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Franziska Krüger

The Influence of Culture and Personality on Customer Satisfaction

An Empirical Analysis across Countries

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Franziska Krüger

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To My Dear Family

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Franziska Krüger

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List of Abbreviations

ACSI	American Customer Satisfaction Index
AGREE	Agreeableness
AIS	Automobile Involvement Scale
AVE	Average Variance Extracted
BBA	Bachelor of Business Administration
BF	Big Five
BFI	Big Five Inventory
BIF	Belief in Fate
BRA	Brazil
C/D	Confirmation/Disconfirmation
CEO	Chief Executive Officer
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CFF	Concern for Face
CHN	China
CMV	Common Method Variance
COL	Collectivism
CONS	Conscientiousness
CR	Composite Reliability
CS	Customer Satisfaction
CVSCALE	Individual Cultural Value Scale
DES	Desired Performance Level
DIS	Disconfirmation
eH	Experience Report with High Performance
eL	Experience Report with Low Performance
eM	Experience Report with Medium Performance
EMOSTA	Emotional Stability
ESOMAR	European Society for Opinion and Market Research
EXP	Expected Performance
EXTRA	Extraversion
FFM	Five-Factor Model
FRA	France
GER	Germany
H	Hypothesis
IMPORT	Importance
IND	Individualism
LTO	Long-Term Orientation
MAS	Masculinity
MBA	Master of Business Administration
MGCAF	Multigroup Confirmatory Factor Analysis
MINTOL	Minimum Tolerable Performance Level
n.a.	Not Answered/Not Available
NEO-FFI	Neo Five Factor Inventory
NEURO	Neuroticism
OPEN	Openness to Experience
PD	Power Distance
PDI	Power Distance Index
PERF	Expected Performance
PERF	Perceived Performance

R	Reversed Item
RMSEA	Root Mean Square Error of Approximation
RQ	Research Question
SATIS	Satisfaction
SD	Standard Deviation
SWE	Sweden
tH	Test Report with High Performance
TIPI	Ten-Item Personality Inventory
tL	Test Report with Low Performance
TLI	Tucker-Lewis Index
tM	Test Report with Medium Performance,
U.S.	United States of America
UA	Uncertainty Avoidance
UAI	Uncertainty Avoidance Index
USA	United Sates of America
VIF	Variance Inflation Factors
VSM	Value Survey Module
ZOT	Zone of Tolerance

List of Symbols

$	Dollar
S_{ijt}	Satisfaction from brand *j* for customer *i* at time *t*
U_{ijt}^{p}	Perceived quality from brand *j* for customer *i* at time *t*,
f_1 ()	Concave function for the impact of perceived quality on satisfaction, and
f_2 ()	Asymmetric loss function for the impact of confirmation on satisfaction.
μ_{ijt}^{e}	Expectation of brand *j*'s quality for customer *i* at time *t*
df	Degrees of freedom
E	Expectation
n	Sample size
N	Total number of respondents
p	Probability level
P, p	Performance
R^2	Coefficient of determination
S	Satisfaction
ß	Unstandardized beta coefficient
t	Time
χ^2	Chi-square

1 The Satisfied Customer in International Business - An Introduction

"We have set ourselves some very ambitious goals […]. First, we want to be the most attractive employer in the industry. Second, we want to achieve the highest degree of customer satisfaction and, third, a pre-tax return on sales of more than 8 percent. Once we have achieved these three goals, the fourth goal - that of becoming the world's largest automaker - will happen on its own."[1]

Martin Winterkorn, CEO Volkswagen Corporation

With the above statement the CEO of the Volkswagen Corporation, Martin Winterkorn, stressed the importance of customer satisfaction for a company's success. The statement from the year 2012 reflects the ambitious goal of the company to become the largest automobile marketer in the world and the required subordinate targets to achieve it. Satisfaction is, in his opinion, one of the essential milestones of Volkswagen's roadmap becoming the world's largest automaker. Comparing the aim to the situation of Volkswagen in the year 2014 the goal is not achieved yet. Volkswagen has to face several challenges especially in the, for Volkswagen very important, U.S. American market. The sales of Volkswagen in the USA went down. U.S. American customers have different needs and interests compared other countries and new car models, adapted to the wants and needs of North American consumers, need to be introduced.[2]

Volkswagen and the company's difficulties especially in the U.S. American market symbolize some of the recent challenges of the automotive industry. Even though the industry is in a stable and good state, there will be a shift in terms of the origin of profits and in the demand of the customers.[3] In 2012, industry profits went up to 54 billion Euros and further growth is forecasted. According to McKinsey & Company (2013) profits can rise up to 79 billion Euro by 2020 but with a shift in the source of earnings. The emerging markets and the U.S. will be the major source of global profits while profit growth will stagnate in Europe, Japan, or South Korea. While a global growth of the automobile industry is observable, the European market has to face a decline in profits. In 2007, the automotive industry recorded a profit of 15 billion Euros. In 2012, a loss of one billion Euros was recorded. McKinsey & Company outlined two reasons for the development: fewer people bought new cars and the industry suffers an overcapacity resulting in a strongly competitive environment keeping prices low.[4] In contrast, China is the world's largest growing automobile market. In 2012, 19 million vehicles were sold in China and growth will continue.[5] A growth in profits is observable also in North America. Profits grew from nine billion Euros in 2007 to 23 billion Euro in 2012.

[1] Spiegel.de (2012), p. 1.
[2] See Handelsblatt.com (2014), p. 1.
[3] See McKinsey & Company (2013), p. 7.
[4] See loc. cit., p. 7.
[5] See loc. cit., p. 13.

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Globally, an increase in global competition is observable in the automobile industry keeping prices low. Strategies have to be adapted to keep production costs low by exploiting economies of scale. At the same time, as customer demands are heterogeneous across countries, regional approaches are required to ensure sales.[6] For multinational corporations such as Volkswagen it is necessary to identify the customers' needs, wants, and expectations and to satisfy them. It is already a challenge in the home country but even more difficult to manage in an international context. Heterogeneous consumer values, needs and expectations lead to country-specific but also individual differences in customer expectations and the subjective perception of the performance of products and services.[7] Typically, such corporations implement expensive customer satisfaction measurement and management programs across national markets to be able to compare results and to plan corresponding measures to increase satisfaction. The global market research turnover grew to US $ 39.08 million in 2012 (ESOMAR, 2013).[8] Compared to 2009 (US $ 28.95 million)[9] the amount increased by $ 10.13 million in which is a worldwide growth of 35 percent. The amount of spending indicates the importance of international market data for multinational corporations. With the collected data corporations compare between countries and develop their international strategies. In this context, it is of utmost importance that the collected information is comparable across nations as inequivalent or biased data might lead to wrong strategic decisions resulting in financial loss.[10] Multinational corporations apply models of satisfaction formation as well as the tools for satisfaction measurement across nations and cultures in their international marketing studies. Oftentimes the tools are standardized, translated to various languages, and the results are directly compared across national markets.[11] The rather standardized approach generates multiple problems as underlying research models might vary across individuals with differing national backgrounds. The potential measurement problems in cross-national research settings are of major interest in current satisfaction research.[12] Recent studies in the field of consumer behavior, especially customer satisfaction, address the problem of measurement invariance, comparability of data across nations and cultures, and with that, the generalizablity of marketing models that were developed in a western context.[13] The comparability and cross-national applicability of consumer behavioral models is a challenge.[14] It is also a concern for models explaining customer satisfaction. Morgeson et al. (2011) argued that it is not confirmed if the process of satisfaction formation is the same across cultures, for example, due to cross-national differences of cultural, political, economic as well as socio-economic factors.[15] Especially the investigation of the effects of culture on customer satisfaction and its determinants is of interest in that context.[16] Also on the level of the individual consumer, the micro-level,

[6] See Boston Consulting Group (2013), p. 1.
[7] See Reimann/Lünemann/Chase (2008), p. 63; Morgeson et al. (2011), p. 199.
[8] See ESOMAR (2013), p. 6.
[9] See ESOMAR (2010), p. 8.
[10] See van Herk/Poortinga/Verhallen (2005), p. 352; Malhotra/Agarwal/Peterson (1996), p. 8; Ueltschy et al. (2004), p. 901.
[11] See Morgeson et al. (2011), p. 199.
[12] See Ueltschy et al. (2004), p. 901.
[13] See Morgeson et al. (2011), p. 200; Spreng/Chiou (2000), p. 831; Tam (2005), p. 779; Ueltschy et al. (2004), p. 901.
[14] See Gorn (1997), p. 7; Spreng/Chiou (2000), p. 831.
[15] See Morgeson et al. (2011), p. 200.
[16] See Morgeson et al. (2011), p. 213; Ueltschy et al. (2004), p. 901.

the potential influences of the cultural background as well as the personality are of concern in recent satisfaction literature.[17]

When investigating the potential effects of culture on human behavior Hofstede (1980) offered one of the most commonly used frameworks to operationalize national culture. It is widely accepted and used in psychology, sociology, management, or marketing studies.[18] Extensive research in the field of marketing exits, that uses his six cultural dimensions (individualism vs. collectivism, masculinity vs. femininity, power distance, uncertainty avoidance, and long-term vs. short-term orientation, indulgence vs. restraint) to explain patterns of consumer behavior on the national level.[19] With the development of Yoo, Donthu, and Lenartowicz's (2009, 2011) Cultural Value Scale (CVSCALE) the concept of individual cultural values was introduced and the measurement of Hofstede's cultural dimensions on the individual level was possible. Focusing research on the individual both, culture and personality, can be considered as variables influencing individual behavior[20] and the personality of an individual needs to be considered when researching behavioral patterns of individuals making consumption decisions.[21] With Costa and McCrae's (1985, 1992) five major domains or dimensions of normal adult personality[22] a measurement tool was provided that received wide acceptance in the personality literature.[23] These five dimensions, which include neuroticism, extraversion, agreeableness, openness to experience, and consciousness, or the 'Big Five', are widely applied to investigate the pattern of traits of individuals and their impact on behavior. Marketing literature suggests personality as an important variable influencing the behavior of consumers.[24] There is a need for research to integrate trait-theory in studies investigating aspects of consumer behavior.[25]

Research Objectives and Research Questions

Considering the potential challenges of cross-cultural research and the application of behavioral models across cultures the dissertation project follows the call for further research on the cross-cultural applicability of consumer behavioral models which were originally developed in western cultures.[26] The author attempts to attest the cross-cultural applicability of models explaining customer satisfaction and its determinants and to investigate if these variables are affected by individual cultural values and personality. The most prominent approach to explain the process of customer satisfaction formation is the Confirmation/Disconfirmation-Paradigm (C/D-Paradigm) introduced by Oliver (1980). According to the paradigm a conscious or unconscious comparison of the perceived performance of a product or service with the prior expected performance takes place. As an outcome of this comparison, the customer's expected performance is either confirmed or disconfirmed resulting in a certain level of satis-

[17] See Bosnjak et al. (2007), p. 587; Ueltschy et al. (2004), p. 901; Matzler et al. (2005), p. 32; Baumgartner (2002), p. 288.
[18] See Soares/Farhangmehr/Shoham (2007), p. 280; Usunier/Lee (2005), p. 12.
[19] See de Mooij (2011), p. 22.
[20] See Taras/Kirkman/Steel (2010), p. 433.
[21] See Blythe (2013), p. 25.
[22] See McCrae/John (1992), p. 177.
[23] See Block (2010), p. 2; Weiner/Greene (2008), p. 315; Matzler et al. (2005), p. 34; McCrae/John (1992), p. 176.
[24] See Mooradian/Olver (1997), p. 380.
[25] See Baumgartner (2002), p. 287; Mowen/Park/Zablah (2007), p. 590; Mooradian/Olver (1997), p. 380.
[26] See Gorn (1997), p. 8; Spreng/Chiou (2000), p. 837.

faction, delight, or dissatisfaction.[27] The expectations of an individual cannot be considered as a precisely defined point of performance level. They rather range from adequate or minimal tolerable to desired performance levels.[28] Hence, a range of performance levels exists that result in a state of confirmation of the initial expectations leading to a specific level of satisfaction. In the consumer behavior literature such range of performance levels is defined as the Zone of Tolerance (ZOT).[29] The ZOT is an important construct for explaining differences of customers' service or product expectations as well as differences in the reaction of individuals after perceiving a product's performance. So far, the C/D-Paradigm and the ZOT model were mainly applied in the context of services. There is a need for research to investigate the determinants of customer satisfaction for complex products, here the automobiles.[30]

As a response to the above presented need for research, two studies are presented in the following investigating the country-specific characteristics of the C/D-Paradigm and the ZOT and analyzing the potential effects of culture and personality on the models' variables in the context of high-involvement products. A multinational car manufacturer accompanied the research project and suggested a subcompact car as the research object for both studies. The two studies aim at answering the question, if multinational marketers can use the same strategy across countries to favorably influence customer satisfaction.

The following research questions are addressed:

Research Questions Study I

RQ I.1: Does the ZOT differ across countries?

RQ I.2: Which cultural dimensions affect the ZOT and how can the influence be characterized?

RQI.3: Which personality dimensions affect the ZOT and how can the influence be characterized?

Research Questions Study II

RQ II.1: Does the structure of the C/D-Paradigm differ across countries?

RQ II.2: Does culture influence a customer's expected performance, perceived performance, disconfirmation, and satisfaction?

RQ II.3: Does personality influence a customer's expected performance, perceived performance, disconfirmation, and satisfaction?

[27] See Oliver (1980), p. 461.
[28] See Woodruff/Cadotte/Jenkins (1983), pp. 296-304; Tse/Wilton (1988), pp. 204-212; Teas (1994), pp. 132-139.
[29] See Zeithaml/Berry/Parasuraman (1993), pp. 1-12; Johnston (1995), pp. 46-61.
[30] See Szymanski/Henard (2001), p. 32.

Structure of the Thesis

The thesis is organized in five chapters. Chapter 2 provides the theoretical background of the conducted studies. The relevant variables of this dissertation are introduced. The terms customer satisfaction as well as its related variables and constructs such as customer expectations (expected performance), performance, and disconfirmation are defined and discussed in Chapter 2.1. The theoretical explanations for the potential relationships between these variables and constructs are outlined in the second part of the chapter (Chapter 2.2). Chapter 2.3 introduces the concepts of culture (Chapter 2.3.1) and personality (Chapter 2.3.2).The link between these two concepts is illustrated in Chapter 2.3.3. To outline the development process of the research design of both studies(Chapter 2.4) the challenges of cross-national customer satisfaction research are presented in Chapter 2.4.1, followed by the description of the research process used in the thesis (Chapter 2.4.2). The Chapters 3 and 4 present the two studies. The research tools, study organization, data collection processes, the methods for data analysis as well as the results are presented in Chapter 3 (Study I) and Chapter 4 (Study II). Both chapters conclude with a discussion of the major findings, the limitations, and an outlook for future research. Chapter 5 concludes the thesis by summarizing the main findings and pointing out the theoretical and managerial implications. Potential directions for future research in the field of cross-cultural satisfaction are outlined. Figure 1-1 illustrates the structure of this dissertation thesis.

Figure 1-1: Structure of the Thesis

Step in Research Process	Chapter	Content
Problem Definition Theoretical Background & Research Design	Chapter 1	Customer Satisfaction Across Nations and Cultures - An Introduction
	Chapter 2	Theory on Customer Satisfaction and its Determinants
		Theory on Culture and Personality in the Context of Consumer Behavior
		Development the Cross-Cultural Research Design for Study I and II
Development of Hypotheses Research Instrument Sampling & Data Collection Data Analysis	Chapter 3	Study I: The Structure of the Tolerance Zone across Countries and Individuals
	Chapter 4	Study II: Individual Effects on the C/D-Paradigm - A Study Across Countries
Summary of the Results	Chapter 5	Summary of the Findings, Conclusion, and Outlook

2 Customer Satisfaction, Culture, and Personality – Definition of the Research Variables

The example of the automobile industry shows that customer satisfaction and dissatisfaction is of highest relevance in today's marketing practice and marketing research.[31] In modern marketing, customer satisfaction is considered as a key-element of a company's success. Satisfaction is directly linked to the performance of companies. Systematizing previous studies on the effects of customer satisfaction, Luo and Homburg (2007) distinguished four main categories of satisfaction outcomes:

- customer-related,
- overall performance-related,
- employee-related, and
- efficiency-related outcomes.

The majority of the discussed studies refer to *customer-related* outcomes which include behavioral intention and customer behavior. The major findings of the research stream are that customer satisfaction influences repurchase intentions, changes in frequency of use, loyalty/disloyalty, word-of-mouth communication, cross selling, and price sensitivity. Only few studies that examined the effects of customer satisfaction on *employee-related outcomes* were identified. For example Ryan, Schmit and Johnson (1996) found that satisfaction has a positive effect on employee satisfaction. Lou and Homburg (2007) showed that customer satisfaction enhances human capital performance (employee talent and manager superiority). Defining *efficiency-related outcomes* as rations of resource inputs and desirable outputs, Lou and Homburg (2007) found that satisfaction is positively related to promotion efficiency (ratio of the costs of promotion activities and the resulting sales). In the context of employee efficiency Anderson, Fornell, and Rust (1997) showed that customer satisfaction positively influences the sales to employee ratio. In terms of *overall performance-related outcomes* the literature indicates that there is a positive relationship between changes in customer satisfaction and changes in productivity as well as changes in profitability. Anderson, Fornell, and Rust (1997) especially outlined the combination of high customer satisfaction and high productivity as a strategy combination earning the greatest average Return on Investment in the automobile industry, among others.

Taking these findings into account, a focal point for any corporation should be the satisfaction of consumer needs resulting from, in the customers' perspective, more than adequate performance of a service or good. The following chapter will introduce and define the term customer satisfaction and its related constructs and models such as perceived expectations, perceived performance, and disconfirmation. The major theories explaining the emergence of satisfaction will be outlined followed by the introduction of culture and personality as variables influencing a consumer's behavior.

[31] See Morgeson et al. (2011), pp. 198-215; Szymanski/Henard (2001), pp. 16-35; Giese/Cote (2000), pp. 1-24; Yi (1990), pp. 68-123 for a review.

F. Krüger, *The Influence of Culture and Personality on Customer Satisfaction,*
International Management Studies, DOI 10.1007/978-3-658-12557-8_2,

2.1 Customer Satisfaction and its Related Variables and Constructs – Definitions and Findings from Literature

Churchill and Surprenant (1982) identified four relevant variables explaining the formation process of customer satisfaction. They include perceived expectations, perceived performance, disconfirmation, and satisfaction. According to Kanning and Bergmann (2009) *"... a customer's level of satisfaction (S) with a service or product is determined by the difference between the customer's expectation (E) and the customer's perception of the actual performance (P)."*[32], and can been expressed as:

$$S = P - E$$

The definition specifies perceived expectations and perceived performance as the main variables influencing satisfaction. A majority of studies discuss satisfaction as an outcome of the comparison between expectations and perceived performance.[33] Such a comparison results in a specific level of disconfirmation or confirmation that again leads to dissatisfaction, satisfaction, or even delight.

2.1.1 Customer Expectations

Before buying and consuming a product, individuals have a certain idea in mind how the good might for example taste, smell, feel, or function. This first idea of a product with its different attributes (product characteristics) is defined as a customer's (perceived) expectations or the expected performance of a good. The construct *customer expectation* is critically discussed in the satisfaction literature and a variety of definitions exists. Expectations serve as a comparison standard against which the perceived performance of a good is assessed. Fournier and Mick (1999) suggested four different types of expectations presented in Table 2-1.

[32] Kanning/Bergmann (2009), p. 377.
[33] See Giese/Cote (2000), p. 1.

Table 2-1: Definitions of Expectations in Customer Satisfaction Research

Type of Expectations	Definition	Selected Authors
Predictive or Will Expectations	A level of performance the consumer realistically expects from a given provider.	Tse/Wilton (1988); Boulding et al. (1993)
Desires	An individual's values (or needs, wants, desires) serving as comparison standards.	Westbrook/Reilly (1983)
Equity Expectations	What the consumer believes reasonably should occur given the product's/service's price.	Woodruff/Cadotte/Jenkins (1983); Oliver/Swan (1989)
Experience-Based Norms	The expected performance level derived from personal experiences or information received.	Woodruff/Cadotte/Jenkins (1983); Cadotte/Woodruff/ Jenkins (1987)

Source: Adapted from Fournier/Mick (1999), p. 6.

Predictive or will expectations correspond to the level of performance consumers realistically expect from a given provider in a given situation. It is the most likely performance of a product. Consumers form predictive expectations based on their perception of the average product performance which they are used to in that specific product category as well as based on advertising effects.[34] Westbrook and Reilly (1983) suggested *desires* as a comparison standard which includes product attributes that are considered as ideal or desirable by the consumer. *Equity expectations* or equitable performance represent a performance level that (from the customer's perspective) a consumer ought to receive given his or her costs or investments and the anticipated rewards for these costs. The comparison standard is influenced by the price paid for a product/service, the effort invested when choosing and buying a product or service as well as by previous product or service experiences.[35] *Experience-based norms* represent a comparison standard which individuals developed after prior product and/or related brand experience. These kinds of experiences cause the consumer to form norms or performance standards which the particular brand or product/service should be able to meet.[36]

Fournier and Mick (1999) stressed that the use of a specific type of a comparison standard depends on the situation and context of a research problem. Further, individuals may use multiple standards simultaneously when forming the satisfaction judgment.[37]

[34] See Tse/Wilton (1988), p. 205.
[35] See loc cit.
[36] See Woodruff/Cadotte/Jenkins(1983), p. 298.
[37] See Fournier/Mick (1999), pp. 9-12.

2.1.2 Performance

As consumers buy a certain product they observe its performance while using it. The performance of a good can be distinguished in objectively and subjectively perceived performance. The *objective performance* is the actual product performance which is measurable and hence, equal for all consumers. Still, the perception of the objective performance can vary from consumer to consumer.[38] Spreng (1999) distinguished between perceptual performance and evaluative performance in their definition of *perceived performance*. Perceptual performance is "*…the evaluationless cognitive registering of the product attributes, levels of attributes, or outcomes…*"[39]. Spreng offered the example of a stereo system to illustrate the definition. The consumer might be able to distinguish the amount of bass that stereo system offers and estimates the level of this product attribute (high or low). Such a performance perception depends on the abilities of the individual to sense a variation in the actual product performance (the ability to actually hear if the bass is high or not). The link to the individual's abilities differentiates the perceptual performance from the actual or objective, technically measurable performance. In contrast to that, evaluative performance is "*…an evaluative judgment of product attributes or the product outcomes that is made by assessing the ability of the product to meet one's needs or desires.*"[40] The definition of perceived performance includes the assumption that individuals differ in their preferences. If one person likes a lot of bass in a stereo system but another person does not like it, their perception of performance will be different not only because they might hear different things but also because they evaluate the performance differently.

The consumers' perception of quality has been subject to considerable research.[41] Reviewing this body of literature, Teas and DeCarlo (2004) grouped the underlying theoretical frameworks that explain the perception of quality into two groups: performance-based and standards-based frameworks. The performance-based definitions of perceived quality relate solely to the perception of performance without any comparison standards. In contrast, the standards-based theories apply reference points to which the perceived performance is compared to, such as expectations about a good.[42] Both approaches will be used in the following chapters to explain the process of satisfaction formation.

2.1.3 Disconfirmation

As described before, consumers form pre-purchase expectations about a product or service. With these expectations in mind they buy the good, use it, and while using it, perceive its performance. According to Churchill and Surprenant (1982) disconfirmation is the result of a discrepancy between the expectations about a product before the purchase and usage and the perceived performance after actually using it.[43] The magnitude of the discrepancy and the level of the resulting disconfirmation generate the corresponding individual level of satisfaction or dissatisfaction. According to the definition, expectations serve as a comparison

[38] See Yi (1990), p. 81.
[39] Spreng (1999), p. 101.
[40] Loc. cit., p. 102.
[41] See Teas/DeCarlo (2004), p. 272.
[42] See loc. cit.
[43] See Churchill/Surprenant (1982), p. 492.

standard of an individual which defines the base for evaluating the perceived performance. An individual's comparison standard is (1) confirmed when a product performance meets the expectations, (2) positively disconfirmed when the performance is better than expected, or (3) negatively disconfirmed when the performance is below the comparison standard.

