id est
k	Number of Estimated Regression Coefficients
M	Mean
n	Sample Size
p	page
PPreference	Managers' Personal Consumption Preference
SD	Standard Deviation
SE	Standard Error
WTP	Willingness to Pay

Abstract

This research studies how managers form predictions of their consumers' preferences and, in particular, how managers' cognitive empathy, the mental process of taking the consumers' perspective to understand consumers' needs, affects their predictions. The results of three empirical studies with 387 managers across different contexts of marketing decision making (product development, communication management, and price management) show that, first, managers use their own preferences as a cue for their consumers' preferences. Second, although common wisdom suggests that cognitive empathy is an excellent approach to increase consumer focus and decrease the emphasis on one's own perspective, empathic managers exhibit a higher self-referential bias. Third, the self-referential bias increases with cognitive empathy because perspective taking activates managers' own consumer identity and thus their personal consumption preferences. Finally, it turns out that empathic managers tend to neglect objective market research in this instance.

Zusammenfassung

Die vorliegende Dissertation untersucht, wie Manager die Präferenzen ihrer Konsumenten vorhersagen und insbesondere, welche Rolle ein kognitiv-empathisches Verhalten von Managern innerhalb des Vorhersageprozesses spielt. Ein solches Verhalten wird als mentales „Hineinversetzen“ in die Perspektive der Konsumenten verstanden. Die Ergebnisse von drei empirischen Studien im Kontext verschiedener Marketingentscheidungen (Produktentwicklung, Kommunikationsmanagement und Preismanagement) mit insgesamt 387 Marketingmanagern zeigen zunächst, dass Manager ein selbst-referentielles Bild von ihrem Kernmarkt zeichnen. Während weiterhin oftmals angenommen wird, dass kognitive Empathie zu einer stärkeren Fokussierung auf Konsumenten und somit zu einem geringeren Einfluss der persönlichen Präferenz von Managern führt, belegen die Resultate der vorliegenden Arbeit Gegenteiliges. Demnach steigt mit zunehmender kognitiver Empathie der Einfluss der persönlichen Konsumpräferenz von Managern auf die vorhergesagte Präferenz von Konsumenten. Dieser selbst-referentielle Effekt der kognitiven Empathie resultiert aus einer stärkeren Aktivierung der eigenen Konsumentenidentität des Entscheiders. Letztlich zeigen die Ergebnisse, dass empathische Manager zu einer Vernachlässigung objektiver Marktforschungsergebnisse tendieren.

1 Introduction

1.1 Problem Statement and Relevance

According to a recent survey among more than 1,200 CEOs in 60 countries, 66 percent of the business leaders believe that **incorporating the consumer's voice** in managerial tasks is the highest priority for the success of both managers and their companies (PwC 2012). In the same vein, a survey of global marketing executives indicates that understanding consumer preferences and taking a consumer view in managerial decision making is the key marketing challenge firms currently face (Frost & Sullivan 2012).

In order to bring the consumer's perspective to the center of managerial decision making, both marketers and researchers emphasize the importance of managers developing their cognitive empathy for the consumer. A **manager's cognitive empathy** is defined as the mental process of taking the perspective of another person in an effort to understand consumers' needs (e.g., Dahl, Chattopadhyay, and Gorn 1999; Dietvorst et al. 2009; Franke and Park 2006; Grant 2011; Homburg, Wieseke, and Bornemann 2009; Parker and Axtell 2001; Rifkin 1994). For instance, a manager of the car manufacturer Mercedes-Benz has recently emphasized that all employees of the company have to "look at things from the customer's perspective – and not from the dealers' or manufacturers' perspective – to see what the customer wants" (AutomotiveNews 2012). Similarly, Stauffer (2001, p. 3) argued that "front-line workers aren't the only ones who need to see things from the customer's perspective instead of the company's perspective […] All employees must have an external focus." Moreover, Rifkin (1994; see also Dahl, Chattopadhyay, and Gorn 1999) posits that, in the case of designing a new product, managers should be empathic by imagining a consumer using the product to successfully create market-oriented products. Despite the prominence of the belief that cognitive empathy is important, surprisingly little research has actually examined the influence of managers' cognitive empathy on their decision processes. Prior marketing research has mainly focused on issues such as training in perspective taking (Homburg, Wieseke, and Bornemann 2009) and how the creativity of product designs is influenced by managers' cognitive

empathy (Dahl, Chattopadhyay, and Gorn 1999). However, the role of cognitive empathy in managers' decision processes is still largely unexplored.

In this research, we therefore examine the impact of cognitive empathy on one of the most important managerial tasks: **predicting consumer preferences** (Faro and Rottenstreich 2006; Hsee and Weber 1997). Managers regularly rely on their predictions of consumer preferences in decision making, for instance, in designing and pricing a company's products or creating and implementing advertising campaigns (Moreau, Krishna, and Harlam 2001). In forming such predictions, the results of prior research reveal that managers might use their personal preferences as a cue for consumer preferences (e.g., Faro and Rottenstreich 2006; Hoch 1988; Hsee and Weber 1997). Moreover, conventional wisdom suggests that cognitive empathy causes more consumer- and less self-referential predictions because cognitive empathy "allows us to overcome our usual egocentrism" (Decety and Lamm 2006, p. 1151; see also Decety and Jackson 2004; Preston and de Waal 2002). This believe is also supported by a pre-study we conducted across 43 marketing managers (mean age: 43.09; 72.1 percent male): 76.7 percent of respondents indicated that managers who put themselves into the shoes of their consumers would be less susceptible to using their personal consumption preferences in making predictions about consumers.

Our research, however, implies that **cognitive empathy** may ironically **accelerate self-reference in predicting consumer preferences**. In particular, building on multiple identity research (e.g., Ashforth and Johnson 2001; Johnson et al. 2006; Mandel 2003; Puntoni, Sweldens, and Tavassoli 2011), we assume that managers basically have two identities: their professional identity as managers and their personal identity as consumers. Empathic managers put themselves into the shoes of consumers which means that they play the role of a consumer, imagine acting and feeling like a consumer, and they simulate consumers' product and service experiences (Dahl, Chattopadhyay, and Gorn 1999; Stotland 1969). We argue that as empathic managers assume the mental processes of a consumer, they in turn activate their own consumer identity. With an increased activation of their consumer identity, empathic managers' personal consumption preferences are more accessible (cf. Bolton and Reed II 2004; Forehand, Deshpandé, and Reed II 2002; Reed II 2004; Zhang and Khare 2009), thereby influencing their construal of consumer preferences (cf. Higgins

1996). Thus, although empathic managers try to suppress their egocentric processing as a professional manager, their well-intentioned effort may actually rebound by increasing self-referential consumer preference predictions.

We present three empirical studies with 387 marketing managers that test the effect of managers' cognitive empathy on the influence of their personal consumption preferences on their predictions of consumer preferences. To preview our conclusions, across different contexts of marketing decision making, the findings provide robust support for our theorizing of a self-referential bias of managers' cognitive empathy in construing consumer preferences. With the present research, we **contribute to and extend the literature on consumer preference predictions**. First, we replicate a basic observation of prior social psychological and consumer research showing that managers often project their personal consumption preferences to others. Second, our work extends the prediction literature by elaborating on the role of cognitive empathy and providing robust support for a self-referential bias. That is, cognitive empathy increases the influence of managers' personal consumption preferences on predicted consumer preferences. Third, we introduce an identity-based framework in preference prediction and demonstrate that cognitive empathy activates a manager's consumer identity, which in turn drives self-referential preference predictions. Fourth, we also contribute to research on the use of market research by showing that empathic managers tend to neglect objective market research in favor of their own empathic predictions. At a more general level, this dissertation underlines the importance and influence of managers' consumer identity in their managerial decision making and points to important opportunities for future research.

1.2 Dissertation Outline

This dissertation is structured into **six chapters**. Following this introduction, in the next chapter 2, we provide the theoretical background of our research. Specifically, since there is little work in the field of managerial decision making, we first review the literature on preference predictions of others in the fields of social psychology and consumer behavior to provide an overview about theoretical accounts for self-

referential preference predictions in a broader context. Subsequently, we turn to the work on preference prediction that has appeared sporadically in the management literature. Then, we develop a cognitive empathy-identity activation framework for managers' construal process of consumer preferences. Building on this framework, we derive our hypotheses according to which cognitive empathy increases the influence of a manager's personal consumption preferences on predicted consumer preferences and that this self-referential bias results from an increased activation of a manager's consumer identity that operates as the underlying mechanism.

In chapter 3, 4, and 5, we then present the results of three studies with approximately **387 marketing managers** across **three classic fields of marketing decision making** (Kotler 1967; McCarthy 1960; Reinecke 2008) and using different measures of a manager's personal consumption preference. More specifically, in chapter 3, we present the results of our first study that used a **product development context** in the automotive industry. In this study, we asked 93 marketing managers to take the role of a product manager of a fictitious car manufacturer who is responsible for the development process of a new car model. The main task of participants was to define the character of the new car model. To measure a manager's personal consumption preference, we used a constant sum scale and managers were asked to distribute 100 points to the most important car attributes when buying a car. Furthermore, a manager's cognitive empathy was measured using self-reports.

In chapter 4, we present the results of a study in the context of **communication management** of the luxury watch manufacturer Rolex. In this study, 233 marketing managers were asked to take the role of the head of marketing of the company who has to predict consumers' evaluation of different advertisements. In clarifying that cognitive empathy in fact has a self-referential effect on a manager's prediction of consumer preference, we experimentally manipulated cognitive empathy in this study by using a perspective taking approach. Moreover, in assessing a manager's personal preference, we used a Likert scale to measure their personal evaluation of advertisements.

In chapter 5, we further replicate and generalize the self-referential bias of managers' cognitive empathy in the context of a **company's price management**. In doing so, we

asked 61 marketing managers to take the role of a marketing manager of a fictitious coffee store who is responsible for the pricing of the store's products. Again, we used an experimental approach and manipulated a manager's cognitive empathy. A manager's personal consumption preference was assessed by the personal willingness to pay for products. Additionally, this study investigates the **underlying psychological mechanism** of the self-referential bias of managers' cognitive empathy in predicting consumer preferences. That is, the study investigates a cognitive empathy-identity activation framework that posits that cognitive empathy activates a manager's consumer identity (i.e., his/her personal consumption preferences), which in turn increases the influence of personal consumption preferences on a manager's prediction of consumer preferences. Table 1 summarizes the design, the participants of the studies, and provides the key findings of the empirical investigations.

In chapter 6, we conclude with a discussion of our research. Moreover, we provide several theoretical implications of our work for marketing research and practical implications for managers. Finally, methodological limitations of our research and opportunities for future research are discussed. Figure 1 shows the basic structure of this dissertation.

Figure 1: Overview of the Dissertation

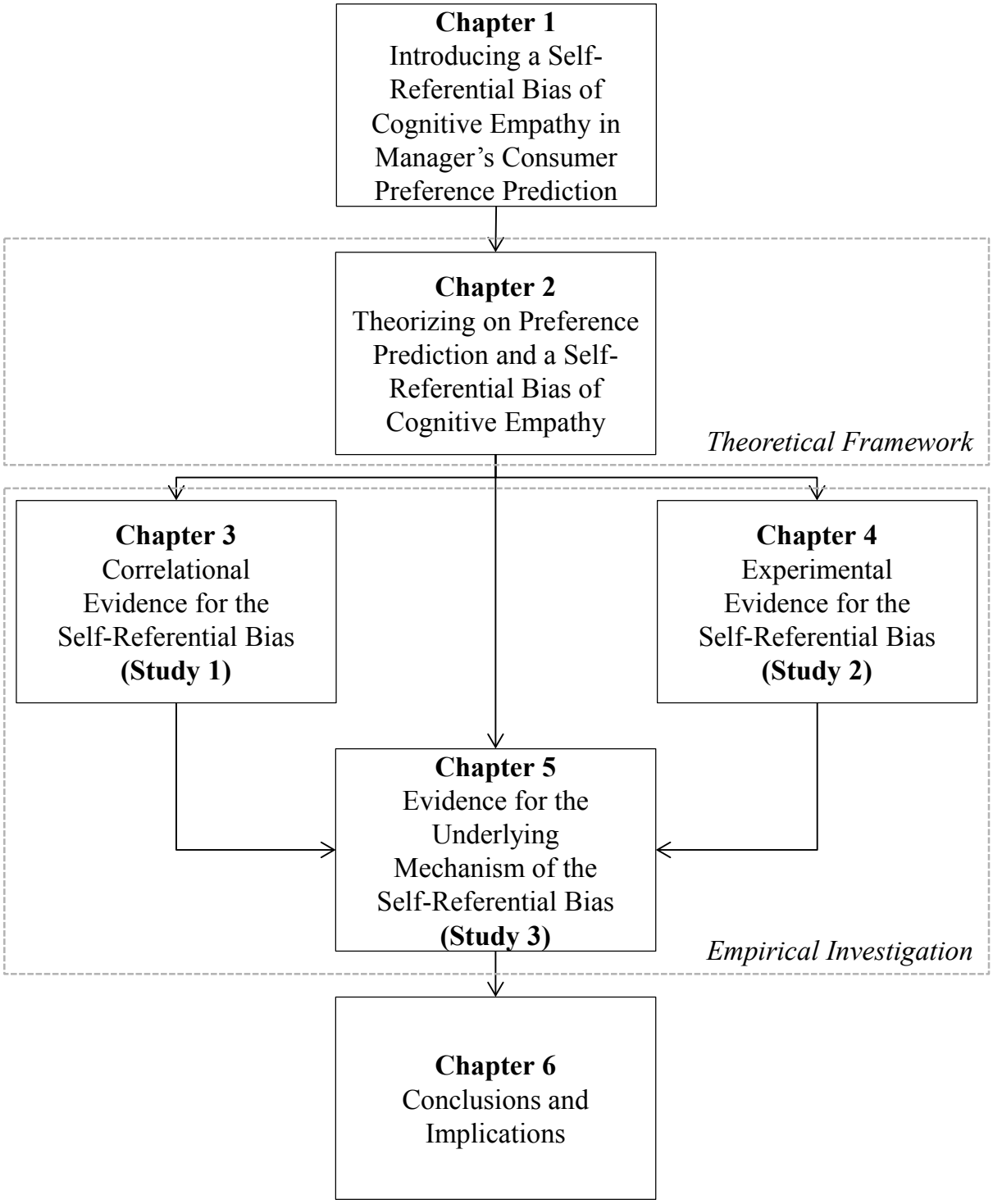


Table 1: Overview of Empirical Studies

Study	Context	Participants	Approach	Preference Measurement	Key Findings
Study 1	Product development in the automotive industry	93 marketing managers	Correlational analysis (self-reported cognitive empathy)	Importance of product attributes (100-point constant sum scale)	• Managers draw on their personal consumption preferences to predict consumer preferences. • Self-reported cognitive empathy acts as a moderator for the effect of personal consumption preferences on managers' prediction of consumer preferences: managers reporting high cognitive empathy increasingly use their personal consumption preferences in predicting consumer preferences. • Empathic managers tend to neglect market research results.
Study 2	Communication management in the luxury watch industry	233 marketing managers	Experimental analysis of cognitive empathy	Evaluation of advertisements (11-point Likert scale)	• Replication of the findings of study 1. • Cognitive empathy causes self-referential predictions of consumer preferences, providing support for the causality. • Cognitive empathy leads managers to less using market research.
Study 3	Price management in the gastronomy	61 marketing managers	Experimental analysis of cognitive empathy	Personal willingness to pay for products (price in Swiss franc)	• Replication of the findings of study 1 and study 2. • The activation of a manager's consumer identity operates as the underlying mechanism: cognitive empathy activates a manager's consumer identity, which in turn increases the influence of a manager's personal consumption preferences on predicted consumer preferences.

2 Theoretical Background and Literature Review

2.1 Preference Predictions of Others

2.1.1 Social Psychological and Consumer Research on Preference Predictions

Over the past decades, researchers have investigated how individuals predict the preferences of others, specifically in the fields of social psychology (e.g., Ames and Iyengar 2005; Gilovich 1990; Krueger and Clement 1994; Mullen et al. 1985; Ross, Greene, and House 1977) and consumer research (e.g., Davis, Hoch, and Ragsdale 1986; Gershoff, Mukherjee, and Mukhopadhyay 2008; Lerouge and Warlop 2006; Orhun and Urminsky in press; Scheibehenne, Mata, and Todd 2011; West 1996). In this line of research, studies in various contexts − such as risk preferences (e.g., Raghubir and Menon 1998), product preferences (e.g., sports, Ross, Greene, and House 1977; shoes and sunglasses, Ames and Iyengar 2005; posters and cameras, Orhun and Urminsky in press), and preference predictions of either familiar others (e.g., Lerouge and Warlop 2006) or unfamiliar others (e.g., Faro and Rottenstreich 2006; Hsee and Weber 1997) − have consistently demonstrated that **individuals often build on their personal preferences in predicting those of others** (cf. Brenner and Bilgin 2011; Freud 1956; Nickerson 1999).

The phenomenon that individuals use their personal preferences to predict those of others was first introduced by Allport (1924) who called this effect **"social projection."** It was also Allport (and colleague) who provided initial empirical support for social projection of individuals (Katz and Allport 1931). In their investigation of the predictions of students on the cheating behavior of others, Katz and Allport (1931) find a positive relationship between the self-admitted cheating frequency and the estimates of the number of other students cheating too.

Starting with Allport's work, social psychologists begun to investigate individuals' prediction processes and introduced different terms for the effect that individuals project their preferences on others. For instance, the effect has been called egocentric attribution (e.g., Heider 1958), attributive projection (Holmes 1968), assumed

similarity (Cronbach 1955), attributive similarity (e.g., Smith 1960), false consensus (Krueger and Clement 1994; Ross, Greene, and House 1977), and egocentric anchoring (e.g., Dunning and Hayes 1996; Naylor, Lamberton, and Norton 2011).

Related to the different terms offered for social projection, **several theoretical accounts** have been developed for explaining social projection. For instance, social projection is explained by inductive approaches (Dawes 1989), cognitive-informational approaches such as selective exposure (Ross, Greene, and House 1977; Sherman et al. 1983), causal attribution (Gilovich, Jennings, and Jennings 1983, also logical information processing, see Marks and Miller 1987), egocentric anchoring and adjustment (Davis, Hoch, and Ragsdale 1986), and social categorization (Clement and Krueger 2002), and motivational approaches such as the attempt to validate one's beliefs (Holmes 1968) and relationship protection (Gershoff and Johar 2006). Further, more recently, a similarity contingency perspective (Ames 2004a; Ames 2004b) has been introduced to the literature to cover social projection.

Inductive approaches (also regression and Bayesian approaches; cf. Slovic and Lichtenstein 1971) consider social projection as a normative strategy of forming predictions about others (Ames 2004b; Dawes 1989). Dawes (1989), for instance, argues that when individuals' only source of information is their personal position, then projection would be a superior strategy than simply guessing. In line with this, Dawes and Mulford (1996) find that, in the absence of other-related information, individuals who assume others to be similar to oneself, form, on average, more accurate estimates of others when they engage in projecting.

The **selective exposure view**, a cognitive approach, explains projection by a social sampling paradigm. According to this paradigm, individuals associate with similar others and are therefore more exposed to people that share the same interests, attitudes, and preferences (e.g., smokers have more friends smoking and therefore predict the smoking prevalence to be higher; Sherman et al. 1983). Since individuals often do not know the complete population, rather they have more reliable information about their immediate social environment (e.g., their family and friends), they are likely to overestimate the popularity of their personal position. Support for this view comes from the often cited study by Ross, Greene, and House (1977) who introduced the term **"false consensus effect"** to the literature as a synonym for social projection.

In a series of four studies across different contexts, Ross, Greene, and House (1977) find that individuals perceive their personal position as relatively common across their peers. For instance, in their final studies, they asked students whether they would agree to wear a sandwich board around the campus of a university. Also, participants were asked to provide estimates of the percentage of their peers that would agree to wear the sandwich board. They find that participants offered higher estimates for the percentage of their peers when they agreed to wear the board than did participants who refused. More recent support for this perspective of selective exposure is provided by Galesic, Olsson, and Rieskamp (in press). Among a Dutch household panel, they asked participants to indicate personal values for different characteristics such as their income, how often they meet with friends, and their work stress. Further, they were asked to estimate the values for the population and to estimate the values for their social circle (in a second wave). Galesic, Olsson, and Rieskamp (in press) find that the estimates for the population resemble smoothed versions of the social circle, indicating that individuals sample from their social circle as they do not have knowledge about the complete population. They concluded that considering the social circle of individuals in the prediction process would explain much of the "false consensus effect."

Another cognitive-informational based approach to explain social projection is the **egocentric anchoring and adjustment model** (Davis, Hoch, and Ragsdale 1986; Dunning and Hayes 1996). Building on the anchoring-adjustment heuristic (Tversky and Kahneman 1974), Davis, Hoch, and Ragsdale (1986) argue that, in coming up with judgments, individuals generally anchor on the most salient information and, subsequently, they adjust for less salient information. In making predictions about others (in their example: spouses), they claim that the personal consumption preference is the most salient anchor. Further, since spouses perceive a kind of similarity to each other, the adjustment for differences is mostly insufficient. Consistently, across five studies, Davis, Hoch, and Ragsdale (1986) find that the prediction accuracy of spouse preferences is mostly low. This anchor-adjustment process in forming predictions is also supported by van Boven and Loewenstein (2003) who find that individuals anchor on their momentarily aroused drives when predicting feelings of others.

Work on **social categorization** supports a moderating effect of the group individuals make prediction about on the degree of social projection. For instance, Clement and Krueger (2002) investigated the influence of forming judgments about members of an in-group or about members of an out-group. They find that individuals only project their personal position to in-groups (i.e., to individuals they identify with), while social projection disappears when forming prediction about out-groups. Theoretically, they explain this group effect by the cognitive accessibility of the personal position: only when predicting in-group members' position, individuals anchor on their personal position. In their meta-analytic research, Robbins and Krueger (2005) reviewed 19 studies on this group effect and validated the moderating role. In-group projection is significantly higher than projecting to an out-group.