2.1.4 Defining Customer Satisfaction

A wide variance in definitions of satisfaction can be found in the consumer behavior literature making it difficult to select an appropriate definition, to develop useful measures and to compare, and to interpret empirical satisfaction data.[44] Discrepancies already occur in the designation of the research variable. The expressions consumer satisfaction, customer satisfaction, or solely satisfactions are commonly used in the literature. The terms are rather interchangeable[45] and are used synonymously in the following.

A major source of inconsistency in the existing definitions is the argumentation whether satisfaction is an outcome or a process.[46] Table 2-2 offers an overview of selected definitions of satisfaction outlining the type of response to which satisfaction refers (e.g., based on evaluation, an affective or cognitive response), the focus (e.g., product or service) and the time scope (e.g., before, during, or after consumption). In the overview special attention is paid to the definitions relating to satisfaction in product-based researches.

Process-oriented definitions of satisfaction focus on the target-performance comparison of individuals. Fornell (1992) for example defined satisfaction as "*...an overall post-purchase evaluation.*"[47] Process-oriented definitions underpin the importance of the evaluation process and the corresponding elements included in the satisfaction or dissatisfaction judgment.

In terms of an **outcome,** satisfaction is considered as a result of an evaluation. In this context, for example Tse and Wilton (1988) defined satisfaction as "*The consumer's response to the evaluation of the perceived discrepancy between prior expectations (or some norm of performance) and the actual performance of the product as perceived after its consumption.*"[48] An evaluation process including a conscious or unconscious comparison of a certain comparison standard (e.g., expectations) to the perception of a product or service takes place. Thus, satisfaction is defined as the result of the comparison process and does not belong to the comparison itself.

According to Giese and Cote (2000), most definitions follow the idea of satisfaction as an outcome or response to an evaluation process.[49] The above mentioned definitions show that satisfaction is a kind of summary concept resulting from the influence of various variables. But again there are discrepancies in defining the nature of satisfaction. Satisfaction is, on the one hand, defined as a cognitive response.[50] That means that an active, conscious comparison

[44] See Giese/Cote (2000), p. 1.
[45] See loc. cit.
[46] See Giese/Cote (2000), p. 1; Yi (1990), p. 2.
[47] Fornell (1992), p. 11.
[48] Tse/Wilton (1988), p. 204.
[49] See Giese/Cote (2000), p. 1.
[50] SeeTse/Wilton(1988), p. 206.

takes place resulting in a certain degree of satisfaction. On the other hand, satisfaction can be an affective result meaning that it is based on emotions and feelings rather than an objective evaluation.[51]

To systematize the existing definitions and to offer a framework for future research Giese and Cote (2000) identified three general components the examined definitions had in common:[52]

1. Customer satisfaction is a response that can be emotional (affective) or cognitive and that varies in intensity.
2. The response pertains to a particular focus, for example, expectations, product, or consumption experience.
3. The response is time specific, for example, after consumption and experience.

Applying these three aspects of satisfaction, researchers have the possibility to clearly outline and define satisfaction as a research variable. As one aim of the research project is to identify potential differences of the structure of the process of satisfaction formation satisfaction will be defined as follows:

Customer satisfaction is (1) the result of an evaluation processes with cognitive and affective elements (2) comparing expectations with the perceived performance (3) after the purchase and use of a product.

[51] See Woodruff/Cadotte/Jenkins (1983), p. 297.
[52] See Giese/Cote (2000), p. 14.

Table 2-2: Selected Definitions of Customer Satisfaction

Source	Definition	Response Type	Focus	Time
Hill/Roche/Allen (2007)	The feeling a customer has about the extent to which their experiences with an organization have met their needs (p. 32)	Overall evaluation	An organization	During or after experience
Hill/Alexander (2006)	A measure of how a total product performs in relation to a set of customer requirements (p. 2)	Overall evaluation	Product performance compared to some pre-purchase standard	During or after consumption
Halstead/Hartman/ Schmidt (1994)	A transaction-specific affective response resulting from the comparison of product performance to some pre-purchase standard (p. 122)	Affective response	Product performance compared to some pre-purchase standard	During or after consumption
Mano/Oliver (1993)	(Product satisfaction) is an attitude - like post-consumption evaluative judgment (Hunt, 1977) varying along the hedonic continuum (Oliver, 1989; Westbrook/Oliver 1991) (p. 454).	Attitude - evaluative judgment varying along the hedonic continuum	Product	Post-consumption
Fornell (1992)	An overall post-purchase evaluation (p.11).	Overall evaluation	Post-purchase perceived performance compared with pre-purchase expectations	Post-purchase
Oliver (1992)	Examined whether satisfaction was an emotion. Concluded that satisfaction is a summary attribute phenomenon coexisting with other consumption emotions (p. 242).	Consumption emotions	Product attributes	During consumption
Westbrook /Oliver (1991)	A post-choice evaluative judgment concerning a specific purchase selection (Day, 1984) (p. 84).	Evaluative judgment	Specific purchase selection	Post-choice
Tse/Wilton (1988)	The consumer's response to the evaluation of the perceived discrepancy between prior expectations (or some norm of performance) and the actual performance of the product as perceived after its consumption (p. 204).	Response to the evaluation	Perceived discrepancy between prior expectations (or some norm of performance) and the actual performance of the product	Post-consumption

Table 2-2: Selected Definitions of Customer Satisfaction (cont.)

Source	Definition	Response Type	Focus	Time
Cadotte/Woodruff/ Jenkins (1987)	Conceptualized as a feeling developed from an evaluation of the use experience (p. 305).	Feeling developed from an evaluation	Use experience	During consumption
Westbrook (1987)	Global evaluative judgment about product usage/consumption (p. 260).	Global evaluative judgment	Product usage/ consumption	During consumption
Day (1984)	The evaluative response to the current consumption event; the consumer's response in a particular consumption experience to the evaluation of the perceived discrepancy between prior expectations (or some other norm of performance) and the actual performance of the product perceived after its acquisition (p. 496).	Evaluative response	Perceived discrepancy between prior expectations (or some other norm of performance) and the actual performance of the product	Current consumption event; a particular consumption experience
Churchill/Surprenant (1982)	Conceptually, an outcome of purchase and use resulting from the buyer's comparison of the rewards and costs of the purchase relative to anticipated consequences. Operationally, similar to attitude in that it can be assessed as a summation of satisfactions with various attributes (p. 493).	Outcome	Comparison of the rewards and costs of the purchase relative to anticipated consequences	Implies after purchase and use
Swan/Trawick/ Carroll (1982)	A conscious evaluation or cognitive judgment that the product has performed relatively well or poorly or that the product was suitable or unsuitable for its use/purpose. Another dimension of satisfaction involves affect of feelings toward the product (p. 17).	Conscious evaluation or cognitive judgment	Product has performed relatively well or poorly or that the product was suitable or unsuitable for its use/purpose	During or after consumption
Oliver (1981)	An evaluation of the surprise inherent in a product acquisition and/or consumption experience. In essence, the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience (p. 27).	Evaluation	Disconfirmed expectations coupled with the consumer's prior feelings	Product acquisition and/or consumption experience

2.2 Theoretical Approaches Explaining Customer Satisfaction

Perceived expectations, perceived performance, and disconfirmation are considered as key-variables explaining the emergence of satisfaction.[53] Researchers in consumer psychology and marketing provide theoretical explanations of the relationships between these variables. Table 2-3 provides an overview of major psychological theories applied in the satisfaction literature in order to explain product evaluation and satisfaction formation of consumers. These theories will be discussed in the following.

Table 2-3: Theories on the Formation of Customer Satisfaction

Theory	Content	Major Authors
Adaptation Level Theory	Satisfaction is an additive combination of an adapted standard (the expectation level) and the resulting disconfirmation.	Helson (1948, 1959); Oliver (1980)
Assimilation Theory	In case of under or over fulfillment of expectations customers adapt their expectations or performance perception ex-post to achieve satisfaction at confirmation level.	Festinger (1957); Hovland/Harvey/Sherif (1957); Pieters/Koelemeijer/Roest (1995)
Contrast Theory	If a disparity between expectations and perceived performance exists the resulting contrast between these variables and its surprise effect will cause the individual to exaggerate the disparity.	Howard/Sheth (1969); Oliver (1980)
Assimilation-Contrast Theory	The magnitude of the discrepancy between expectations and perceived performance determines if an assimilation or contrast effect occurs.	Hovland/Harvey/Sherif (1957); Sherif/Hovland (1961)
Generalized Negativity Theory	Any discrepancy between expectations and performance will be perceived as negative.	Carlsmith/Aronson (1963)
Prospect Theory	The nonfulfillment of expectations will lead to a higher degree of dissatisfaction than the corresponding overfulfillment of expectations would lead to satisfaction.	Kahneman/Tversky (1979); Anderson/Sullivan (1993)

Source: Adapted from Oliver/Yau (1994), p. 15; Yi (1990), pp. 78-82; Anderson/Sullivan (1993), pp. 126-133.

2.2.1 Adaptation Level Theory

According to Oliver (1980), expectations form a frame of reference, which is used for a comparative judgment resulting in satisfaction or dissatisfaction. Product performance that is perceived poorer (better) than expected is rated below (above) this reference point. Such understanding of expectations goes back to Helson's (1948) adaptation level theory. According to the theory, an individual perceives a certain stimuli only in reference to an adapted

[53] See Churchill/Surprenant (1982), p. 492.

standard. "*The standard is a function of perceptions of the stimulus itself, the context, and psychological characteristics of the organism.*"[54] The adaption level serves as a base for comparing a stimulus, for example, product performance in the satisfaction formation process. Applying the theory to customer satisfaction, Oliver (1980) stated that expectations are influenced by the following factors:[55]

1) the product and the individual's prior experiences with the product plus related brand associations and symbolic elements,
2) the context of product experience including communication content from salespeople and referents and
3) individual characteristics such as persuasibility and perceptual distortion.

Positive or negative disconfirmation is determined by the degree of post-consumption deviation from the adaptation level. If the product performance falls short of expectations, the individual is negatively disconfirmed whereas a performance better than expected will lead to positive disconfirmation. As a result, satisfaction is the additive combination of the expectation level and the experienced level of disconfirmation.

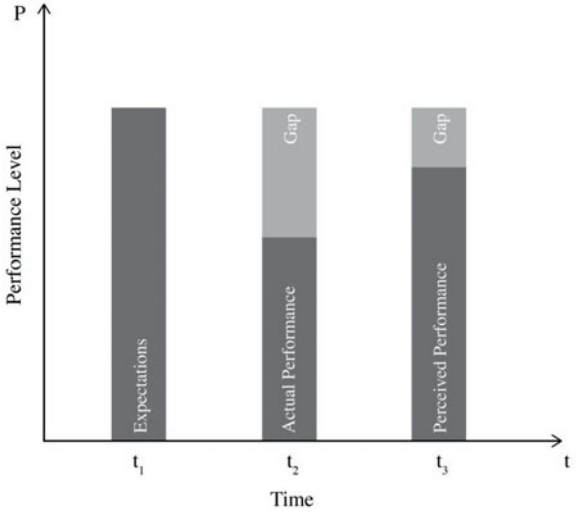
2.2.2 Assimilation Theory

As defined before, expectations serve as a comparison standard against which individuals compare the performance they receive and perceive. Still, various studies have shown that also direct effects of expectations on perceived performance and satisfaction exist.[56] According to Hovland et al.'s (1957) assimilation theory, individuals tend to adjust their performance perception according to their prior expectations. If one has high pre-consumption expectations of a product he/she will perceive the performance better than it actually is. The theory builds on the assumptions of Festinger's (1957) theory of dissonance, which states that individuals strive for cognitive consistency or consonance.

The state of consonance is achieved if, for example, the expectations of the individual correspond to the actual experience. If a discrepancy between expectations and reality exists (dissonance) the individual will be motivated to do anything to decrease the dissonance, meaning to achieve consonance. Applied to the context of customer satisfaction the assimilation theory implies that an individual is motivated to try to reduce the gap between expected performance and perceived performance.[57] Figure 2-1 serves as an illustration of the assimilation effect. If the ex-ante expectations are high (t_1) the individual is likely to adapt his or her performance perception to the prior expectations. After experiencing the actual performance (t_2) the individual perceives the performance better than it actually is (t_3). The individual strives for keeping the gap between expectations and performance perceptions small resulting in a positive relationship between expected performance and perceived performance.

[54] Oliver (1980), p. 461.
[55] See loc. cit.
[56] See Pieters/Koelemeijer/Roest (1995), p. 18; for an overview see Yi (1990), pp. 68-123.
[57] See Pieters/Koelemeijer/Roest (1995), p. 18.

Figure 2-1: Assimilation Effects



The higher/lower the expectations are, the higher/lower is the perceived performance. Pieters, Koelemeijer, and Roest (1995) also found that expectations have a positive effect on the satisfaction judgment. Hence, customers with high expectations also tend to have a higher satisfaction level.

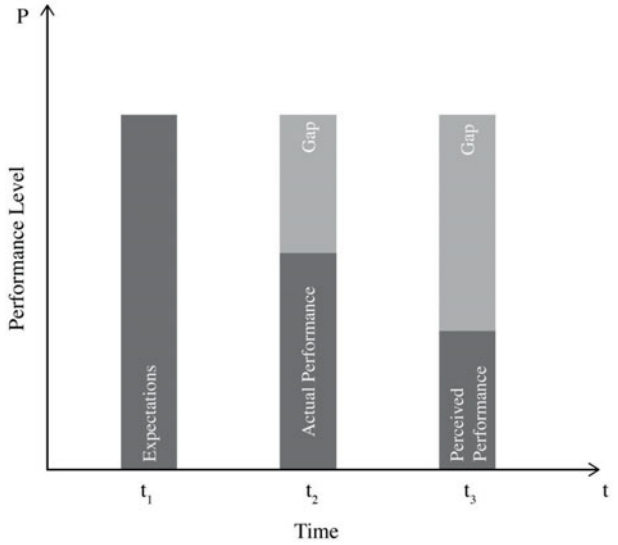
2.2.3 Contrast Theory

Compared to the assimilation theory, the contrast theory presumes that a difference between expectations and perceived performance (the disconfirmation of expectations) will result in an exaggeration of the disparity by the consumer. In this context perceived performance is considered as a function of disconfirmation.[58]

Disconfirmation is defined as performance minus expectations. A positive disconfirmation occurs when the performance exceeds expectations. In case of a discrepancy between expectations and the perceived performance the individual will increase the gap.[59] As presented in Figure 2-2 the individual has high expectations in t_1.

[58] See Yi (1991), p.82.
[59] See Hovland/Harvey/Sherif (1957), p. 245.

Figure 2-2: Contrast Effects



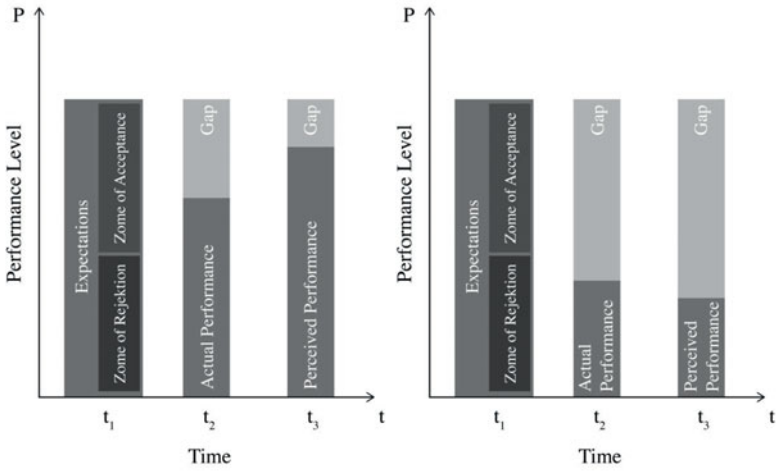
After experiencing the performance level, which is below the expected level (t_2), the individual is negatively surprised in t_3 and evaluates the perceived performance worse than the actual performance is.[60] In the context of customer satisfaction formation, such an exaggeration of the negative evaluation of the performance will lead to an even lower level of customer satisfaction. If the actual performance is higher than the ex-ante expectations (positive disconfirmation) the perceived performance will be even higher. To sum up, a positive disconfirmation enhances product perceptions whereas perceived performance is lowered with negative disconfirmation.

2.2.4 Assimilation-Contrast Theory

The assimilation-contrast theory, as the name suggests, combines the two aforementioned theories of assimilation and contrast. The theory assumes that latitudes of acceptance and rejection in an individual's perception exist.[61]

[60] See Blackwell/Miniard/Engel (2001), p. 175.
[61] See Hovland/Harvey/Sherif (1957), p. 245.

Figure 2-3: Effects of the Assimilation-Contrast Theory



2-3a 2-3b

The magnitude of the discrepancy between expectations and perceived performance determines if an assimilation or contrast effect occurs. Figure 2-3a illustrates that, if the difference between expectations and perceived performance is small enough to fall into the individual's zone of acceptance, the individual will assimilate the perceived performance according to his or her expectations.[62] High expectations in $t_1$will lead to a better evaluation of the perceived performance in t_3 after experiencing the actual performance in t_2. If the discrepancy between expectations and performance is so large that it falls within the zone of rejection (Figure 2-3b), contrast effects occur resulting in even worse perceived performance. According to Sherif and Hovland (1961) the application of a certain effect type depends on the level of ego-involvement, which is linked to the characteristics of the product or service under investigation. Individuals have a high degree of ego-involvement when the product or service has high importance, personal meaning, or significant consequences for the individual.[63] A high degree of ego-involvement leads to a larger zone of rejection and to greater assimilation and contrast effects.

2.2.5 Generalized Negativity Theory

The generalized negativity theory goes back to Carlsmith and Aronson (1963). According to the theory, any kind of discrepancy between expectations and performance will be perceived negatively. An individual strives to achieve a confirmation between what he or she expects and later receives as performance. Negative as well as positive disconfirmation of expectations will lead to lower perceived performance. In his literature review Yi (1990) found that

[62] See Yi (1990), p. 83.
[63] See loc. cit., p. 85.

the theory only holds under specific conditions. Oliver (1977) provided support for the theory in cases of high ego-involvement, commitment and interest in the product. This means that individuals who consider a specific product as very important and who invest a lot of effort and emotions when choosing that product might be disappointed and dissatisfied when it performs other than expected.

2.2.6 Prospect Theory

Defining customer satisfaction as a function of perceived quality (perceived performance) and disconfirmation, Anderson and Sullivan (1993) formulated perceived quality as the utility derived from consumption. They stated that satisfaction is a result of the utility plus any gain or loss derived from the difference between expected product utility and perceived product utility.

Mathematically it can be expressed as:[64]

$$S_{ijt} = f_1\left(U_{ijt}^{p}\right) + f_2(U_{ijt}^{p} - \mu_{ijt}^{e})$$

$$f_1(0) = 0, \qquad f'_1 > 0, \qquad f''_1 < 0,$$

$$f_2(0) = 0,\ f'_2 > 0,\ f''_2 \begin{cases} > 0 \ if\ U_{ijt}^{p} - \mu_{ijt}^{e} < 0 \\ < 0 \ if\ U_{ijt}^{p} - \mu_{ijt}^{e} > 0 \end{cases},$$

with

S_{ijt}= satisfaction from brand *j* for customer *i* at time *t*,

U_{ijt}^{p} = perceived quality from brand *j* for customer *i* at time *t*,

μ_{ijt}^{e} = expectation of brand *j*'s quality for customer *i* at time *t*

f_1 () = concave function for the impact of perceived quality on satisfaction, and

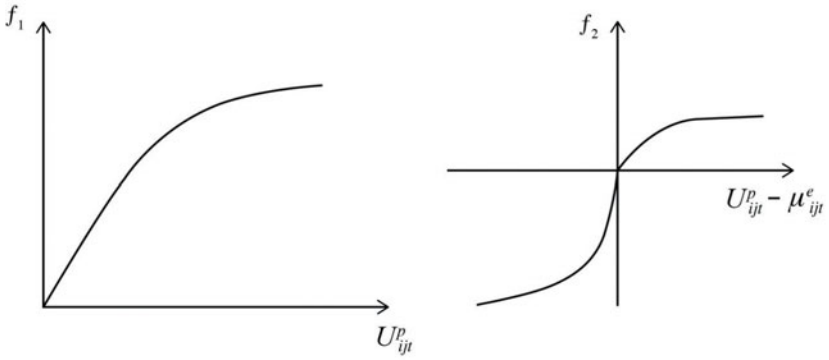
f_2 () = asymmetric loss function for the impact of confirmation on satisfaction.

The first term of the satisfaction function, $f_1\left(U_{ijt}^{p}\right)$, describes a direct effect of the perceived quality U_{ijt}^{p} on satisfaction, S_{ijt}, assuming a confirmation of expectations (U_{ijt}^{p}=μ_{ijt}^{e}). As illustrated in Figure 2-4a, the direct effect increases at a decreasing rate. In case of greater (smaller) perceived quality than the expected quality, satisfaction is a function of the direct effect of perceived quality $f_1\left(U_{ijt}^{p}\right)$ plus a gain (loss), $f_2(U_{ijt}^{p} - \mu_{ijt}^{e})$, due to the difference between what the individual expected and actually received. Anderson and Sullivan (1993) explained the effect with a moment of surprise for the individual that finds his/her expectations not confirmed. According to Kahneman and Tversky's (1979) Prospect Theory, individuals are loss avers implying that individuals evaluate a loss, compared to a reference point, stronger negatively, than a gain in the same size positively. Applied to customer satisfaction it implies that a nonfulfillment of expectations($U_{ijt}^{p} - \mu_{ijt}^{e} < 0$) will lead to a higher degree of dissatisfaction than the corresponding overfulfillment of expectations ($U_{ijt}^{p} -$

[64] See Anderson/Sullivan (1993), p. 128.

$\mu_{ijt}^{e} > 0$) would lead to satisfaction (Figure 2-4b). Anderson and Sullivan (1993) confirmed the relationship between perceived quality and satisfaction as well as between disconfirmation and satisfaction.

Figure 2-4: Illustration of the Satisfaction Function



2-4a 2-4b

2.3 Defining Culture and Personality in the Context of Consumer Behavior

In the following, the concepts of culture and personality are defined and discussed with respect to their potential influence on consumer behavior and with special attention to customer satisfaction.

2.3.1 Culture and its Operationalization

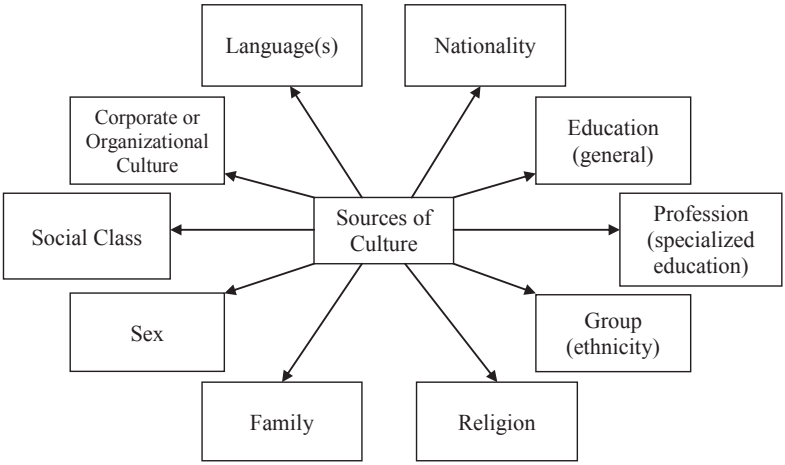
"*Culture is a fuzzy concept raising definitional, conceptual, and operational obstacles for research on it and on its consumer behavior influences*."[65] Due to the fuzziness resulting from the complexity of culture as a conceptual approach, cross-cultural research in international consumer behavior is challenging. At the same time, culture is considered as one of the broadest influences on human behavior[66] and an extensive body of literature examines the multitude of potential effects of culture on consumer behavior.[67] The critical assessment of the literature stream addresses the problems related to the definition, operationalization, and measurement of culture.[68]

Culture is a system of values and norms[69] which are shaped through various determinants as illustrated in Figure 2-5. The figure shows some of the different sources of the cultural background of an individual. *Religion and the ethnicity* are important determinants of culture. By

[65] Soares/Farhangmehr/Shoham (2007), p. 283.
[66] See loc.cit., p. 277.
[67] See, e.g., Soares/Farhangmehr/Shoham (2007), pp. 277-284; Zhang/Beatty/Walsh (2008), pp. 213-220.
[68] See Zhang/Beatty/Walsh(2008), pp. 221-222.
[69] See Usunier/Lee (2005), p. 11.

defining specific values, norms, and attitudes of individuals they also shape their behavior.[70] Religion can be defined as a system of shared beliefs and rituals. Ethnicity, or the ethical system, is the set of moral principles or values that are used within groups to guide and shape behavior.[71] The *family background* in terms of the role of parents and the relationship to ancestors also shape values and norm of individuals. It is also the case for the perception of specific *gender roles*. This refers for example to the organization of the relationship between women and men within groups or the division of labor and roles. The *social organization (definition of socials classes)* of a society defines cultural values and norms. It refers, on the one hand, to the recognition of the individual as the basic social unit compared to the appreciation of the group.[72] On the other hand, the perception of social classes or caste systems within societies shapes the value system of individuals.[73]

Figure 2-5: Sources of Culture



Source: Usunier/Lee (2005), p. 11.