Motivational approaches, however, assume social projection to be driven by the functional value of the relative positioning of the self and others (for an extensive review, see Marks and Miller 1987). Since individuals have a fundamental need for social belongingness (e.g., Baumeister and Leary 1995), they have a desire to see their position as common in the population and they want to validate their personal beliefs (Holmes 1968; Sherman, Presson, and Chassin 1984). Further, the motivation to project can be due to the need to reduce cognitive dissonance (Festinger 1957), due to the need for self-enhancement (Marks and Miller 1987), and due to the desire to protect the relationship to others. According to the latter, Gershoff and Johar (2006) examined how accurately individuals are in predicting friends' personalized knowledge, that is, the knowledge the friends have of the predictor's preferences. In three experimental studies, participants were asked to make predictions about how well friends would estimate their movie preferences. Gershoff and Johar (2006) find that friends' knowledge is often overestimated and this overestimation is driven by individuals' motivation to protect the relationship to their friends. Further, they demonstrate that the motivation to protect the relationship leads individuals to ignore feedback that would improve their predictions.

More recently, a **similarity contingency approach** as an explanation for social projection was introduced to the literature by Ames (2004a, b). In a series of studies, he finds that individuals engage in higher levels of projecting (i.e., the influence of their personal position increases in predicting others' positions) when they perceive a

kind of similarity to the target of the prediction. In one study (Ames 2004b, study 2), for instance, he manipulated the perceived similarity of MBA students to their peers by letting them think about either their similarities or dissimilarities to other MBA students. He finds that those in the similarity group projected their personal attributes more to their peers than those in the dissimilarity group. Participants in the dissimilarity condition, however, used more stereotypical attributes in their evaluation of others. The facilitating effect of similarity on social projection has been replicated in several contexts, for instance, in principal-agent relations (Ames, Weber, and Zou 2012) and the prediction of close others (Kenny and Acitelli 2001). The effect of perceived similarity on the preference prediction is also consistent with the results by West (1996). Primarily interested in the question of how individuals learn from feedback in predicting others' preferences, she shows that, particularly in early stages of the prediction process, individuals' perceived similarity to the other drives them to use their personal preferences to predict those of the other. However, the influence of similarity diminishes when individuals receive feedback about others' preferences. In contrast to the beneficial effect of feedback shown by West (1996), Krueger and Clement (1994) could not support this learning perspective. Krueger and Clement (1994) provided undergraduate students with feedback about their estimates for the frequency of some personality traits and find that they do only little incorporate such other-related information. They, therefore, argue that individuals are susceptible to social projection even when provided with other-related information.

Taken together, social psychological and consumer research has found robust support for a strong relationship between individuals' personal preference and their prediction of the preference of others they form inferences about. Thus, **social projection is a commonly observed phenomenon** but this effect is explained by different – and oftentimes not mutually exclusive – underlying mechanisms such as motivational, cognitive (e.g., anchoring and adjustment), or similarity accounts. Table 2 provides an overview of selected studies in the fields of social psychology and consumer research, the theoretical account(s) the studies built on, and their key findings.

Note that research has also found support for an alternative to projection (e.g., Kitts 2003; Mullen et al. 1992; Suls and Wan 1987). The so called **"false-uniqueness bias"** occurs when individuals are motivated to distinguish themselves from others they

make predictions for. However, since we are interested in the effect of a manager's cognitive empathy on the degree of self-referential preference prediction (i.e., social projection), we do not further discuss this alternative view.

Table 2: Literature Review of Selected Social Psychological and Consumer Studies on Projection and Predictions of Others

Author(s)	Research Question(s)	Theoretical Approach(es)	Methodological Approach(es)	Studies	Key Finding(s)
Ames 2004a	When do individuals project and when do they stereotype in predicting others' attributes and what is the underlying mechanism?	Similarity contingency	Experimental analysis	Three studies with students (n_1=74, n_2=102, n_3=71)	• When perceiving initial general similarity to targets, individuals engage in higher levels of projection of self attributes to the target and less levels of stereotyping. • Self-responses facilitate target responses when perceived similarity (i.e., faster response time), whereas group responses facilitate target responses when perceived dissimilarity to the target.
Ames 2004b	When do individuals project and when do they stereotype in predicting others' attributes?	Similarity contingency	Correlational analysis, experimental analysis	Three studies with students (n_1=45, n_2=94, n_3=50)	• When assuming high similarity to a target, individuals engage in higher levels of projection of self-attributes to others, whereas when assuming low similarity, individuals engage in higher levels of stereotyping. • Projection and stereotyping are negatively related. • Perceived general similarity and actual similarity are weakly related.
Ames and Iyengar 2005	How do uniqueness motives influence when individuals project?	Similarity contingency	Correlational analysis, experimental analysis	Two studies with undergraduate students (n_1=100, n_2=53)	• Uniqueness motives govern individuals' own preferences for unusual objects; perceived similarity governs projection of those preferences onto others. • Evaluative processes (self-preference) rely on motives; inferential processes (predictions of other's preferences) rely on beliefs and perceptions.

Table 2: Literature Review of Selected Social Psychological and Consumer Studies on Projection and Predictions of Others

Author(s)	Research Question(s)	Theoretical Approach(es)	Methodological Approach(es)	Studies	Key Finding(s)
Ames, Weber, and Zou 2012	When do individuals project and when stereotype in predicting others' attributes in the context of strategic interactions?	Similarity contingency	Correlational analysis, experimental analysis	Four studies with adults (n_1=326, n_2=79, n_3=81, n_4=204)	• When assuming high similarity to a target, individuals engage in higher levels of projection of self-attributes, whereas when assuming low similarity, individuals engage in higher levels of stereotyping. • This effect holds in different strategic interactions, such as perceptual dilemmas and principal-agent relations. • Trust mediates the impact of similarity on projection but not stereotyping.
Critcher and Dunning 2009	How do individuals form trait impressions of others?	Cognitive approach (egocentric pattern projection)	Correlational analysis, experimental analysis	Five studies with undergraduates (n_1=89, n_2=126, n_3=159, n_4=168, n_5=413)	• Individuals project the covariations between their personal traits onto others, that is, when two traits co-occur in the self, individuals assume that they co-occur in others as well. • Egocentric pattern projection is robust against making information about others salient.
Davis, Hoch, and Ragsdale 1986	How do individuals predict the preferences of their spouse?	Cognitive approach (egocentric anchoring and adjustment)	Experimental analysis	Five studies with married couples (n_1=48, n_2=47, n_3=32, n_4=49, n_5=44)	• In predicting others' preferences, individuals anchor on their personal preferences and adjust for perceived differences to others. • Prediction accuracy for the spouse is mostly low. • Results are neither affected by the measurement scale (e.g., Likert scale, constant sum) nor the order of questions on personal preferences and predicted preference (self response first or prediction for other first).
Dawes and Mulford 1996	How does social projection affect the accuracy of predictions in the absence of other information?	Inductive approach	Correlational analysis	One study (n=145)	• In the absence of any other information, social projection can increase the accuracy of predictions. • "False consensus" need not be false.

Table 2: Literature Review of Selected Social Psychological and Consumer Studies on Projection and Predictions of Others

Author(s)	Research Question(s)	Theoretical Approach(es)	Methodological Approach(es)	Studies	Key Finding(s)
Dunning and Hayes 1996	What mechanism drives egocentric predictions of others?	Cognitive approach (egocentric anchoring and adjustment)	Thinking aloud approach, experimental analysis	Three studies with students (n_1=69, n_2=176, n_3=85)	• In constructing judgments about others, individuals activate self-information (without any specific instruction to think about themselves). • The correlation between an individual's personal position and social judgment depends on the self-activation. • In comparison with other reference points (e.g., acquaintances, population), the self is the most common in making inferences about others.
Galesic, Olsson, and Rieskamp in press	How accurately do individuals predict characteristics of the general population?	Cognitive approach (selective exposure)	Difference scores	Sample data from Dutch household panel ($n_{FirstWave}$=1,646, $n_{SecondWave}$=1,416)	• Individuals' estimates of population distributions are highly influenced by their (accurate) social circle. • Individuals do not know the complete population, rather they have more reliable information about their immediate social environment. • Population estimates resemble smoothed versions of social circles.
Gershoff and Johar 2006	How accurately are individuals in estimating the knowledge of friends?	Cognitive and motivational approach	Experimental analysis	Three studies (n_1=109 pairs of friends, n_2=113 students, n_3=44 pairs of friends)	• Individuals overestimate their friends' personalized knowledge of their preferences. • The overestimation effect is driven by individuals' motivation to protect the relationship with familiar others. • Even though provided with feedback, this motivation leads to less updating of their estimates.
Gershoff, Mukherjee, and Mukhopadhyay 2008	How does the valence of individuals' personal opinion affect social projection?	Cognitive approach	Experimental analysis	Three studies with undergraduate students (n_1=222, n_2=60, n_3=103)	• The valence of individuals' personal opinion moderates social projection: individuals' "false consensus" is higher for personal likes compared to personal dislikes. • The availability of countervalence attributes mediates the effect: likes are recalled more easily than dislikes because disliked alternatives have more countervalence attributes than liked alternatives.

Table 2: Literature Review of Selected Social Psychological and Consumer Studies on Projection and Predictions of Others

Author(s)	Research Question(s)	Theoretical Approach(es)	Methodological Approach(es)	Studies	Key Finding(s)
Gilovich 1990	How does differential construal influence social projection?	Cognitive approach	Correlational analysis, experimental analysis	Four studies (n_1=8 department members, n_2=100 undergraduate students, n_3=320 student volunteers, n_4=330 undergraduate students)	• Social projection depends on the personal construal of choices. • Social projection increases with greater latitude of the choice task (i.e., items that leave more room for personal interpretation). • Social projection increases with the abstractedness of choice presentation.
Gilovich, Jennings, and Jennings 1983	How does the attribution of the prediction affect projection?	Cognitive approach (causal attribution)	Correlational analysis, experimental analysis	Two studies with undergraduate students (n_1=109, n_2=113)	• Causal attribution drives social projection. • When individuals are asked to explain their prediction in terms of their personal characteristics (or experience), social projection disappears. • When individuals are asked to explain their prediction in terms of the situation, they are highly susceptible to social projection.
Hoch 1987	How do individuals make predictions about other people? How are projection of the personal position and predictive accuracy related?	Cognitive-informational approach, similarity contingency	Experimental analysis	One study with graduate students (n=433)	• Strong support for projection: across different contexts, individuals project their personal preferences in making predictions about others. • The relationship between projection and accuracy depends on the actual similarity between the predictor and the target and the predictive validity of other information beyond the individuals' personal position. • For some targets (e.g., spouse), individuals could increase accuracy of their predictions by projecting more, while for others (e.g., average consumers) accuracy could be increased by relying less on the personal position as a cue.

Table 2: Literature Review of Selected Social Psychological and Consumer Studies on Projection and Predictions of Others

Author(s)	Research Question(s)	Theoretical Approach(es)	Methodological Approach(es)	Studies	Key Finding(s)
Irmak, Vallen, and Sen 2010	How does individuals' need for uniqueness affect the extent of projection and introjection in predicting others' preferences?	Similarity contingency, motivational approach	Experimental analysis	Four studies with undergraduate students (n_1=265, n_2=79, n_3=259, n_4=172)	• In predicting the preferences of others, perceived similarity underlies projection, whereas motivational factors underlie introjection (i.e., individuals rely on and incorporate the preferences of others). • Projection occurs regardless of individuals' need for uniqueness, introjection depends on individuals' need for uniqueness. • Individuals high in need for uniqueness introject less than individuals low in need for uniqueness.
Kenny and Acitelli 2001	When are individuals accurate and biased in predictions of close others?	Cognitive and motivational approach, similarity contingency	Correlational analysis	One study with couples (n=238)	• Individuals can be accurate and biased in their predictions of close others. • Individuals are often biased in answering questions on the relationship to others. • Individuals' own attitudes are sometimes better predictors of a partner's preferences than partner-related information.
Krueger and Clement 1994	Can debiasing techniques reduce individuals' tendency for social projection?	Cognitive-informational approach	Experimental analysis	Three studies with undergraduate students (n_1=122, n_2=97, n_3=319)	• False consensus is an egocentric rather than a statistical (i.e., Bayesian) phenomenon. • Individuals are susceptible to social projection even when debiasing techniques are provided. • Providing individuals with feedback, education, or both does not avoid social projection. • Individuals incorporate only little other-related information in social prediction.

Table 2: Literature Review of Selected Social Psychological and Consumer Studies on Projection and Predictions of Others

Author(s)	Research Question(s)	Theoretical Approach(es)	Methodological Approach(es)	Studies	Key Finding(s)
Krueger and Stanke 2001	How does self-referent and other-referent knowledge affect projection?	Cognitive approach (egocentric anchoring and adjustment), inductive approach	Correlational analysis	Two studies (n_1=163 undergraduate students, n_2=120 residents of university dormitories)	• Compared with other-referent knowledge (e.g., about a roommate), self-referent knowledge predicts judgments about a group (e.g., university's student) better. • Self-referent knowledge is more accessible and stable (e.g., faster response latencies) and leads to social projection. • Social projection is reduced when individuals possess knowledge of others.
Lerouge and Warlop 2006	How does familiarity with a target affect prediction accuracy?	Cognitive-informational approach, similarity contingency	Experimental analysis	Three studies with couples (n_1=35, n_2=84, n_3=112)	• Familiarity with another person has a negative effect on prediction accuracy when similarity is low. • Familiarity with another person has a negative effect on the validity/weight of own attitudes and other information. • Inaccuracy in predicting familiar others' attitudes is caused by a retrieval bias: individuals weight on pre-stored target information at the cost of product-specific attitude feedback. • Retrieval bias is independent of attitude similarity.
Ross, Greene, and House 1977	How are the personal position and estimates for others related?	Cognitive-informational, motivational approach (selective exposure)	Difference scores, correlational analysis, experimental analysis	Four studies with undergraduate students (n_1=320, n_2=80, n_3=104, n_4=80)	• Individuals perceive their personal position (e.g., attitudes, preferences, judgments) as relatively common across the population. • This "false consensus" effect is stable across various contexts and for hypothetical and "authentic" decisions.
Sherman et al. 1983	Which mechanism drives social projection?	Cognitive, motivational approach	Correlational analysis	One study (n=5,351 adolescent and n=122 adults)	• Social projection is driven by selective exposure to similar individuals and the motivation to validate (and justify) one's own deviant behavior. • No support is found for causal attribution and a behavioral conformity perspective.

Table 2: Literature Review of Selected Social Psychological and Consumer Studies on Projection and Predictions of Others

Author(s)	Research Question(s)	Theoretical Approach(es)	Methodological Approach(es)	Studies	Key Finding(s)
Swann and Gill 1997	How are confidence and accuracy related in predicting preferences of others?	Cognitive approach	Correlational analysis, longitudinal analysis	Three studies (n_1=57 couples, n_2=40 roommates, n_3=55 individuals)	• Confidence and accuracy are often weakly related. • Relationship length and relationship involvement with another person do partly increase confidence in prediction about others but do largely not increase prediction accuracy. • Representational richness mediates the relationship between relationship length/relationship involvement and confidence. • Individuals are often overconfident in their prediction of others' preferences.
Van Boven and Loewenstein 2003	How do individuals predict the feelings of others who are in a different emotionally arousing situation?	Cognitive approach (egocentric anchoring and adjustment)	Descriptive analysis, experimental analysis	Two studies with students (n_1=39, n_2=47)	• In predicting the feeling of others, individuals project their own momentarily aroused drives onto their predictions of others' feelings.
West 1996	How do individuals learn from feedback in predicting others' preferences?	Similarity contingency (interpersonal learning)	Experimental analysis	Two studies with students (n_1=33, n_2=88)	• In early stages, individuals use their personal preference to predict others' preference (similarity perspective). • After receiving feedback, the similarity effect decreases and individuals adjust their predictions, thus they do not exhibit projection (interpersonal learning perspective). • Providing individuals with feedback increases the predictive accuracy over time.

2.1.2 Management-Related Research on Preference Predictions

The topic of predicting the preferences of others has also received some attention in the management literature. However, compared with the work in social psychology and consumer research, this research field is still in its infancies in the marketing decision making literature. This is surprising since marketing managers have to form predictions about consumers quite often, for example, in developing and designing products and advertisements or how to price a company's products. Most of the research in social psychology and consumer research examined the prediction process for a generalized other or individuals one is familiar with. In the management context, however, **managers make predictions for consumers they do not know directly**. Thus, in this chapter, we discuss the findings of studies that investigate preference predictions for others one does not know personally. Further, these studies have a more managerial focus.

One of the first attempts to provide insights into managers' prediction processes is the correlational study by **Hoch (1988)**. Motivated by the question of how managers and consumers differ in their preference predictions of the consumer, he investigates the prediction accuracy of five different groups (i.e., marketing line managers, research managers, MBA students, convenient consumers, and everyday consumers). In summarizing his findings, Hoch (1988) first shows that both managers and consumers use their personal position in forming predictions about consumers. Further, he finds that **managers' predictions are similarly inaccurate** as predictions by everyday consumers. In contrast to managers, consumers could increase the accuracy of their predictions by projecting more. Another contribution of his work is the finding that managers are often unable to incorporate other-related information (e.g., stereotypical information) as diagnostic cues in their predictions, although they recognize differences to consumers.

In the context of risk preferences, **Hsee and Weber (1997)** examine how individuals make predictions of unfamiliar others and test four different theoretical accounts: (1) a default hypothesis (i.e., individuals use their own risk preferences to predict those of another person, that is, they predict the other to have the same risk preferences as themselves), (2) a risk-as-value hypothesis (i.e., other people are less risk seeking than

oneself), (3) a risk-as-feelings hypothesis (i.e., other people have similar risk preferences to themselves, but they are more risk neutral than themselves), and (4) a stereotype hypothesis (i.e., individuals predict others preferences by using one's stereotype about others). Across three studies, the only hypothesis that can be supported consistently is the risk-as-feelings hypothesis, while there is no support for the default hypothesis, the risk-as-value hypothesis, and the stereotype hypothesis. Thus, they conclude that individuals build partly on their personal feelings and partly on risk neutrality to predict the risk preferences of others. In addition, Hsee and Weber (1997) investigate the role of the vividness of the prediction's target. They find that target vividness moderates the influence of one's personal risk preferences on prediction of other's preferences. That is, if the target of prediction is vivid, people increasingly use their personal risk preferences.

A third study that is of particular interest to our work was conducted by Faro and Rottenstreich (2006). Similar to Hsee and Weber (1997), they use the risk context and investigate the question of how accurate individuals are in predicting preferences of others. **Faro and Rottenstreich (2006)** also propose a risk-as-feelings perspective. In four studies with MBA (and undergraduate) students and using either a correlational or experimental design, the authors find that individuals are often inaccurate in predicting others' risk preferences because their predictions are too regressive. That is, the predictions are closer to risk neutrality than others' choices are. They find that risk seeking individuals predict others to be risk seeking as well but less so, while risk averse individuals predict other to be risk averse but less so. Further, they show that the regressiveness of individuals' prediction can be reduced by considering one's own reactions in predicting risk preferences of a close other. Of particular relevance to our research is the finding of their fourth study that **self-reported (affective) empathy moderates individuals' predictions**: higher self-reported empathy leads to less regressive and more accurate predictions of others' risk preferences. Notably, in contrast to Faro and Rottenstreich (2006), we will focus on the cognitive dimension of empathy exclusively (Davis 1983; Davis 1980; Preston and de Waal 2002).

Further support for social projection in a management context comes from Lee and Andrade (2011). **Lee and Andrade (2011)** examine the questions how emotions influence investors to sell in a stock market and how investors' decision is influenced

by believes about other investors' risk attitudes. The authors experimentally show that fearful investors sell their stock much earlier than non-fearful. Building on the similarity contingency approach, they further show that investors' decision is strongly influenced by social projection of their emotional states to other investors. More specifically, in their third study, Lee and Andrade (2011) demonstrate that **investors assume that their risk attitudes are very common** in the market and thus project their emotional states to others. Investors believe that their actions are shared by others, which in turn leads fearful investors to accelerate selling.

The so far discussed studies focus primarily on individual characteristics of the predictor or on the (perceived) relationship to the target of prediction in explaining social projection. Recent work by **Brenner and Bilgin (2011)**, however, investigates how characteristics of the **choice task** (e.g., product category, items) can affect the degree of projection. Brenner and Bilgin (2011) use support theory (Rottenstreich and Tversky 1997; Tversky and Koehler 1994) in proposing that social projection is greater when the choice option is "packed" than when the choice option is "unpacked." A "packed" option describes a more global judgment that is based on highly salient attributes (Tversky and Koehler 1994). According to support theory, individuals process such "packed", more general options more selective and less exhaustive, which in turn leads to increased probability of supporting the option. Unpacked options, however, consist of several components that increase the probability that individuals find counter arguments. Finding support for their preference salience hypothesis across four studies, Brenner and Bilgin (2011) demonstrate that social projection is in fact higher for "packed" options because less-liked options are discounted more when implicitly described. They conclude that this finding is of high relevance to managers, particularly in negotiations, because the framing of options might have a strong influence on the degree of social projection that can lead to sub-optimal outcomes.

2.2 Cognitive Empathy-Identity Activation Framework – A Self-Referential Bias

As discussed in the preceding sections, a common observation of prior literature on preference predictions of others is that individuals use their personal preference to form prediction about others. Marketing managers have been found to use their personal consumption preferences in forming predictions about consumers as well (e.g., Hoch 1988). However, we posit that a manager's personal consumption preference is often a questionable predictor for their consumers' preferences and some authors argue that **self-referential preference predictions are normatively incorrect** (cf. Bottom and Paese 1997; Hoch 1987). Assuming that personal consumption preferences are often weak predictors, the question arises what helps managers to reduce or even avoid self-referential predictions of consumer preferences and, reversely, what increases the influence of personal consumption preferences.