Education and the *profession* of individuals as the result of specialized education also shape the cultural value system of a society. Education represents one of the most important assets of a society.[74] Values and norms are passed on directly or indirectly via teaching the basic facts of a social and political nature of a society. Being later part of *organizations or corporations* individuals need to learn and adapt to existing norms, values and standards which again influences behavior.[75] Also *nationality* is considered as a source of culture. Even though there is a natural heterogeneity between all individuals, Sivakumar and Nakata (2001) observed that "*within any nation-state there is a modal set of values. Other values may co-exist, but one set*

[70] SeeUsunier/Lee (2005), p. 10.
[71] See Hill (2009), p. 96.
[72] See loc. cit., p. 92.
[73] See Hill (2009), p. 92; Usunier/Lee (2005), p. 11.
[74] See Hill (2009), p. 107.
[75] See Usunier/Lee (2005), p. 11.

is more common and thus broadly descriptive of the society as whole. This value set constitutes a country's 'national culture'."[76] With this definition the authors followed Hofstede's (1980, 1991) framework that helps to explain differences between national cultures. According to Hofstede culture is "*the collective programming of the mind which distinguishes the members of one group or category of people from those of another.*"[77]

Hofstede (1980, 2001, 2005, 2010) offered one of the most commonly used frameworks of national culture employed in psychology, sociology, management, or marketing.[78] In his empirical study he surveyed respondents from 53 countries resulting in 116.000 questionnaires responses. The questionnaire-based surveys were conducted twice at IBM. Applying statistical methods, Hofstede identified four dimensions of culture, which are individualism versus collectivism (COL), masculinity versus femininity (MAS), power distance (PDI), and uncertainty avoidance (UAI). This four dimensional approach was constantly extended. In a follow-up study with Michael Bond a fifth dimension called long-term versus short-term orientation (LTO) was added.[79] In a next step, the sixth dimension indulgence versus restraint (IND) was identified.[80] The dimensions are measured on a scale between 0 and 100.

Individualism versus Collectivism

Societies that score high in collectivism are rather 'we'-conscious and collectivist interest prevails.[81] Individuals in those societies show a rather introverted behavior, avoid confrontations, and seek harmony.[82] Social networks and communication within a group are the main sources of information. High context communication dominates in these countries, implying that individuals do not only rely on the spoken language.[83] Unarticulated moods, gestures, and clues are an essential part of communication. Compared to that, low-context cultures rely on the spoken language with a need for formal communication.

Masculinity versus Femininity

A society is considered as masculine *"…when emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life."*[84] Societies scoring high in masculinity find challenge, earnings, recognition, and advancement important. Big and fast are considered beautiful. Clear gender specific characteristics are defined. Men should be assertive, ambitious, and tough were as women are considered as caring and gentle. A maximum of emotional and social role differentiation between the genders is observable.[85]

[76] Sivakumar/Nakata (2001), p. 559.
[77] Hofstede (2001), p. 9.
[78] See Soares/Farhangmehr/Shoham (2007), p. 281; Usunier/Lee (2005), p. 12.
[79] See Hofstede/Bond (1988), pp. 5-21; Hofstede (1991), pp. 165-166.
[80] See Hofstede/Hofstede/Minkov (2010), p. 280.
[81] See Hofstede/Hofstede/Minkov (2010), p. 130.
[82] See loc. cit, p. 116.
[83] See Hall/Hall (1990), p. 6.
[84] Hofstede/Hofstede/Minkov (2010), p. 140.
[85] See loc. cit., p. 155.

Power Distance

Power distance refers to the extent to which unequal distribution of power is accepted in a society.[86] Inequalities among people are expected and desired in countries scoring high in power distance. Status is be balanced with restraint and the dependence of less powerful people is accepted. Hierarchy means existential inequality in high power distance countries.

Uncertainty Avoidance

Uncertainty avoidance describes *"...the extent to which the members of a culture feel threatened by ambiguous or unknown situations."*[87] Members of societies that score high in uncertainty avoidance show a need for clarity and structure, are more resistant to changes, and are rather task oriented compared to those societies scoring low in uncertainty avoidance. Law and order are essential in high uncertainty avoidance countries. In those societies more people feel unhappy and in personality tests, higher scores on neuroticism can be observed.[88]

Long-Term versus Short-Term Orientation

The dimension long-term versus short-term orientation influences the perception of time scales. In cultures that are characterized by low long-term orientation short-term virtues are taught. Quick results and immediate gratification of needs are expected. Status is not a major issue in relationships. Personal steadiness and stability are considered as important and spending is common in short-term orientation countries.[89]

Indulgence versus Restraint

Societies that score high in indulgence show tendencies *"...to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun."*[90] These societies show higher percentages of very happy people, higher levels of optimism and leisure is important. Individuals are more extroverted and fewer persons show tendencies of neuroticism.[91]

Even though Hofstede's approach has been *"...enthusiastically praised..."*[92] it has been simultaneously "*...acidly criticized...*"[93]. One shortcoming of Hofstede's work is that his finding built upon data that was firstly collected between 1963-73 and later again in the eighties. Thus, eventually the findings might be outdated already.[94] In that context Steel and Taras (2010) stated that culture might change over time. They found significant effects of individual and country characteristics on personal cultural values and argue that, when measuring culture, answers might reflect the current situation and attitudes of individuals.[95] In his early

[86] See Hofstede/Hoftsede/Minkov (2010), p. 61.
[87] Hofstede/Hoftsede/Minkov (2010), p. 191.
[88] See loc. cit., pp. 203-208.
[89] See loc. cit., pp. 239-243.
[90] Loc. cit., p. 281.
[91] See loc. cit., p. 289.
[92] Soares/Farhangmehr/Shoham (2007), p. 281.
[93] Loc. cit.
[94] See loc. cit.
[95] See Steel/Taras (2010), p. 212.

studies Hofstede (2001) stressed that cultural value systems are stable over time and are carried from one generation to another. In his later work, he also found that specific aspects and layers of the cultural value system change over time.[96] A shortcoming of Hofstede's approach is that the dimensions are used to stereotype individuals according to their national background as scores are calculated on a country level and not on the individual level.[97] This is especially a problem in large countries, for example India, China, or Russia, as more than one cultural value system might be observable within one country. Further, scholars criticized that the identification process of the dimensions is rather empirically driven than theoretically derived and that data was collected within one corporation only. Therefore, the data collection method might have left too much room for chance.[98]

Although Hofstede originally applied his framework to human resource management, it has been extensively used in marketing studies. The cultural background influences individuals in their perception of their environment and their interaction with others. It is also the case in their role as consumers.[99] Research in the field of cross-cultural consumer behavior intends to identify culture-bound or culture-free patterns of consumer behavior. Various studies exist that confirm the link between culture and selected aspects of consumer behavior, that is, culture-bound patterns of behavior.[100] For example, the cultural dimensions have been found to influence innovativeness, service performance, advertising appeals, information exchange behavior, or sex role portraits.[101]

In general, literature distinguishes between studies exploring the impact of culture on the actual behavior in terms of characteristics of the consumer (personality, identity, and lifestyle) and processing.[102] Processing is relevant before, during, and after purchases. Processes that are observable include information processing (e.g., perception, attitude, decision making) and emotional processing (e.g., motivation, impact of reference groups). Per definition, satisfaction belongs to processing. After the consumer makes a choice based on available information, further information is generated by using the product. The consumer compares the information or perception of the product to his or her prior expectations and the result of this comparison process leads to satisfaction or dissatisfaction. The underlying dissertation thesis will discuss and investigate the potential impact of Hofstede's cultural dimensions on customer satisfaction and its related constructs.

Next to the cultural background of an individual also personality is considered as an explanatory variable in the research on the behavior of individuals in their role as consumers that make consumption decisions.[103]

[96] See Hofstede/Hofstede/Minkov (2010), pp. 18-20.
[97] See Spector/Cooper/Sparks (2001), p. 271.
[98] See loc. cit.
[99] See Morgeson et al. (2011), p. 200.
[100] See, e.g., Morgeson et al. (2011), p. 200; Zhang/Beatty/Walsh (2008), pp. 214-217; Soares/Farhangmehr/Shoham (2007), pp. 281-282, for a review.
[101] SeeSoares/Farhangmehr/Shoham (2007), p. 281.
[102] See de Mooij (2011), p. 22.
[103] See Blythe (2013), p. 25.

2.3.2 Personality and the Five-Factor-Model

Personality is a multidimensional concept determining patterns of individual behavior.[104] It can be considered as an interrelated set of basic characteristics, habits and actions of individuals which make them distinctive in relationship with others. Personality *"...is the collection of individual characteristics that make a person unique, and which control an individual's response and relationship with the external environment."*[105] Several subordinate processes such as attitude, motivation or perception are included in the construct personality. According to Blythe (2013), personality has the following features:[106]

- Personality is integrated: all factors that form personality act on each other and form an integrated whole.
- Personality is self-serving: the characteristics of personality facilitate the attainment of needs and goals; it drives the individual to meet his or her own goals.
- The total sum of personal characteristics is bound to an individual and hence unique in degree, intensity as well as in presence: each individual is different.
- Personality is overt: the personality can be observed and deducted from a person's behavior.
- Personality is consistent: when an individual's personality has been established, it is rather constant over time.

The elements or components that form personality are the so called traits.[107] These traits are enduring factors of personality or pre-dispositional attributes that exert influences on behavior of individuals. To answer the need for a systematization of the great number of potential traits or characteristics of personality, a lexical approach was used the starting point in researching domains of personality.[108] In that approach language was considered as a source of attributes for personality as most of the relevant characteristics of personality have been encoded in vocabulary. In the English language 18.000 expressions have been identified that describe human personality.[109] By different measures of data aggregation five broad dimensions of personality were identified. This was the emergence for the so called Five-Factor-Model (FFM) of personality.[110]

Still, a common model of personality measurable across research disciplines was required. Following the call for research, Costa and McCrae's (1985, 1992) developed an analytical, questionnaire based approach that again identified five major domains or dimensions of normal adult personality.[111] In the personality literature consensus emerged that these factors are the fundamental dimensions of personality and the FFM gained growing acceptance.[112] The

[104] See Fraj/Martinez (2006), p. 170.
[105] Blythe (2013), p. 79.
[106] See loc. cit.
[107] See Blythe (2013), p. 84.
[108] See John/Srivastava (1999), p. 3.
[109] See loc. cit.
[110] For a review of the historic development of the FFM see, e.g., McCrae/John (1992), pp. 172-215 and John/Srivastava (1999).
[111] See McCrae/John (1992), p. 177.
[112] See Block (2010), p. 2; Weiner/Greene (2008), p. 315; Matzler et al. (2005), p. 34; McCrae/John (1992), p. 176.

five dimensions include neuroticism, extraversion, agreeableness, openness to experience, and consciousness. These five factors of higher order, or the 'Big Five', define patterns of traits of individuals. They represent personality, and thus individual differences, at a high level of abstraction.[113] Each of these bipolar factors (e.g., extraversion versus introversion) summarize different specific facets (e.g., sociability) that again subsume various specific traits (e.g., talkative, outgoing).[114] The factors, facets, and traits are presented in Table 2-4.

Neuroticism describes the degree to which an individual experiences negative effects. Individuals scoring high in neuroticism tend to nervousness or emotional instability whereas people that score low in the trait can be described as calm and self-confident.[115] Trait adjectives like sociable or optimistic can be used as descriptive indicators for individuals scoring high in extraversion. *Openness* refers to the level of openness to experience, new and non-traditional ideas and originality and involves adjectives like curious, imaginative, or unconventional. The facets are, among others, fantasy, aesthetics, actions, ideas and values.[116] *Agreeableness* refers to an altruistic tendency. A person that scores high in agreeableness is eager to help others and is sympathetic. He or she can be described as helpful, soft-hearted, and trusting.[117] Individuals scoring low in that trait are described as cynical, rude, suspicious, uncooperative, vengeful, ruthless, irritable, and manipulative. The trait *conscientiousness* describes the ability, or inability, of in individual to be strong-willed, determined, and high achieving.[118] The degree of organization and motivation can be assessed. Individuals that score low in conscientiousness can be described as aimless or careless, where, on the other hand, persons that score high are considered as self-disciplined, ambitious, or hard-working.

The FFM has received considerable support.[119] Researchers have been able to replicate the five factors across disciplines, nations, and cultures.[120] However, the framework has certain limitations. It is criticized that the Big Five are a rather descriptive than an explanatory representation of personality and that on a very high level of abstraction.[121] As one moves up the hierarchy, the informative character decreases so that the personality dimensions may lack preciseness and may not offer a complete account of an individual's responses to the world of stimuli. It is argued that the Big Five do not explain all facets of human personality. For example, McAdams (1995) called the Big Five as "*psychology of the stranger*"[122] as the model only offers a "*...dispositional signature for personality description*"[123] including aspects of personality that are easily observed in a stranger. More context-related or privately held characteristics are not included. Further, literature addresses methodological limitations of the Five-Factor Approach.[124]

[113] See Gosling/Rentfrow/Swann (2003), p. 506.
[114] See loc. cit., p. 506.
[115] See Gunkel/Schlaegel/Langella/Peluchette (2010), p. 505.
[116] See loc. cit.
[117] See loc. cit.
[118] See loc. cit.
[119] See Weiner/Greene (2008), p. 315; John/Srivastava (1999), p. 2 for e review; Mooradian/Olver (1997), p. 383.
[120] See John/Srivastava (1999), p. 15; McCrae/John (1992), p. 32.
[121] See John/Srivastava (1999), p. 15.
[122] McAdams (1995), p. 365.
[123] Loc. cit.
[124] See Block (1995), p. 187.

Table 2-4: Big Five Personality Traits

Trait	Low score	Global domain scales and facets	High score
Neuroticism (N)	Calm, relaxed, unemotional, hardy, secure and self-satisfied	Assesses adjustment versus emotional instability. Identifies individuals prone to psychological distress, unrealistic ideas, excessive cravings or urges and mal-adaptive coping responses. The facets are anxiety, angry hostility, depression, self-consciousness, impulsiveness, and vulnerability.	Worrying, nervous, emotional, insecure, inadequate and hypochondriac
Extraversion (E)	Reserved, sober, aloof, task-oriented, retiring and quiet	Assesses quantity and intensity of interpersonal interaction, activity level, need for stimulation and capacity for joy. The facets are warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions.	Sociable, active, talkative, person-oriented, optimistic, fun-loving and affectionate
Openness to Experience (O)	Conventional, down to earth, narrow interests, inartistic and not analytical	Assesses proactive seeking and appreciation of experience for its own sake; toleration for exploration of the unfamiliar. The facets are fantasy, aesthetics, feelings, actions, ideas, and values.	Curious, broad interests, creative, original, imaginative and untraditional
Agreeableness (A)	Cynical, rude, suspicious, uncooperative, vengeful, ruthless, irritable and manipulative	Assesses the quality of one's interpersonal orientation along a continuum from compassion to antagonism in thoughts, feelings and actions. The facets are trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness.	Soft-hearted, good-natured, trusting, helpful, forgiving, gullible and straightforward
Conscientiousness (C)	Aimless, unreliable, lazy, careless, lax, negligent, weak-willed and hedonistic	Assesses the individual's degree of organization, persistence and motivation in goal-directed behavior. Contrasts dependable, fastidious people with those who are lackadaisical and sloppy. The facets are competence, order, dutifulness, achievement striving, self-discipline, and deliberation.	Organized, reliable, hard-working, self-disciplined, punctual, scrupulous, neat, ambitious and persevering

Source: Adapted fromMulyanegara/Tsarenko/Anderson (2009), p. 236; Weiner/Greene (2008), p. 316.

As the identification of the five dimensions is based on factor analysis, Block (1995) claimed that the factors might be incisive and influenced by unrecognized constraints on the variable sets. Eysenck (1992) further argued that it is unsure if five factors are the final number of personality dimensions or if this is rather a solution based on subjective interpretation only.[125] In his paper, Block (2010) argued that the FFM suffers an atheoretical nature.[126] The author saw in the FFM a descriptive approach simply listing personality variables instead of modeling personality as a system of dynamically interconnected, interdependent variables. He also mentioned that in the development of an individual's personality, heredity, and environment are connected. Such an aspect of personality development is not considered within the FFM.

Despite these limitations the FFM is a commonly used model in empirical personality research. It is due to its stability, reliability, validity, and universality.[127] The FFM also gained much attention in the management literature. Still, in the field of marketing there is only limited research conducted so far linking personality to aspects of consumer behavior as it is considered as difficult to explain certain behavior with specific traits.[128] It is rather the overall personality that influences for example buying behavior.[129] In their review, Kassarjian and Sheffet (1991) stated that the efforts to relate personality to aspects of consumer behavior have been questionable.[130] They criticized past research for its insufficient validity and reliability of the measures employed, the theoretical approaches applied, and the incompatibility of the investigated traits with aspects of consumer behavior. Still, literature challenging, for example, conceptual models of post-purchase processes and responses to dissatisfaction, have frequently suggested personality as an important variable influencing the behavior of individuals.[131] There is a call for research to integrate trait-theory in studies investigating aspects of consumer behavior.[132] Baumgartner (2002) even spoke of a *"...dire need to embed particular personality variables into more comprehensive and integrative frameworks"*[133] within consumer behavior research.

2.3.3 The Link between Culture and Personality

Personality and culture have long been considered as distinct concepts.[134] By means of cultural dimensions, patterns of values and behaviors can be identified that are shared by members of a society or nation. In contrast, personality traits explain characteristics of individuals. Traditional cross-cultural research investigates phenomena on the society level.

With the introduction of the concept of individual cultural values by Yoo, Donthu, and Lenartowicz (2009, 2011) the different perspectives of culture and personality have blurred and culture and personality are both considered as variables influencing individual behavior. According to McCrae (2001) culture and personality influence acquired skills, habits, atti-

[125] See Eysenck (1992), p. 668.
[126] See Block (2010), p. 5.
[127] See for example John/Srivastava (1999), p. 15.
[128] See Baumgartner (2002), p. 286.
[129] See Blythe (2013), p. 79.
[130] See Kassarjian/Sheffet (1991), p. 281.
[131] See Mooradian/Olver (1997), p. 380.
[132] See Baumgartner (2002), p. 287; Mowen/Park/Zablah (2007), p. 590; Mooradian/Olver (1997), p. 380.
[133] Baumgartner (2002), p. 287.
[134] See Hofstede/McCrae (2004), p. 65.

tudes, interests, roles, and relationships in a process of characteristic adaptation.[135] A major question in that context is how personality traits and culture interact to shape the behavior of individuals.[136] McCrae gave the example of a garrulous Frenchman and a talkative Korean that share the same extraverted tendencies. Still, they express them in their cultural-specific way and language. The relationships between personality traits and culture have been investigated in several studies.[137] Costa, Terracciano, and McCrae (2001) found significant gender differences in personality traits across cultures.[138] Within a sample of 33 countries Hofstede and McCrae (2004) showed that openness, extraversion, conscientiousness, neuroticism, and agreeableness are related to at least one cultural dimension.[139] In an attempt to identify Big Five trait profiles of nations Schmitt et al. (2007) found that individuals from the geographic regions South America and East Asia were significantly different in openness than individuals from other world regions.[140] Even though the Big Five has been replicated across cultures Cheung, van de Vijver, and Leong (2011) suggested, however, that openness is unsupported in Asian countries. A different fifth factor, the so called interpersonal relatedness factor was identified.[141] In that context they proved, that a link between personality and culture exists.

The above mentioned studies provide evidence for a link between culture and personality, and various cross-cultural studies connecting the two constructs have been conducted so far in the field of consumer behavior. Still, the concept of personality traits is rarely discussed in the (cross-cultural) satisfaction literature. A need for further research, integrating culture and personality as interrelating variables in models of individual behavior, is expressed in the current literature. Reimann, Lünemann, and Chase (2008) called for further research including trait psychology as a complement to cultural values.[142] Taras, Kirkman, and Steel (2010) stated that more research is required analyzing the combined effects of culture and personality on the individual level.[143] The following two studies will contribute to this area of research.

2.4 Development of the Research Design in a Cross-Cultural Setting

The underlying research project consists of two cross-national studies investigating two common models within satisfaction research: the model of the ZOT (Study I) and the C/D-Paradigm (Study II). Country-specific characteristics of the models' structures are investigated and the roles of culture and personality as potentially influencing factors are examined. Both studies were conducted in various countries. Hence, topics such as equivalence and measurement invariance had to be considered. In the following subchapters these topics will be addressed in general. Further, the development process and structure of the research project encompassing the two studies will be presented.

[135] See McCrae (2001), p. 821.
[136] See McCrae (2000), p. 10.
[137] See e.g., Church (2000), pp. 651-703; McCrae (2001), pp. 819-846; Costa/Terracciano/McCrae (2001), pp. 322-331; Hofstede/McCrae (2004), pp. 52-88.
[138] See Costa/Terracciano/McCrae (2001), p. 839.
[139] See Hofstede/McCrae (2004), p. 72.
[140] See Schmitt et al. (2007), p. 174.
[141] See Cheung/Vijver/Leong (2011), p. 600.
[142] See Reimann/Lünemann/Chase (2008), p. 70.
[143] See Taras/Kirkman/Steel (2010), p. 433.

2.4.1 Challenges of Cross-National Customer Satisfaction Research

Cross-national or cross-cultural satisfaction research offers a multitude of potential challenges. Cross-cultural invariance of measures of satisfaction or the equivalence of data are widely discussed topics.[144]

Equivalence is defined as: *"Data that have, as far as possible, the same meaning or interpretation, and the same level of accuracy, precision of measurement, or reliability in all countries and cultures."*[145] Van Herk, Poortinga, and Verhallen (2005) discussed the marketing research process and potential reasons for bias in data which have to be considered when setting up a cross-cultural marketing study.[146] Table 2-5 outlines the research process and the potential challenges in each stage. The potential sources for non-comparability of data are displayed.

Table 2-5: Potential Bias in Cross-Cultural Marketing Research

Stage in the research process	Source of bias	Issues	Prevalent types of bias
1 Problem formulation	Concepts Category Function	Purpose of the study	Construct
2 Research design	Operationalization	Type of study Type of questions	Construct
	Instrument design	Item selection Type of response format	Item Method
	Translation		Item
	Method	Personal, mail, telephone	Method
3 Sample selection	Sampling	Target population Sampling frame	Method
4 Data collection	Fieldwork	Procedures Interviewer selection Time frame	Method
5 Data editing and coding	Editing Coding Calibration	Data editing Data coding	Item
6 Analysis and interpretation			

Source: van Herk/Poortinga/Verhallen (2005), p. 356.