Researchers in the behavioral sciences and social psychology have often suggested that cognitive empathy supports individuals in abstracting away from personal preferences and facilitates avoidance of self-referential predictions of others' preferences (e.g., de Waal 2008; Decety and Jackson 2004; Ickes 1997; Preston and de Waal 2002; Regan and Totten 1975; cf. Kurt and Inman in press). Consistent with prior literature (Davis 1980; Epley, Savitsky, and Gilovich 2002; Homburg, Wieseke, and Bornemann 2009; Regan and Totten 1975) and as defined in chapter 1, we see **cognitive empathy as putting oneself in the shoes of another person – in our case, the perspective of consumers a manager does not know directly**. We focus on situations where decision makers do not know their consumers in person because such situations are very common in business practice (Faro and Rottenstreich 2006; Hoch 1988; Hsee and Weber 1997).

The proposition of past research that a manager's cognitive empathy causes more consumer- and less self-referential predictions results from the assumption that cognitive empathy "allows us to overcome our usual egocentrism" (Decety and Lamm 2006, p. 1151; cf. Decety and Jackson 2004; Kurt and Inman in press; Preston and de Waal 2002). Further, in their research on the development of empathy, Gnepp, Klayman, and Trabasso (1982, p. 113) argue that "an inference based on personal

information involves role taking to the extent that one sets aside knowledge of one's own reaction to infer the other's situation." In their work, social projection of personal preferences to others is interpreted as a lack of empathy (cf. Birch and Bloom 2004; Hoch 1987; Royzman, Cassidy, and Baron 2003).

The widespread belief in the literature that cognitive empathy helps to overcome self-referential predictions is also supported by a pre-study we conducted. In a workshop at a national marketing fair, we surveyed 43 marketing managers (mean age: 43.09; 72.1 percent male) using a paper-based questionnaire. The questionnaire included a question about the consequences of empathic behavior of marketing managers. We asked participants whether marketing managers who put themselves into the shoes of their consumers would be less or more susceptible to using their personal consumption preferences in making predictions about their consumers. Consistent with the common belief of the literature, **76.7 percent of the participants supposed managers who put themselves into the shoes of consumers to be less susceptible to projecting their personal consumption preferences to consumers**.[1]

Thus, at first glance, the rationale that cognitive empathy can help to abstract away from personal consumption preferences seems plausible for the managerial task of predicting consumer preferences. In this specific context, however, there is reason to expect exactly the opposite. According to identity research, individuals hold **multiple identities** (e.g., Ashforth and Johnson 2001; Johnson et al. 2006; Mandel 2003; Puntoni, Sweldens, and Tavassoli 2011), such as an identity as a friend, a parent, or a colleague. Drawing from this research, we assume that marketing managers have at least two identities: **their professional identity as managers and their private identity as consumers**. While both identities are part of the manager's self, the momentary activation of each identity is considered to be variable. Indeed, previous research points out several factors shaping the situational activation of an individual's

[1] We also asked participants whether marketing managers who put themselves into the shoes of their consumers would build less or more on market research, another commonly used cue in making predictions about consumers (e.g., Moorman, Deshpandé, and Zaltman 1993; Roggeveen and Johar 2004). Again, 76.7 percent of the respondents indicated that managers who put themselves into the shoes of consumers would make more use of market research than managers who do not put themselves into the position of their consumers.

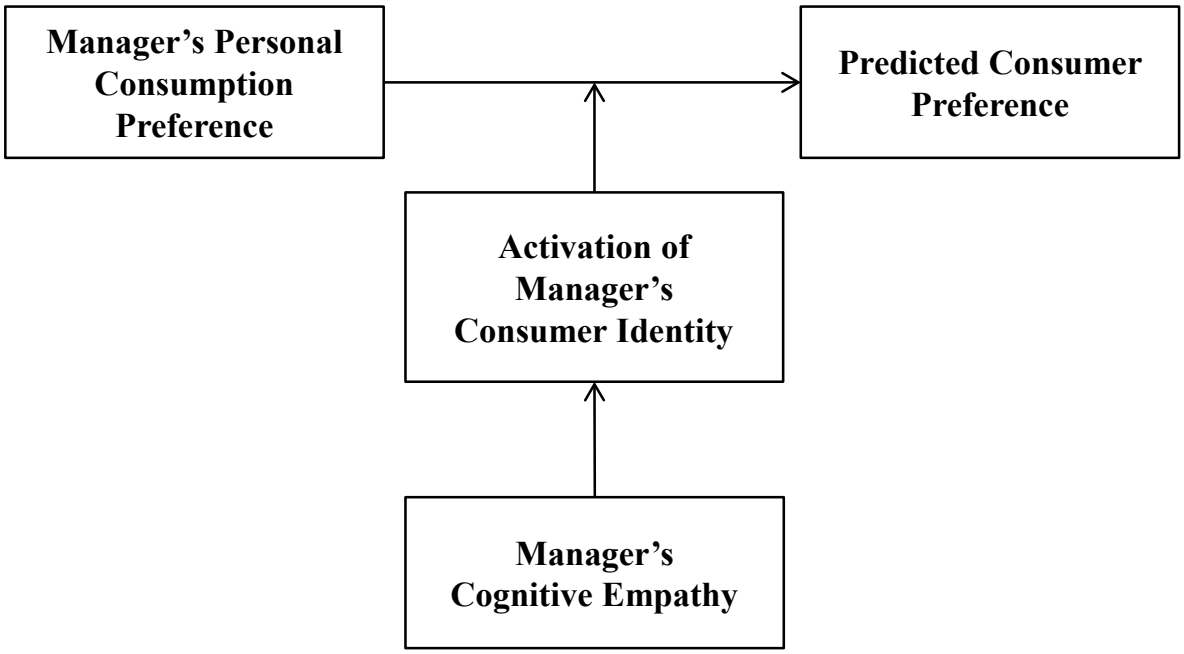
multiple identities, for example, cue stimuli such as symbols or visual images, the social environment, or individual traits (Forehand, Deshpandé, and Reed II 2002).

But how might a manager's cognitive empathy influence the activation of each identity? Managers instructed to put themselves into the shoes of a consumer would seek to play the role of a typical consumer, attempting to act and feel as a consumer, and they would simulate consumers' product and service experiences (Dahl, Chattopadhyay, and Gorn 1999; Stotland 1969). In doing so they would purposely buttress against their management identity and attempt to assume the mental processes of a consumer. In doing so however, they are likely to increase the probability of **activating personal consumption preferences**. In other words, the manager's identity as a consumer will be activated to some degree (cf. Forehand, Deshpandé, and Reed II 2002; Reed II 2004; Zhang and Khare 2009).

Further, activated personal consumption preferences might influence a manager's construal process of consumer preferences. Specifically, research has shown that salient information are likely to be used in decision making, even when the information is not relevant for a particular judgment (e.g., Jacoby et al. 1989; Menon and Raghubir 2003; for a review, see Higgins 1996). Thus, in the context of predicting consumer preferences, we argue that empathizing increasingly activates a manager's personal consumption preferences, which in turn is likely to result in self-referential consumer preference predictions. The proposed **cognitive empathy-identity activation framework** is shown in Figure 2.

We call the proposed effect of cognitive empathy in the prediction process a **self-referential bias** of manager's cognitive empathy in predicting consumer preferences. We use the term "bias" as "biases are observed when choices do not match a prescriptive norm" (Kahn, Luce, and Nowlis 2006, p. 131; see also Krueger and Clement 1994; Krueger and Funder 2004; Pronin, Gilovich, and Ross 2004). Since cognitive empathy increases the influence of the personal consumption preference, a normatively weak indicator for consumer preferences (cf. Hoch 1987), on managers' prediction, it facilitates deviations from prescriptive norms. Therefore, the use of the term "bias" seems appropriate in our research context.

Figure 2: Cognitive Empathy-Identity Activation Framework for Managers' Consumer Preference Prediction



We believe that our proposed cognitive empathy-identity activation framework, though sharing some similarities with prior research, is conceptually distinct. For instance, Raghubir and Menon (1998) find that individuals use the **perceived similarity** to other persons in estimating others' risk preferences. They show that individuals often underestimate their risk relative to the risk estimated for another person, an effect that is known as self-positivity bias (see also Chandran and Menon 2004). However, the bias is lower with respect to others that are perceived more similar than to those dissimilar to oneself. That is, individuals project their low risk estimates for themselves to similar others. Since individuals assume that similar others share their personal preferences (Menon, Raghubir, and Schwarz 1995), the estimates for others' risks become increasingly biased by one's own risk with more perceived similarity (cf. similarity contingency research, chapter 2.1). Related to that work, Gershoff and Johar (2006) find that **perceived interpersonal closeness** leads individuals to overestimate another person's knowledge of one's own tastes (chapter

2.1). One possibility, then, is that a manager's cognitive empathy is simply a proxy for similarity or perceived closeness to a consumer. However, we suggest that cognitive empathy is conceptually distinct from closeness and similarity. Although cognitive empathy can increase similarity to another person (cf. Ames 2004a; Ames, Weber, and Zou 2012; Galinsky and Moskowitz 2000; Goldstein and Cialdini 2007), Preston and de Waal (2006) distinguish the concepts by defining cognitive empathy as the process of taking the perspective of another person and similarity as a state of perceived overlap between the self and the other person. Furthermore, perceived closeness refers to the degree of communal bonding (Liu and Gal 2011). Thus, while **cognitive empathy is a process-based concept**, the others are outcome-based approaches and, thus, are conceptually different. Moreover, as will be shown in the empirical investigation, our results do not support the notion that the proposed self-referential effects in predicting consumer preferences are due to perceived similarity or perceived closeness, given the null effects for measures of perceived similarity and perceived closeness to consumers incorporated in our studies. Further, we rule out alternative explanations that could cause the self-referential effect by including additional confounding checks.

2.3 Hypotheses

In this theoretical chapter, we first discussed the findings of social psychological work and consumer research. Although drawing on different theoretical accounts, this research has commonly found individuals to project their personal preferences onto others when forming predictions about their preferences. A similar observation has been shown by the limited management-related literature (e.g., Hoch 1988). We therefore expect that an investigation of marketing managers' predictions of consumer preferences should show a similar picture. That is, we expect that, on average, there is a positive relationship between marketing managers' personal consumption preference and their predicted consumer preference.

Further, in contrast to conventional wisdom that cognitive empathy supports individuals to overcome self-referential preference prediction, we proposed that the

opposite might be the case in the context of marketing managers' construal of consumer preferences. Following literature on multiple identities and identity activation, we introduced a cognitive empathy-identity activation framework and proposed that through cognitive empathy a manager's consumer identity gets activated. In turn, the manager's predictions of consumer preferences might ironically be more influenced by their personal consumption preferences. We introduced the term **"self-referential bias of cognitive empathy"** in predicting consumer preferences.

To sum up our theorizing, we suggest that cognitive empathy increases the influence of managers' personal consumption preferences on predicted consumer preferences and that this effect results from the activation of a manager's consumer identity. More formally, we hypothesize the following:

Hypothesis 1: Cognitive empathy increases the influence of managers' personal consumption preferences on predicted consumer preferences.

Hypothesis 2: The activation of a manager's consumer identity mediates the relationship between cognitive empathy and the influence of a manager's personal consumption preferences on predicted consumer preferences.

These hypotheses are tested in the next chapters 3 to 5. Specifically, we conducted **three studies in different contexts of marketing decision making** to test the robustness of the hypotheses. Study 1 uses a product development scenario in the automotive industry, study 2 is based on a communication task in the luxury watch industry, and study 3 has a price management setting in the gastronomy.

3 Study 1: Correlational Evidence for the Self-Referential Bias of Managers' Cognitive Empathy

3.1 Overview

The purpose of this study is to investigate whether cognitive empathy increases the influence of a manager's personal consumption preferences on predicted consumer preferences as proposed in hypothesis 1. In doing so, we use a scenario approach in the context of a **product development process** in the automotive industry. We chose the automotive industry since a successful and market-oriented launch of a new car model is of tremendous importance for a car manufacturer, taking the high costs of development into account (cf. Landwehr, McGill, and Herrmann 2011; Pauwels et al. 2004; Srinivasan et al. 2009; Talke et al. 2009). Further, we assumed that all participants are familiar with the product category.

To ensure a realistic scenario of the product development process in the automotive industry, we consulted management of a leading international car manufacturer (from the product development department). The drafted scenario was evaluated by management to ensure validity and realism. The resulting procedure is described next.

3.2 Method

3.2.1 Participants

Ninety-three marketing managers (mean age: 41.44; 84.9 percent male) were recruited to take part in a case study on a product development process in the automotive industry. Participants were recruited from a large alumni pool of a mid-European business school. In their job positions, all participants make predictions about consumers on a regular basis. The study was run online.

3.2.2 Procedure and Materials

Participants were first given information on a hypothetical car manufacturer, the CarGroup. They were told that the car manufacturer is confronted with stagnating sales and reworking its strategic positioning. Furthermore, they were informed that the board of the CarGroup has decided to develop a new car model, labeled JX, to strengthen its strategic position.

Participants were then asked to take the role of a manager of the CarGroup who is a member of the strategy team responsible for the development of the new car model. In preparing for a meeting of the strategy team, participants were told that they would be provided with the results of a recent market research project on the most important car attributes for a typical consumer in the target market. To make them familiar with the market research project, participants were asked to fill out the corresponding questionnaire themselves. As a result, they had to indicate their personal preferences for several car attributes. Specifically, they were asked to assign 100 points to the following **product attributes** that characterize the car market adequately (Horsky and Nelson 1992; Pekelman and Sen 1974): design, performance, dependability, comfort, sustainability, and prestige. We used a constant sum scale to explicitly capture trade-offs between the product attributes and to avoid participants indicating every attribute as very important (Krosnick and Alwin 1988). This measure is used as the **independent variable** in our analysis.

Subsequently, participants were provided with the results of the market research project on the average consumer preference. Then, they were asked to steer the product development process by **assigning 100 points to the six product attributes**. In particular, we asked participants to define the character of the new car model in line with the preferences of a typical consumer in the market. This measure was the **dependent variable** in our analysis.

Figure 3 shows the scenario participants were provided with. Table 3 summarizes the basic design of study 1 to measure a manager's personal preference, shows the provided market research on the average consumer preference in the target market, and the measure to assess a manager's predicted consumer preference.

Figure 3: Study 1 Scenario

The CarGroup is an international car manufacturer and confronted with stagnating sales. Therefore, the company is reconsidering its strategic positioning. Specifically, the product offering is intensely discussed, particularly against forthcoming megatrends. Actual studies indicate that, for instance, the increasingly aging society and interactivity between the driver and the vehicle are important developments in the next years.

After some discussions, the management board decides to launch a new car model, the JX. As a responsible marketing and product manager, you are appointed to the strategy team that is responsible for the development and positioning of the JX. Colleagues from other departments (e.g., engineering and controlling) are also attending in this strategy team. In a few days, the first official workshop on the character of the new car model is going to take place. Therefore, you will receive the results of a recent market research project to help you in getting an overview of the target market preference and to successfully prepare for the meeting of the strategy team.

Table 3: Study 1 Design

	Step 1	**Step 2**	**Step 3**
Car Attribute	**Manager's Personal Importance**	**Average Consumer Preference (Market Research)**	**Manager's Predicted Consumer Preference**
Design	_____	20	_____
Performance	_____	15	_____
Dependability	_____	21	_____
Comfort	_____	14	_____
Sustainability	_____	14	_____
Prestige	_____	16	_____
Sum	**100**	**100**	**100**

Finally, participants were asked to fill out a short questionnaire. The questionnaire contained items on participants' cognitive empathy in the case study. We **measured the degree of cognitive empathy** by adapting four items (see Table 4) from the popular empathy scale developed by Davis (1980). We formed an empathy index by averaging the scores (α = .716). This measure served as a **moderator variable** in our analysis.

In addition, we include one item to measure participants' **use of market research** (cf. Moorman, Zaltman, and Deshpande 1992). Table 4 shows the corresponding item. Finally, participants indicated their age, gender, experience with market research, the year in which they bought their current car, their current car's brand, and they completed an open-ended suspicion probe question that asked what they thought the purpose of the study was.

Table 4: Study 1 Measures

Measure ***(Source)***	**Scale** ***(Anchors)***	**Items**
Cognitive empathy *(adapted from Davis 1980)*	7-point Likert scale *(1=completely disagree; 7=completely agree)*	I tried to take the perspective of a typical consumer in this market.
		It was very easy for me to put myself into the shoes of a typical consumer.
		I tried to understand what a typical consumer's needs are by imagining how things look from his/her perspective.
		I tried to imagine how a consumer would feel in this market.
Use of market research *(cf. Moorman, Zaltman, and Deshpande 1992)*	7-point Likert scale *(1=completely disagree; 7=completely agree)*	The market research results shown were an important assistance for me.

3.3 Results

3.3.1 Preliminary Analyses

An examination of the responses to the suspicion probe revealed that none of the participants were aware of the true purpose of the study. Further, neither participants' age, gender, experience in market research, the date of purchase, nor the brand of their current car qualified the findings and, therefore, these variables do not receive further discussion.

3.3.2 Test of Hypothesis 1

We tested hypothesis 1 by regressing assigned weights in the management task on participants' personal importance weights, cognitive empathy, and the interaction of both variables. Formally, for each car attribute *i*, we estimated the following regression model:

$$(1)\quad \text{CPrediction}_i = \beta_{0i} + \beta_{1i}\text{PPreference}_i + \beta_{2i}\text{CEmpathy} + \beta_{3i}\text{PPreference}_i\text{CEmpathy} + \varepsilon_i$$

where CPrediction_i indicates managers' predicted consumer preference for attribute *i*, PPreference_i is the managers' personal preference for attribute *i*, CEmpathy indicates managers' self-reported cognitive empathy, and ε_i is the regression residual.

The results of the six regression analyses for the corresponding product attributes are shown in Table 5 and Figure 4. For each product attribute, we find a positive main effect of participants' personal importance weight on predicted consumer preference, indicating that, on average, participants draw on their personal preferences in predicting the preferences of a typical consumer in the target market. These results replicate the findings of earlier research on prediction of others' preferences (see chapter 2). Further, with the exception of the attribute performance, none of the main

effects for cognitive empathy were significant. Most importantly, there was a **positive personal preference and cognitive empathy interaction effect for each attribute**, supporting hypothesis 1 according to which cognitive empathy increases the influence of participants' personal consumption preferences on predicted consumer preferences. While the interaction effect is highly significant for five of the six attributes, the term is only marginally significant for the attribute prestige.

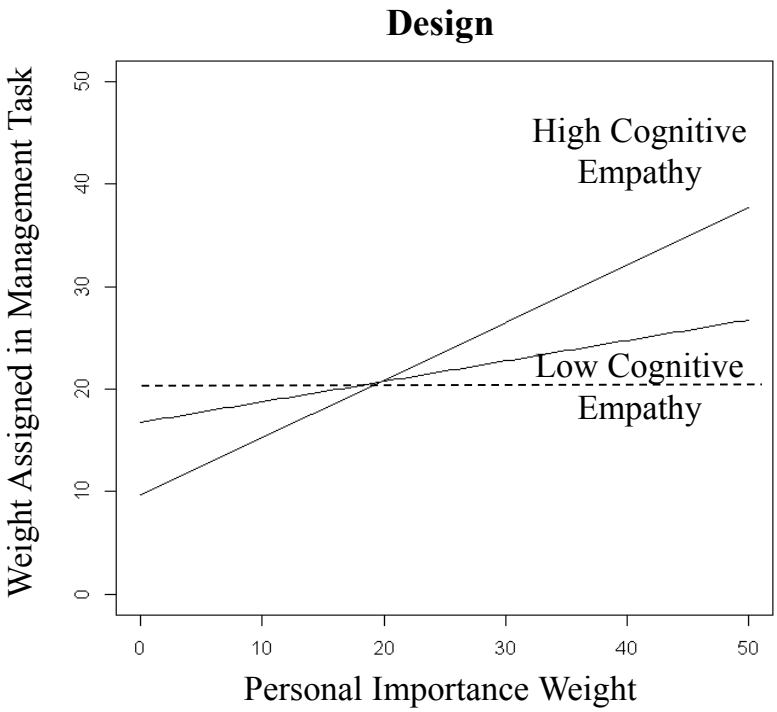
Note that the results shown in Table 5 and Figure 4 are based on **mean-centered values** for managers' personal consumption preference and managers' self-reported cognitive empathy. We mean-centered the personal consumption preference and cognitive empathy to make the coefficients of the interaction term interpretable within the range of the data. However, it is worth noting that mean-centering is not a necessary step as often believed in previous research, for instance, to reduce multicollinearity between the interaction and the constituent terms. Recent work on the role of mean-centering (Echambadi and Hess 2007; Irwin and McClelland 2001; Shieh 2011) has shown that it does not affect the explained variance of the model, the fitted values for the dependent variable, the simple slopes, nor the test of the interaction (see also Hayes 2012). Thus, mean-centering is only helpful for interpreting the results.