Van Herk, Poortinga, and Verhallen (2005) introduced three kinds of bias which are construct-, method-, and item bias. *Construct bias* might occur if the research construct differs cross-nationally, or if the operationalization in the research instrument (for example, the questionnaire) does not fit to the understanding of the research groups. The authors offered

[144] See Ueltschy et al. (2004), p. 901; van Herk/Poortinga/Verhallen (2005), p. 352.
[145] Craig/Douglas (2000), p. 141.
[146] See van Herk/Poortinga/Verhallen (2005), p. 355.

the example of the use of butter for baking in one country and for spreading in another country. In that example attitudes towards the product will reflect different notions about the use of butter in both countries. Using a standardized questionnaire on the preferred characteristics when spreading butter might lead to biased results as the understanding of the application of butter differs in both countries.

Method bias includes interfering factors that are independent of the research construct but do affect all or most items of the research instrument. Examples for method bias are interviewer effects, effects based on the research method (for example, telephone versus personal interviews), or effects due to the respondents' demographic characteristics.

According to van Herk, Poortinga, and Verhallen (2005) *item bias* refers to misrepresentations and distortions in specific items of the research instrument. When using a multi-item scale for specific research variables cross-national differences in the understanding or interpretation of specific items may lead to bias. Van Herk, Poortinga, and Verhallen offered the example of the research variable 'health consciousness' measured with the item 'visiting a fitness club at least once a week'. If there are differences in the availability of health clubs between the countries under investigation the answer 'no' has a different meaning in both groups. Hence, the item is biased.

The three types of bias can appear in the different stages of the research process. The first step of the research process includes the *problem formulation,* which refers to the precise statement of the research problem. In cross-cultural research this is a challenge in that sense that the researcher needs to ensure functional, conceptual, and metric equivalence to avoid construct bias.[147] "*Functional equivalence implies that the phenomenon or behavior in two or more cultures is related to the same functional problem*."[148] It would include, for example, comparable product use and experience across nations. Conceptual equivalence might be a challenge as it includes the comparability of the meaning of research concepts, stimuli, and materials across cultures. Again, the different use of butter can serve as an example. If butter is used only for baking in one country a survey on the characteristics of butter while spreading it would lead to confusion of the respondents.

Another challenge, when formulating the research problem, is the metric equivalence. It addresses the comparability of the psychometric properties of data sets across nations. It is essential that comparability of behavior, explanatory models, and constructs across cultures is established. These two forms of equivalence need to be considered already in the first step to minimize the potential for bias in the following steps.

Further, an appropriate *research approach* needs to be identified to account for culture. Various disciplines offer approaches to explain and measure culture for example from an anthropological, sociological, or psychological perspective. According to Malhotra, Agarwal, and Peterson (1996) it is appropriate to conceptualize culture as a knowledge system that is embedded in cognitive processes and exposed in behaviors. To include culture as an explanatory variable in marketing research it is essential to take both, emic and etic perspectives. The

[147] See Malhotra/Agarwal/Peterson (1996), pp. 9-11.
[148] Loc. cit., p. 9.

emic approach addresses research problems from within a cultural group, examining only one group whereas the etic viewpoint takes an outside position and investigates various cultural groups, considering the research variables as universal. Malhotra, Agarwal, and Peterson (1996) claimed that cross-cultural research should include both viewpoints. The etic viewpoint should be the starting perspective for a research problem, considering concepts and models of consumer behavior as universal. Taking then the emic view for descriptions and interpretations can help to adjust the existing theories and to achieve a fit between the emic and etic perspective.

Further, a multitude of cross-national studies exist that use the cultural background of respondents to explain patterns of behavior but do not measure and use culture as independent research variables.[149] Lachman (1997) stressed that cross-cultural research should focus on the "*cultural connection*"[150]. To account for culture a direct investigation of the effects of culture on the dependent variables is vital for the explanatory value of cross-cultural research findings.

Especially when collecting primary data, its equivalence and comparability across nations needs to be the major concern when selecting the *research design* in the second step. It includes the operationalization of constructs, the selection of items, the choice of appropriate survey methods, scaling techniques, questionnaire design, and sampling considerations.[151] According to van Herk, Poortinga, and Verhallen (2005) method bias might be introduced if there are aspects in the research design that might induce different reactions in the different research groups. For example, differences in the use of response scales across countries or unfamiliarity with certain data collection methods may create method bias. Van Herk, Poortinga, and Verhallen stressed, that it is important to use the same research design across the researched groups to minimize method bias.

To reduce bias in the third step, the *sample selection*, it is recommended that the samples show equal distributions on the major demographic variables such as age, income, and education.[152] Matched samples reduce bias in between-country comparisons.

In the fourth step, the *data collection* and actual field work, the researcher needs to ensure that the data collection process is conducted as similar as possible in each research group to avoid method bias because of interviewer effects, differences in the interview setting, perception of sensitive questions, or the time frame. Van Herk, Poortinga, and Verhallen (2005) claimed that method bias cannot be avoided but reduced in that stage. It is essential that clear instructions are available for the study and that the research instrument and its instructions are pretested.

At stage five of the research process, which comprises *coding and editing of data*, item bias needs to be avoided. If coding (assigning answers to response categories for open-ended questions) and editing (correcting inconsistent answers) is done separately for each research

[149] See Lachman (1997), p. 317.
[150] Loc. cit.
[151] See van Herk/Poortinga/Verhallen(2005), pp. 351-364; Malhotra/Agarwal/Peterson (1996), pp. 13-28.
[152] See van Herk/Poortinga/Verhallen (2005), p. 358.

group item bias is more likely to occur.[153] Van Herk, Poortinga, and Verhallen (2005) suggested a central coordination of these activities to minimize the risk of item bias at this stage.

In the *analysis phase* (stage six), statistical procedures allow for an assessment of the existence of bias in the data. Procedures on assessing measurement invariance are recommended.[154] The test for measurement invariance was neglected in a multitude of cross-national studies on consumer behavior so far.[155] Measurement invariance refers to "*whether or not, under different conditions of observing and studying phenomena, measurement operations yield measures of the same attribute.*"[156] Literature proposes three hierarchical levels of analysis, which are:[157]

- *Configural Invariance*: refers to the similarity of structural psychometric properties in data across countries and is obtained if equal factor structures of the measurement instrument can be observed within different cultural groups.[158] If configural invariance is achieved the same construct has been assessed across the researched groups.
- *Metric Invariance*: tests if the strengths of the relations between the scale items and the corresponding measurement constructs are the same across the researched groups. In case of metric invariance the factor loadings of the research variables are invariant.[159]
- *Scalar Invariance*: implies that groups-specific differences in the means of the observed items are due to differences in the means of the measurement construct.[160] Scalar invariance allows for comparison of means across the researched groups.

These aspects were considered when setting up the following two studies.

2.4.2 The Design of the Research Project

A majority of the satisfaction literature can be found in the service sector. Those studies that focus on manufactured goods rarely use complex products such as cars as research objects.[161] A reason for that might be the complexity, and hence, the difficulty to operationalize the product for the study. To contribute to this lack of research the survey-based research project uses a subcompact car as the research object. The choice of the research object was in line with the interest of the cooperating multinational car manufacturer of the dissertation project. To set up the measurement tools (questionnaires), it was necessary to define the relevant product attributes of a subcompact car. According to a multinational car manufacturer an average car can be described by 38 main attributes that are again subdivided in various in-detail product and performance features. Hence, operationalizing a complex product, such as a car with all its features, would result in very detailed and extensive research instruments. A reduction of the complexity was required. The attribute catalogue of the car manufacturer

[153] See von Herk/Poortinga/Verhallen (2005), p. 358..
[154] See loc. cit.
[155] See Steenkamp/Baumgartner (1998), p. 78.
[156] Horn/McArdle (1992), p. 117.
[157] See, e.g., Horn/McArdle (1992), pp. 117-144; Steenkamp/Baumgartner (1998), pp. 78-90; van Herk/Poortinga/Verhallen (2005), pp. 351-364; Milfont/Fischer (2010), pp. 111-121.
[158] See van Herk/Poortinga/Verhallen (2005), p. 354.
[159] See Ueltschy et al. (2004), p. 906; Milfont/Fischer (2010), p.115.
[160] See Steenkamp/Baumgartner (1998), p. 80.
[161] See Patterson (1993), p. 450.

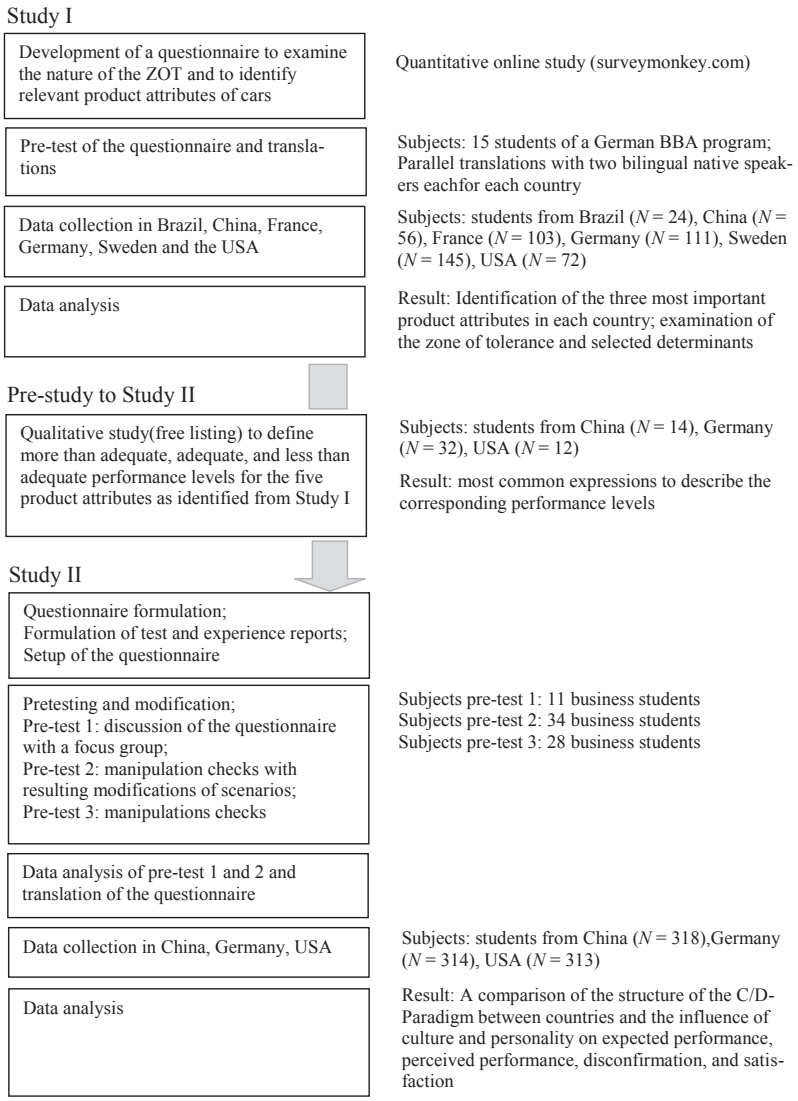
offered the base to identify essential attributes to describe any car. To reduce the amount of product attributes for the surveys it was necessary to identify the most relevant car attributes from the customer's perspective. For this purpose, secondary data, for example, from quality test reports, internet forums, and international market surveys was used next to the manufacturer's information. The secondary data was employed to check which product features are in general of interest when describing a car and evaluating its quality. 19 attributes out of the 38 seemed to be the most critical ones. These 19 attributes were frequently tested in independent quality reports and hence, will be investigated in the following.

In total, three cross-cultural studies were conducted. Figure 2-6 illustrates the development process and the structure of the dissertation project. **Study I** (Chapter 3) aims at investigating the applicability of the ZOT model across cultures as well as the potential influence of culture and personality on the variables within the ZOT model. Next to it, the identification of the, from the customers' perspective, most important attributes of a subcompact car was of interest. These attributes are used as the base for the scenario development for Study II (Chapter 4).

The purpose of the qualitative **Pre-study to Study II** (free listing) is to define more than adequate, adequate and less than adequate performance levels for the five product attributes as identified from Study I. The Pre-study results in lists of common expressions that describe the corresponding performance levels of these attributes in all sample nations of Study II and hence, offers a required base for the questionnaire development for Study II. The reasoning for this will be explained in Chapter 4.

The aim of **Study II** is to support the generalizablity of the C/D-Paradigm across cultures and to identify the potential influence of culture and personality on the expected performance, perceived performance, disconfirmation, and satisfaction of individuals (Chapter 4). The studies will be presented in the following.

Figure 2-6: The Structure of the Research Project



3 Study I: The Structure of the Zone of Tolerance Across Countries and Individuals

In the consumer behavior literature expectations are discussed as a key concept to explain the formation of customer satisfaction. Special attention is paid to the different types and levels of expectations.[162] Customer expectations cannot be considered as a precisely defined point of performance level. They might rather range from adequate or minimal tolerable to desired performance levels.[163] Hence, a range of performance levels exists that would result in confirmation and finally, a specific level of satisfaction. The range of performance levels is defined and discussed as the ZOT.[164] So far, only a limited number of research studies verifying the generalizability of the ZOT across nations and investigating the effects of individual characteristics exist.

Therefore, the study will:

1) examine the ZOT for a high-involvement product in a cross-national setting, and
2) investigate the effects of individuals' cultural backgrounds as well as the personality on the ZOT.

After a short literature review on the structure of the ZOT and the generalizablity of the ZOT-Model across countries, the potential effects of culture and personality will be outlined. It is followed by the introduction of the applied research method. Regression analysis is applied to examine the cross-cultural comparability of the ZOT model. Further, an analysis of the potential effects of Hofstede's cultural dimensions and the Big Five personality traits on the ZOT and its determinants will be provided. The chapter concludes with the discussion of the results.

3.1 The Zone of Tolerance

The ZOT, as introduced by Parasuraman, Zeithaml, and Berry (1993), is a key-concept in the standards-based satisfaction literature.[165] Berry and Parasuraman (1991) constituted that "*the zone of tolerance is a rage of* [expected]*service performances that a customer considers satisfactory*"[166]. Zeithaml, Berry, and Parasuraman(1993) defined the ZOT as "*the extent to which customers recognize and are willing to accept heterogeneity*"[167]. Customers will be satisfied even though there might be a difference in quality from one service encounter to another due to a range of individual pre-performance expectations that all allow a positive satisfaction judgment. Individuals do not have a specifically defined point of performance that they expect to obtain but instead, a range of performances that would be tolerated and that would lead to satisfaction. Pre-performance expectations, or comparison standards, can range from a 'minimum tolerable' at the lower end to an 'ideal', 'deserved' or 'desired' performance

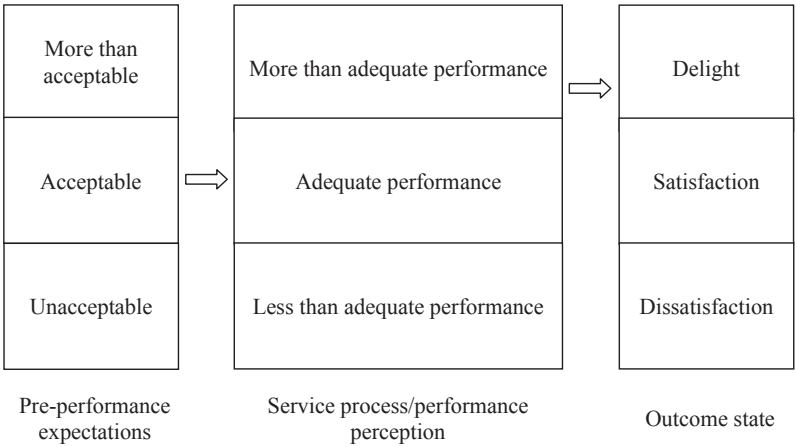
[162] See Gwynne/Devlin/Ennew (2000), p. 546.
[163] See e.g. Woodruff/Cadotte/Jenkins (1983), pp. 296-304; Tse/Wilton (1988), pp. 204-212; Teas (1994), pp. 132-138.
[164] See e.g. Zeithaml/Berry/Parasuraman (1993), pp. 1-12; Johnston (1995), pp. 46-61; Yap/Sweeney (2007), p.137.
[165] See Teas/DeCarlo (2004), p. 272, Yap/Sweeney (2007), p.137, Henard/Dacin (2010), p. 326.
[166] Berry/Parasuraman (1991), p. 58.
[167] Zeithaml/Berry/Parasuraman (1993), p. 6.

F. Krüger, *The Influence of Culture and Personality on Customer Satisfaction,*
International Management Studies, DOI 10.1007/978-3-658-12557-8_3,

standard at the upper end. Hence, expectations should be considered more as zones rather than discrete points.[168]

Johnston (1995) visualized the process of satisfaction formation by defining three types of tolerance zones: (1) a range of acceptable pre-performance expectations, (2) an area of adequate in-process performance, and (3) an outcome that is deemed neither good nor bad by consumers.[169] These three types of zones can be interpreted as three interlinked tolerance zones that unify expectations, performance, and satisfaction judgments. As illustrated in Figure 3-1, a customer enters a purchasing situation with a certain idea about what is considered as an unacceptable, acceptable, or more acceptable performance level (pre-performance expectations). This idea might be based on prior experiences with the provider or good, the image of the company, or any source of information. According to Johnston (1995) pre-performance expectations can be a clear set of requirements of an individual or an inexplicit and unstated set of beliefs. The expected performance levels that are regarded as acceptable are within the individual's expectation zone. As mentioned before, they can range from minimal tolerable (e.g., Miller, 1977; La Tour and Peat, 1979) or adequate expectations (Parasuraman, Berry, and Zeithaml, 1991) on the lower bound to an individual's desired (Parasuraman, Berry, and Zeithaml, 1991) or should expectations (Miller, 1977) at the upper bound. Berry and Parasuraman (1991) stated that a performance level that falls below such a defined tolerance zone would be considered as a less than adequate performance and would result in frustration and might even decrease loyalty. A performance level above the ZOT will be considered as more than adequate and will surprise customers and increase customer loyalty.

Figure 3-1: Three Zones of Tolerance



Source: Adapted from Johnston (1995), p. 48

[168] See Johnston (1995), p. 47.
[169] Johnston (1995), p. 48.

When a customer enters a service encounter or uses a product, each performance experience will be judged consciously or subconsciously to be more than adequate, adequate, or less than adequate compared to what might be more than acceptable, acceptable, or unacceptable. According to Johnston, adequate performance can be considered to be within the performance tolerance zone. These judgments or evaluations of the performance perception lead to an overall outcome which is the assessment of satisfaction, dissatisfaction, or delight.

An outcome that is neither delight (resulting from a more than adequate performance) nor dissatisfaction (resulting from a less than adequate performance) is within the outcome zone.

The ZOT has been critically discussed in literature as its explanatory value in linking perceived quality to a specific outcome was only limited in several studies.[170] The empirical tests of Teas and DeCarlo (2004) showed a greater explanatory power of performance-based models when investigating the perceived quality and purchasing intentions.[171] Nevertheless, the ZOT model is considered as a useful tool to examine the variability in customer expectations[172] as well as the relationship between quality perceptions and different levels of expectations as well as the link between perceived quality and the resulting outcomes.[173] It is widely accepted and used in the consumer behavior, especially in the satisfaction literature.[174]

The Structure of the ZOT

In the following, the ZOT in the context of pre-performance expectations will be investigated as the width of the expectation ZOT plays an essential role in the process of customer satisfaction formation.[175] It serves as an indicator for customer tolerance with respect to low performance levels and determines the likelihood of outcomes within the outcome zone, and hence, satisfaction.[176] A wide expectation zone translates into wider performance- and outcome tolerance zones. A narrower expectation zone results in smaller subsequent zones and thus raises the probability of (negative) disconfirmation and dissatisfaction. When exploring the structure of tolerance zones, three main variables exist: the desired or ideal expectations, adequate or minimal tolerable expectations confining the ZOT, and the width of the ZOT resulting from the difference between the upper and lower end of the zone.[177] Mathematically, this definition of the ZOT can be expressed as

$$ZOT_{ij} = DES_{ij} - MINTOL_{ij}$$

with

$$DES_{ij} \geq MINTOL_{ij}$$

[170] See, e.g. Cronin/Taylor (1994), pp. 55-68; Zeithaml (2000), pp. 67-85; Teas/DeCarlo (2004), pp. 272-286; Yap/Sweeney (2007), pp. 137-148.
[171] See Teas/DeCarlo (2004), p. 283.
[172] See Reimann/Lünemann/Chase (2008), p. 65.
[173] See Yap/Sweeney (2007), p. 138; Stodnick/Marley (2013), p. 36.
[174] See Stodnick/Marley (2013), p. 26.
[175] See Gwynne/Devlin/Ennew (2000), p. 546, Henard/Dacin (2010), p. 326.
[176] See Johnston (1995), pp. 47-56; van Riel/Semijn/Jansen (2003), p. 440.
[177] See Gwynne/Devlin/Ennew (2000), pp. 546-551; Nadiri/Hussain(2005), pp. 263-264.

ZOT_{ij} = the Zone of Tolerance of product/service attribute i of product j

DES_{ij} = the desired performance level of product/service attribute i of product j

$MINTOL_{ij}$ = the minimum tolerable performance level of product/service attribute i of product j

Next to prior product or service experience, attribute importance as well as involvement are major factors which influence the structure of the ZOT.[178] The term importance addresses an individual's personal link to a product attribute: "*an attribute is said to be important if a change in the individual's perception of that product attribute leads to a change in the attitude toward the product.*"[179] According to Zeithaml, Berry, and Parasuraman (1993) the perceived *importance* of service/product attributes influences both adequate (or minimum tolerable) and desired service levels as well the width of the ZOT. They stated that with higher attribute importance both, desired and adequate expectation standards, would be higher. If a specific product attribute is considered as important the customer wants and expects to receive the most optimal level of performance: his or her desired expectations and the adequate level of performance are raised to certain extend. Furthermore the tolerance zone would be smaller for attributes that are more important as consumers strive for a small gap between the desired and adequate: when an attribute is considered as important, now failure would be tolerated.[180] Hence, the following hypotheses can be formulated:

H I.1: The higher the importance of a product attribute, the higher is the level of the desired expectation standard of that attribute.

H I.2: The higher the importance of a product attribute, the higher is the level of the minimal tolerable expectation standard of that attribute.

H I.3: The higher the importance of a product attribute, the narrower is the ZOT of that attribute.

Next to importance, the customer's *involvement* affects the structure of the ZOT. Day (1970) defined involvement as "*the general level of interest in the object or the centrality of the object to the person's ego-structure*"[181]. Lastovicka and Gardner (1979) stated that high involvement can be observed when a product is related to important values or needs of the individual. Involvement is an individual's perception of relevance of a specific object (a product, service, brand, or a specific purchasing situations).[182] It refers to a motivational construct that results in an interest and willingness to process information.[183] Involvement may be triggered by the perception of risk connected to a purchase or the level of interest in the product category. Highly involved individuals engage in more complex purchase decision making

[178] See Gwynne/Devlin/Ennew (2000), pp. 546-551; van Riel/Semijn/Jansen (2003), p. 445; Yilmaz (2010), pp. 59-69.
[179] Jaccard/Brinberg/Ackerman (1986), p. 463.
[180] See Gwynne/Devlin/Ennew (2000), pp. 550-551; van Riel/Semijn/Jansen (2003), p.445; Yilmaz (2010), pp.59-69.
[181] Day (1970), p. 45.
[182] See Solomon (2006), p. 128.
[183] See loc. cit.

and more effort will be invested into the purchase.[184] According to Johnston (1995), a higher degree of involvement would result in a greater sensitivity to satisfaction and dissatisfaction. Johnston stated that *"a customer making a service purchase with little involvement, or little information about the service, could have a very wide zone of tolerance."*[185] This results in the following hypothesis:

H I.4: The higher the degree of involvement the narrower is the ZOT.

3.2 The Generalizability of the ZOT across Countries and the Potential Effects of Culture and Personality

An individual's expectations and ZOTs are defined as variables and constructs that influence the performance perception of products, disconfirmation, and satisfaction (see Chapter 2). According to Zeithaml, Berry, and Parasuraman (1993) these expectations are determined by controllable purchase related factors, such as explicit and implicit performance promises as well as uncontrollable factors like personal needs, past experiences with the product, or word-of-mouth communication. Donthu and Yoo (1998) criticized that the determinants of expectations are only considered in one-market situations.[186] They stressed that in an international context, the impact of cultural differences needs to be incorporated. So far, individual factors such as the individual's cultural background or facets of personality have been neglected in the research on the determining factors of the structure of the ZOT. Kopalle, Lehmann, and Farley (2010) and Chan, Wan, and Sin (2009) called for more research in the field.[187] Further, Stodnick and Marley (2013) stated that more empirical tests are needed to be able to assume a generalizability of the ZOT model across countries and industries.[188] There is also a lack of research applying the ZOT model and related constructs of satisfaction research to high-involvement products.[189] As a response to this call for research the following research question will be addressed:

RQ I.1: Does the structure of the ZOT differ across countries?

Culture as defined by Hofstede (1980, 2001, 2005, 2010) can be considered as an influencing variable on the determinants of customer satisfaction such as customer expectations.[190] As individuals from different cultures diverge in patterns of values and behaviors, they might have different expectations of service or product performance (see Chapter 2.3.1).[191] Even though this assumption is prevailing in consumer behavior research, only a limited number of studies are available that investigate the effect of culture (especially of Hofstede's dimensions collectivism, masculinity, power distance, uncertainty avoidance, and long-term orientation)on expectations and their related constructs such as the ZOT model. For example Chan et al. (2009) proposed that collectivistic (Asian) cultures are more tolerant with service failures

[184] See Solomon (2006), p. 128.
[185] Johnston (1995), p. 49.
[186] See Donthu/Yoo (1998), p. 178.
[187] See e.g., Kopalle/Lehmann/Farley (2010), p. 260; Chan/Wan/Sin (2009), p. 302.
[188] See Stodnick/Marley (2013), p. 38.
[189] See Patterson (1993), p. 449.
[190] See Donthu/Yoo (1998), pp. 178-186; Furrer/Liu/Sudharshan (2000), p. 357; Reimann/Lünemann/Chase (2008), p. 7.
[191] See Donthu/Yoo (1998), p. 178.

than individualistic (Western) cultures.[192] Chan et al. argued that collectivistic cultures show higher fatalistic tendencies which again help to alleviate discontent.

With respect to the width of the ZOT, Reimann, Lünemann, and Chase (2008) argued that a higher degree of uncertainty avoidance is related to a narrower ZOT. Even though the assumption was not tested empirically, Reimann, Lünemann, and Chase found a moderating effect of uncertainty avoidance on the perceived quality-customer satisfaction relationship, and with that, indirectly on the ZOT. They found that customers from a culture with a higher degree of uncertainty avoidance do not accept a wide variety in performance with respect to service delivery.[193] Linking these findings to Johnston's (1994) idea of the three interlinked ZOTs, it can be argued that all three ZOTs of an individual are negatively related to uncertainty avoidance.

The direct effects of culture on the lower and upper bound as well as the width of the ZOT have not been tested so far. To the best of the author's knowledge, there are no studies linking culture to the structure of the ZOT leading to the following research question:

RQ I.2: Which of Hofstede's cultural dimensions affect the variables of the ZOT and how can their influence be characterized?

With respect to *personality* only the study of Tan, Foo, and Kwek (2004) was identified that researched the effects of an individual's personality traits (neuroticism, extraversion, agreeableness, openness to experience, and consciousness, see Chapter 2.3.2) on satisfaction and its related constructs. Tan, Foo, and Kwek (2004) investigated the effect of customer agreeableness on satisfaction within a service setting.[194] They found a direct positive effect of agreeableness on satisfaction. According to Tan, Foo, and Kwek it might be due to the higher tolerance highly agreeable customers display.

Following the recent call for research to explain individual differences related to personality, the study tests for the effects of neuroticism, extraversion, agreeableness, openness to experience, and consciousness on the variables of the ZOT and will answer the question:

RQ I. 3: Which personality dimensions do affect the determinants of the ZOT and how can their influence be characterized?

To answer research question I.1, the hypotheses H I.1 to H I.4 will be empirically tested within different country settings. In a second step of the analysis, the potential influence of culture and personality on the ZOT and its determinants will be tested providing answers to Research Questions I. 2 and I. 3.

3.3 Description of the Method of Study I

To investigate the proposed hypotheses and research questions, students of management and economics related study programs from Brazil, China, France, Germany, Sweden, and the

[192] See Chan/Wan/Sin (2009),p. 292.
[193] See Reimann/Lünemann/Chase (2008), p. 70.
[194] See Tan/Foo/Kwek (2004), p. 293.

USA were invited via e-mail to participate in an online survey on expectations on subcompact cars. The students were recruited through contact persons of the partner universities in each country. As an incentive students were invited to participate in a raffle to win gift cards of a multinational online seller.

Table 3-1: Sample Description of Study I

	BRA ***N* = 24**	**CHN** ***N* = 56**	**FRA** ***N* = 103**	**GER** ***N* = 111**	**SWE** ***N* = 145**	**USA** ***N* = 72**
Gender						
Female	12 (50%)	27 (48%)	58 (43.7%)	66 (59.5%)	68 (46.9%)	46 (64%)
Male	12 (50%)	29 (52%)	45 (43.7%)	45 (40.5%)	77 (53.1%)	26 (36%)
Mean Age (SD)	27.46 (4.84)	21.7 (1.90)	21.99 (5.70)	23.1 (2.30)	23.76 (5.60)	22.3 (3.90)
Study Program						
Undergraduate	17 (70.8%)	49 (87.5%)	73 (70.9%)	53 (48%)	78 (53.8%)	59 (82%)
Graduate	7 (29.2%)	7 (12.5%)	30 (29.1%)	58 (52%)	67 (46.2%)	13 (18%)
Driver's License						
Yes	22 (91.7%)	15 (26.8%)	78 (75.7%)	105 (95%)	130 (89.7%)	71 (99%)
No	2 (8.3%)	37 (66.1%)	11 (10.7%)	6 (5%)	12 (8.3%)	1 (1%)
in drivers education	0 (0%)	4 (7.1%)	14 (13.6%)	0 (0%)	3 (2.1%)	0 (0%)
Access to Car						
Yes	18 (75%)	4 (7.1%)	50 (48.5%)	44 (40%)	70 (48.3%)	69 (96%)
No	4 (16.7%)	11(19.6%)	28 (27.2%)	61 (55%)	60 (41.4%)	2 (3%)
n.a.	2 (8.3%)	41 (73.2%)	25 (24.3%)	6 (5%)	15 (10.3%)	1 (1%)
Frequency of driving a car						
very often (every other day)	10 (41.7%)	1 (1.8%)	29 (28.2%)	21 (19%)	17 (11.7%)	61 (85%)
often (3-5 days per week)	5 (20.8%)	2 (3.6%)	20 (19.4%)	10 (9%)	23 (15.9%)	7 (10%)
sometimes (once a week)	3 (12.5%)	1 (1.8%)	15 (19.4%)	16 (14%)	30 (20.7%)	0 (0%)
rarely (1-2 times a month)	4 (16.7%)	7 (12.5%)	11 (10.7%)	43 (43%)	32 (22.1%)	1 (1%)
very rarely (once in half a year)	0 (0%)	3 (5.4%)	3 (2.9%)	14 (13%)	23 (15.9%)	2 (3%)
Never	0 (0%)	1 (1.8%)	0 (0%)	1 (1%)	5 (3.4%)	0 (0%)
n.a.	2 (8.3%)	41 (73.2%)	25 (24.3%)	6 (5%)	15 (10.3%)	1 (1%)

Note: SD = Standard Deviation; n.a. = not answered; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

In total, 845 individuals (Brazil N = 36, China N = 94, France N = 206, Germany N = 131, Sweden N = 271, USA N = 107) responded to the questionnaire. After cleaning the data the sample consisted of 511 questionnaire responses (Brazil N = 24, China N = 56, France N = 103, Germany N = 111, Sweden N = 145, USA N = 72). Students were used as subjects as they either already drive subcompact cars or, at least, they represent the future car-buyers. Hence, students are an essential market segment for multinational car manufacturers. The country samples create homogenous and comparable groups with respect to the occupational-stage-of-life cycle.[195] Table 3-1 provides information about the sample.

3.3.1 Questionnaire Design and Measures

Table 3-2 provides an overview of the structure of the final questionnaire. It consists of nine parts with a total of 128 items (see Appendix 1 for the questionnaire). To test the hypotheses H I.1 - H I.4, an operationalization of involvement and attribute importance (independent variables) as well as of the minimum tolerable and desired performance levels (dependent variables) was necessary. Further, to answer research questions R I.2 and R I.3, the measurement of cultural dimensions and personality traits was carried out.

Table 3-2: Structure of the Questionnaire of Study I

Part	Nb. of items	Description and Source
1	7	Habits: Driver‘s License, Preference for Type of Car, Availability incl. Brand, Model
2	21	Involvement: Automobile Involvement Scale (AIS) (Bloch, 1981)
3	19	Attribute Importance: 19 Attributes
4	19	Minimal Tolerable Performance Level
5	19	Desired Performance Level
6	10	Personality Traits: TIPI (Gosling, Rentfrow, and Swann, 2003)
7	26	Cultural Dimensions: CVSCALE (Yoo, Donthu, and Lenartowicz, 2009; 2011)
8	7	Demographics: Gender, Age, Nationality, Family Status, Study Program, Monthly Net Income
9	-	Comments

Involvement: Involvement can be considered as the amount of interest a specific product evokes in the consumer.[196] Different types of products generate different degrees of involvement. To measure involvement in consumer behavior, product or brand specific measurement scales are required.[197] Bloch's (1981) Automobile Involvement Scale (AIS) was applied. The scale measures involvement on the basis of six factors (e.g., "Self-expression through one's

[195] See Furrer/Liu/Sudharshan (2000), p. 362.
[196] See Bloch (1981), p. 61.
[197] See loc. cit., p. 62.

car", see Table 3-6) and a total set of seventeen items (e.g., "It is worth the extra cost to drive an attractive and attention-getting car") a 7-point Likert type scale with 1 'strongly disagree' to 7 'strongly agree' was applied.

Attribute Importance: Attribute importance measures a customer's motivation behind the product choice.[198] As different types of customers will ascribe different levels of importance to certain product attributes, importance can reveal variances in consumers' purchases and once known serve as a relevant predictor of consumers' buying behavior. To measure the importance of the prior defined product attributes a 7-point Likert type scale with 1 being 'very unimportant' to 7 'very important' was utilized.[199]

Zone of Tolerance: To define the individual's ZOT, the lower and upper boundaries had to be measured. For the minimal tolerable performance level respondents were requested to indicate the lowest performance level of a product attribute that they would still tolerate. When asking for the participants' desired levels of performance the questionnaire referred to the desired performance level of a product attribute the respondents believed a company can and should provide.[200] Each respondent had to rate his or her respective level of expectations on a 9-point scale with 1 representing a low performance and 9 describing a high performance level. This part of the questionnaire was designed using a two-column format so that for each attribute subjects had to make two mouse clicks in each row in order to indicate their minimum tolerable level and their desired level of performance (see Appendix 1). For a better understanding an example was provided in the questionnaire. The width of the individual's ZOT was calculated ex-post (DES-MINTOL).[201]

Cultural Dimensions: To measure the cultural dimensions Yoo, Donthu, and Lenartowicz's (2009; 2011) CVSCALE was used as it allows to measure culture on an individual level. The four cultural dimensions power distance, uncertainty avoidance, collectivism, and masculinity were measured with 20 items (e.g., for COL: "Group welfare is more important than individual rewards") on a 5-point Likert scale with 1 'strongly disagree' and 5 'strongly agree'. Long-term orientation was measured by applying six items (e.g., "Giving up today's fun for success in the future") on a 5-point Likert type scale with 1 'very unimportant' and 5 'very important'. The dimensions indulgence versus restraint is not included in the available CVSCALE measure.

Personality Traits: Various approaches exist to measure the Big Five personality traits.[202] In the study Gosling, Rentfrow, and Swann's (2003) Ten-Item Personality Inventory (TIPI) was applied as this very short measure has the advantage of being less complex and time saving within already complex research instruments. Limitations of this short measure address its *"...inability to measure individual facets of multi-faceted constructs."*[203] The TIPI was used as the questionnaire includes various variables with a multitude of items. To reduce the complexity and length of the questionnaire a short measure of personality had to be applied. The

[198] See Tse/Wong/Tan(1988), p. 387.
[199] See Keller/McGill (1994), p. 34; Batra/Homer/Kahle (2001), p. 119.
[200] See Parasuraman/Zeithaml/Berry (1994), p. 204.
[201] See Nadiri/Hussain (2005), p. 267.
[202] See Gosling/Rentfrow/Swann (2003), p. 506 for a review.
[203] Loc. cit., p. 523.

respondents were asked to rate on a 7-point Likert type scale with 1='disagree strongly' and 7='agree strongly' to what extend the given pairs of traits applied to them (e.g., extraverted, enthusiastic or critical, quarrelsome; see Appendix 1).

Control Variables: In the following analysis age and gender were used as control variables. According to Taras, Kirkman, and Steel (2010) the amounts of variance explained by demographics might be higher than that of culture and/or personality.[204] Hence, the potential effects of demographics such as age and gender should not be neglected.

The questionnaire was pretested with 15 students of a German BBA program. In a paper-and-pencil questionnaire the subjects were asked to check the questions and instructions for general understanding. Minor changes with respect to the wording of the questionnaire were necessary. As the questionnaire was originally developed in German it had to be translated to English, Chinese, Portuguese, French and Swedish. Two native speakers from each country followed the procedure of a parallel translation. After translating independently, the two translators compared and discussed their versions to agree together with the researcher on one final version with corresponding modifications.[205]

3.3.2 Cleaning the Data

Several tests were performed to clean the data. Table 3-3 gives an overview of the criteria used for that purpose as well as the number of questionnaire responses that were deleted.

Table 3-3: Elimination Plan and Cleaning of Data

	Origin of Responses						
	BRA	**CHN**	**FRA**	**GER**	**SWE**	**USA**	**Pooled**
Elimination Criteria							
Total number of responses collected	36	94	206	131	271	107	845
Number of not finished questionnaires (%)	9 (25)	28 (30)	78 (38)	16 (12)	94 (35)	23 (22)	246 (29)
Number of outliers (%)	0 (0)	1 (1)	1 (.5)	2 (1.5)	1 (.4)	0 (0)	7 (.8)
Number of subjects with negative ZOT (%)	3 (8)	9 (9.6)	24 (12)	2 (1.5)	31 (11)	5 (5)	74 (9)
Number of subjects with deviating nationality (%)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	7 (7)	7 (.8)
Total number of usable responses (%)	24 (67)	56 (60)	103 (50)	111 (85)	145 (54)	72 (67)	511 (61)

Note: BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

First, those cases were deleted that did not finish the questionnaire. Any cases with missing values were eliminated.[206] In total, 246 respondents out of 845 cases (29 percent) did not finish the questionnaire. Second, a box-plot test was used for all Likert-scale variables to

[204] See Taras/Kirkman/Steel (2010), p. 434.
[205] See Malhorta/Agarwal/Perterson (1996), p.24.
[206] See Hulland et al. (1996), p. 184.

identify outliers.[207] The test was also used to identify cases with negative ZOT-values (ZOT = DES - MINTOL) as negative values indicate that those subjects did not interpret the questionnaire correctly. Seven outliers were identified in the overall sample. In 74 out of the 845 cases the calculated ZOTs had negative values. All these cases were eliminated. Further, responses of subjects of other nationalities than defined in a country sample were deleted. Therefore, all individuals that participated in the study within, for example, the U.S. American sample, and were not born in the USA, were removed.

3.3.3 Aggregation of Importance Data

In a first step the mean importance of each of the 19 product attributes were calculated and analyzed (Table 3-4). Following Nadiri and Hussain (2005), the ZOT can be calculated on the individual item as well as on the aggregated factor level.[208] As the study provides a large number of product attributes of a subcompact car, complexity was reduced by aggregating the items applying factor analysis. By applying this interdependence technique, correlations among the attributes are identified resulting in factors explaining these relationships.[209] To identify explanatory factors among the car attributes, an explorative factor analysis was conducted for the pooled sample applying principal components analysis. The number of factors was determined based on a scree plot. It showed four variables with eigenvalues greater than one explaining 56.5 per cent of variance with factor one explaining 29.5 percent, factor two 14 percent, factor three 7 percent, and factor four 6 percent.

Table 3-5 provides for the results of varimax rotation (Kaiser Normalization) with the four factors each having eigenvalues greater than one.

[207] See Gonzales (2009), p. 138.
[208] See Nadiri/Hussain (2005), p. 270.
[209] See Malhotra (2010), p. 636.

Table 3-4: Importance of Product Attributes per Country (Study I)

	BRA *N* = 24			CHN *N* = 56			FRA *N* = 103			GER *N* = 111			SWE *N* = 145			USA *N* = 72			Pooled *N* = 511		
	M	**SD**	**Rank**	**M**	**SD**	**Rank**	**M**	**SD**	**Rank**	**M**	**SD**	**Rank**	**M**	**SD**	**Rank**	**M**	**SD**	**Rank**	**M**	**SD**	**Rank**
Air Conditioning	5.13	1.96	15	5.46	1.32	9	4.49	1.64	16	4.12	1.54	14	4.86	1.48	9	5.00	1.49	11	4.72	1.90	12
Brand Reputation	5.88	1.39	10	5.04	1.51	15	4.69	1.72	14	4.23	1.59	13	4.81	1.57	11	5.14	1.53	9	4.78	1.63	10
Comfort of Front Seats	5.58	1.44	13	5.84	1.02	7	5.04	1.41	10	4.07	1.48	15	4.09	1.61	15	4.99	1.17	12	4.61	1.56	15
Comfort to Access the Car	6.21	1.18	4	5.30	1.49	11	5.87	.98	5	5.46	1.06	5	5.57	1.17	6	5.63	1.01	7	5.67	1.09	6
Driving Qualities	6.13	1.39	7	**6.29**	**.97**	**3**	**6.05**	**1.02**	**3**	4.99	1.38	9	**5.80**	**1.19**	**3**	5.68	1.00	6	5.73	1.24	5
Engine Performance	5.13	1.98	14	5.46	1.19	10	4.76	1.64	12	4.46	1.61	12	4.46	1.74	14	4.78	1.45	13	4.70	1.64	13
Environmental Friendliness	5.83	1.20	11	5.66	1.03	8	5.17	1.49	9	5.15	1.54	7	4.85	1.54	10	4.69	1.58	15	5.09	1.50	9
Fuel Economy	**6.83**	**.48**	**1**	5.91	1.15	6	**6.35**	**.87**	**1**	**6.21**	**1.10**	**2**	**5.98**	**1.11**	**2**	**6.07**	**1.00**	**2**	**6.15**	**1.05**	**2**
High-Quality Heating System	3.46	2.19	19	4.43	1.29	18	5.19	1.46	8	3.59	1.45	18	4.65	1.57	12	4.31	1.49	16	4.40	1.61	16
Overall Manufacturing Quality	6.21	1.06	5	6.25	.90	4	5.55	1.33	6	5.84	.95	4	5.54	1.28	7	**5.96**	**1.12**	**3**	5.78	1.18	4
Prestige	3.88	1.96	18	3.77	1.55	19	3.73	1.82	19	3.43	1.58	19	3.97	1.71	17	3.76	1.52	19	3.75	1.68	19
Reliability	**6.75**	**.53**	**2**	**6.52**	**.81**	**2**	**6.12**	**.99**	**2**	**6.26**	**.93**	**1**	**6.21**	**.99**	**1**	**6.47**	**.79**	**1**	**6.30**	**.93**	**1**
Safety	**6.42**	**.93**	**3**	**6.71**	**.56**	**1**	5.90	1.28	4	**5.93**	**1.12**	**3**	5.72	1.29	4	5.68	1.31	5	**5.94**	**1.22**	**3**
Spaciousness	6.04	1.00	9	5.27	1.04	14	4.56	1.38	15	5.08	1.34	8	3.72	1.45	19	5.04	1.19	10	4.65	1.47	14
Spacious Trunk	5.79	1.61	12	4.73	1.23	16	4.85	1.60	11	4.86	1.51	11	4.48	1.60	13	4.76	1.52	14	4.77	1.55	11
Sportiness	3.96	2.12	17	4.68	1.44	17	3.81	1.86	18	3.84	1.59	16	3.83	1.85	18	4.01	1.75	17	3.95	1.77	18
Unique Design	4.46	1.86	16	5.29	1.32	12	4.74	1.78	13	3.60	1.61	17	4.08	1.88	16	3.94	1.55	18	4.24	1.77	17
User-Friendliness of Control Elements	6.21	.93	6	6.00	1.18	5	5.38	1.41	7	5.20	1.15	6	5.08	1.48	8	5.29	1.00	8	5.35	1.32	7
Visibility	6.04	1.43	8	5.29	1.07	13	4.33	1.51	17	4.96	1.32	10	5.67	1.39	5	5.93	1.03	4	5.26	1.42	8

Note: M = mean importance with 1 (very unimportant) and 7 (very important;) SD = standard deviation.

Table 3-5: Factor Matrix After Rotation and Factor Loadings

Factors (% variance explained)	Variables	Component 1	2	3	4
1 Comfort	High Quality Heating	.712			
	Comfort Access	.701			
	User Friendliness of Control Elements	.670			
	Comfort Front Seats	.629			
	Driving Qualities	.607			
	Air conditioning	.606			
	Visibility	.514			
2 Image	Sportiness		.804		
	Prestige		.744		
	Engine Performance		.689		
	Unique Design		.679		
	Brand Reputation		.649		
3 Trustability	Environmental Friendliness			.727	
	Fuel Economy			.689	
	Reliability			.681	
	Safety	.522		.620	
	Overall Quality		.438	.453	
4 Space	Spacious Trunk				.801
	Spaciousness				.695

For the purpose of interpretation, each factor is composed of variables with factor loadings greater than .4. The variables safety and overall quality loaded on two factors above .4. These variables were assigned to those factors for which they loaded highest. Factor 1 compromises variables that contribute to the overall comfort of a car resulting in the label 'comfort' for the factor. The variables sportiness, prestige, engine performance, unique design, and brand reputation, all loading on factor 2, are attributes that contribute to a specific standing and representation of the owner of a car. The term 'image' was selected to label factor 2. Factor 3 includes the attributes environmental friendliness, fuel economy, reliability, safety, and overall quality. These variables contribute to the level of trustworthiness and sustainability of a car. The term 'trustability' was chosen for factor 3. The factor loadings of the variables 'spacious trunk' and 'spaciousness' were highest for factor 4. It was labeled by the term 'space'.

3.3.4 Test for Normality, Reliability, and Validity

To test for normality, the Shapiro-Wilk test was applied. The test is considered to be the most powerful test for various sample sizes as well as for all types of distributions.[210] For all country samples statistically significant results were found for most items. Therefore, a normal distribution cannot be assumed and non-parametric tests are used in the following. To measure the internal consistency of a set of items and to test for reliability the calculation the coefficient alpha (Cronbach's Alpha) was calculated.[211] Next to the Cronbach's Alpha the inter-item correlation was tested.[212] The test helps to identify items that are inconsistent with the performance of the other items within one factor. Small correlation means that an item is not measuring the same construct as the other items. It was tested if an exclusion of items

[210] See Razali/Wah (2011), p. 32.
[211] See Churchill (1979), p. 68; Cortina (1993), p. 98.
[212] See Churchill (1979), p. 68.

with correlations with less than .2 or .3 would result in an improvement of the Cronbach's Alpha.[213]

Table 3-6 presents the results for the estimation of Cronbach's Alpha and Inter-Item-Correlation for the involvement variables. Only four out of the six factors achieved the requirement of values ≥ .6 for Cronbach's Alpha.[214] The factors 3 (interest in car racing activities) and 4 (self-expression through one's car) had rather low Chonbach Alphas in all sample countries, potentially resulting from the small numbers of items (especially for factor 3). The Cronbach's Alpha reacts strongly on the number of items.[215] For factor 4 three items were applied. As an elimination of items with low inter-item-correlations did not result of an improvement of alpha, these factors will be neglected in the following. The factors enjoyment of driving and using cars (factor 1), readiness to talk about cars (factor 2), attachment to one's car (factor 5), and interest in cars (factor 6) will be considered to test the Hypothesis H I.4.