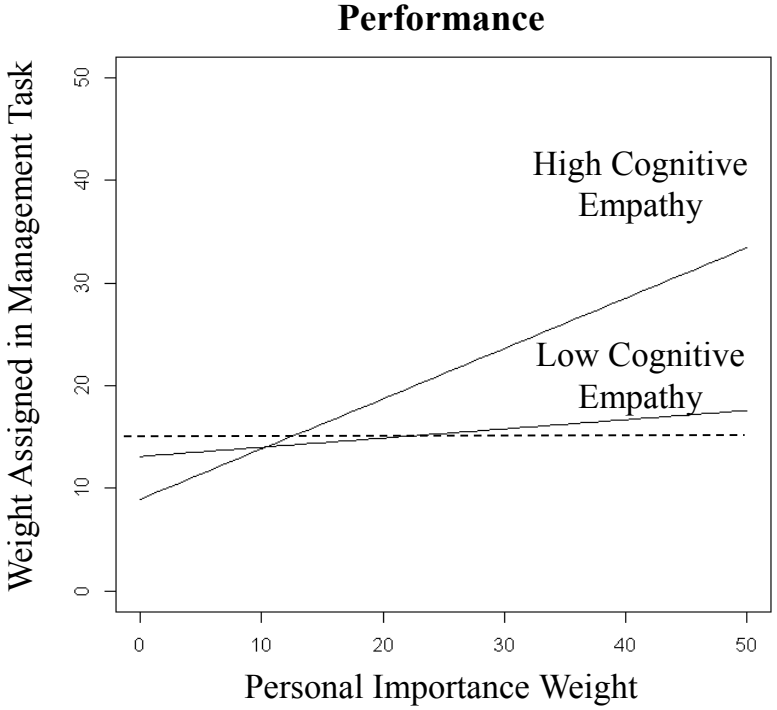
Table 5: Study 1 Results of Regression Analyses

Independent Variable	beta	t-value	*p*-value
	Weight assigned to *Design* in management task (R^2 = .274)		
Intercept	20.323	36.106	.000
Manager's personal preference for *Design*	.383	5.449	.000
Cognitive empathy	-.228	-.454	.651
Interaction term	.156	2.941	.004
	Weight assigned to *Performance* in management task (R^2 = .254)		
Intercept	15.566	31.934	.000
Manager's personal preference for *Performance*	.293	4.905	.000
Cognitive empathy	.889	2.045	.044
Interaction term	.175	3.386	.001
	Weight assigned to *Dependability* in management task (R^2 = .104)		
Intercept	20.909	34.317	.000
Manager's personal preference for *Dependability*	.141	2.011	.047
Cognitive empathy	-.812	-1.488	.140
Interaction term	.137	2.164	.033
	Weight assigned to *Comfort* in management task (R^2 = .076)		
Intercept	14.752	30.369	.000
Manager's personal preference for *Comfort*	.149	2.140	.035
Cognitive empathy	-.121	-.279	.781
Interaction term	.139	2.015	.047
	Weight assigned to *Sustainability* in management task (R^2 = .303)		
Intercept	15.429	24.776	.000
Manager's personal preference for *Sustainability*	.352	5.112	.000
Cognitive empathy	.549	.990	.325
Interaction term	.209	3.630	.000
	Weight assigned to *Prestige* in management task (R^2 = .208)		
Intercept	13.095	22.687	.000
Manager's personal preference for *Prestige*	.367	4.250	.000
Cognitive empathy	-.210	-.408	.685
Interaction term	.122	1.729	.087

Note: unstandardized betas are shown; variables managers' personal preference and their self-reported cognitive empathy are mean-centered to zero

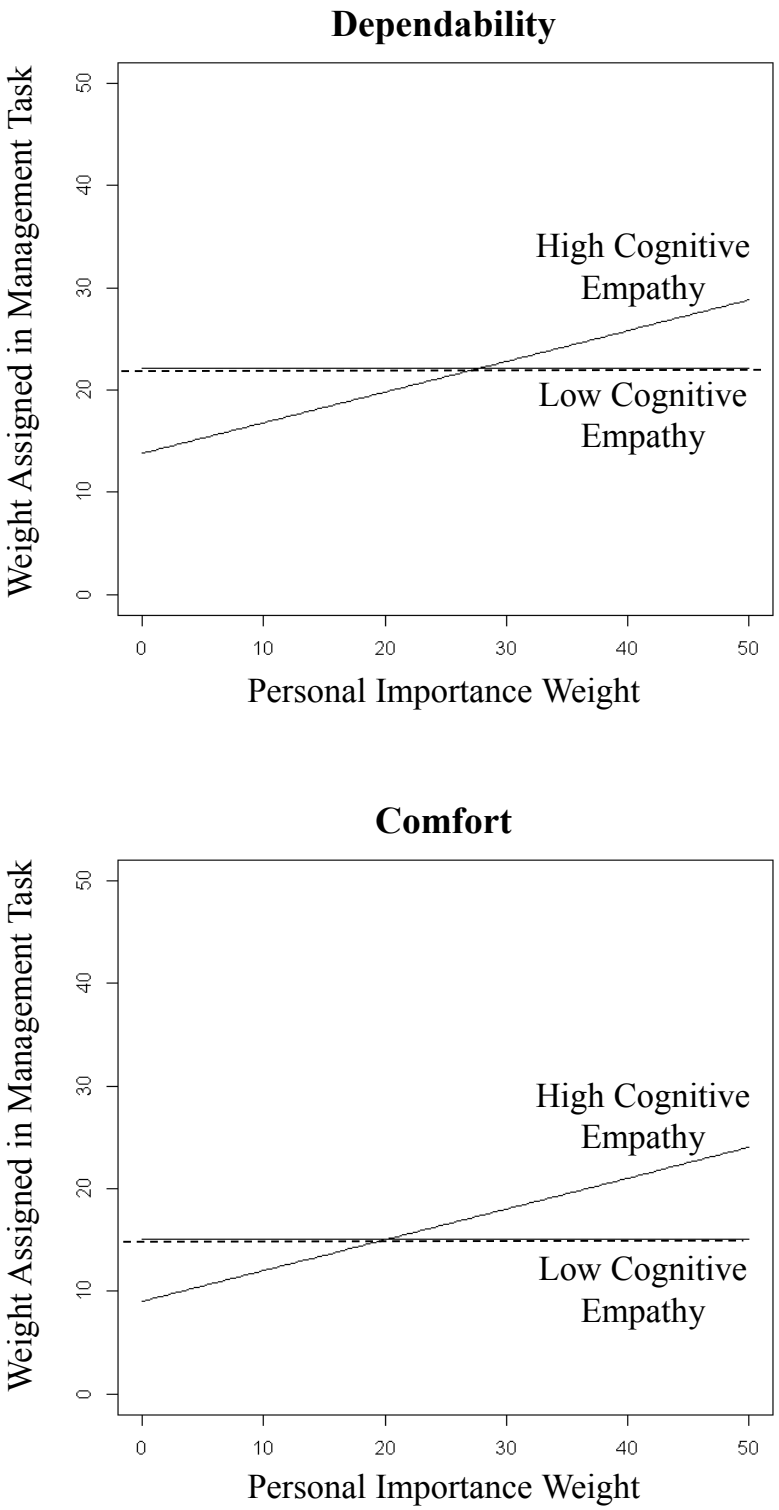
Figure 4: Study 1 Regression Plots





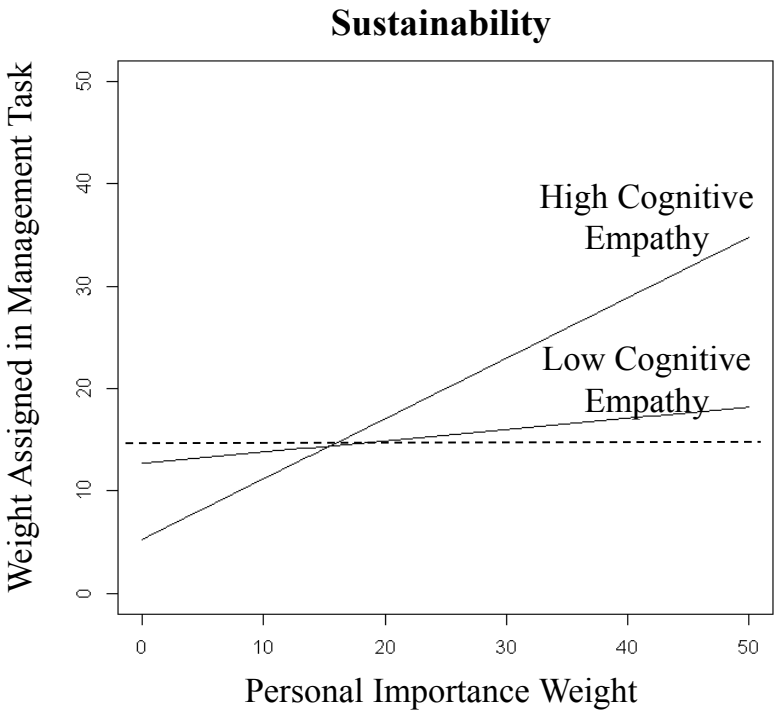
Note: High Cognitive Empathy (M + 1SD), Low Cognitive Empathy (M - 1SD)
------ consumers' average importance rating for product attribute according to market research results presented to the participants

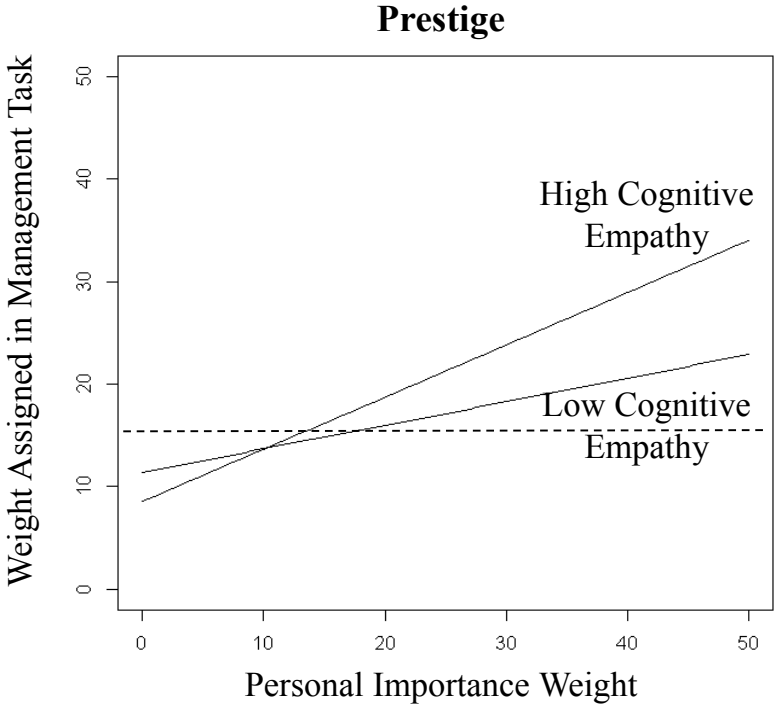
Figure 4: Study 1 Regression Plots (continued)



Note: High Cognitive Empathy (M + 1SD), Low Cognitive Empathy (M - 1SD)
------ consumers' average importance rating for product attribute according to market research results presented to the participants

Figure 4: Study 1 Regression Plots (continued)





Note: High Cognitive Empathy (M + 1SD), Low Cognitive Empathy (M - 1SD)
------ consumers' average importance rating for product attribute according to market research results presented to the participants

In addition, we explored the interaction effect between participants' personal preference and their cognitive empathy for each product attribute more closely by conducting a **simple slope analysis** (Aiken and West 2004). To conduct a simple slope test, we first transform Equation (1) and define the conditional regression of the predicted consumer preference on managers' personal consumption preference, the focal predictor, as a function of cognitive empathy, the moderator (Bauer and Curran 2005; Preacher, Curran, and Bauer 2006). Thus, we get the following equation:

$$(2) \quad \text{CPrediction}_i = (\beta_{0i} + \beta_{2i}\text{CEmpathy}) + (\beta_{1i} + \beta_{3i}\text{CEmpathy})\text{PPreference}_i + \varepsilon_i .$$

The simple intercept is shown in the first parenthetical term. The second parenthetical term in Equation (2) represents the simple slope of this conditional relationship. Hence, we have:

$$(3) \quad \omega_{0i} = \beta_{0i} + \beta_{2i}\text{CEmpathy}$$

and

$$(4) \quad \omega_{1i} = \beta_{1i} + \beta_{3i}\text{CEmpathy} .$$

Note, since we mean-centered the variables, the main effect represents the effect of the predictor at the mean level of cognitive empathy (i.e., CEmpathy = 0; Bauer and Curran 2005).

In contrast to the simple slope (ω_1), the significance of the simple intercept (ω_0) is rarely of interest (Preacher, Curran, and Bauer 2006). Thus, we next focus on the simple slope exclusively. The questions we are interested in are, first, whether the simple slope differs significantly from zero and, second, whether they are different at different values of the moderating variable cognitive empathy. In determining the simple slopes, it is first necessary to choose the conditional values of cognitive

empathy at which the simple slopes should be determined. For continuous moderators, Cohen et al. (2003) recommend to choose values at **one standard deviation above** (high empathic participants) **and one standard deviation below** (low empathic participants) **the mean of cognitive empathy** (here, for mean-centered values, $CEmpathy_{M-1SD}$ = -1.13 and $CEmpathy_{M+1SD}$ = 1.13, and without mean-centering $CEmpathy_{M-1SD}$ = 3.56 and $CEmpathy_{M+1SD}$ = 5.83, respectively).

To determine the significance of the simple slope for both conditional values of the moderator, we need to derive the variance of each simple slope. The variance of the simple slope is a simple function of the variances and covariances of the parameter estimates (Preacher, Curran, and Bauer 2006). More formally, the variance of the simple slope is:

$$(5)\quad var(\omega_{1i} \mid CEmpathy) = var(\beta_{1i}) + 2\, CEmpathy\, cov(\beta_{1i}, \beta_{3i}) + CEmpathy^2\, var(\beta_{3i}).$$

For the significance test, it is further necessary to estimate the standard error of the simple slope (ω_1). The standard error of ω_1 is the square root of its variance (see Equation (5)). Now, the t-value test statistic can be calculated by dividing the simple slope by the respective standard error. Formally,

$$(6)\quad t = \frac{\omega_{1i}}{SE_{\omega_{1i}}}.$$

The simple slope is significantly different from zero when the obtained t-value is greater than a t-distribution at $\alpha = .95$ and degrees of freedom = n - k - 1, where n indicates the sample size (here, n = 93) and k indicates the number of estimated regression coefficients (here, k = 3).

The results of the simple slope analysis for each of the six product attributes are shown in Table 6. For the attribute design, we find that the slopes for low empathic

participants and high empathic participants are both significantly different from zero, indicating that both groups project their personal consumption preference on consumers. Similar results are found for the attribute prestige, though the slope for low empathic participants is only marginally significant. For the remaining product attributes, performance, dependability, comfort, and sustainability, we find that the effect of personal consumption preference on the predicted consumer preference disappears for low empathic participants, that is, the simple slope for low empathic participants does not significantly differ from zero.

Table 6: Study 1 Simple Slope Analysis

	Simple Slope "Low Cognitive Empathy"			**Simple Slope "High Cognitive Empathy"**		
Attribute	**beta**	**t-value**	***p*-value**	**beta**	**t-value**	***p*-value**
Design	.274	2.612	.011	.744	5.398	.000
Performance	.147	1.289	.201	.769	5.307	.000
Dependability	-.023	-.167	.868	.487	2.766	.007
Comfort	-.012	-.087	.931	.442	2.690	.009
Sustainability	.164	1.190	.237	.842	6.875	.000
Prestige	.267	1.842	.069	.591	4.533	.000

Note: High Cognitive Empathy (M + 1SD), Low Cognitive Empathy (M - 1SD)

Given the finding that simple slopes are not statistically significant for some product attributes for low empathic participants, it seems worthwhile to examine the regions in the range of cognitive empathy where the effect of participants' personal preference on the predicted consumer preference is statistically significant and not significant (Hayes and Matthes 2009). In doing so, we used the **Johnson-Neyman technique** (Johnson and Fay 1950; Johnson and Neyman 1936; Potthoff 1964), a technique that has received little attention by researchers so far – Hayes and Matthes (2009) speculate that this is due to the lack of implementation in statistical software. This technique overcomes the drawbacks of arbitrary approaches (e.g., pick-a-point approach; see, for instance, Bauer and Curran 2005; Cohen et al. 2003; Rogosa 1980)

because it does not require to pick the points the interaction should be probed. Instead, it provides the points along a continuum of the moderating variable where the relationship between the independent variable (i.e., participants' personal preference) and the dependent variable (i.e., participants' predicted consumer preference) is significant or not (Hayes and Matthes 2009).

To find the points at which the effect is significant and not significant, the Johnson-Neyman technique calculates the value of the moderator yielding a specific t-value at which the simple slope is significant. That is, instead of calculating the t-value as a function of the simple slope and its standard error and a particular value of the moderating variable (Preacher, Curran, and Bauer 2006), the Johnson-Neyman technique works backwards from the ratio (between the simple slope and the respective standard error) in Equation (6). The yielded values at which the simple slope of the independent variable on the dependent variable is still significant define the **region of significance**.

In addition to testing the region of significance, it is recommended to calculate its **confidence bands** because "confidence bands provide more information than null hypothesis tests of simple slopes and regions of significance" (Bauer and Curran 2005, p. 381). The confidence bands define the boundaries of significance and are calculated by (cf. Preacher, Curran, and Bauer 2006):

$$(7) \qquad CI_{\omega_{1i}} = \omega_{1i} \pm t_{crit} SE_{\omega_{1i}}$$

where CI indicates the confidence interval and t_{crit} the critical t-value as mentioned above. It can be seen that the confidence interval of the simple slope varies as a function of the moderating variable since the standard error of the simple slope relies on the moderator (Preacher, Curran, and Bauer 2006).

Applying the Johnson-Neyman technique for the six product attributes, we used the macro PROCESS (Hayes 2012) to calculate the corresponding values for the simple slopes and the confidence interval at different values of the moderator cognitive

empathy. We then graph the regions in the range of cognitive empathy in which the effect of participants' personal preference on their predicted consumer preference is and is not significant. For each product attribute, the results are illustrated in Figure 5. The simple slopes are shown as a function of participants' indicated cognitive empathy (black line). The grey lines indicate the corresponding confidence bands (α = .95). The points $CEmpathy_{M\text{-}1SD}$ = 3.56 and $CEmpathy_{M+1SD}$ = 5.83 specify the simple slopes at one standard deviation below (i.e., low empathic participants) and one standard deviation above (i.e., high empathic participants) the mean of cognitive empathy.

Of particular interest is the **value on the continuum of cognitive empathy at which the lower confidence band crosses the zero** on the vertical axis. At this point, the simple slope of the effect of participants' personal preference on their predicted consumer preference becomes significant. Note that we set α = .95 as confidence interval (Preacher and Hayes 2008). As illustrated in Figure 5, for the attribute design, the simple slope is significant for values of cognitive empathy larger than 3.352. For the attribute performance, the simple slope reaches the significance level at a cognitive empathy value of 3.776. For the attribute dependability, the confidence band does not contain zero for cognitive empathy values larger than 4.683. Further, for comfort, the simple slope becomes significant at a cognitive empathy value of 4.607, while, for the attribute sustainability, the simple slope is significant for values larger than 3.801. Finally, for the car attribute prestige, the level of significance is reached at a value of 3.655 for cognitive empathy.

Note that, for each product attribute, the **upper confidence band** does never cross the zero line at the vertical axis (i.e., does never contain zero). Thus, negative values for the simple slope never reach significance, indicating that there is no significant case of a negative relationship between participants' personal preference and the predicted consumer preference.

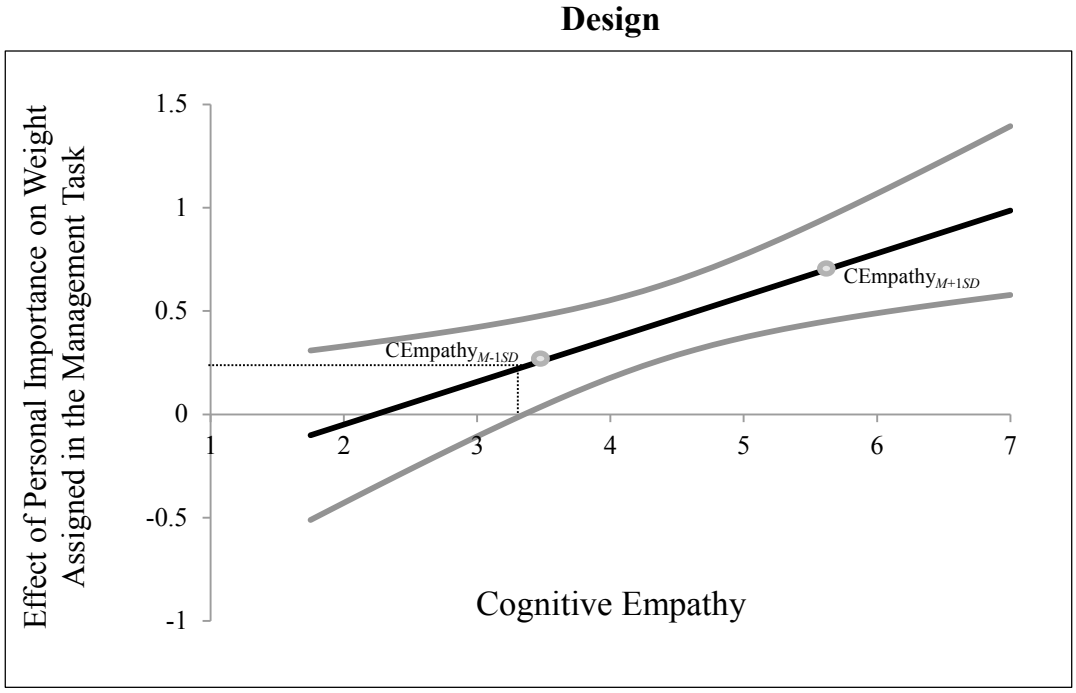
Taken together, the results of the Johnson-Neyman technique provide support that, in predicting consumer preferences, **participants are susceptible to the self-referential bias** at quite moderate levels of cognitive empathy. For each of the six product

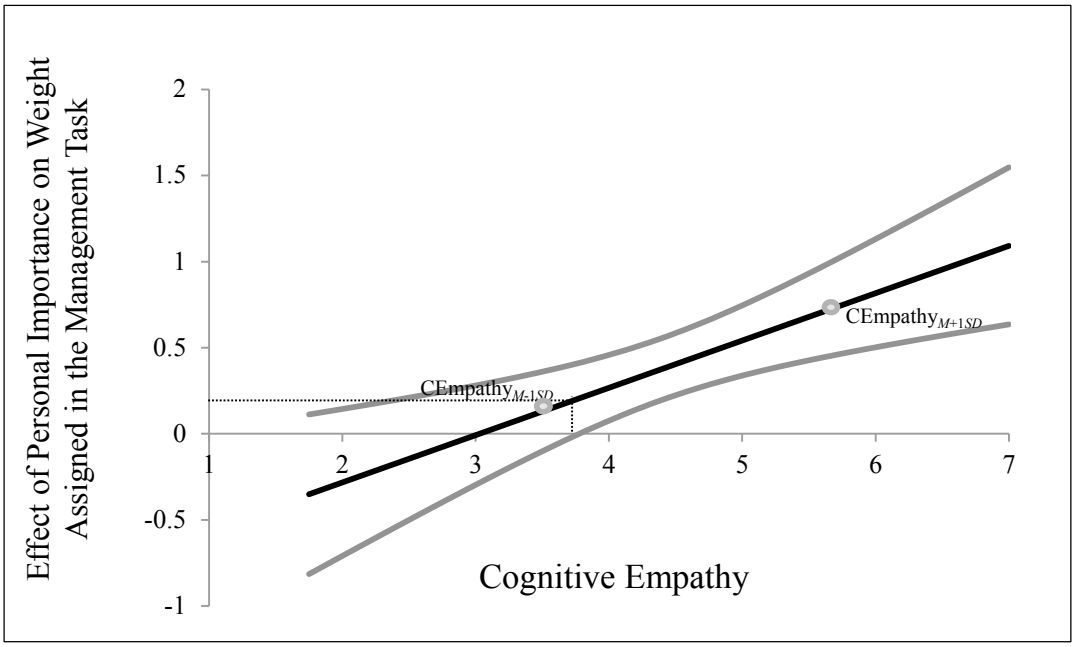
attributes, the level of significance is reached at a cognitive empathy value smaller than 5 (on scale from 1 = ”completely disagree” to 7 = ”completely agree”).