The test for the reliability of the cultural dimensions resulted in Cronbach's Alphas below the .6 threshold for the masculinity dimension in all six country samples. Further, The dimensions long-term orientation and power distance showed alphas below .6 in the majority of the country samples. These dimensions are not considered for the analysis.

Table 3-7 presents all items of collectivism/individualism and uncertainty avoidance. The Cronbach's Alphas showed satisfying values or both dimensions in all country samples as well as in the pooled sample except for uncertainty avoidance in the French sample. Deleting items with small item-to-total correlation did not improve the overall reliability in all samples and was hence not conduced.

The aim of the TIPI was to develop a short instrument that can be used in complex research situations.[216] However, the TIPI is less reliable and correlates less strongly with other variables than other instruments.[217] Cronbach's Alpha reacts strongly on the number of items within a factor which is observable in the case of the TIPI scale (Table 3-8). Only in some cases the value of .6 was reached. In the case of agreeableness, negative values for alpha are observable indicating negative mean covariance between the items. In such a case the model is not reliable and must be neglected. Agreeableness is excluded from further analysis.

Four factors were identified relating to the attributes of a car. In the following, the factors comfort, image, and trustability will be used for further analysis. These factors achieved the requirement of values ≥ .6 for Cronbach's Alpha (Table 3-9). For the factor space, which includes only two items, values below that threshold were obtained. The factor space will be neglected in the following analysis.

Confirmatory Factor Analysis (CFA) is recommended testing for the factorial validity of a theoretical construct.[218] The comparative fit index (CFI) and the root mean square error of

[213] See Churchill (1979), p. 68
[214] See Cortina (1993), p. 98.
[215] See Churchill (1979), p. 68.
[216] See Gosling/Rentfrow/Swann (2003), p. 523.
[217] See loc. cit., p. 524.
[218] See Byrne (2010), p. 53.

approximation (RMSEA) are used to assess how well the measurement model fits the data. Further, an application of the chi-square (χ^2) test is recommended when testing a model's fit. As the sample size affects the statistical power and the precision of models, sample size requirements have to be fulfilled when conducting CFA. A minimum sample size of $N \geq 100$ to 200 or a minimum of 5 to 10 cases per parameter can be considered as rules of thumb.[219] According to, for example, Cheung and Rensvold (2002) the chi-square (χ^2) test does not result in an adequate indicator of model fit given large sample sizes ($N > 250$) as well as small sample sizes. Consequently, as the sample size in each individual country is rather small in the study CFA was not performed. It is also the case for the assessment of measurement invariance over the country samples (see Chapter 3.1). As the country samples are rather small and the sample sizes differ strongly among the countries, tests of measurement equivalence were neglected as small sample sizes with 100 or less respondents may lead to problems such as non-convergent or improper solutions and low explanatory power.[220] As a consequence, the comparison of the data between the countries was not possible.

Further, it was tested whether common method bias affects the results.[221] Common method bias or common method variance (CMV) occurs, when self-reported questionnaires are used and the dependent and independent variables are collected from the same respondents.[222] CMV generates "*... false internal consistency, that is, an apparent correlation among variables generated by their common source.*"[223] As CMV is a common problem in behavioral research, the researcher must control for it.[224] The problem can be addressed ex-ante in the procedural design as well as ex-post in a statistical control.[225] To avoid CMV already when designing the study, the dependent variable should be operationalized using any information from a different source than the independent variable. Further, procedural remedies like mixing the order of the questions or using different scale types could reduce the risk of CMV. Chang, van Witteloostuijn, and Eden (2010) also mention that the likelihood of CMV is reduced when applying complicated specifications of regression models as potential effects are difficult to be visualized by the respondent. These ex-ante approaches that minimize the risk of CMV should be considered when designing a study. Ex-post, after data is collected, several statistical tests can be used to detect and control for CMV. For example, Harman's single factor test *"... load(s) all items from each of the constructs into an exploratory factor analysis to see whether one single factor does emerge or whether one general factor does account for a majority of the covariance between the measures..."*[226]. If that is not the case, CMV is not present. A problem with the test is that it is claimed to be insensitive and more sophisticated tests should be applied. Chang, van Witteloostuijn, and Eden (2010) argued that it is unlikely that a single-factor model would fit the data. Further, a guideline stating an acceptable percentage of explained variance of a single factor is missing. A more promising method is a direct measure of a latent common method factor which *"... allows questionnaire items to*

[219] See Brown (2006), p. 413.
[220] See Kline (2011), p. 254.
[221] See Chang/van Witteloostuijn/Eden (2010), pp. 178ff.
[222] See loc. cit., p. 178.
[223] Loc. cit., p. 178.
[224] See Podsakoff/MacKenzie/Lee (2003), p. 900.
[225] See Chang/van Witteloostuijn/Eden (2010), p. 179.
[226] Loc. cit., p. 180.

load on their theoretical constructs, as well as on a latent CMV factor, and examines the significance of theoretical constructs with or without the common factor method."[227]

As all these approaches have their limitations.[228] Podsakoff et al. (2003) and Chang, van Witteloostuijn, and Eden (2010) recommended to use multiple tests to make sure that CMV is not a significant issue. In the study a test for multicollinearity was conducted as a first step. For that purpose, the correlation coefficients for each country as well as for the pooled sample were examined. Table 3-10 presents the pair-wise correlations of all independent and dependent variables for the pooled sample. The results show a very strong correlation (.76) between the involvement factors 'interest in cars' and 'readiness to talk about cars'. An absolute value of the correlation coefficient above the threshold of .7 indicates that the collinearity between two variables is high.[229] As a consequence, the variable 'readiness to talk' will be eliminated and not considered for further analysis.[230] As a further test for multicollinearity, Variance Inflation Factors (VIF) for all independent variables were generated.[231] The values were below the threshold of 10 within the pooled and the country samples despite for the Brazilian data which will be considered when interpreting the Brazilian data.

[227] Chang/van Witteloostuijn/Eden (2010), p. 181.
[228] See Podsakoff/MacKenzie/Lee(2003), pp. 890ff for a review.
[229] See Mela/Kopalle (2002), p. 667.
[230] See loc. cit., p. 668.
[231] See loc. cit., p. 667.

Table 3-6: Reliability Measures of the Involvement Scale

Variables and Items	BRA $N = 24$ Item-to-total-cor.	α	CHN $N = 56$ Item-to-total-cor.	α	FRA $N = 103$ Item-to-total-cor.	α	GER $N = 111$ Item-to-total-cor.	α	SWE $N = 145$ Item-to-total-cor.	α	USA $N = 72$ Item-to-total-cor.	α	Pooled $N = 511$ Item-to-total-cor.	α
Factor 1: Enjoyment of driving and using cars		**.92**		**.83**		**.77**		**.78**		**.82**		**.86**		**.85**
Cars offer me relaxation and fun when life's pressures build up.	.885		.707		.623		.642		.667		.757		.710	
Driving my car is one way I often use to relieve daily pressure.	.868		.669		.678		.612		.705		.816		.749	
Driving along an open stretch of road seems to „recharge" me in body, mind and spirit.	.755		.630		.668		.579		.582		.594		.657	
Driving my car is one of the most satisfying and enjoyable things I do.	.765		.609		.320		.532		.671		.686		.618	
Factor 2: Readiness to talk about cars		**.82**		**.65**		**.22**		**.78**		**.70**		**.87**		**.72**
I get bored when other people talk to me about their cars. (R)	.492		.345		.083		.611		.551		.715		.490	
When I'm with a friend, we often end up talking about cars.	.780		.449		.116		.551		.470		.710		.521	
I enjoy discussing cars with my friends.	.786		.617		.174		.777		.657		.865		.672	
Factor 3: Interest in car racing activities		**.392**		**.68**		**.33**		**-1.8**		**.37**		**.70**		**.22**
I have sometimes imagined being a race driver.	.25		.521		.2		-.472		.228		.533		.124	
I have little or no interest in car races. (R)	.25		.521		.2		-.472		.228		.533		.124	
Factor 4: Self-expression through one's car		**.20**		**.34**		**.45**		**.44**		**.64**		**.03**		**.49**
It is worth the extra cost to drive an attractive and attention-getting car.	.123		.257		.380		.416		.632		-.159		.350	
I prefer to drive a car with a strong personality of its own.	.475		.061		.354		.400		.681		.105		.451	
It is natural that young people become interested in cars.	-.179		.300		.112		.035		.134		.164		.150	

Table 3-6: Reliability Measures of the Involvement Scale (cont.)

Variables and Items	BRA *N* = 24 Item-to-total-cor.	BRA α	CHN *N* = 56 Item-to-total-cor.	CHN α	FRA *N* = 103 Item-to-total-cor.	FRA α	GER *N* = 111 Item-to-total-cor.	GER α	SWE *N* = 145 Item-to-total-cor.	SWE α	USA *N* = 72 Item-to-total-cor.	USA α	Pooled *N* = 511 Item-to-total-cor.	Pooled α
Factor 5: Attachment to one's car		**.74**		**.52**		**.60**		**.56**		**.64**		**.75**		**.68**
Sometimes I get too wrapped up in my car.	.616		.450		.464		.324		.632		.644		.509	
I generally feel a sentimental attachment to the cars I own.	.587		.427		.434		.402		.681		.591		.486	
I don‘t like to think of my car as being ordinary.	.497		.146		,353		.456		.134		.527		.503	
Factor 6: Interest in cars		**.76**		**.67**		**.62**		**.73**		**.67**		**.67**		**.67**
I do not pay much attention to car advertisements in magazines or on TV. (R)	.700		.354		.445		.568		.455		.460		.487	
Cars are nothing more than appliances. (R)	.534		.540		.349		.520		.427		.489		.414	
I get bored when other people talk to me about their cars. (R)	.627		.557		.515		.571		.575		.515		.556	

Note: ‘‘R’’ refers to reverse-scored items; α = Cronbach's Alpha; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America; variables and items in grey were deleted.

Table 3-7: Reliability Measures of the Cultural Dimensions

Variables and Items	BRA *N* = 24 Item-to-total-cor.	BRA α	CHN *N* = 56 Item-to-total-cor.	CHN α	FRA *N* = 103 Item-to-total-cor.	FRA α	GER *N* = 111 Item-to-total-cor.	GER α	SWE *N* = 145 Item-to-total-cor.	SWE α	USA *N* = 72 Item-to-total-cor.	USA α	Pooled *N* = 511 Item-to-total-cor.	Pooled α
Collectivism/Individualism		**.64**		**.67**		**.78**		**.79**		**.72**		**.76**		**.74**
Individuals should sacrifice self-interest for the group.	.580		.429		.557		.422		.427		.537		.477	
Individuals should stick with the group even through difficulties.	.140		.532		.286		.547		.283		.315		.321	
Group welfare is more important than individual rewards.	.816		.374		.724		.599		.491		.526		.561	
Group success is more important than individual success.	.490		.475		.699		.552		.605		.656		.586	
Individuals should only pursue their goals after considering the welfare of the group.	.029		.514		.408		.493		.373		.529		.416	
Group loyalty should be encouraged even if individual goals suffer.	.481		.132		.476		.612		.556		.507		.506	
Uncertainty Avoidance		**.78**		**.68**		**.60**		**.69**		**.72**		**.76**		**.70**
It is important to have instructions spelled out in detail so that I always know what I'm expected to do.	.680		.548		.282		.475		.522		.510		.447	
It is important to closely follow instructions and procedures.	.615		.353		.352		.362		.430		.302		.387	
Rules and regulations are important because they inform me of what is expected of me.	.338		.430		.497		.524		.509		.670		.517	
Standardized work procedures are helpful.	.640		.365		.217		.378		.352		.557		.379	
Instructions for operations are important.	.572		.525		.476		.519		.613		.602		.557	

Note: α = Cronbach's Alpha; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America; variables and items in grey were deleted.

Table 3-7: Reliability Measures of the Cultural Dimensions (cont.)

Variables and Items	BRA $N = 24$ Item-to-total-cor.	α	CHN $N = 56$ Item-to-total-cor.	α	FRA $N = 103$ Item-to-total-cor.	α	GER $N = 111$ Item-to-total-cor.	α	SWE $N = 145$ Item-to-total-cor.	α	USA $N = 72$ Item-to-total-cor.	α	Pooled $N = 511$ Item-to-total-cor.	α
Long-Term Orientation		**.80**		**.45**		**.68**		**.57**		**.64**		**.77**		**.64**
Careful management of money (Thrift)	.820		.077		.377		.302		.406		.406		.410	
Going on resolutely in spite of opposition (Persistence)	.202		-.062		.357		.324		.252		.252		.191	
Personal steadiness and stability	.637		.358		.538		.297		.339		.339		.421	
Long-term planning	.571		.450		.336		.416		.488		.488		.437	
Giving up today's fun for success in the future	.514		.237		.332		.060		.394		.394		.299	
Working hard for success in the future	.778		.459		.552		.489		.371		.371		.521	
Masculinity		**.53**		**.54**		**.55**		**.55**		**.66**		**.56**		**.64**
It is more important for men to have a professional career than it is for women.	.194		.352		.460		.222		.472		.472		.472	
Men solve problems with logical analysis; women usually solve problems with intuition.	.200		.259		.295		.348		.485		.485		.334	
Solving difficult problems usually requires an active, forcible approach, which is typical for men.	.625		.385		.376		.389		.429		.429		.479	
There are some jobs that a man can do better than a woman.	.395		.372		.267		.399		.418		.418		.404	
Power Distance		**.24**		**.58**		**.58**		**.66**		**.62**		**.81**		**.62**
People in higher positions should make most decisions without consulting people in lower positions.	.076		.360		.346		.553		.491		.595		.380	
People in higher positions should not ask the opinions of people in lower positions too frequently.	.239		.379		.459		.513		.478		.751		.537	
People in higher positions should avoid social interaction with people in lower positions.	-.098		.258		.151		.238		.493		.425		.267	
People in lower positions should not disagree with decisions by people in higher positions.	.088		.207		.474		.385		.403		.653		.473	
People in higher positions should not delegate important tasks to people in lower positions.	.358		.485		.299		.398		.056		.550		.243	

Note: α = Cronbach's Alpha; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America; variables and items in grey were deleted.

Table 3-8: Reliability Measures of TIPI

Variables and Items	BRA $N = 24$ Item-to-total-cor.	α	CHN $N = 56$ Item-to-total-cor.	α	FRA $N = 103$ Item-to-total-cor.	α	GER $N = 111$ Item-to-total-cor.	α	SWE $N = 145$ Item-to-total-cor.	α	USA $N = 72$ Item-to-total-cor.	α	Pooled $N = 511$ Item-to-total-cor.	α
Extraversion		**.79**		**.75**		**.61**		**.64**		**.65**		**.77**		**.64**
Extraverted, enthusiastic	.661		.609		.447		.478		.485		.635		.488	
Reserved, quiet (R)	.661		.609		.447		.478		.485		.635		.488	
Agreeableness		.05		-.60		-.02		.33		.29		.53		.25
Critical, quarrelsome (R)	.026		-		-		.203		.189		.397		.157	
Sympathetic, warm	.026		-		-		.203		.189		.397		.157	
Conscientiousness		**.58**		**.58**		**.66**		**.53**		**.54**		**.32**		**.56**
Dependable, self-disciplined	.420		.409		.502		.390		.404		.234		.412	
Disorganized, careless (R)	.420		.409		.502		.390		.404		.234		.412	
Emotional Stability		**.59**		**.44**		**.48**		**.60**		**.48**		**.68**		**.57**
Anxious, easily upset (R)	.417		.286		.324		.434		.328		.535		.408	
Calm, emotionally stable	.417		.286		.324		.434		.328		.535		.408	
Openness to Experience		**.80**		**.37**		**.49**		**.30**		**.54**		**.57**		**.51**
Open to new experiences, complex	.677		.226		.328		.183		.386		.397		.349	
Conventional, uncreative (R)	.677		.226		.328		.183		.386		.397		.349	

Note: ''R'' refers to reverse-scored items, α = Cronbach's Alpha; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America; variables and items in grey were deleted.

Table 3-9: Reliability Measures of the Product Factors

Factors and Items	BRA N = 24 Item-to-total-cor.	α	CHN N = 56 Item-to-total-cor.	α	FRA N = 103 Item-to-total-cor.	α	GER N = 111 Item-to-total-cor.	α	SWE N = 145 Item-to-total-cor.	α	USA N = 72 Item-to-total-cor.	α	Pooled N = 511 Item-to-total-cor.	α
Comfort		**.71**		**.81**		**.79**		**.77**		**.85**		**.81**		**.80**
High Quality Heating	.281		.404		.577		.612		.641		.517		.519	
Comfort Access	.654		.570		.564		.634		.675		.553		.622	
User Friendliness of Control Elements	.485		.648		.471		.524		.640		.662		.572	
Comfort Front Seats	.583		.789		.571		.478		.622		.592		.593	
Driving Qualities	.570		.435		.498		.456		.472		.537		.514	
Air conditioning	.065		.631		.535		.497		.643		.489		.551	
Visibility	.735		.463		.471		.298		.609		.561		.430	
Image		**.79**		**.62**		**.75**		**.81**		**.83**		**.82**		**.80**
Sportiness	.722		.172		.649		.629		.685		.721		.633	
Prestige	.598		.596		.659		.645		.716		.679		.651	
Engine Performance	.748		.286		.398		.527		.575		.528		.526	
Unique Design	.440		.469		.530		.647		.584		.683		.584	
Brand Reputation	.372		.396		.334		.554		.598		.437		.484	
Trustability		**.71**		**.76**		**.66**		**.69**		**.72**		**.72**		**.71**
Environmental Friendliness	.421		.486		.406		.471		.408		.410		.445	
Fuel Economy	.348		.604		.431		.508		.403		.596		.452	
Reliability	.607		.683		.510		.442		.607		.521		.544	
Safety	.767		.560		.515		.499		.705		.640		.609	
Overall Quality	.402		.421		.272		.341		.372		.358		.362	
Space		**.83**		**.58**		**.49**		**.80**		**.49**		**.46**		**.60**
Spacious Trunk	.787		.415		.325		.665		.330		.310		.434	
Spaciousness	.787		.415		.325		.665		.330		.310		.434	

Note: α = Cronbach's Alpha; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America; variables and items in grey were deleted.

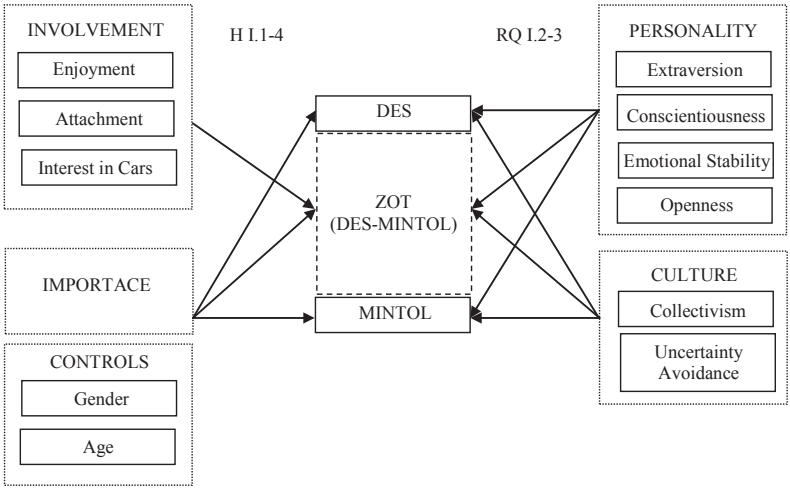
Table 3-10: Pair-wise Correlations (Pooled Sample)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1																								
2	.67**																							
3	.57**	.39**																						
4	.54**	.24**	.23**																					
5	.31**	.48**	.07	.59**																				
6	.18**	.00	.54**	.50**	.26**																			
7	-.55**	-.52**	-.37**	.32**	.18**	.28**																		
8	-.55**	-.78**	-.39**	.11*	.08	.17**	.73**																	
9	-.33**	-.38**	-.28**	.31**	.22**	.57**	.70**	.59**																
10	.51**	.24**	.23**	.49**	.25**	.20**	-.08	-.11*	.03															
11	.26**	.50**	.03	.18**	.47**	-.03	-.13**	-.24**	-.07	.49**														
12	.15**	-.02	.60**	.16**	-.04	.66**	.03	-.01	.21**	.38**	.12**													
13	.06	-.11*	.26**	.07	-.10*	.27**	.02	.04	.08	.27**	.00	.43**												
14	.03	-.11*	.28**	.02	-.14**	.32**	.03	.05	.11*	.11**	-.07	.43**	.49**											
15	.01	-.11*	.23**	-.01	-.11*	.23**	-.03	.05	.06	.18**	.04	.37**	.58**	.52**										
16	.05	-.10*	.32**	.04	-.16**	.38**	.01	.01	.14**	.08	-.12**	.47**	.43**	.76**	.41**									
17	-.09	-.04	.04	-.01	.03	.08	.10*	.08	.08	-.04	.00	.08	.12**	.03	.06	.08								
18	.11*	.12**	.05	.07	.07	.01	-.02	-.07	-.02	.10*	.14**	.01	-.01	.05	-.03	.10*	-.05							
19	-.04	.01	-.06	.07	.04	.05	.09*	.00	.10*	-.12**	-.06	-.05	-.07	.01	-.10*	.01	.11*	.22**						
20	.04	.07	.03	.08	.13**	.04	.01	-.01	.01	.07	.11*	.03	.02	-.04	-.04	.00	.19**	.14**	.21**					
21	-.11*	-.09*	-.05	-.08	-.07	.01	.07	.05	.11*	.00	.01	.05	.03	.14**	.11*	.10*	-.02	-.02	.03	-.04				
22	.13**	.01	.13**	.12**	-.03	.12**	-.02	-.03	.01	.22**	.10*	.20**	.11*	.14**	.16**	.17**	.00	.17**	-.04	-.05	.22**			
23	.17**	.22**	-.06	.07	.11*	-.20**	-.13**	-.16**	-.18**	.17**	.21**	-.19**	-.05	-.28**	-.11*	-.21**	.09*	.05	-.16**	.12**	-.20**	.00		
24	.07	.14**	.04	.06	.19**	-.02	-.01	-.03	-.04	-.12**	.03	-.12**	-.20**	-.09*	-.17**	-.12**	.07	.08	.11**	.07	-.01	-.05	-.05	

Note: $N = 511$; *$p < .05$, **$p < .01$; 1 = Mintol comfort; 2 = Mintol trustability; 3 = Mintol image; 4 = Desired comfort; 5 = Desired trustability; 6 = Desired image; 7 = Tolzone comfort; 8 = Tolzone trustability; 9 = Tolzone image; 10 = Importance comfort; 11 = Importance trustability; 12 = Importance image; 13 = Enjoyment of driving a car; 14 = Readiness to talk about cars; 15 = Attachment to one's car; 16 = Interest in cars; 17 = Extraversion; 18 = Conscientiousness; 19 = Emotional stability; 20 = Openness to Experience; 21 = Collectivism; 22 = Uncertainty Avoidance; 23 = Gender; 24 = Age.

Figure 3-2 illustrates the resulting research variables and their potential relationships which are tested in the following.

Figure 3-2: Research Variables of Study I



3.3.5 Descriptive Statistics

Table 3-11 presents the mean values and standard deviations for all research variables. As an assessment of measurement invariance was not conducted (see Chapter 3.3.4), a comparison of the means between the countries is not possible.

Table 3-12 summarizes the mean values for collectivism and uncertainty avoidance as calculated from the data sets according to the directions of the CVSCALE[232] compared to the values of Hofstede's Value Survey Module (VSM)[233].

[232] See Yoo/Donthu/Lenartowicz (2009), p. 23.
[233] See Hofstede/Hofstede (2013), p. 1.