Finally, we are interested in how participants used the market research results provided in the case study. As shown in Figure 4, for each product attribute, high empathic participants’ predictions of consumer preferences are farther away from the preferences detected in the market research project (dotted lines in Figure 4) than the predictions by participants indicating low cognitive empathy. To determine whether cognitive empathy also significantly influences participants’ self-reported use of market research, we regressed participants’ indicated use of market research (the dependent variable) on the cognitive empathy index as the independent variable. Consistent with the observed deviation in Figure 4, we find a negative and significant effect (B = -.453, t = -2.987, $p < .01$), indicating that cognitive empathy leads participants’ to **neglect market research results**.[2]

[2] Bootstrapping mediation analysis (5,000 resamples, bias-corrected accelerated method) showed that the use of market research does not mediate the relationship between cognitive empathy and self-referential preference predictions (design: CI = -.024 to .086; performance: CI = -.071 to .063; dependability: CI = -.042 to .123; comfort: CI = -.004 to .125; sustainability: CI = -.092 to .013; prestige: CI = -.055 to .075).

Figure 5: Study 1 Simple Slopes and Johnson-Neyman Regions of Significance

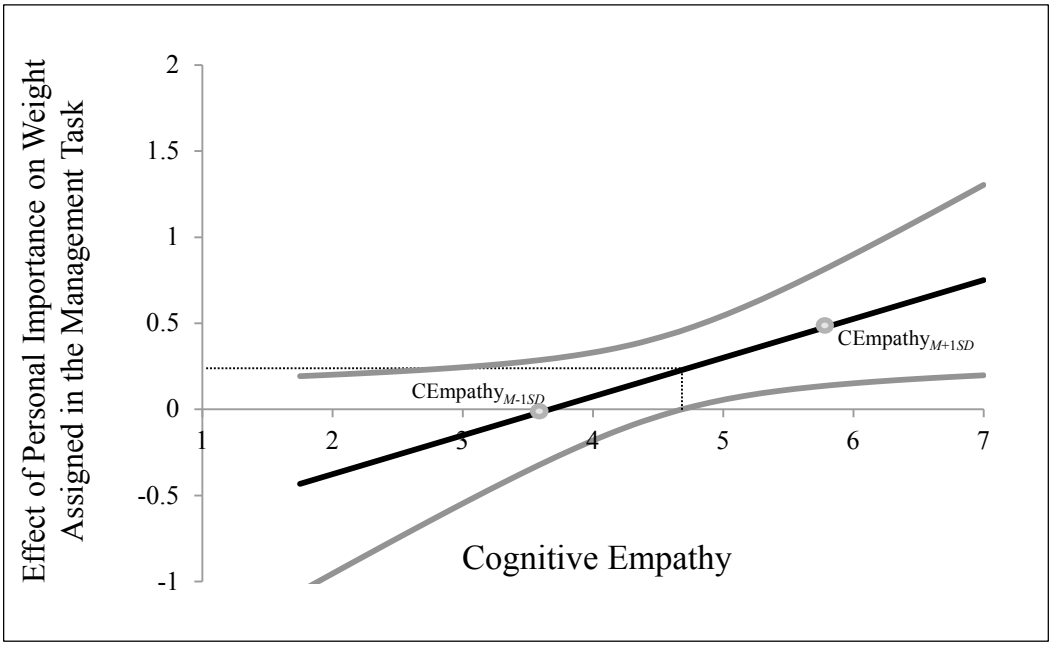




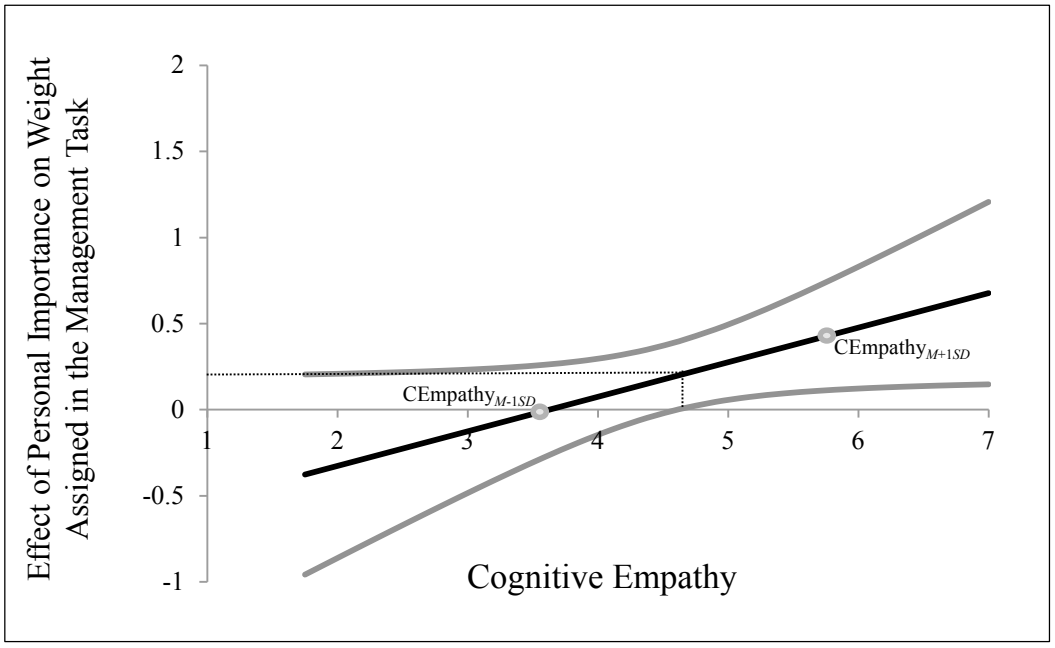
Note: minimum of participants' self-reported empathy = 1.75

Figure 5: Study 1 Simple Slopes and Johnson-Neyman Regions of Significance (continued)

Dependability



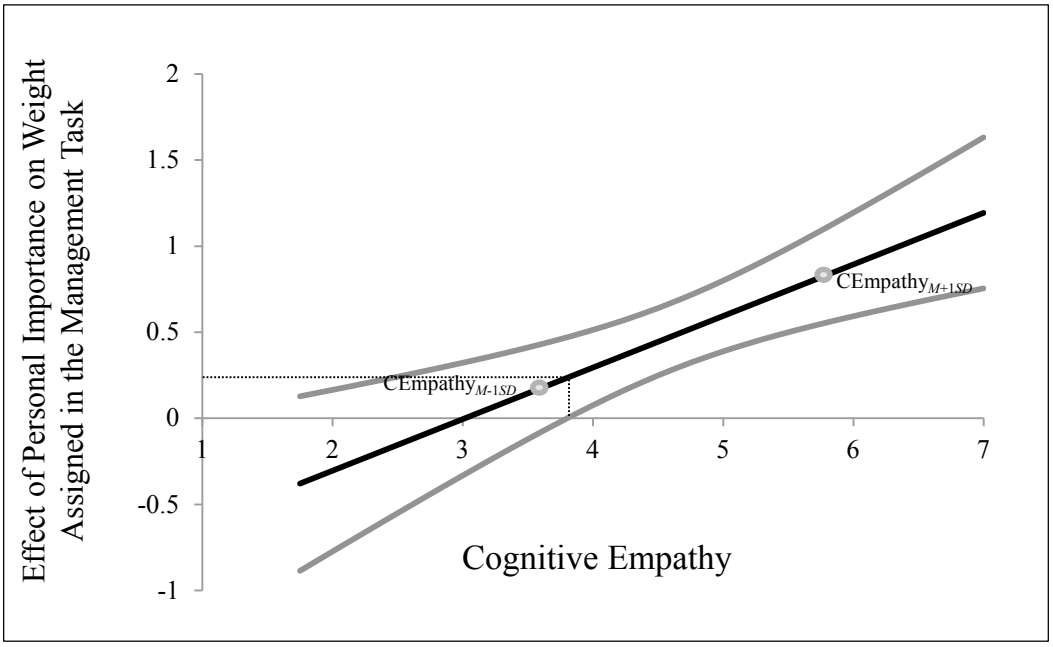
Comfort



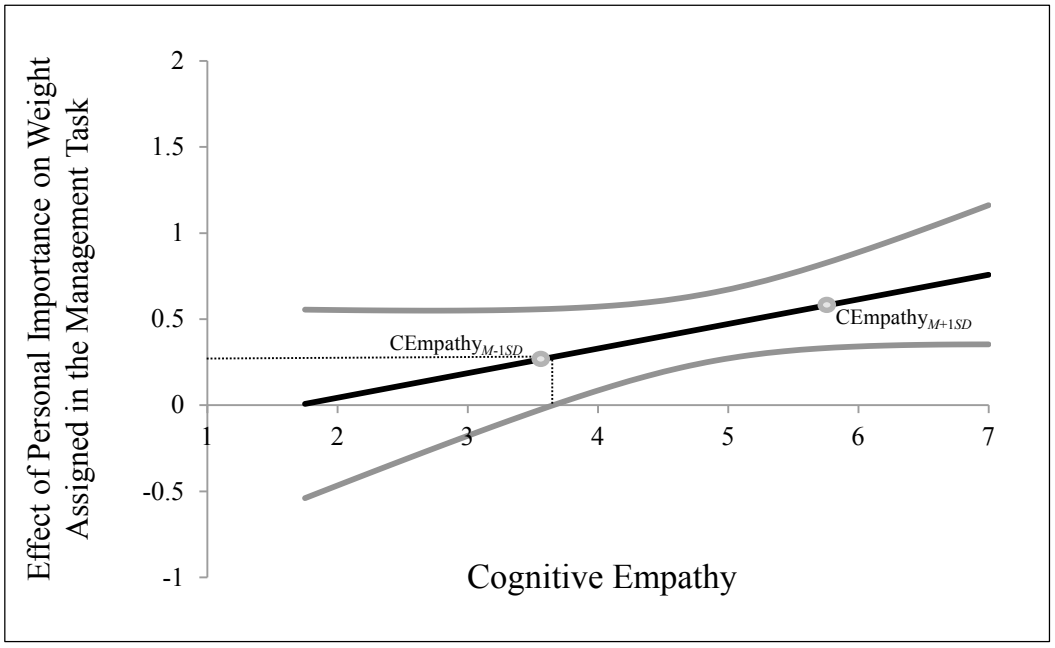
Note: minimum of participants' self-reported empathy = 1.75

Figure 5: Study 1 Simple Slopes and Johnson-Neyman Regions of Significance (continued)

Sustainability



Prestige



Note: minimum of participants' self-reported empathy = 1.75

3.4 Discussion

This study provides **initial support for our main hypothesis** that cognitive empathy can rebound in managers' prediction of consumer preferences. The results suggest that managers' cognitive empathy increases the influence of their personal consumption preferences on predicted consumer preferences. That is, managers indicating high cognitive empathy increasingly used their personal consumption preferences in predicting consumer preferences. In contrast, managers with low reported cognitive empathy are shown to be less influenced by their personal consumption preferences.

In line with this, our results also imply a negative effect of cognitive empathy on the use of market research results, indicating that they neglect other information. Consistent with this (and as illustrated in Figure 4), cognitive empathy leads managers to increasingly neglect market research since the consumer preference predictions of high empathic managers deviate from the preferences detected in the market research project.

Although the findings of study 1 provide initial support for our hypothesis 1 that cognitive empathy increases the influence of a manager's personal consumption preferences on predicted consumer preferences, they are based on **self-selection into high and low cognitive empathy groups** (for a critical reviews of self-reports, see, for instance, Crampton and Wagner 1994; Podsakoff and Organ 1986). However, without random assignment and experimental control, we cannot assert that cognitive empathy causes the self-referential effect since the data are essentially correlational. To corroborate the findings of study 1, we use an explicit manipulation of managers' cognitive empathy in studies 2 and 3. We also expand the generalizability of our results by using another management decision making context and another measure to assess a manager's personal consumption preference.

4 Study 2: Experimental Evidence for the Self-Referential Bias of Managers' Cognitive Empathy

4.1 Overview

4.1.1 Experimental Research in Managerial Decision Making

The previous study provides initial insights into the self-referential bias of cognitive empathy in predicting consumer preferences. However, as mentioned in the preceding section, we have to admit that the results should be treated with caution, since the design of study 1 was correlational. Correlational designs have been the dominant approach in investigating projection in predicting preferences of others, particularly in the early beginning of research in this field. However, Krueger and Clement (1994, p. 608) argue that, "to establish the causal role of own endorsement in consensus bias, research will have to move from correlational to experimental designs."

Today, **experimental research** on managerial decision making is very scarce in the marketing literature (Perkins and Rao 1990). Most work in this field is based on survey research. However, surveys have several limitations in investigating heuristics and biases (Sprinkle 2003), in particular in drawing conclusions about causality (Wierenga 2011). In contrast, controlled experiments allow for determination how variables are related and, importantly, whether cause-effect relationships exist between the variables. Further, controlled experiments support examining why managers might deviate from normative behavior and, therefore, seem to be more appropriate for our goals (e.g., McFadden 1986). Thus, using a controlled experimental design helps to further explore the proposed self-referential bias of cognitive empathy and guarantees high internal validity.

However, although laboratory experiments are effective in establishing cause and effect, critics have pointed to their often **low external validity** (see, for instance, the dialogue on external validity in the Journal of Consumer Research in the 1980s, Calder, Phillips, and Tybout 1982; Lynch 1982; McGrath and Brinberg 1983; cf. Wells 1993), that is, the findings are susceptible to the problem of generalization

(Campbell 1957; Cook and Campbell 1979). This critique of low external validity of previous laboratory experimental research is not surprising, particularly when investigating decision behavior of "real" marketing managers. So far, managerial decision making research findings almost exclusively draw from convenience samples of students as participants, assuming that business students' decision making is a good proxy for decision making by **"real" managers** (cf. Hutchinson, Alba, and Eisenstein 2011; Lim and Ho 2007). However, in his editorial in the Journal of Consumer Research, already Ferber (1977) has criticized the use of convenience samples of students in consumer research because they often do not satisfy three basic criteria of sampling: relevance of the sample for the research purpose, sample size, and, particularly, the representativeness of the population being studied. If the use of convenience samples of students seems often inappropriate to investigate consumer behavior, running experiments with (particularly undergraduate) students to examine managerial behavior appears at least questionable. More specifically, marketing research has shown that individuals' domain specific experience and expertise affect their decision making (Mahajan 1992; Spence and Brucks 1997; Wierenga 2011). Thus, Ferber's (1977) criteria seem to be often ignored by researchers. However, to meet the criteria, we empathize that it is worthwhile to draw on "real" marketing managers when investigating the behavior of marketing decision makers experimentally. This is also in line with calls for more experimental work with marketing managers. For instance, Perkins and Rao (1990, p. 2) argue that "[a] more valid approach would be to study real-world managers making decisions similar to those in their natural environment."

Against this background and taking the critique on controlled experiments into account, we aim at guaranteeing an **adequate degree of external validity** by drawing on responses by "real" marketing managers. In particular, for study 2 (and study 3), we only recruited marketing managers who have sufficient experience and expertise in marketing decision making.

In running controlled experiments with marketing managers, Wierenga (2011, p. 11) notes that "[o]ne issue is how to get real marketing decision makers in the lab." To meet this challenge, he further notes that "there are also online possibilities for experiments today" (Wierenga 2011, p. 11). We agree with Wierenga (2011) that

bringing an adequate number of marketing decision makers into a university laboratory to yield good stability of the results (cf. Ferber 1977) is exceedingly difficult. Thus, we follow his advice and opted for **running the experiments online** instead. Although an internet-based study reduces the control of the experimental setting, we decided in favor for this approach because it provides us not only the benefits of ease of implementation and access for participants, rather they have some additional major advantages (e.g., Birnbaum 1999; Reips 2002; Reips 2012; Reips and Krantz 2010; Reips and Lengler 2005; Skitka and Sargis 2006). Specifically, compared with laboratory experiments (e.g., Birnbaum 2004), online experiments reduce experimenter effects that could result from subtle cues or distorting instruction from the lab assistant (cf. Rosenthal and Fode 1963), participants participate as volunteers, remain in a familiar environment (i.e., confounding effects from unfamiliar situation are reduced), and are motivated to take the study more seriously. Further, it has been argued that online experiments are oftentimes more powerful than laboratory experiments because of larger samples and higher data quality (Skitka and Sargis 2006).

In summarizing, in the current research, we follow both **calls in the literature**, on the one hand, the call for more experimental settings in investigating social projection and preference prediction of others (Krueger and Clement 1994) and, on the other hand, the call for experimental research with "real" marketing managers. Thus, we run **two controlled online experiments** in study 2 and study 3. By using such complementary data from controlled experiments, we are able to shed further light on the causal role of managers' cognitive empathy in their construal processes of consumer preferences.

4.1.2 Motivation for Study 2

We conducted study 2 to investigate the role of a manager's cognitive empathy in predicting consumer preferences in more detail. Specifically, to **clarify** that cognitive empathy in fact has a self-referential effect on a manager's prediction of consumer preferences, we experimentally manipulated cognitive empathy. Furthermore, in enhancing the **generalizability** of the self-referential effect, after study 1 had a product development context, study 2 used managerial decision making in a **communication management** context. Moreover, we drew on another measure to assess a manager's personal consumption preferences. While we used a 100-point constant sum scale in the first study, we measured the personal preference by an 11-point Likert scale in study 2.

4.2 Method

4.2.1 Participants

For study 2, we recruited 233 marketing managers (mean age: 45.24; 76.4 percent male) from the membership roster of a national marketing association to take part in an online study. In particular, the participants were invited to participate in two case studies on communication management. Again, all participants make predictions about consumers on a regular basis in their job positions.

4.2.2 Procedure and Materials

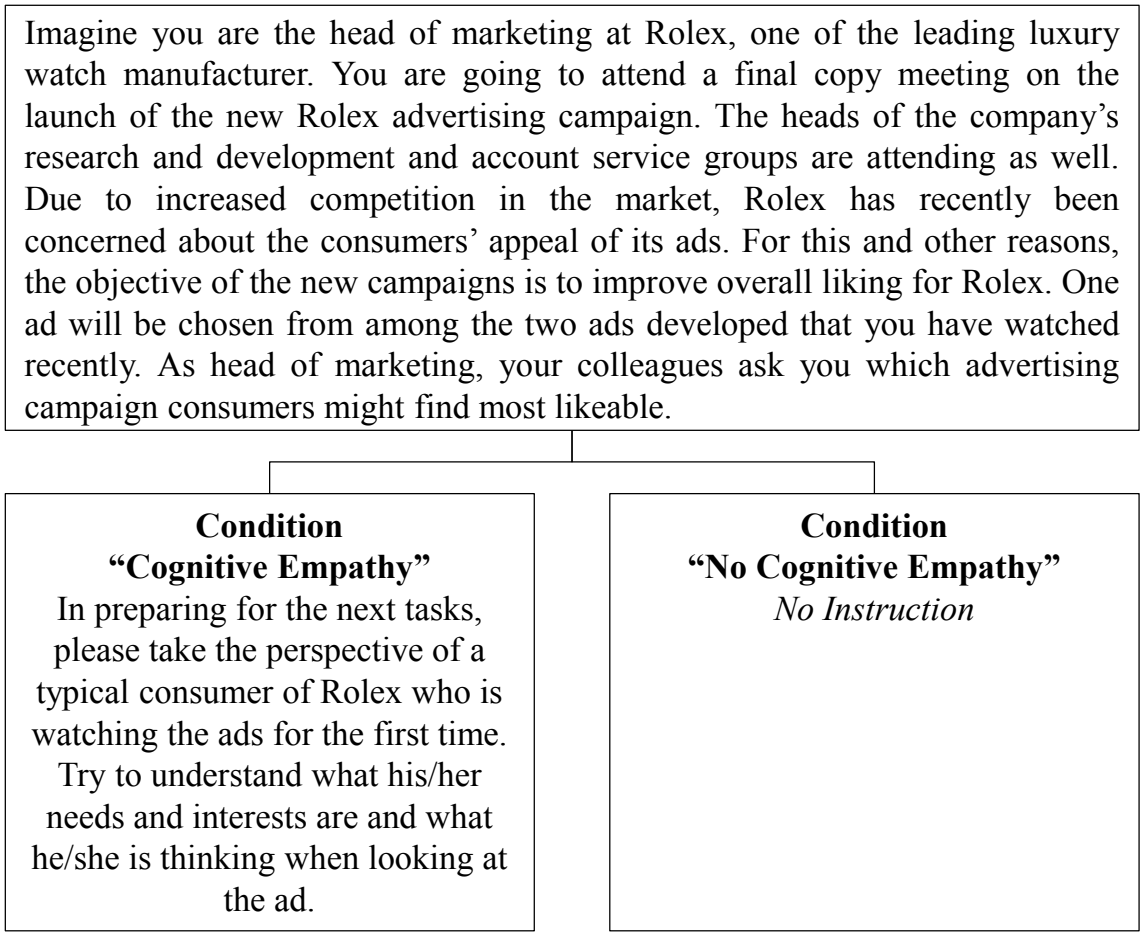
Participants were told that they would complete **two independent "studies."** The first study took place under the cover of a psychological investigation of the relationship between the personal identity and advertisement perceptions. More specifically, participants first answered some questions on their personal identity (we used the twelve item brand personality scale by Geuens, Weijters, and De Wulf 2009) and, subsequently, they watched several advertisements, including two real advertisements

of the **luxury watch manufacturer Rolex** that were of particular interest for our study. Then, they indicated their personal liking of each advertisement on an 11-point Likert-scale (1 = "I strongly dislike this advertisement," 11 = "I strongly like this advertisement").

After completing a filler task, participants were asked to go on with the second study. Similar to Brown (1999), we told participants that study 2 is about **strategic decision making under uncertainty**. They were asked to assume the role of the head of marketing of Rolex who attends a final meeting on the launch of a new Rolex advertisement. In addition, they were informed that due to increased competition in the market, Rolex has recently been concerned about consumers' perceptions of its advertisements. Further, they were informed that there are two different spots Rolex' management can choose from. Subsequently, they were shown the two Rolex advertisements from the first study. The first advertisement had a sailing context ("sailing advertisement"; length: 32 seconds) and the second advertisement dealt with a golfing context ("golf advertisement"; length: 29 seconds). As in study 1, participants were then provided with the results of recent market research on consumers' evaluation for both ads.

Next, we manipulated cognitive empathy by using the **perspective taking approach** used in previous research (e.g., Batson et al. 1997; Galinsky, Wang, and Ku 2008). Participants were randomly assigned to either the "cognitive empathy" or "no cognitive empathy" condition. Participants in the cognitive empathy group were asked to describe a typical target consumer of Rolex, to imagine a target consumer's thoughts when watching the two advertisements, and to anticipate potential reactions to the advertisements (Figure 6). We assumed that participants would have a clear impression of a prestige-oriented target consumer of Rolex (Puligadda, Ross, and Grewal 2012). Participants in the "no cognitive empathy" condition did not receive such instructions (Galinsky, Wang, and Ku 2008). Subsequently, all participants estimated target consumers' evaluations of each advertisement on an 11-point Likert scale (1 = "a target consumer strongly dislikes this advertisement," 11 = "a target consumer strongly likes this advertisement").

Figure 6: Study 2 Scenario and Manipulation of Managers' Cognitive Empathy



Finally, participants were asked to complete a short questionnaire. As a check for the cognitive empathy manipulation, they indicated their level of cognitive empathy on the same four item scale that was used in study 1 (α = .851). Moreover, we measured their use of market research results using the same item as in study 1. As confounding checks (i.e., to rule out alternative theoretical explanations, cf. chapter 2.1), the questionnaire included a single item measuring participants' cognitive load, two items on the perceived similarity to a typical Rolex consumer (α = .897; Ames 2004b), a single item on perceived closeness to a typical Rolex consumer (Aron et al. 1991), a single item on merging of a participant's self and a typical Rolex consumer (Aron, Aron, and Smollan 1992), a single item on decision confidence (Brown 1999), and a single item on decision difficulty (Chatterjee and Heath 1996). All items used are

shown in Table 7. Finally, participants completed an open-ended question about the purpose of the study.

Table 7: Study 2 Measures

Measure ***(Source)***	**Scale** ***(Anchors)***	**Items**
Cognitive empathy *(adapted from Davis 1980)*	7-point Likert scale *(1=completely disagree; 7=completely agree)*	I tried to take the perspective of a typical consumer of Rolex.
		It was very easy for me to put myself into the shoes of a typical consumer of Rolex.
		I tried to understand what a typical Rolex consumer's needs are by imagining how things look from his/her perspective.
		I tried to imagine how a Rolex consumer would feel when watching the advertisements.
Use of market research *(cf. Moorman, Zaltman, and Deshpande 1992)*	7-point Likert scale *(1=completely disagree; 7=completely agree)*	The market research results shown were an important assistance for me.
Cognitive load	7-point Likert scale *(1=completely disagree; 7=completely agree)*	Participating in this study was mentally strenuous.
Similarity to target consumer *(Ames 2004b)*	7-point Likert scale *(1=completely disagree; 7=completely agree)*	I am similar to a consumer of Rolex.
		I have a lot in common with a consumer of Rolex.
Closeness to target consumer *(Aron et al. 1991)*	11-point Likert scale *(1=definitely not close; 11=very close)*	How close do you perceive yourself to a typical consumer of Rolex?
Self-other merging *(Aron, Aron, and Smollan 1992)*	7 Venn diagrams of two same-size circles (one indicating the self, the other representing the typical Rolex consumer)	Please circle the picture which best describes your relationship to a typical consumer of Rolex.
Decision confidence *(Brown 1999)*	10-point Likert scale *(1=very unconfident; 10=very confident)*	How confident are you about your evaluations of consumer preferences?
Decision difficulty *(Chatterjee and Heath 1996)*	7-point Likert scale *(1=very easy; 7=very difficult)*	How difficult has it been to you to make the prediction about consumers?

4.3 Results

4.3.1 Preliminary Analyses

Responses to the open-ended question reveal that none of the participants were able to infer the true goal of the study and they were not aware that both tasks would be related. The **manipulation of cognitive empathy was successful**. An ANOVA with the measure of cognitive empathy as the dependent variable and the manipulation of cognitive empathy as the independent factor showed a significant effect ($M_{\text{NoCognitiveEmpathy}} = 5.41$, $M_{\text{CognitiveEmpathy}} = 5.76$; $F(1, 231) = 5.60$, $p < .019$).

Moreover, we conducted a series of additional ANOVAs with each confounding check as the dependent variable and the manipulation of cognitive empathy as the independent factor. First, an ANOVA with the single-item measure for cognitive load as the dependent variable revealed no significant main effect ($M_{\text{NoCognitiveEmpathy}} = 2.74$, $M_{\text{CognitiveEmpathy}} = 2.83$; $F(1, 231) = .286$, $p = .594$). Second, there was also no main effect for the perceived similarity to a typical consumer of Rolex ($M_{\text{NoCognitiveEmpathy}} = 3.55$, $M_{\text{CognitiveEmpathy}} = 3.49$; $F(1, 231) = .100$, $p = .752$). Third, we cannot find an effect of cognitive empathy on the perceived closeness to a typical consumer of Rolex ($M_{\text{NoCognitiveEmpathy}} = 5.77$, $M_{\text{CognitiveEmpathy}} = 5.60$; $F(1, 231) = .275$, $p = .600$). Fourth, there is no significant mean difference for self-other merging between participant's self and a typical Rolex consumer ($M_{\text{NoCognitiveEmpathy}} = 3.48$, $M_{\text{CognitiveEmpathy}} = 3.47$; $F(1, 231) = .007$, $p = .934$). Fifth, an ANOVA with the single-item measure for decision confidence as the dependent variable and the manipulation of cognitive empathy as the independent variable revealed no significant main effect ($M_{\text{NoCognitiveEmpathy}} = 7.53$, $M_{\text{CognitiveEmpathy}} = 7.34$; $F(1, 231) = .487$, $p = .486$). Sixth and finally, there was also no significant mean difference for decision difficulty ($M_{\text{NoCognitiveEmpathy}} = 5.37$, $M_{\text{CognitiveEmpathy}} = 5.39$; $F(1, 231) = .006$, $p = .940$). Thus, these analyses imply that the findings presented in the next section are **not confounded** by these variables.

4.3.2 Test of Hypothesis 1

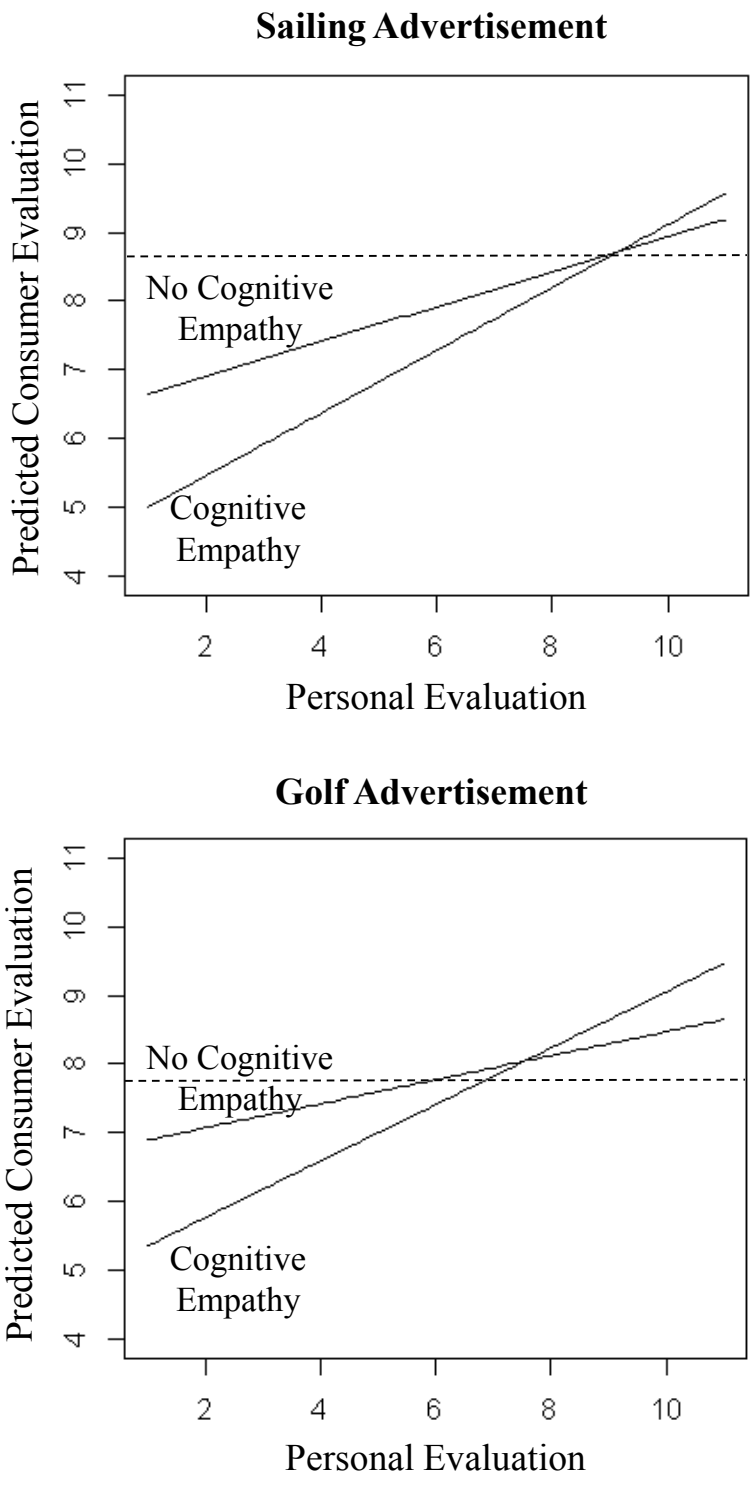
To test hypothesis 1 for each advertisement, we regressed the predicted consumer evaluations on participants' personal liking scores, the cognitive empathy manipulation, and the interaction of both variables. The results are shown in Table 8 and Figure 7. For both advertisements, we find a positive effect of participants' personal liking scores ($p < .001$), indicating that participants' personal evaluations influence the predicted consumer evaluations. Further, there was no main effect of cognitive empathy on predicted consumer preferences, as expected. However, the analyses revealed a **positive interaction effect** between participants' personal evaluations and the cognitive empathy manipulation on predicted consumer evaluations for both advertisements ($p < .05$). That is, cognitive empathy seems to increase the influence of managers' personal tastes on predicted consumer preferences.

Table 8: Study 2 Results of Regression Analyses

Independent Variable	beta	t-value	*p*-value
	Predicted consumer evaluation of *Sailing Ad* ($R^2 = .201$)		
Intercept	8.470	55.857	.000
Manager's personal evaluation of *Sailing Ad*	.257	3.700	.000
Cognitive empathy	-.201	-.923	.357
Interaction term	.203	2.061	.040
	Predicted consumer evaluation of *Golf Ad* ($R^2 = .197$)		
Intercept	7.938	56.238	.000
Manager's personal evaluation of *Golf Ad*	.178	2.984	.003
Cognitive empathy	-.129	-.638	.524
Interaction term	.236	2.768	.006

Note: unstandardized betas are shown; managers' personal evaluation is mean-centered to zero

Figure 7: Study 2 Regression Plots



Note:
------ consumers' average evaluation of advertisement according to market research results presented to the participants

Additionally, to shed more light on the interaction effect, we conducted **simple slope analysis** for both cognitive empathy conditions (for the mathematical background of simple slope analysis, see chapter 3.3.2) and for both advertisements. Simple slope analysis revealed that there is a significant positive effect of personal consumption preference on predicted consumer preference in both the "no cognitive empathy" and the "cognitive empathy" conditions and for both the "sailing advertisement" and the "golf advertisement." The results, shown in Table 9, indicate that both groups project their personal consumption preference to consumers but that participants in the "cognitive empathy" condition engage more in projecting as demonstrated by the significant interaction effect in Table 8.

Table 9: Study 2 Simple Slope Analysis

	Simple Slope "No Cognitive Empathy"			**Simple Slope "Cognitive Empathy"**		
Advertisement	**beta**	**t-value**	***p*-value**	**beta**	**t-value**	***p*-value**
Sailing Advertisement	.257	3.700	.000	.460	6.590	.000
Golf Advertisement	.178	2.984	.003	.415	6.812	.000

The results in Figure 7 further show that, in comparison with participants in the low cognitive empathy group, predictions of participants in the high cognitive empathy group increasingly deviate from the average consumer evaluations found in the market research project (dotted lines in Figure 7). Moreover, we test whether this observation is consistent with participants' indicated **use of market research** by performing an ANOVA with the single item of use of market research as the dependent variable and the manipulation of cognitive empathy as the independent factor. The analysis showed a significant effect of the treatment ($M_{\text{NoCognitiveEmpathy}} = 3.96$, $M_{\text{CognitiveEmpathy}} = 3.54$; $F(1, 228) = 4.396$, $p < .037$), thus indicating that the observed deviation from the

market research results and participants' reported use of market research are consistent.[3]

4.4 Discussion

Study 1 was based on self-reported cognitive empathy. We addressed this concern by **explicitly manipulating cognitive empathy** in study 2. Study 2 provides additional support for the self-referential effect of cognitive empathy. Consistent with study 1, we find that cognitive empathy increases the influence of a manager's personal consumption preferences on predicted consumer preferences. Importantly, we built on our initial study by utilizing a cognitive empathy manipulation in identifying our effects. To generalize our findings, we used a communication management context instead of a product development scenario (cf. study 1).

Moreover, study 2 provides support for a negative effect of cognitive empathy on **managers' use of market research** results. In line with study 1 and as depicted in Figure 7, managers in the high (versus low) cognitive empathy group rely less on the results of the market research project.

[3] Bootstrapping mediation analysis (5,000 resamples, bias-corrected accelerated method) showed that the use of market research does not mediate the relationship between cognitive empathy and self-referential preference predictions (sailing advertisement: CI = -.047 to .016; golf advertisement: CI = -.015 to .042).

5 Study 3: The Underlying Mechanism of the Self-Referential Bias of Managers' Cognitive Empathy – An Identity Activation Perspective

5.1 Overview

Thus far, in studies 1 and 2, we have shown that cognitive empathy increases the influence of managers' personal consumption preferences on predicted consumer preferences, supporting hypothesis 1. However, the **underlying mechanism for the self-referential effect** of cognitive empathy on managers' predictions is unclear. Hence, a third study was designed to achieve the following two goals. First, we aimed to replicate the empathy-caused self-referential effect in a third managerial decision making context, while using another measure to assess managers' personal consumption preferences. More specifically, study 3 was based on a **pricing task** and a manager's personal consumption preference was measured by the personal willingness to pay for products. Second, we test hypothesis 2 that predicts that the activation of a manager's consumer identity operates as the underlying mechanism of the self-referential effect of cognitive empathy.

5.2 Method

5.2.1 Participants

For study 3, we recruited 61 marketing managers to take part in studies on pricing (mean age: 45.11; 86.2 percent male). The participants were recruited from an alumni association of a European business school.

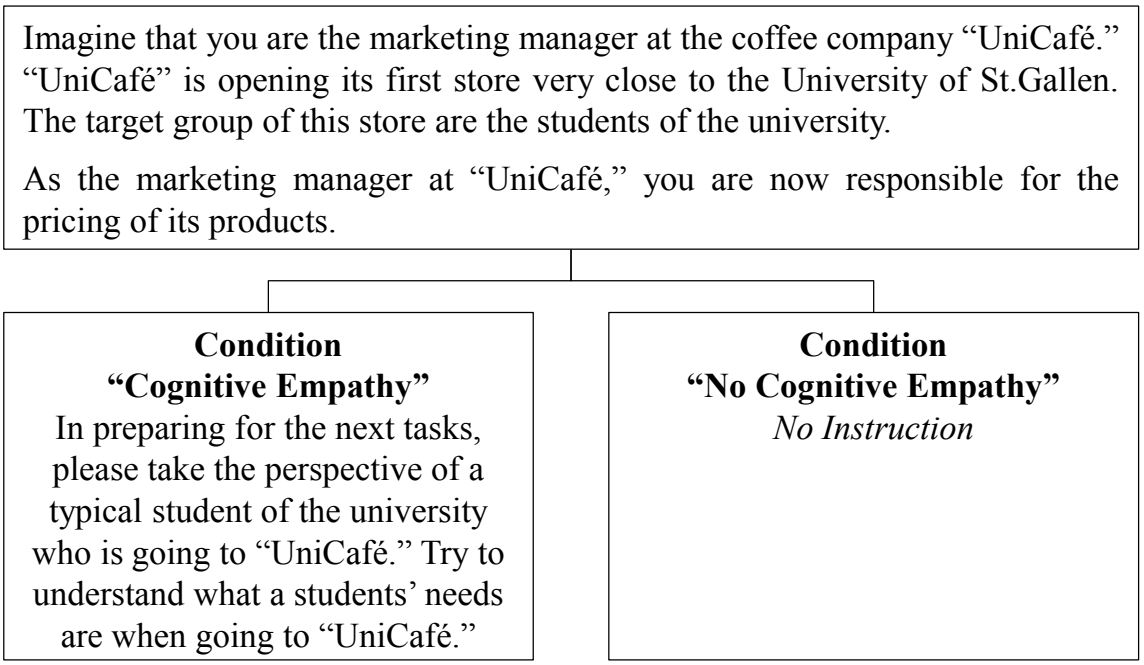
5.2.2 Procedure and Materials

As in study 2, participants were again told that they would participate in a study with two independent tasks. The first task was framed as a pretest of a new, simple, and management-oriented approach to **measure consumers' willingness to pay** for products. In truth, the task was used to measure participants' personal willingness to pay, that is, their personal preference for several products. They were shown ten products (e.g., a business class plane ticket, a marketing journal, a ticket for a sports event, a chicken sandwich) and they were asked to indicate their willingness to pay for each product. The order of the products was randomized.

The second, supposedly unrelated task was cast as a case study on **strategic pricing under uncertainty**. Participants were given information about a fictitious company, the UniCafé, and were asked to take the role of its marketing manager. They were told that UniCafé is opening its first store close to a university and that its target consumers are the university's students. Further, they were told that, as the company's marketing manager, they were responsible for the pricing of UniCafé's products (Figure 8). To help visualizing the store, participants were shown a fictitious picture of it.

Next, we manipulated participants' cognitive empathy as in study 2. Participants were again randomly assigned to either the "cognitive empathy" or the "no cognitive empathy" condition (Galinsky, Wang, and Ku 2008). Participants in the cognitive empathy group were asked to describe a typical student of the university and to imagine a student's needs when going to UniCafé. Participants in the "no cognitive empathy" condition did not receive such instructions. Then, participants set the price for eight different products that are offered by UniCafé (e.g., blueberry muffin, raisin bagel, a cup of coffee, cheese cake, and brownie). To test hypothesis 1, we also included one product from the first task, the chicken sandwich. The order in which the products were presented was again randomized.

Figure 8: Study 3 Scenario and Manipulation of Managers' Cognitive Empathy



Finally, all participants were asked to answer a short questionnaire that contained items on a manipulation check, the proposed mediator, potential confounding factors, and questions regarding the goal of the study. They first indicated their degree of cognitive empathy in the pricing task that served as a check for our manipulation. To assess participants' cognitive empathy, we used the same four items as in studies 1 and 2 (Table 10). We again averaged the measures to form a cognitive empathy index (α = .723). In addition, to test for the underlying mechanism of the self-referential effect, participants were asked questions on the activation of their consumer identity in the pricing task. To measure the **activation of participants' consumer identity**, we developed three seven-point scaled items that are shown in Table 10. The three items were averaged to form an index (α = .845). As confounding checks (i.e., to exclude alternative theoretical explanation as, for instance, discussed in chapter 2.1), we included a single item on participants' cognitive load, two items on perceived similarity to a typical student of the university (α = .756; Ames 2004b), a single item on the perceived closeness to a typical student of the university (Aron et al. 1991), a single item on the merging between a participant's self and a typical student of the

university (Aron, Aron, and Smollan 1992), a single item on decision confidence (Brown 1999), a single item on decision difficulty (Chatterjee and Heath 1996), and four items on decision accountability (α = .730; Zhang and Mittal 2005). All items were measured on a seven-point scale, except the items on perceived closeness to a student (11-point scale) and decision confidence (10-point scale). Finally, participants indicated their age, gender, education, income, and completed an open-ended question that asked them what they thought the study was about.