Table 3-11: Means and Standard Deviations Study I

	BRA M (SD)	CHN M (SD)	FRA M (SD)	GER M (SD)	SWE M (SD)	USA M (SD)	Pooled M (SD)
1 Mintol Comfort	5.21(1.70)	4.51 (1.35)	4.33 (1.26)	3.62 (1.01)	4.57 (1.31)	4.31 (1.42)	4.30 (1.34)
2 Mintol Trustability	6.44(1.70)	5.46 (1.48)	5.16 (1.53)	5.45 (1.11)	5.39 (1.40)	5.21 (1.37)	5.39 (1.41)
3 Mintol Image	4.33(1.73)	3.70 (1.18)	3.37 (1.16)	2.90 (1.11)	3.45 (1.40)	3.54 (1.35)	3.40 (1.32)
5 Desired Comfort	7.45 (.93)	7.34 (.99)	6.97 (1.17)	6.85 (1.09)	7.66 (1.09)	7.44 (1.04)	7.27 (1.16)
6 Desired Trustability	8.51 (.59)	8.21 (.66)	7.86 (.94)	8.34 (.72)	8.23 (.91)	8.15 (.75)	8.18 (.83)
7 Desired Image	6.59(1.35)	6.63 (1.15)	6.09 (1.54)	6.10 (1.62)	6.75 (1.63)	6.70 (1.38)	6.45 (1.54)
9 Tolzone Comfort	2.24(1.10)	2.83 (1.23)	2.27 (.99)	3.24 (.99)	3.14 (1.30)	3.14 (1.22)	2.97 (1.22)
10 Tolzone Trustability	2.07(1.42)	2.76 (1.37)	2.70 (1.30)	2.90 (.98)	2.84 (1.28)	2.94 (1.21)	2.79 (1.24)
11 Tolzone Image	2.27(1.39)	2.89 (1.41)	2.71 (1.35)	3.20 (1.14)	3.30 (1.43)	3.16 (1.34)	3.05 (1.36)
13 Importance Comfort	5.54 (.94)	5.52 (.83)	5.19 (.91)	4.63 (.88)	5.10 (1.03)	5.26 (.81)	5.10 (.96)
14 Importance Trustability	6.41 (.60)	6.21 (.65)	5.82 (.79)	5.88 (.76)	5.66 (.87)	5.78 (.82)	5.85 (.81)
15 Importance Image	4.66(1.39)	4.85 (.89)	4.34 (1.24)	3.91 (1.21)	4.23 (1.35)	4.33 (1.19)	4.29 (1.26)
17 Enjoyment of Driving a Car	3.46(1.93)	4.51 (1.34)	3.00 (1.35)	2.42 (1.12)	2.94 (1.40)	4.13 (1.47)	3.20 (1.52)
18 Readiness to Talk About Cars	2.97(1.84)	3.96 (1.40)	2.76 (.97)	2.54 (1.31)	2.60 (1.23)	2.98 (1.61)	2.84 (1.37)
19 Attachment to One's Car	3.03(1.58)	4.59 (1.10)	3.06 (1.36)	2.60 (1.13)	2.54 (1.18)	3.87 (1.33)	3.09 (1.41)
20 Interest in Cars	3.89(1.78)	4.38 (1.45)	3.86 (1.46)	3.53 (1.45)	3.79 (1.51)	4.06 (1.45)	3.85 (1.50)
21 Extraversion	4.33(1.53)	4.79 (1.38)	3.86 (1.19)	4.87 (1.26)	4.33 (1.35)	4.88 (1.45)	4.48 (1.38)
22 Conscientiousness	3.10(1.88)	5.00 (1.12)	4.98 (1.38)	5.50 (1.04)	5.39 (1.20)	5.80 (1.05)	5.35 (1.20)
23 Emotional Stability	4.23(1.74)	4.31 (1.13)	4.14 (1.26)	5.10 (1.18)	5.12 (1.12)	4.88 (1.37)	4.74 (1.29)
24 Openness to Experience	5.81(1.10)	4.83 (.94)	5.23 (1.09)	5.41 (.85)	5.47 (1.08)	5.36 (1.15)	5.34 (1.05)
25 Collectivism	3.26(.64)	3.26 (.56)	3.24 (.71)	3.18 (.61)	2.86 (.63)	3.03 (.69)	3.09 (.66)
26 Uncertainty Avoidance	3.86(.67)	3.98 (.55)	3.70 (.54)	3.58 (.57)	3.61 (.64)	3.79 (.63)	5.10 (.96)

Note: M = means; SD = standard deviations; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-12: Values for Cultural Dimensions

Individualism/Collectivism				Uncertainty Avoidance			
Own Study (Collectivism)		VSM (Individualism)		Own Study		VSM	
BRA	3.26	USA	91	CHN	3.98	FRA	86
CHN	3.26	FRA	71	BRA	3.86	BRA	76
GER	3.24	SWE	71	USA	3.79	GER	65
FRA	3.18	GER	67	GER	3.70	USA	46
USA	3.03	BRA	38	SWE	3.61	CHN	30
SWE	2.86	CHN	20	FRA	3.58	SWE	29

Note: VSM=Value Survey Module, VSM data based on Hofstede/Hofstede (2013); BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

As a comparison of the means is not possible in the study, Table 3-12 only illustrates the different value levels. For the Brazilian sample a tendency towards collectivism (mean = 3.26) is observable. Comparing the result with the country score of the VSM, which indicates a low level of individualism for Brazil (which means that Brazil is more collectivistic), similar results were obtained. This is also the case for the other country samples. A rather high value (3.98) of uncertainty avoidance was calculated for the Chinese sample. The lowest value (3.58) of uncertainty avoidance was obtained for France. In contrast, the VSM indicates that uncertainty avoidance is low in China and high in France. Therefore, the results in the study are different compared to VSM-based studies. As an explanation Steel and Taras (2010) stated that culture might change over time.[234] Answers might reflect the current situation and attitude of individuals in surveys including a measurement of culture. Steel and Taras found significant effects of individual and country characteristics (such as micro characteristics of age, gender, education, and socio-economic status as well as the macro characteristics of wealth and freedom) on personal cultural values. Considering the economic situation when conducting the study in the year 2009 higher uncertainty avoidance scores can be explained by a potential fear of students with respect to job possibilities and their economic well-being in the future during the financial crisis.

3.4 A Cross-National Investigation of the ZOT – Results of Study I

Due to the small country samples the statistical power of only one model compromising all independent as well as the control variables would be limited.[235] To avoid such an effect, three research models were tested to answer the research questions and to test for the hypotheses. The first model (Model I.1) tests for the hypothesized relationships between importance and involvement as the independent variables and the desired and minimum tolerable performance as well as the Zone of Tolerance as the dependent variables. Model I.1 will be applied for the product factors comfort, image, and trust-ability. With the second model (Model I.2) the potential relationships between the cultural dimensions collectivism and uncertainty avoidance (independent variables) and the desired and minimum tolerable performance level (dependent variables) will be tested. Research Question I.3 examines the potential effects of personality on the variables of the ZOT. With Model I.3 the potential effects of the personality factors extraversion, conscientiousness, emotional stability, and openness to experience

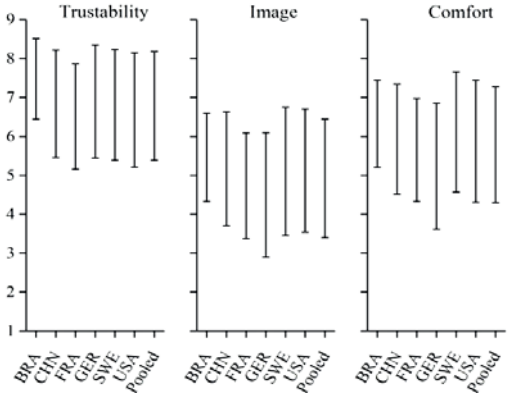
[234] See Steel/Taras (2010), p. 212.
[235] See Cohen (1992), p. 156.

(independent variables) on the desired and minimum tolerable performance level (dependent variables) will be investigated. In all three models gender and age are included as control variables.

3.4.1 The Position and the Width of the ZOT across Countries

Figure 3-3 illustrates the position and the width of the ZOT for the three product factors trustability, image, and comfort by representing the minimum tolerable performance level (lower point), the desired performance level (upper point) and the ZOT (distance between the minimum tolerable and desired performance level) for each country sample. There are attribute as well as group specific differences in the assessment of the minimum tolerable and desired performance level which results in different positions and widths of the ZOTs. In the following, the characteristics of the ZOT will be tested empirically for each country sample.

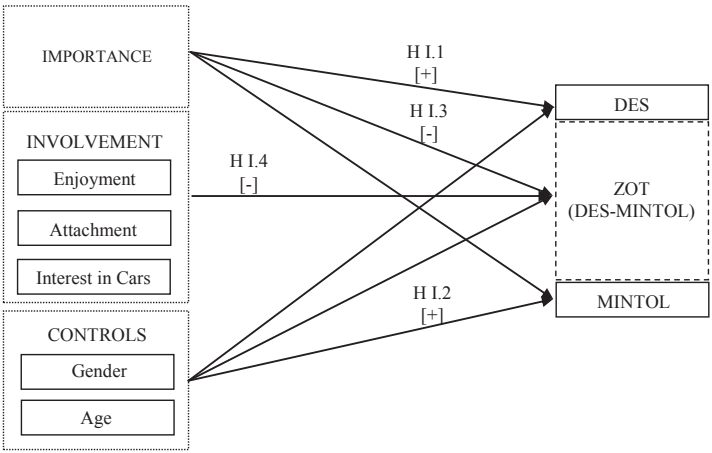
Figure 3-3: The Position and the Width of the ZOT



Note: BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Figure 3-4 illustrates the hypothesized relationships between importance and involvement as the independent variable and the desired performance level, minimum tolerable performance level and the width of the tolerance zone as the dependent variables.

Figure 3-4: Research Model I.1



The relationships were statistically tested by applying ordinary least squares regression analyses. The hypotheses H I.1-HI.4 were tested for all six countries as well as the pooled sample.

Desired performance level: Table 3-13 presents the regression results for the analysis of the effects of importance, involvement as well as the control variables age and gender on the desired performance level. The variables explain between 11 percent (for trust-ability in the Swedish sample) and 71 percent (for comfort in the Brazilian sample) of the respondent's variance in the desired performance level of the three product factors. Hypothesis H I.1 asserts that the higher the importance of product attributes the higher the level of the desired expectation standards. The results suggest significant positive effects of importance on the minimum tolerable performance levels for each product attribute and within each country sample. In the Chinese sample the effect of importance on the minimum tolerable level of trustability is not significant. In the Swedish sample the effect of importance on the minimum tolerable level of comfort is not significant. Despite these two exceptions, the findings support Hypothesis H I.1. The higher the importance of a product attribute, the higher is the level of the minimum tolerable performance level.

Further, the effect of the involvement dimensions enjoyment, attachment, and interest on the desired performance level were tested. The variable enjoyment shows a significant negative effect on the desired level of comfort (β = -.17, p < .05), image (β = -.20, p < .05), and trustability (β = -.13, p < .10) within the French sample. Attachment has a significant negative effect on the desired level of comfort in the German sample (β = -.30, p < .01). The variable interest shows significant positive effects on the desired level of comfort in the German sample (β = .19, p < .01) and on the desired level of image in the French (β = .19, p < .01), Swedish (β = -.15, p < .05) and pooled samples (β = .13, p < .001).

The results for the control variables are mixed. Age shows a significant positive effect on the desired performance level for comfort in the Brazilian (β = .08, p < .05) and pooled sample (β = .02, p < .01) and a negative effect in the Chinese (β = -.11, p < .10) sample. For trustability a positive effect of age is observable in the German (β = .05, p < .11), Swedish (β = .02, p < .10), and pooled sample (β = .02, p < .05) and a negative effect within the Chinese sample (β = -.09, p < .10). Gender shows a negative effect on the desired level for Image in the Chinese sample (β = -.55, p < .05), meaning that women have a lower desired level. There is a positive effect of gender in the U.S. American sample (β = .29, p < .10) with respect to trustability implying that women have a higher desired performance level for that product factor.

The U.S. American sample was applied as the baseline in the analysis of the pooled sample. Comparing the country specific results to the baseline, there are significant country effects on the desired performance level. As shown in Table 4-13 the country dummies of France (β = -.49, p < .001) and Germany (β = -.30, p < .05) are significant for the desired level of comfort. For the product factor Image the country dummies of China (β = -.51, p < .05), France (β = -.67, p < .001), and Germany (β = -.31, p < .05) are significant. A significant effect of the country dummy of France (β = -.33, p < .01) is observable.

Minimum tolerable performance level: As shown in Table 3-14, the variables importance, involvement, age, and gender explain between 11 percent (for Image in the Chinese sample) and 67 percent (for Image in the Brazilian sample) of the respondent's variance in the minimum tolerable performance level of the three product factors.

Table 3-13: Regression Results Desired Level

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Comfort							
Intercept	.24	6.10**	2.97*	2.63*	5.02***	4.16***	3.84***
Importance Comfort	.97**	.61**	.68***	.86***	.38***	.69***	.63***
Enjoyment	-.08	.13	-.17*	.06	-.12	.16	-.03
Attachment	-.08	-.02	.03	-.30**	.07	-.09	-.05
Interest	.08	-.10	.08	.19*	.08	-.15	.05
Gender (female)	-.08	.09	-.16	-.01	.20	-.28	-.04
Age	.08	-.11	.03	.01	.02	.01	.02**
Country Dummy BRA	-	-	-	-	-	-	-.33
Country Dummy CHN	-	-	-	-	-	-	-.23
Country Dummy FRA	-	-	-	-	-	-	-.49***
Country Dummy GER	-	-	-	-	-	-	-.30*
Country Dummy SWE	-	-	-	-	-	-	.19
F	*10.47***	*8.65***	*7.45***	*14.07***	*4.36***	*4.53***	*21.65***
R^2	*.79*	*.51*	*.32*	*.45*	*.16*	*.30*	*.32*
Adjusted R^2	*.71*	*.46*	*.28*	*.42*	*.12*	*.23*	*.31*
Image							
Intercept	4.02†	4.12*	1.69*	.90	3.57†	4.41***	3.24***
Importance Image	.68*	.59**	.94***	.89†	.73†	.45**	.77***
Enjoyment	-.04	.20	-.20*	.14	-.09	.08	-.04
Attachment	-.15	-.11	.05	-.13	.02	.13	-.01
Interest	.18	.14	.19**	.12	.15*	-.07	.13***
Gender (female)	.00	-.55*	.02	-.10	-.14	.03	-.17
Age	-.03	-.05	.01	.10	-.01	-.01	-.00
Country Dummy BRA	-	-	-	-	-	-	-.39
Country Dummy CHN	-	-	-	-	-	-	-.51*
Country Dummy FRA	-	-	-	-	-	-	-.67***
Country Dummy GER	-	-	-	-	-	-	-.31*
Country Dummy SWE	-	-	-	-	-	-	.06
F	*3.5**	*8.22****	*32.14****	*25.06****	*18.40****	*2.98**	*43.92****
R^2	*.56*	*.50*	*.67*	*.59*	*.44*	*.22*	*.49*
Adjusted R^2	*.40*	*.44*	*.65*	*.57*	*.42*	*.14*	*.48*
Trustability							
Intercept	4.74*	7.77***	5.03***	3.95***	5.52***	5.15***	5.25***
Importance Trustability	.61**	.40*	.57***	.54***	.36***	.46***	.46***
Enjoyment	.10	.01	-.13†	.08	-.07	.01	-.02
Attachment	-.09	.02	-.04	-.07	.10	.02	.00
Interest	-.08	-.05	-.03	.02	.01	-.08	-.02
Gender (female)	.07	-.01	.03	.05	.05	.29†	.04
Age	.00	-.09	.01	.05†	.02†	.02	.02*
Country Dummy BRA	-	-	-	-	-	-	-.04
Country Dummy CHN	-	-	-	-	-	-	-.10
Country Dummy FRA	-	-	-	-	-	-	-.33**
Country Dummy GER	-	-	-	-	-	-	.09
Country Dummy SWE	-	-	-	-	-	-	.08
F	*2.90**	*2.26**	*7.60****	*8.06****	*3.96****	*7.38****	*15.96****
R^2	*.50*	*.22*	*.32*	*.32*	*.15*	*.41*	*.26*
Adjusted R^2	*.33*	*.12*	*.28*	*.28*	*.11*	*.35*	*.24*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-14: Regression Results Minimum Tolerable Level

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Comfort							
Intercept	-1.78	1.93	1.53	-.86	.35	-3.86**	-.10
Importance Comfort	1.00*	.53*	.46***	.66***	.66***	.93***	.66***
Enjoyment	.06	-.27	-.21*	.04	-.11	.17	-.08†
Attachment	-.07	.40*	.04	-.25**	.01	-.07	-.00
Interest	.13	-.32*	.08	.13*	.11	.03	.08**
Gender (female)	1.42*	.66*	.54*	.07	.31	.36	.36***
Age	.01	.00	.02	.06†	.02	.11**	.03**
Country Dummy BRA	-	-	-	-	-	-	.56*
Country Dummy CHN	-	-	-	-	-	-	.12
Country Dummy FRA	-	-	-	-	-	-	.02
Country Dummy GER	-	-	-	-	-	-	-.39*
Country Dummy SWE	-	-	-	-	-	-	.30
F	*3.74**	*4.17***	*4.16****	*12.43****	*10.70****	*8.30****	*23.93****
R^2	*.57*	*.34*	*.21*	*.42*	*.32*	*.43*	*.35*
Adjusted R^2	*.42*	*.26*	*.16*	*.38*	*.29*	*.38*	*.33*
Image							
Intercept	.67	-.39	.89	-.81	.16	-2.77**	.06
Importance Image	.74**	.44*	.43***	.64***	.65***	.74***	.62***
Enjoyment	.04	-.10	-.11	.08	-.05	.09	-.05
Attachment	-.10	.23	.06	-.14†	.01	.00	.00
Interest	.34	-.27	.10	.03	.10	.03	.08**
Gender (female)	1.75**	.44	.01	-.03	.22	.41	.25**
Age	-.07	.11	.02	.06	.01	.11**	.02**
Country Dummy BRA	-	-	-	-	-	-	.49*
Country Dummy CHN	-	-	-	-	-	-	-.12
Country Dummy FRA	-	-	-	-	-	-	-.19
Country Dummy GER	-	-	-	-	-	-	-.43*
Country Dummy SWE	-	-	-	-	-	-	-.05
F	*8.85***	*2.14****	*5.54****	*21.3****	*17.47****	*12.98****	31.82***
R^2	*.76*	*.21*	*.26*	*.55*	*.43*	*.55*	.41
Adjusted R^2	*.67*	*.11*	*.21*	*.53*	*.41*	*.50*	.40
Trustability							
Intercept	-.19	2.97	.65	-1.01	-.35	-2.17	.04
Importance Trustability	1.14†	.30	.70***	.91***	.91***	.82***	.80***
Enjoyment	.29	-.25	-.00	.06	-.15†	.08	-.05
Attachment	-.14	.34	-.12	-.13	-.1	-.11	-.05
Interest	-.00	-.43**	-.02	.05	.15*	.07	.04
Gender (female)	1.88*	.77	.56*	.14	.27	.27	.38***
Age	-.08	.08	.03	.05	.01	.10**	.03*
Country Dummy BRA	-	-	-	-	-	-	.57†
Country Dummy CHN	-	-	-	-	-	-	.03
Country Dummy FRA	-	-	-	-	-	-	-.14
Country Dummy GER	-	-	-	-	-	-	.02
Country Dummy SWE	-	-	-	-	-	-	.18
F	*3.48**	*3.36***	*5.40****	*10.6****	*12.98****	*6.05****	*18.94****
R^2	*.55*	*.29*	*.25*	*.38*	*.36*	*.36*	*.30*
Adjusted R^2	*.39*	*.21*	*.21*	*.34*	*.33*	*.30*	*.28*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Hypothesis H I.2 asserts that the higher the importance of product attributes the higher the level of minimal tolerable expectation standards. The results suggest significant positive effects of importance on the minimum tolerable performance levels for each product attribute and within each country sample. The effect of importance on the minimum tolerable level of trustability is not significant in the Chinese sample. Also the effect of importance on the minimum tolerable level of comfort in the Swedish sample is not significant. Again, despite these two exceptions, the findings support Hypothesis H I.2. The higher the importance of a product attribute, the higher is the level of the minimum tolerable performance level.

The potential effects of the involvement factors on the minimum tolerable performance levels were also tested. Enjoyment has a negative effect on the minimum tolerable level of comfort in the French (β = -.21, $p < .05$), and in the pooled sample (β = -.08, $p < .19$) as well as on image in Swedish sample (β = -.15, $p < .05$). For attachment a negative effect on the minimum tolerable level of comfort is observable in the German sample (β = -.25, $p < .01$) and a positive effect in the Chinese sample (β = .40, $p < .05$). Further, attachment shows a negative effect for Image in the German sample (β = -.14, $p < .10$). The effects of interest on the minimum tolerable performance level are mixed. Interest has a significant negative effect on the MINTOL of comfort in the Chinese sample (β = -.32, $p < .05$) and a positive effect in the German (β = .13, $p < .05$) and the pooled sample (β = .08, $p < .01$). Further, interest shows a significant negative effect on the minimum tolerable performance level of image in the Chinese sample (β = -.27, $p < .05$) and a positive effect in the pooled sample (β = .08, $p < .01$). The effect of interest on the MINTOL of trustability is negative in the Chinese sample (β = -.43, $p < .01$) and positive in the Swedish sample (β = .15, $p < .05$).

Gender has significant positive effects on the minimum tolerable performance levels of comfort in the Brazilian (β = 1.42, $p < .05$), Chinese (β = .66, $p < .05$), French (β = .54, $p < .05$), and the pooled sample (β = .36, $p < .001$) as well as on the MINTOL of image in the Brazilian (β = 1.75, $p < .01$) and the pooled sample (β = .25, $p < .05$). The positive effect of gender is also found for the minimum tolerable of the product factor trustability in the Brazilian (β = 1.88, $p < .05$), Chinese (β = .77, $p < .05$), French (β = .56, $p < .05$), and the pooled sample (β = .38, $p < .001$). Age has significant positive effects on the minimum tolerable performance level of comfort in the German (β = .06, $p < .10$), U.S. American (β = .11, $p < .01$), and pooled (β = .03, $p < .01$) sample. For the product factor image significant positive effects can be found for the U.S. American (β = .11, $p < .01$) and the pooled (β = .02, $p < .01$) sample. For trustability the positive effect of age on the minimum tolerable performance level are observable for the U.S. American sample (β = .10, $p < .01$) and for the pooled sample (β = .03, $p < .05$).

The results of the country dummies revealed country specific effects on the minimum tolerable performance levels of comfort. The country dummies of Brazil (β = .56, $p < .05$) and Germany (β = -.39, $p < .05$) are significant. Also for image, these two country dummies are significant with β = .49 ($p < .05$) for Brazil and β = -.43 ($p < .05$) for Germany. For trustability the dummy for Brazil shows a significant positive effect (β = .57, $p < .10$).

The Zone of Tolerance: For the width of the tolerance zone the hypotheses suggest a negative effect of importance (H I.3) as well as of involvement (H I.4).As the results suggest (Table 3-

15) these hypotheses can only partially be supported. The results show that the explanatory power of the corresponding models is rather weak. The variables importance, involvement, age, and gender explain between zero percent (for example for comfort in the German sample) and 36 percent (for example for image in the Chinese sample) of the variance. This might be due to the fact that width of the ZOT is a calculated term as defined in chapter 3.1 (ZOT = DES- MINTOL). As the effects of the independent variables on the desired and the minimum tolerable performance levels are observable and, as the results showed, they have the same directions the width of the ZOT shows no remarkable change.

Still, there is a significant positive effect of importance on the width of the ZOT of the product factor image for the French ($\beta = .52$, $p < .001$), the German ($\beta = .25$, $p < .05$), as well as the pooled ($\beta = .15$, $p < .01$) sample. Only for the U.S. American sample ($\beta = -.29$, $p < .10$) the suggested negative effect of importance on the width of the ZOT is observable. This is also the case for trustability. For the Swedish ($\beta = -.55$, $p < .001$), U.S. American ($\beta = -.36$, $p < .10$) as well as the pooled ($\beta = -.34$, $p < .001$) sample, negative effects of importance are observable. The results for enjoyment show significant positive effects for the ZOT of comfort ($\beta = .40$, $p < .05$) and image ($\beta = .30$, $p < .10$) in the Chinese sample. Negative effects of attachment are observable also for comfort ($\beta = -.41$, $p < .05$) and image ($\beta = -.34$, $p < .10$) in that sample.