Table 10: Study 3 Measures

Measure ***(Source)***	**Scale** ***(Anchors)***	**Items**
Cognitive empathy *(adapted from Davis 1980)*	7-point Likert scale *(1=completely disagree; 7=completely agree)*	I tried to take the perspective of a student of the university.
		It was very easy for me to put myself into the shoes of a student of the university.
		I tried to understand what a student's needs are by imagining how things look from his/her perspective.
		I tried to imagine how a student would feel as a consumer in this store.
Activation of consumer identity *(new scale)*	7-point Likert scale *(1=completely disagree; 7=completely agree)*	In making my decisions… …I was wondering about what I would like to drink in this store.
		…I was wondering about what I would like to eat in this store.
		…I was wondering about what I would like to consume in this store.
Cognitive load	7-point Likert scale *(1=completely disagree; 7=completely agree)*	Participating in this study was mentally strenuous.
Similarity to target consumer *(Ames 2004b)*	7-point Likert scale *(1=completely disagree; 7=completely agree)*	I am similar to a student of the university.
		I have a lot in common with a student of the university.
Closeness to target consumer *(Aron et al. 1991)*	11-point Likert scale *(0=definitely not close; 10=very close)*	How close do you perceive yourself to a student of the university?

Table 10: Study 3 Measures (continued)

Measure *(Source)*	**Scale** *(Anchors)*	**Items**
Self-other merging *(Aron, Aron, and Smollan 1992)*	7 Venn diagrams of two same-size circles (one indicating the self, the other representing the student of the university)	Please circle the picture which best describes your relationship to a student of the university.
Decision confidence *(Brown 1999)*	7-point Likert scale *(1=very unconfident; 7=very confident)*	How confident are you about your pricing decisions for the store?
Decision difficulty *(Chatterjee and Heath 1996)*	7-point Likert scale *(1=very easy; 7=very difficult)*	How difficult has it been to you to make the pricing decisions for the store?
Decision accountability *(Zhang and Mittal 2005)*	7-point Likert scale *(1=completely disagree; 7=completely agree)*	When making the pricing decisions for the store… …I felt great responsibility.
		…I was concerned about the possibility of making a poor decision.
		…it was very important to me to make a good decision.
		…I was thinking about how the decision would affect the future of the company.

5.3 Results

5.3.1 Preliminary Analyses

Responses to the open-ended question revealed that none of the participants in this study guessed the true purpose of the study and were aware that both tasks were related. The **manipulation of cognitive empathy was again successful** ($M_{\text{NoCognitiveEmpathy}}$ = 4.96, $M_{\text{CognitiveEmpathy}}$ = 5.52; F(1, 59) = 5.54, p < .034). Furthermore, a series of additional ANOVAs with each confounding check as the dependent variable and the manipulation of cognitive empathy as the independent factor revealed that the findings presented in the next section are **not confounded** by

these variables. More specifically, there were no significant mean differences for cognitive load ($M_{NoCognitiveEmpathy}$ = 1.97, $M_{CognitiveEmpathy}$ = 1.86; F(1, 59) = .993, p = .323), perceived similarity to a typical student of the university ($M_{NoCognitiveEmpathy}$ = 1.50, $M_{CognitiveEmpathy}$ = 1.29; F(1, 59) = 2.665, p = .108), perceived closeness to a typical student of the university ($M_{NoCognitiveEmpathy}$ = 5.47, $M_{CognitiveEmpathy}$ = 6.12; F(1, 59) = 1.021, p = .316), the merging between a participant's self and a typical student of the university ($M_{NoCognitiveEmpathy}$ = 3.24, $M_{CognitiveEmpathy}$ = 3.41; F(1, 59) = .400, p = .529), decision confidence ($M_{NoCognitiveEmpathy}$ = 6.91, $M_{CognitiveEmpathy}$ = 6.56; F(1, 59) = .412, p = .524), decision difficulty ($M_{NoCognitiveEmpathy}$ =4.82, $M_{CognitiveEmpathy}$ = 5.21; F(1, 59) = 1.281, p = .262), and decision accountability ($M_{NoCognitiveEmpathy}$ = 4.27, $M_{CognitiveEmpathy}$ = 4.63; F(1, 59) = 1.410, p = .240). Further, neither age, gender, education, or income influenced the results.

5.3.2 Test of Hypothesis 1

Hypothesis 1 was again tested by running a regression with participants' personal willingness to pay for a chicken sandwich, the cognitive empathy manipulation, and the interaction of both variables as predictors of the product price in the management task. The results of the analysis are shown in Table 11 (step 2) and Figure 9. We find a positive effect of participants' willingness to pay for a chicken sandwich on the price for the product in the management task (p < .001). That is, a higher personal willingness to pay for the product leads participants to set higher prices for the product in the management task, replicating the general finding of projection in prior literature (see chapter 2). Further, there was a marginally significant effect of cognitive empathy on the price for a chicken sandwich (p < .10). Supporting hypothesis 1, the results again reveal a **positive interaction effect** between participants' personal willingness to pay and the manipulation of cognitive empathy on the price in the management task (p < .05).

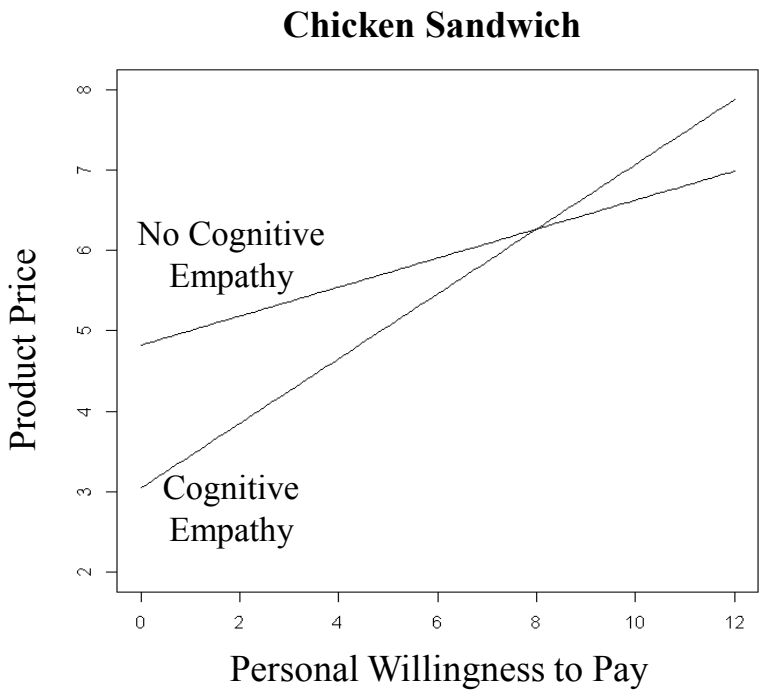
Table 11: Study 3 Results of the Analyses of the Underlying Mechanism

Independent Variable			
	Step 1: Activation of manager's consumer identity (R^2 = .067)		
	beta	**t-value**	***p*-value**
Intercept	-.381	-1.368	.177
Cognitive empathy	.860	2.056	.044

	Product price for Chicken Sandwich in management task								
	Step 2			**Step 3**			**Step 4**		
	beta	**t-value**	***p*-value**	**beta**	**t-value**	***p*-value**	**beta**	**t-value**	***p*-value**
Intercept	5.907	39.473	.000	5.802	52.473	.000	5.969	41.155	.000
Willingness to pay for Chicken Sandwich	.193	2.717	.009	.321	6.039	.000	.264	3.664	.000
Cognitive empathy	-.413	-1.837	.071				-.389	-1.769	.082
Willingness to pay x Cognitive empathy	.222	2.059	.044				.122	1.141	.259
Activation of consumer identity				-.079	-1.168	.248	-.044	-.647	.521
Willingness to pay x Activation of consumer identity				.132	3.505	.000	.116	2.979	.004
	R^2 = .401			R^2 = .443			R^2 = .484		

Note: unstandardized betas are shown; variables managers' personal willingness to pay and activation of consumer identity are mean-centered to zero

Figure 9: Study 3 Regression Plot



As in study 1 and study 2, we also performed **simple slope analysis** in study 3 (see chapter 3.3.2) to investigate the interaction between the personal willingness to pay and the cognitive empathy manipulation in detail. The results of the simple slope analysis are shown in Table 12. The analysis reveals that the simple slopes for both the "no cognitive empathy" and the "cognitive empathy" condition are both significantly different from zero, indicating that regardless of the empathy condition, participants project their personal willingness to pay onto consumers. However, the results also show that participants in the "cognitive empathy" condition project more than those in the "no cognitive empathy" condition as indicated by the significant interaction effect (cf. Table 11, step 2).

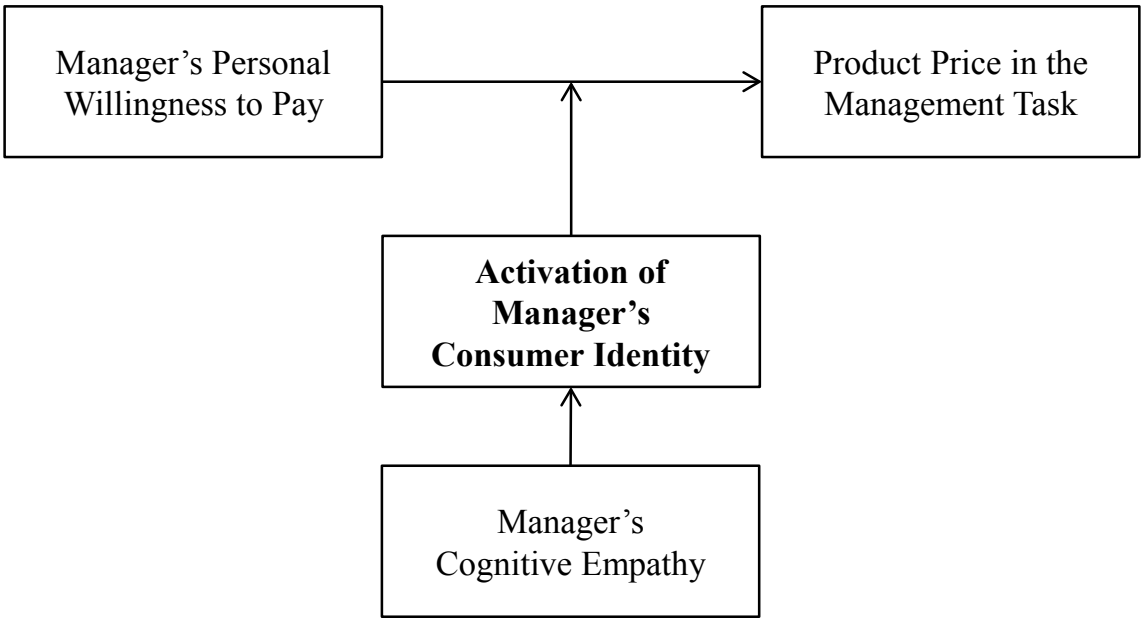
Table 12: Study 3 Simple Slope Analysis

	Simple Slope "No Cognitive Empathy"			Simple Slope "Cognitive Empathy"		
Product	**beta**	**t-value**	***p*-value**	**beta**	**t-value**	***p*-value**
Chicken Sandwich	.193	2.717	.009	.415	5.134	.000

5.3.3 Test of Hypothesis 2

In chapter 2.2, we developed a cognitive empathy-identity activation framework to explain the self-referential bias of cognitive empathy in predicting consumer preferences. We proposed that cognitive empathy activates a manager's consumer identity, which in turn increases the effect of a manager's personal preferences on predicted consumer preferences (Figure 10).

Figure 10: Study 3 Underlying Mechanism of the Self-Referential Bias of Managers' Cognitive Empathy



To test the validity of the structural relationships in Figure 10, we first performed the classic step-wise approach and ran a series of regression analyses. Specifically, four conditions are necessary to support our structural process model and thus hypothesis 2 (cf. Muller, Judd, and Yzerbyt 2005). Formally[4], the **four steps** are:

$$(8) \quad \text{Identity} = \beta_0 + \beta_1 \text{ CEmpathy}$$

$$(9) \quad \text{Price} = \beta_2 + \beta_3 \text{ WTP} + \beta_4 \text{ CEmpathy} + \beta_5 \text{ WTP CEmpathy}$$

$$(10) \quad \text{Price} = \beta_6 + \beta_7 \text{ WTP} + \beta_8 \text{ Identity} + \beta_9 \text{ WTP Identity}$$

$$(11) \quad \begin{aligned} \text{Price} = {} & \beta_{10} + \beta_{11} \text{ WTP} + \beta_{12} \text{ CEmpathy} + \beta_{13} \text{ Identity} \\ & + \beta_{14} \text{ WTP CEmpathy} + \beta_{15} \text{ WTP Identity} \end{aligned}$$

First, cognitive empathy needs to affect the activation of participants' consumer identity (Equation 8). As expected, a regression analysis with the cognitive empathy manipulation (CEmpathy = 0 if participants were assigned to the "no cognitive empathy" condition and CEmpathy = 1 if participants were assigned to the "cognitive empathy" condition) as the independent variable and the activation index as the dependent variable revealed a significant effect ($p < .05$; Table 11, step 1). Second, cognitive empathy needs to moderate the relationship between participants' personal willingness to pay and the product price in the management task (Equation 9). As shown in the former section (hypothesis 1), this condition holds (Table 11, step 2). Third, the activation of participants' consumer identity needs to moderate the relationship between participants' personal willingness to pay and the product price in the management task (Equation 10). The column "step 3" in Table 11 shows that this is also the case since there was a significant willingness to pay by activation of consumer identity interaction ($p < .05$). Fourth and finally, in a regression model including the cognitive empathy manipulation and the activation of participants'

[4] For simplification, the corresponding regression residuals are not mentioned in the following equations.

consumer identity index as well as their interactions with personal willingness to pay (Equation 11), the interaction term between willingness to pay and cognitive empathy should be non-significant and the interaction term between willingness to pay and the activation of participants' consumer identity should remain significant. As predicted and shown in the column "step 4" in Table 11, the results reveal that the cognitive empathy by willingness to pay interaction is not significant anymore, while the willingness to pay by activation of consumer identity interaction remains highly significant ($p < .01$). Together these findings **support the mediating effect of the activation of participants' consumer identity** on the relationship between cognitive empathy and self-referential preference predictions.

Moreover, we performed **bootstrapping mediation analysis** to test for the mediating role of the activation of participants' consumer identity within the process of self-referential preference prediction. Bootstrapping is a way for statistical inference that resamples from the original data for assessing confidence in the estimates. In recent years, research recommended to use bootstrapping as an alternative to normal-theory tests of mediation because it makes no assumptions of the shape of the sampling distribution (e.g., Preacher and Hayes 2008; Preacher, Rucker, and Hayes 2007; Zhao, Lynch Jr., and Chen 2010).

In performing bootstrap mediation, we sampled 5,000 resamples (with replacement) from the original data (cf. Zhao, Lynch Jr., and Chen 2010). To calculate the confidence intervals, we used the bias-corrected and accelerated bootstrap method that has been shown to produce highly accurate confidence intervals (DiCiccio and Efron 1996). In extension to the standard percentile method, the bias-corrected and accelerated method incorporates two additional coefficients, the bias correction and the acceleration. The bias correction parameter adjusts for the standard normal deviation, that is, the proportion of bootstrap estimates which are less than or equal to the estimate from the original sample. The acceleration parameter further adjusts for the skewness of the distribution (DiCiccio and Efron 1996).

The mediating role of the activation of participants' consumer identity is supported if zero lies outside the confidence interval (Preacher, Rucker, and Hayes 2007). Indeed,

the results suggest that the activation of participants' consumer identity mediates the effect of cognitive empathy on the extent of self-referential preference predictions (a x b = .860 x .116 = .100, 95% confidence interval = .011 to .281).

Thus, both the classic step-wise approach and the bootstrap approach confirm our prediction of a cognitive empathy-identity activation framework. Specifically, cognitive empathy increasingly activates participants' personal consumption preferences, which in turn results in more self-referential consumer preference predictions, supporting hypothesis 2.

5.4 Discussion

Overall, the results of study 3 replicate the self-referential effect of cognitive empathy on predicted consumer preferences. As in studies 1 and 2, the findings of study 3 support our general hypothesis that cognitive empathy increases the influence of managers' personal consumption preferences on predicted consumer preferences. Further, the results also **generalize the self-referential effect** to another context. Indeed, we used the contexts of product development (study 1), communication management (study 2), and price management (study 3), providing **support for the self-referential effect in three of the four P's of the classic marketing mix decisions** (Kotler 1967; McCarthy 1960). Further, the personal consumption preference of a manager was assessed by a 100-point constant sum scale (study 1), an 11-point Likert-scale (study 2), and the personal willingness to pay for products (study 3).

Moreover, the findings of study 3 shed light on the process underlying the self-referential effect of cognitive empathy. The results of the analysis suggest that cognitive empathy activates managers' consumer identity and thus increases the influence of a manager's personal consumption preferences on predicted consumer preferences. This is a **novel finding** since previous research has often argued that empathic persons are able to abstract away from their personal preferences (Decety and Jackson 2004; Preston and de Waal 2002; Regan and Totten 1975). Our results,

however, indicate that the opposite might be true in this context. We also conducted mediation analysis for other potential mediators such as a merging between a manager's self and a typical consumer, the perceived similarity and the perceived closeness to a typical consumer. The results indicate that these variables did not readily account for our findings.

6 Conclusions and Implications

6.1 Key Findings

Marketing practitioners and researchers have recognized the importance of bringing the consumer's voice to the center of managerial tasks by instructing managers to put themselves into the shoes of consumers, that is, to be empathic. In this line, research has shown that cognitive empathy supports, for instance, a product manager in creating appealing products (e.g., Dahl, Chattopadhyay, and Gorn 1999). However, to the best of our knowledge, no prior work has actually addressed how cognitive empathy affects a manager in performing one of the most important managerial tasks: predicting consumer preferences. Therefore, in the present research, we conducted three studies to investigate this research question. Basically, the results can be summarized in **four key findings**. First, our results imply that managers use their personal consumption preferences as a cue for consumer preferences, supporting the observation of social projection of social psychological and consumer research (cf. chapter 2). Second, in contrast to an often implicit assumption of behavioral and social psychological research that cognitive empathy reduces the influence of personal consumption preferences in construing consumer preferences, we demonstrate that cognitive empathy can actually rebound. In particular, the findings of the three studies in distinct contexts (i.e., product development, communication management, price management), using different preference measures (i.e., constant sum scale, Likert-scale, and personal willingness to pay), and drawing either on self-reported or experimentally manipulated managers' cognitive empathy show that cognitive empathy increases the influence of managers' personal consumption preferences on predicted consumer preferences. As a result, empathic managers ironically predict consumer preferences more self-referential than less empathic managers. Third, we find that the activation of managers' consumer identity mediates the relationship between cognitive empathy and the influence of managers' personal consumption preferences on predicted consumer preferences. Fourth, research has largely neglected to investigate the relationship between managers' cognitive empathy and the use of market research. The findings of

study 1 and study 2 reveal that cognitive empathy can lead to neglect in the use of objective market research.

6.2 Theoretical Implications

Our research makes a number of theoretical contributions. First, it replicates and extends previous research on predictions of others' preferences by showing the counterintuitive influence of cognitive empathy. A basic observation of earlier research that investigated the process of forming predictions of others' preferences is that such predictions are often influenced by the predictor's personal preferences. The results of our studies support this observation in a marketing decision making context because we find significant effects of managers' personal consumption preferences on predicted consumer preferences across three different contexts. Moreover, in reducing this **self-referential effect**, it is a common assumption in previous research that cognitive empathy helps people to overcome such self-reference. In contrast to this assumption, across the three studies, we demonstrate that empathic managers' predictions are more affected by their personal consumption preferences than predictions of less empathic managers.

Second, our research contributes to work done in the area of managers' preference predictions by introducing a **cognitive empathy-identity activation framework**. According to identity research, individuals have multiple identities, such as their identity as a colleague and their family identity. Building on that literature, we argued that managers basically have two identities, their professional identity as a manager and their consumer identity, that can differ in their momentary activation. We propose that cognitive empathy increases the activation of managers' consumer identity, that is, their personal consumption preferences become activated (cf. Tian, Bearden, and Hunter 2001). This proposition is supported by the mediation analysis in study 3.

Third, we also contribute to the literature on the **use of market research**. Previous research has shown substantial interest in factors that can affect managers' use of market research information (e.g., Deshpande and Zaltman 1982; Low and Mohr 2001;

Menon and Varadarajan 1992; Moorman 1995; Moorman, Deshpandé, and Zaltman 1993; Moorman, Zaltman, and Deshpande 1992; cf. Mintz and Currim in press). For instance, Moorman and her colleagues (1993) have investigated individual user characteristics (e.g., actual job experience) and could not provide any evidence for an effect of these characteristics on individuals' use of market research. In contributing to this literature stream, we document managers' cognitive empathy as a factor that influences the use of market research. In fact, the findings of study 1 and study 2 reveal that empathic managers stated lower use of the reported market research results than less empathic managers in making their prediction. This is also consistent with the finding that empathic managers form preference predictions that are farther away from the provided market research results on the average preferences of the target market.

Finally and more generally, our research provides valuable insights to the **managerial decision making literature**, an area that has strangely received little attention from marketing researchers yet (Boulding et al. 1994; Wierenga 2011). Marketing literature focusing on the decision-process of managers has been interested in topics such as the dual-process model of decision making, learning, emotions, and expertise (for an overview, Wierenga 2011). However, it is surprising that the literature has largely ignored that marketing decision makers are also consumers, possessing personal consumption preferences for products or advertisements that can influence their managerial decision processes. The results we obtained posit that managers' decisions are strongly influenced by their personal consumption preferences. In other words, our work contributes to the literature by linking two areas in marketing research: management decision making behavior and consumer behavior (Wierenga 2011). Our research therefore underlines the importance of investigating managers' consumer identity and their personal consumption preferences in marketing decision making.

6.3 Managerial Implications

The research presented in this dissertation also offers important insights for marketing practice. Every day, managers have to form predictions about consumer preferences,

for example, in the contexts of developing and marketing new products, in designing advertisements, and in pricing products. Previous work has argued that taking the consumer's perspective can support managers in construing their consumers' preferences. On the basis of our findings, we argue that managers should be aware of a **self-referential bias** when putting themselves into the consumers' shoes. Specifically, our results imply that **managers trying to incorporate the consumer's voice** may be strongly influenced by their own personal consumption preferences in their prediction of consumer preferences. Further, the self-referential bias seems to be very robust against different contexts of marketing decision making. Across three classic fields of the marketing mix, we find strong evidence that managers' picture of the target market becomes increasingly self-referential when they attempt to step out of their minds, are well-intentioned to suppress their egocentric processing, and put themselves into the consumer's shoes.

Building on prior research (cf. Bottom and Paese 1997; Hoch 1988), we suggest that managers' personal consumption preferences seem to be weak predictors for consumer preferences and relying on personal preferences might lead to **suboptimal decisions (and preference predictions)**. Therefore, managers might be interested in reducing such self-reference in forming predictions about their consumers. But what can managers and their companies do to reduce the impact of managers' self-referential decisions on companies' strategy? Building on literature on debiasing techniques (e.g., Arkes 1991; Larrick 2004), we discuss some potential ways to reduce the (impact of the) self-referential bias of cognitive empathy. In doing so, we first draw on Larrick's (2004) three general strategies for reducing systematic biases: cognitive, motivational, and technological strategies.

As an obvious **cognitive way** to reduce self-reference in decision making appears to **make managers aware of the bias** when taking the consumer perspective. In particular, specific training (e.g., workshops and market simulations that provide decision makers with regular feedback about their choices; cf. Lim and O'Connor 1995) on the self-referential effect of incorporating consumer's voice could help to broaden managers' mind to consider more information beyond their personal preferences. Work on training in biases and decision rules (e.g., Fong and Nisbett 1991) finds that such training can decontaminate (cognitive) biases. However, training

to adopt debiasing techniques and "clean out" managers could be not as effective as one might suppose. For instance, Krueger and Clement (1994) showed that individuals are still susceptible to the "false consensus bias" when reminded that individuals are likely to project their personal position.

Related to this, we speculate that engaging in **counter-reasoning** about why their personal consumption preferences are not appropriate for consumer preferences could be a fruitful way for managers to reduce self-reference. Thinking deliberatively about differences between their personal preferences and those of their consumers might help them to distance themselves from their personal position (cf. Todd et al. 2011). The key benefit of counter-reasoning lies in directing the attention to reasons why other cues might be more appropriate than the personal position (cf. Larrick 2004). Support for the effectiveness of counter-reasoning comes from research that has shown that this approach is at least effective in reducing an "escalation" bias, the stickiness with past decisions (McNamara, Moon, and Bromiley 2002), and anchoring effects (Mussweiler, Strack, and Pfeiffer 2000). However, it has also been argued that analytical (counter-)reasoning cannot (fully) eliminate a bias (Biyalogorsky, Boulding, and Staelin 2006; Bolton 2003; Hutchinson, Alba, and Eisenstein 2011) and that it is hardly possible to inhibit identity-driven thinking (Bolton and Reed II 2004), even by making individuals highly accountable for their decisions (Bolton 2003; cf. study 3; for beneficial effects of accountability on reducing a bias, see, for instance, Siegel-Jacobs and Yates 1996). That is, forcing managers to think about other information (e.g., stereotypes) carefully seems to be at least helpful in supporting managers to limit (but not avoid) self-reference in their predictions of consumer preferences.

A second general debiasing strategy is **motivational nature**. Although Bolton (2003) shows that holding managers accountable for their decisions is not an effective approach to reduce identity-driven thinking, decision accountability receives some support to make managers less susceptible to biases (Brown 1999; Huber and Seiser 2001). The idea behind accountability as a debiasing technique is that managers held accountable for their decisions engage in more deliberative thinking, take more cognitive effort, and make use of more information (Brown 1999; Larrick 2004) because justifying their choices to others desires managers to avoid socially undesirable consequences (e.g., social embarrassment). However, in study 3, we

controlled for managers' **decision accountability** and find that accountability does not confound our results. A reason for the mixed results in the literature might be that we used a scenario approach that could hamper managers to actually feel accountable for their decisions. Possibly, in a field setting under more realistic and everyday conditions, accountability for their performance is more likely to reduce the self-referential bias of cognitive empathy on managers' predictions of consumer preferences (cf. Lerner and Tetlock 1999).

A third general strategy to reduce the impact of an individual manager's preference on a company's actions is the **technological strategy** (Larrick 2004). An example for a technological strategy is **decision making in teams**. Companies do often form (cross-functional) project teams to share information, allow for judgmental (and preference) heterogeneity, avoid tunnel vision in decision making, and to reduce that individual preferences dominate a company's strategy. Product development teams (e.g., Cohen and Bailey 1997; Slotegraaf and Atuahene-Gima 2011) and top management teams for organizational innovation (e.g., West and Anderson 1996) are two examples for such project teams. Sharing of information and diversity in personal consumption preferences of team members might help managers to develop a broader understanding of consumer preferences, consider other information beyond their personal position, and enables them to uncover differences in consumer needs (cf. Mojzisch and Schulz-Hardt 2010; Nijstad and Kaps 2008). Thus, managers should attempt to form project teams with an appropriate preference diversity of the members that helps to reduce (the impact of) egocentric decisions of managers, while keeping a consumer-focused strategy of the company.

Further, managers often have access to decision support systems and they are provided with **market research** results that shall support them in **construing consumer preferences** (e.g., Moorman, Deshpandé, and Zaltman 1993; Moreau, Krishna, and Harlam 2001; Roggeveen and Johar 2004). Our findings reveal that managers taking the consumer's perspective are prone to discount the value of market research information. However, it is widely accepted that the use of market information improves managerial decision making (e.g., White, Varadarajan, and Dacin 2003; for a critical discussion on the usefulness of the amount of information, see Goldstein and Gigerenzer 2002; Nisbett, Zukier, and Lemley 1981). Companies, therefore, could

implement activities and control systems (cf. Wang, Beatty, and Liu in press) that guarantee that managers will make use of the market research data in making decisions. Examples are control systems in decision making that forces managers to intensely think about market research results and to explain why they neglect such data in making predictions about consumers. This seems likely to increase the probability that managers incorporate information beyond the personal position, which in turn might reduce the self-referential bias of cognitive empathy.

In a more general sense and in addition to Larrick's (2004) strategies to reduce biases, it is also worth noting that a solely **consumer-focused strategy** for companies and managers does not necessarily need to be the most effective strategy. When managers only try to fulfill consumers' actual (and often unstable; cf. Hoeffler and Ariely 1999) needs, a company's products might lose their "identity" since products of different competitors could become substitutes. Thus, sometimes managers could be more interested in protecting the identity of their company and its products and brands, in not following every single new cultural trend, and, thus, in sacrificing a solely focus on current consumers' needs. Similarly, consumers are not always aware of their future needs. Specifically, in study 1, we used a product development context in the automotive industry. Products like cars are developed many years before their market launch. Since consumers do not always know their future preferences, product designers could be more successful when they rely on their intuition and on new design trends about which consumers are not yet aware instead of building on market research on current consumers' needs.

Furthermore (and partly controversial to the argumentation on group decision making), given the finding of managers' self-referential predictions of consumer preferences, companies might engage in **hiring managers and employees whose consumption preferences are consistent** with those of the company's target market (cf. Morhart, Herzog, and Tomczak 2009). Such a match between managers' preferences and preferences of their consumers would increase the prediction accuracy, even when managers are projecting their personal preferences. In other words, in a situation in which managers' consumption preferences fit their consumers' preferences, the self-reference due to cognitive empathy we found in our research seems to be superior to using other (less diagnostic) information.

Finally, we want to note that our research does not necessarily mean that incorporating the consumer's voice is an entirely bad strategy for marketing managers. Our findings do not provide any insights into the accuracy of managers' predictions when building on their personal consumption preferences (see the next chapter on future research opportunities). We only admit, however, that managers' own preferences seem to be a weak predictor for consumer preferences. Rather, it is our primary goal to **establish awareness** for the self-referential effect of cognitive empathy in marketing decision making.

6.4 Limitations and Future Research Opportunities

6.4.1 Methodological Limitations

The findings of earlier research on projection of personal preferences onto others are predominantly drawn from correlational studies and samples of students. Since such non-randomized studies have been criticized by other researchers who call for more experimental work (Krueger and Clement 1994; Perkins and Rao 1990), we used both correlational and experimental settings in investigating our research questions. Moreover, we addressed the sampling issue by recruiting experienced marketing managers for our studies.

Nevertheless, we have to admit that our research suffers from at least **five methodological issues**. First, the data we built on are essential cross-sectional, that is, single participants answered the questions at a single point of time (Rindfleisch et al. 2008). It seems worthwhile to replicate the self-referential bias of cognitive empathy in predicting consumer preferences using a longitudinal design because, as noted by Rindfleisch et al. (2008, p. 263), "temporal separation reduces the cognitive accessibility of responses […] collected at an earlier time, which in turn reduces the likelihood that these earlier responses will influence subsequent responses to outcome variables." Thus, providing responses for the personal consumption preference and the predicted consumer preference at the same time could lead to an anchor process on the personal consumption preference that might strongly affect the construal process of

consumer preferences. However, Rindfleisch et al. (2008) also mention that "temporal separation may allow contaminating factors to intervene" (p. 263; see also Podsakoff et al. 2003). In this research, we opted for a **cross-sectional approach** for two main reasons: first, it took us great efforts to get "real" marketing managers to participate in our studies because of their time constraints. It seems hardly possible to convince the same managers to participate in additional studies. Second, recent research has shown that consumers' preferences are often unstable and constructed when faced with making decisions (e.g., Bettman, Luce, and Payne 1998; Kivetz, Netzer, and Schrift 2008; Slovic 1995; see also Simonson 2005). This notion implies that managers' personal consumption preferences might vary over time, which in turn would lead to masking the relationship between the personal consumption preference and the predicted consumer preference that is really present at the time of prediction (cf. Podsakoff et al. 2003). Thus, we agree with Kohli (2011) who notes in his last Journal of Marketing editorial as editor-in-chief: "Stronger inferences of causality are justified when experimental designs or longitudinal data are used than when cross-sectional data are used. Again, it is easy to knock a study as being (merely) cross-sectional. However, cross-sectional data provide evidence that may (or may not) be consistent with causal relationships hypothesized by authors and are valuable to that extent" (Kohli 2011, p. 3).

Second and in some form related, in each study presented in this research, we measured managers' personal consumption preferences and their prediction for consumer preferences using the same metric. Some prior research, however, has argued that individuals could anchor heavily on their first response in providing the subsequent response because the initial response (metric) increases the availability of the reference point that could affect later responses (Chapman and Johnson 1999; see also Crampton and Wagner 1994; Tversky and Kahneman 1974). Further, it might be that using the **same metric** could reduce participants' cognitive processing. Thus, one might argue that the main effect of projecting the personal consumption preferences onto others' preferences we found in each study is simply a method-based consequence that could be eliminated by varying the metrics. However, research using different metrics for assessing the personal preference and the prediction have found similar effects of projection as demonstrated in the present research (e.g., Irmak,

Vallen, and Sen 2010). Further, we firmly believe that although projection might be reduced by the use of different metrics, the self-referential bias of managers' cognitive empathy should remain.

Third, the above reasoning leads us to another potential methodological limitation: the **order** in which we measured managers' personal consumption preference and their predictions for consumer preferences. Specifically, across the studies, participants had to indicate their personal consumption preferences first and, afterwards, they made predictions about consumers' preferences. One might argue that this approach is more susceptible to projection than the reversed order. However, we deliberately decided for this order since prior research has often investigated possible order effects on projection and has found no (e.g., Gershoff, Mukherjee, and Mukhopadhyay 2008; Hoch 1988; Krueger and Stanke 2001; Van Boven and Loewenstein 2003) or only marginal differences (e.g., Robbins and Krueger 2005) between the options of order.

Fourth, another criticism on our research might relate to our investigation of the underlying mechanism in study 3. In recent years, there is a debate in social psychology on testing psychological processes using mediation (Bullock, Green, and Ha 2010; Kenny 2008; Ledgerwood and Shrout 2011; Spencer, Zanna, and Fong 2005). For example, Spencer, Zanna, and Fong (2005) are concerned with the "overuse" of a **measurement-of-mediation design** to investigate psychological processes. A measurement-of-mediation approach means that the proposed mediator is measured, as we did in study 3. Among others, they see the following drawbacks of this approach: first, the correlational evidence for the mediating role between the independent variable and the dependent variable. This makes it necessary to consider other variables that might account for the observed relations because the measured mediator could be related to the true psychological process. Second, the measurement-of-mediation design has an obvious drawback when the psychological process and the dependent variable are not theoretically distinct. Thus, it is necessary to guarantee discriminant validity of the mediator and the dependent variable. Third, since the measurement-of-mediation design combines randomization and a correlational design, the assumptions of multiple regressions (Cohen et al. 2003) have to be met as well. Instead of using a measurement-of-mediation design, Spencer, Zanna, and Fong (2005) suggest an **experimental-causal-chain design** (also called double

randomization, see MacKinnon, Fairchild, and Fritz 2007; for an example, see Deval et al. in press). Here, two experiments are necessary to investigate mediation: first, a randomized experiment to examine the relationship between the independent variable and the mediator, and, second, an experiment investigating that the mediator affects the dependent variable. Although Bullock, Green, and Ha (2010) agree with the drawbacks of measurement-of-mediation and demonstrate that it is susceptible to biases (e.g., error terms in estimations of the mediator and the dependent variable are likely to covary), they also explain several limitations of the suggested experimental-causal-chain design. In particular, they argue that the experimental-causal-chain design produces inaccurate estimates when the sample participants are differently affected by changes in the independent variable and the mediator. Further, since the mediators are often cognitive and not observable, noncompliance is difficult to assess (cf. Imbens and Rubin 1997). Spencer, Zanna, and Fong (2005) and Bullock, Green, and Ha (2010) point out that measuring the mediator instead of experimentally manipulating is superior when the measurement of the proposed psychological process is easy and manipulation of it is hard. We believe that this is the case in our proposed model. Direct manipulation of the activation a manager's consumer identity is likely to make this implicit process explicit, thus we decided to measure the activation of managers' consumer identity (cf. Spencer, Zanna, and Fong 2005). Future research, however, could try to find ways to manipulate the underlying process instead of measuring it.

Fifth, despite our best efforts to guarantee an appropriate degree of internal and external validity by running controlled online experiments with experienced marketing managers, it would be worthwhile to separately test whether the self-referential bias of cognitive empathy holds **in the laboratory and in field settings**. In particular, complementary data from the field should further our understanding of the robustness of the bias.

6.4.2 Avenues for Future Research

In this research, we documented the self-referential effect of managers' cognitive empathy on predicting consumer preferences. The current investigation seeds several

research opportunities. First, there are obviously **mixed views concerning the role of cognitive empathy** in the process of forming predictions of others' preferences. While our work shows that cognitive empathy facilitates the activation of a manager's consumer identity, other research has assumed the opposite, that is, it supports managers to abstract away from their personal consumption preferences (e.g., Decety and Jackson 2004; Decety and Lamm 2006; Preston and de Waal 2002). It seems to be worthwhile to continue building an understanding on the circumstances when cognitive empathy does increase or, respectively, decrease the influence of the personal position. For instance, future research could investigate how the context (e.g., managerial decision making vs. consumer decision making) and characteristics of the preference task (cf. Brenner and Bilgin 2011; Gilovich 1990; chapter 2.2) affect individuals' processing of predicting preferences of others.

Second and relatedly, one remaining question is the **accuracy of self-referential preference predictions** (e.g., Hoch 1987; Lemay, Pruchno, and Feild 2006; Zaki, Bolger, and Ochsner 2008; see also Mezias and Starbuck 2003). It appears that managers' personal consumption preferences are questionable predictors of consumer preferences. Hoch (1988), for instance, finds that managers could have increased accuracy in predicting the activities, interests, and opinions of the consumer by limiting the projection of their personal attitudes. Similarly, in the context of predicting the preferences of familiar others, Lerouge and Warlop (2006; also Lemay, Pruchno, and Feild 2006) find that personal preferences are often weak predictors for their partner's preferences. Hoch (1987) qualifies such findings of a detrimental effect of projection by arguing that the accuracy of self-referential preference predictions depends on two factors, on the one hand the similarity between the manager's consumer identity and the target consumer and, on the other hand, the predictive validity of other information beyond personal consumption preferences. In our case, however, cognitive empathy facilitates self-referential preference prediction independently from the perceived similarity to the consumers. Also, our findings provide initial support for a negative effect of cognitive empathy on the use of other information (i.e., market research). Thus, one direction for future research lies in the examination of the accuracy of self-referential preference predictions.

Third, more work is needed to explore **moderators and boundary conditions** of the self-referential effect of cognitive empathy. In particular, given the mixed views of the benefits of self-referential preference predictions, an interesting issue that arises is investigating factors that can reduce or increase the effect of cognitive empathy on managers' predictions. For instance, marketers have recently mentioned personal meetings with consumers as a key methodology for getting more familiar with consumers and their needs (PwC 2012). However, it has been shown that target familiarity can be detrimental in predicting consumer preferences because of inappropriate weighting of personal consumption preferences and other information beyond personal preference (Gershoff and Johar 2006; Lerouge and Warlop 2006). While our investigation is restricted to preference prediction for consumers a manager does not know directly, it would be valuable to examine whether personal interaction with consumers moderates the self-referential effect (cf. Alicke et al. 1995). Further, the heterogeneity of the target segment might play a moderating role in preference predictions. In this research, we used contexts in which there is a clear target group of consumers (e.g., Rolex' prestige oriented consumers in study 2, students in study 3). However, in some contexts, such homogeneity is not present. It seems likely that heterogeneity of consumers hampers managers to mentally put themselves into consumers' shoes (cf. Robbins and Krueger 2005), thus could reduce the influence of personal consumption preferences.

Fourth and related, since self-referential predictions are often weak predictors for consumer preferences, future research might investigate other **factors reducing self-referential preference predictions**. For example, it would be interesting to examine the effect of asking a manager to step into the shoes of another manager (and not the consumer) on the prediction of consumer preferences. In a recent study, Yaniv and Choshen-Hillel (2012) show that taking the perspective of another judge helps people form more accurate judgments. They argue that cognitive empathy with another member of an advisory board leads to an impartial processing mode, that is, participants make use of more information beyond their personal position, become less egocentric in their predictions, which in turn leads to more accuracy. Given these findings, research could investigate how taking the perspective of another manager influences a manager's consumer preference predictions.

Fifth, another potential direction for future research is the investigation of **individual characteristics of managers** that might moderate the effect of cognitive empathy on predicted consumer preferences. Although we controlled for individual characteristics such as age, gender, and education, there might be other potential variables that could affect the influence of cognitive empathy on a manager's prediction. For example, a manager's general style of thinking (e.g., Wierenga 2011) might affect the influence of cognitive empathy on the prediction process. Additionally, following a construal level view (Trope and Liberman 2010), future research might examine the effect of the level on which consumers are construed. For example, it has been found that when the social distance to another person increases, individuals construe the target person using more abstract, high-level concepts and consider more general information such as stereotypes (e.g., Idson and Mischel 2001; Zhao and Xie 2011). One may then interpret cognitive empathy as a factor contributing to social closeness. Consequently, less empathic managers could be more influenced by these stereotypes than by their personal position in predicting consumer preferences, which in turn may reduce the self-referential bias of cognitive empathy.

Sixth, because still little is known about the process of incorporating consumers' perspective in managers' decision making, we believe that **qualitative research** would be useful to enhance the understanding of the role of cognitive empathy. Interviewing "real" marketing managers about how they come up with predictions about consumers might generate new insights why managers increasingly use their personal preferences when they are instructed to put themselves in the shoes of consumers.

Seventh and more generally, given the finding that cognitive empathy can cause **neglecting objective market research** as shown in studies 1 and 2, it would also be interesting to investigate when discounting and less use of market research information can help managers to make better decisions. Sometimes, formal market research can be invaluable in providing insights into future consumer preferences as consumers are not aware of their needs (e.g., Narver, Slater, and MacLachlan 2004). Therefore, previous research has argued that managers should use their intuition in addition to formal market research (Blattberg and Hoch 1990; Dane and Pratt 2007; Dane, Rockman, and Pratt 2012; Dayan and Elbanna 2011). Future research could investigate

whether and when (e.g., in which stage of product development) managers' intuition and consciously neglecting results of market research might be superior.

In sum, since incorporating the consumer's view by putting oneself in the consumer's shoes surged in popularity in management practice, more research, including field research, is needed to fully elucidate the self-referential effect of cognitive empathy on managers' predictions of consumer preferences and its consequences to a company. In general, it is our hope that the current research provides a **rationale and stimulus for future investigation into managerial decision making** and, particularly, when and how bringing the consumer's perspective to the center of managerial decision making can rebound.

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07/1996- *06/2003*	**Erwin-Strittmatter-Gymnasium,** *Spremberg, Germany* Abitur (general qualification for university entrance)

ACADEMIC GRANTS & AWARDS

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