Table 3-15: Regression Results Zone of Tolerance

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Comfort							
Intercept	1.20	4.17†	1.44	3.49**	4.66	8.02***	3.93***
Importance Comfort	.02	.08	.23†	.20†	-.29	-.24	-.04
Enjoyment	-.14	.40*	.05	.01	-.01	-.01	.05
Attachment	-.01	-.41*	-.00	-.05	.06	-.02	-.05
Interest	-.03	.22†	.00	.06	-.03	-.18	-.02
Gender (female)	-1.34*	-.57†	-.70**	-.08	-.12	-.64*	-.40***
Age	.07	-.11	.01	-.05	-.00	-.11**	-.01
Country Dummy BRA	-	-	-	-	-	-	-.89**
Country Dummy CHN	-	-	-	-	-	-	-.35
Country Dummy FRA	-	-	-	-	-	-	-.52**
Country Dummy GER	-	-	-	-	-	-	.09
Country Dummy SWE	-	-	-	-	-	-	-.11
F	*1.58*	*3.87***	*1.78*	*.93*	*1.49*	*3.44***	*4.01****
R^2	*.36*	*.32*	*.10*	*.05*	*.06*	*.24*	*.08*
Adjusted R^2	*.13*	*.24*	*.04*	*.00*	*.02*	*.17*	*.06*
Image							
Intercept	3.34	4.52*	.71	1.70	3.40***	7.18***	3.17***
Importance Image	-.06	.15	.52***	.25*	.08	-.29†	.15**
Enjoyment	-.08	.30†	-.09	.06	-.04	-.01	.01
Attachment	-.05	-.34†	-.02	.01	.01	.12	-.01
Interest	-.16	.41**	.09	.08	.05	-.10	.04
Gender (female)	-1.75*	-.99**	.01	-.06	-.36	-.38	-.41***
Age	.04	-.16†	-.01	.00	-.2	-.11**	-.02†
Country Dummy BRA	-	-	-	-	-	-	-.88**
Country Dummy CHN	-	-	-	-	-	-	-.43†
Country Dummy FRA	-	-	-	-	-	-	-.48*
Country Dummy GER	-	-	-	-	-	-	.12
Country Dummy SWE	-	-	-	-	-	-	.12
F	*2.01*	*6.12****	*5.73****	*3.05***	*.91*	*2.69**	*.11****
R^2	*.41*	*.43*	*.26*	*.15*	*.04*	*.20*	*.11*
Adjusted R^2	*.21*	*.36*	*.22*	*.10*	*.00*	*.13*	*.09*
Trustability							
Intercept	4.93	4.80*	4.38***	4.95***	5,87***	7.32***	5.22***
Importance Trustability	-.53	.10	-.13	-.37**	-.55***	-.36†	-.34***
Enjoyment	-.20	.26	-.13	.02	.08	-.07	.03
Attachment	.046	-.32	.07	.05	.11	.13	.07
Interest	-.08	.38**	-.01	-.03	-.14†	-.14	-.06
Gender (female)	-1.81**	-.77*	-.53*	-.09	-.22	.03	-.35**
Age	.08	-.17†	-.02	.00	.01	-.09*	-.01
Country Dummy BRA	-	-	-	-	-	-	-.61*
Country Dummy CHN	-	-	-	-	-	-	-.13
Country Dummy FRA	-	-	-	-	-	-	-.19
Country Dummy GER	-	-	-	-	-	-	.07
							-.10
F	*3.16**	*4.04***	*1.60*	*1.71*	*5.21****	*1.93**	*5.31****
R^2	*.53*	*.33*	*.09*	*.09*	*.19*	*.15*	*.11*
Adjusted R^2	*.36*	*.25*	*.03*	*.04*	*.15*	*.07*	*.09*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

The results for the Chinese sample also show significant positive effects of interest on the width of the ZOT for comfort (β = .22, p < .10) and image (β = .41, p < .01) and a negative effect for the product factor trustability (β = .38, p < .01). The results also support the negative effect of interest on the width of trustability's ZOT for the Swedish sample (β = -.14, p < .10).

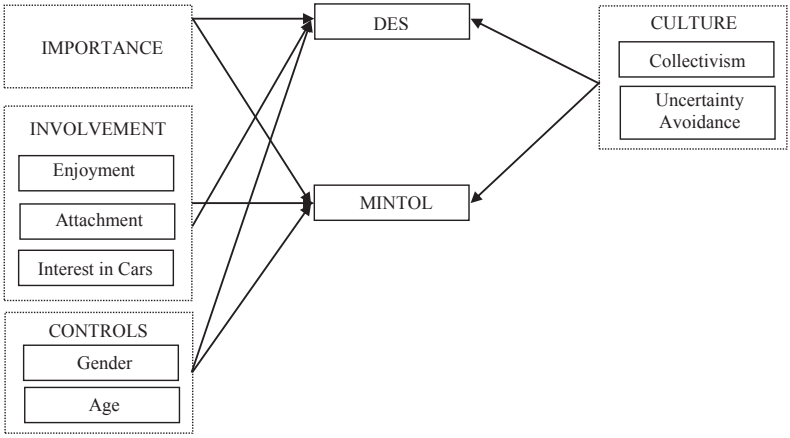
With respect to gender the results show significant negative effects of the width of the ZOT for comfort in the Chinese (β = -.57, p < .10), U.S. American (β = -.64, p < .05), and the pooled (β = -.40, p < .001) sample. The negative effects of gender can also be found for image in the Chinese (β = -.99, p < .01), and the pooled (β = -.41, p < .001) samples as well as for trustability in the Brazilian (β = -1.81, p < .01), Chinese (β = -.77, p < .05), and pooled samples (β = -.35, p < .01) indicating that women tend to have a narrower ZOT than men. Further, the results show significant negative effects of age on the width of the ZOT of Comfort for the U.S. American (β = -.11, p < .01) as well as of image for the Chinese (β = -.16, p < .10), U.S. American (β = -.11, p < .01), and the pooled (β = -.02, p < .10) sample. The negative effect of age can also be observed for trustability in the Chinese (β = -.17, p < .10) and the U.S. (β = -.09, p < .05) sample.

The results show significant country effects for the ZOT's widths of comfort, image, and trustability in the pooled sample. For comfort the Brazilian (β = -.89, p < .01) and French (β = -.52, p < .01) dummies show significant negative effects. For the product factor image these negative effects can be observed for the Brazilian (β = -.88, p < .01), the Chinese (β = -.43, p < .10), and the French (β = -.48, p < .05) country dummies. For trustability the dummy for Brazil (β = -.61, p < .01) shows a negative effect.

3.4.2 The Effects of Culture on the Determinants of the ZOT

Research Question I.2 asked which cultural dimensions do affect the variables of the ZOT and what kind of effect these dimensions might have. Figure 3-5 shows the potential effects of culture on the desired and minimum tolerable performance levels. Ordinary least squares regression analyses were used to test for the potential relationships between collectivism, uncertainty avoidance, and the minimum tolerable as well as the desired performance level. Table 3-16 presents the results for the desired performance level. With the introduction of the cultural variables to Model I.1 (Table 3-13) only an marginal increase of R^2 was achieved. The increase of the explanatory power of the new model is negligible.

Figure 3-5: Research Model I.2



Uncertainty avoidance has only a weak negative effect on the desired performance level of image in the Chinese sample (β = -.68, p < .10). Collectivism has a negative effect of the desired level of trustability in the pooled sample (β = -.09, p < .10). The results also display significant country effects. For comfort the dummies for France (β = -.47, p < .01) and Germany (β = -.28, p < .10) show significant negative effects. For the product factor image negative effects can be observed for the Chinese (β = -.52, p < .05), the French (β = -.69, p < .001), and the German (β = -.33, p < .10) country dummies. For trustability the French dummy (β = -.32, p < .01) shows a significant negative effect.

Table 3-17 presents the results for the minimum tolerable performance level. Only a marginal increase of R^2 was achieved with the introduction of the cultural variables to Model I.1 (Table 3-14) raging from a ΔR^2 of .00 (for example, for comfort in the Chinese sample) to .07 (for example, for trustability in the French sample). The results show a negative effect of collectivism on the minimum tolerable level of comfort in the French (β = -.35, p < .01) and pooled (β = -.22, p < .01) samples. A negative effect is found for image in the French (β = -.28, p < .10) and pooled (β = -.17, p < .01) samples. For trustability a negative effect of collectivism on the MINTIOL can be observed in the pooled sample (β = -.18, p < .05). The results for uncertainty avoidance are mixed. The results show positive effects of uncertainty avoidance on the MINTOL of comfort (β = .49, p < .05) and image (β = -.33, p <.10) in the U.S. sample and a negative effect on the MINTOL of trustability in the French sample (β = -.69, p < .01).

Table 3-16: Culture's Effects on the Desired Level

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Comfort							
Intercept	.98	4.75***	3.59***	1.96†	4.96***	3.62**	3.72***
Importance Comfort	1.01***	.64***	.66***	.84***	.37***	.66***	.62***
Enjoyment	-.14	.10	-.16†	.04	-.12	.17†	-.03
Attachment	-.03	-.10	.02	-.29**	.08	-.10	-.05
Interest	.07	-.07	.08	.19†	.08	-.17	.05
Collectivism	-.28	.07	-.22	.01	-.15	.03	-.06
Uncertainty Avoidance	-.04	-.09	.10	.24	.13	.15	.09
Gender (female)	-.27	.10	-.25	.02	.18	-.24	-.06
Age	.09**	-.00†	.03	.00	.03	.01	.02*
Country Dummy BRA	-	-	-	-	-	-	-.33
Country Dummy CHN	-	-	-	-	-	-	-.23
Country Dummy FRA	-	-	-	-	-	-	-.47**
Country Dummy GER	-	-	-	-	-	-	-.28†
Country Dummy SWE	-	-	-	-	-	-	.19
F	*8.20***	*6.33***	*5.88***	*10.85***	*3.42***	*3.42***	*18.46***
$R^2(\Delta R^2)$	*.81(.02)*	*.52(.01)*	*.33(.01)*	*.46 (.01)*	*.17 (.01)*	*.30 (.00)*	*.33 (.01)*
Adjusted R^2	*.72*	*.44*	*.28*	*.42*	*.12*	*.21*	*.31*
Image							
Intercept	5.52*	3.38†	2.23**	.15	3.96***	3.15†	3.21***
Importance Image	.80**	.57***	.93***	.87***	.73***	.44**	.77***
Enjoyment	-.11	.22†	-.20**	.13	-.09	.09	-.04
Attachment	-.15	-.12	.05	-.12	.03	.12	-.01
Interest	.20	.12	.19**	.11	.16†	-.05	.13**
Collectivism	.36	.21	-.12	.17	-.05	.26	.05
Uncertainty Avoidance	-.68†	.01	-.04	.13	-.07	.07	-.04
Gender (female)	.31	-.53*	-.03	-.06	-.14	.17	-.15
Age	-.05	-.05	.00	.05	-.01	-.00	-.00
Country Dummy BRA	-	-	-	-	-	-	-.40
Country Dummy CHN	-	-	-	-	-	-	-.52*
Country Dummy FRA	-	-	-	-	-	-	-.69***
Country Dummy GER	-	-	-	-	-	-	-.33†
Country Dummy SWE	-	-	-	-	-	-	.07
F	*3.30**	*6.15****	*23.97****	*18.91****	*13.67****	*2.37**	*37.09****
$R^2(\Delta R^2)$	*.64 (.08)*	*.51 (.01)*	*.67 (.00)*	*.60 (.01)*	*.45 (.01)*	*.23 (.01)*	*.49 (.00)*
Adjusted R^2	*.44*	*.43*	*.64*	*.57*	*.41*	*.13*	*.48*
Trustability							
Intercept	4.75*	7.71***	6.28***	4.35***	5.34***	6.19***	5.67***
Importance Trustability	.64*	.41**	.59***	.53***	.37***	.45***	.46***
Enjoyment	.20	.00	-.14**	.08	-.08	-.00	-.03
Attachment	-.10	.04	-.03	-.08	.11	.03	.01
Interest	-.07	-.05	-.02	.02	.09	-.08	-.01
Collectivism	.07	.13	-.18	-.01	-.17	-.17	-.09†
Uncertainty Avoidance	-.09	-.13	-.19	-.12	.16	-.08	-.05
Gender (female)	.10	-.01	-.00	.04	.03	.21	.01
Age	-.00	-.09†	.00	.05†	.03*	.01	.02**
Country Dummy BRA	-	-	-	-	-	-	-.01
Country Dummy CHN	-	-	-	-	-	-	-.09
Country Dummy FRA	-	-	-	-	-	-	-.32**
Country Dummy GER	-	-	-	-	-	-	.09
Country Dummy SWE	-	-	-	-	-	-	.06
F	*1.96*	*1.78*	*6.49****	*6.16****	*3.12***	*5.96****	*13.90****
$R^2(\Delta R^2)$	*.51 (.01)*	*.23 (.01)*	*.36 (.04)*	*.33 (.01)*	*.16 (.01)*	*.43 (.02)*	*.27 (.01)*
Adjusted R^2	*.25*	*.10*	*.30*	*.27*	*.11*	*.36*	*.25*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; base for the ΔR^2 are the results of Table 3-13; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-17: Culture's Effects on the Minimum Tolerable Level

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Comfort							
Intercept	-3.72	2.75	3.36**	-1.16	.83	-4.49**	.19
Importance Comfort	.93*	.54*	.50***	.65***	.67***	.82***	.66***
Enjoyment	.11	-.29†	-.22**	.04	-.12	.20†	-.08†
Attachment	-.07	.42*	.05	-.24**	.02	-.07	-.00
Interest	.09	-.29*	.09	.13*	.12†	-.03	.08
Collectivism	-.38	-.13	-.35**	-.08	-.13	-.17	-.22**
Uncertainty Avoidance	.78	-.12	-.23	.18	-.05	.49*	.12
Gender (female)	1.16	.64†	.44†	.06	.31	.33	.30**
Age	.03	-.00	.01	.06†	.02	.11**	.03**
Country Dummy BRA	-	-	-	-	-	-	.59*
Country Dummy CHN	-	-	-	-	-	-	.14
Country Dummy FRA	-	-	-	-	-	-	.07
Country Dummy GER	-	-	-	-	-	-	-.34*
Country Dummy SWE	-	-	-	-	-	-	.27
F	*3.36***	*3.07***	*4.08****	*9.53****	*8.10****	*7.18****	*21.12****
R^2 (ΔR^2)	*.64 (.07)*	*.34 (.00)*	*.26 (.05)*	*.43 (.01)*	*.32 (.00)*	*.48 (.05)*	.36 *(.01)*
Adjusted R^2	*.45*	*.23*	*.19*	*.38*	*.28*	*.41*	.34
Image							
Intercept	-.01	.39	3.13**	-.85	.23	-4.31***	.33
Importance Image	.71**	.44*	.41***	.64***	.64***	.68***	.61***
Enjoyment	.08	-.11	-.12	.08	-.06	.12	-.05
Attachment	-.13	.23	.08	-.14†	.02	-.01	.00
Interest	.34†	-.25*	.12	.04	.10	.03	.08**
Collectivism	.07	-.30	-.28†	-.07	-.13	.12	-.17**
Uncertainty Avoidance	.14	.10	-.35	.07	.08	.33†	.08
Gender (female)	1.77**	.43	-.05	-.05	.20	.49†	.20**
Age	-.07	.10	.02	.06†	.01	.11***	.02**
Country Dummy BRA	-	-	-	-	-	-	.52**
Country Dummy CHN	-	-	-	-	-	-	-.10
Country Dummy FRA	-	-	-	-	-	-	-.14
Country Dummy GER	-	-	-	-	-	-	-.39**
County Dummy SWE	-	-	-	-	-	-	-.07
F	*5.96***	*1.72*	*5.54****	*15.80****	*13.08****	*10.45****	27.52***
R^2 (ΔR^2)	*.76 (.00)*	*.23 (.02)*	*.32 (.06)*	*.55 (.00)*	*.44 (.01)*	*.57 (.02)*	*.42 (.01)*
Adjusted R^2	*.63*	*.10*	*.26*	*.52*	*.40*	*.52*	.40
Trustability							
Intercept	-.64	5.52†	3.69**	-1.45	-.16	-2.56	.59
Importance Trustability	.88	.30	.73***	.91***	92***	.81***	.80***
Enjoyment	.35	-.29	-.03	.05	-.15†	.10	-.05
Attachment	-.15	.41†	-.07	-.12	-.00	-.12	-.05
Interest	-.07	-.37*	.02	.04	.16*	.02	.04
Collectivism	-.16	-.46	-.28	.05	-.11	-.16	-.18*
Uncertainty Avoidance	.64	-.26	-.69**	.10	.01	.30	-.00
Gender (female)	1.85*	.70†	.57**	.16	.26	.20	.33**
Age	-.07	.06	.03	.04	.02	.10**	.03**
Country Dummy BRA	-	-	-	-	-	-	.61**
Country Dummy CHN	-	-	-	-	-	-	.05
Country Dummy FRA	-	-	-	-	-	-	-.11
Country Dummy GER	-	-	-	-	-	-	.04
Country Dummy SWE	-	-	-	-	-	-	.14
F	*2.74**	*2.95***	*5.86****	*7.93****	*9.69****	*4.81****	*16.48****
R^2(ΔR^2)	*.59 (.04)*	*.33 (.04)*	*.33 (.07)*	*.38 (.00)*	*.36 (.00)*	*.38 (.02)*	*.30 (.00)*
Adjusted R^2	*.38*	*.22*	*.28*	*.34*	*.33*	*.30*	*.28*

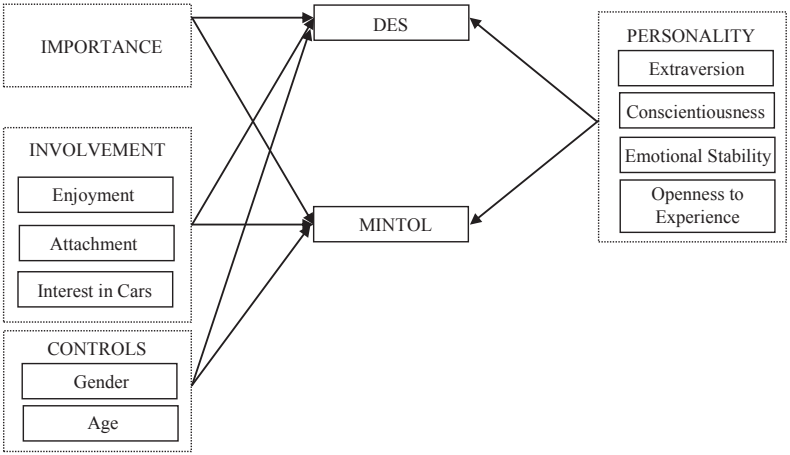
Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; base for the ΔR^2 are the results of Table 3-14; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-17 shows significant country effects for the three product factors. For comfort a significant positive effect can be observed for the Brazilian (β = .59, p < .05) and a negative effect for the German (β = -.34, p < .05) dummies. Also for image the Brazilian dummy (β = .52, p < .01) shows a positive effect and the German dummy (β = -.39, p < .01) a negative effect. A positive effect of the Brazilian dummy (β = .61, p < .01) can also be observed for trustability.

3.4.3 The Effects of Personality on the Determinants of the ZOT

Research question I.3 asks which personality dimensions do affect the variables of the ZOT and how can their influence be characterized. Figure 3-6 illustrates the potential effects of the personality dimensions on the desired and minimum tolerable performance level.

Figure 3-6: Research Model I.3



The personality dimensions extraversion, conscientiousness, emotional stability, and openness to experience were added to research the Model I.3 to analyze the potential relationships. Table 3-18 displays the results of the ordinary least squares regression analyses for the *desired performance level* of the product factors comfort, image, and trustability. With the introduction of the personality factors only a little increase in the explained variance was achieved with ΔR^2 ranging from .00 (for image in the French sample) to .09 (for example, for comfort in the U.S. American sample. Three of the 21 calculated regression models were not significant due to the small sample sizes and large amount of independent variables (the models for image and trustability of the Brazilian sample and the model for trustability of the Chinese sample). The results show significant positive effects of emotional stability on the desired performance level of comfort in the French (β = .15, p < .10), U.S. American (β = .25, p < .01), and in the pooled samples (β = .07, p < .10). A positive effect of emotional stability is also observable for image in the U.S. American sample (β = .32, p < .05).

The effects of extraversion are mixed. It has a significant negative effect on the desired performance level of Image in the German sample (β = -.22, p < .05) and a significant positive effect in the Swedish sample (β = .16, p < .10). The results do not show effects for conscientiousness and openness to experience. As displayed in Table 3-18the results show country specific effects. There are significant negative effects of the French (β = -.44, p < .01) and the German (β = -.31, p < .10) dummy for the product factor comfort. For image, significant negative effects resulted for the Chinese (β = -.54, p < .01), the French (β = -.64, p < .001), and the German (β = -.33, p < .10) dummies. For the factor trustability the dummy for France (β = -.33, p < .01) shows a significant negative effect.

Table 3-19 presents the results for the effects of personality on the minimum tolerable performance levels of comfort, image, and trustability. The models for comfort in the Brazilian sample and image in the Chinese sample are not significant. Adding the personality variables to Model I.1 (Table 3-14) increased the R^2 only by a small extend with ΔR^2 ranging from .00 (for Image in the pooled sample) to .11 (for trustability in the Brazilian sample). The results for the effects of extraversion on the minimum tolerable performance levels are mixed. The variable has a significant negative effect for comfort in the German sample (β = -.20, p <.01) and a positive effect for image in the Swedish sample (β = .13, p < .10).

Table 3-18: Personality's Effects on the Desired Level

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Comfort							
Intercept	-.62	6.33***	3.10**	3.09*	5.09***	3.69**	3.60***
Importance Comfort	1.03***	.55***	.70***	.84***	.38***	.61***	.63***
Enjoyment	-.20	.16	-.19**	.05	-.13	.15	-.03
Attachment	-.16	-.01	.01	-.30**	.07	-.06	-.05
Interest	.03	-.08	.05	.22**	.07	-.15	.05
Extraversion	.10	-.07	-.04	-.10	.06	.04	.00
Conscientiousness	.17	.04	.06	-.08	-.00	-.08	-.01
Emotional Stability	.02	.10	.15†	.10	-.08	.25**	.07†
Openness to Experience	.09	-.01	-.12	-.06	.04	-.05	-.02
Gender (female)	-.07	.07	-.06	.17	.12	-.18	-.01
Age	.07*	-.12*	.02	.02	.02	.01	.02†
Country Dummy BRA	-	-	-	-	-	-	-.24
Country Dummy CHN	-	-	-	-	-	-	-.20
Country Dummy FRA	-	-	-	-	-	-	-.44**
Country Dummy GER	-	-	-	-	-	-	-.31†
Country Dummy SWE	-	-	-	-	-	-	.18
F	*6.5***	*5.18***	*4.97***	*8.65***	*2.18***	*3.96***	*16.12***
R^2 (ΔR^2)	*.83 (.04)*	*.54 (.03)*	*.35 (.03)*	*.46 (.01)*	*.17 (.01)*	*.39 (.09)*	*.33 (.01)*
Adjusted R^2	*.71*	*.43*	*.28*	*.41*	*.11*	*.29*	*.31*
Image							
Intercept	2.62	4.06*	1.68†	.91	4.63***	3.57*	3.28***
Importance Image	.80**	.66***	.93***	.94***	.73***	.52**	.79***
Enjoyment	.06	.19	-.21*	.14	-.09	.06	-.04
Attachment	-.26	-.13	.03	-.15	.01	.15	-.01
Interest	.34	.14	.19*	.12	.15†	-.09	.13***
Extraversion	.10	-.06	.03	-.22*	.16†	.06	.03
Conscientiousness	.13	.06	-.02	-.04	-.02	-.13	-.04
Emotional Stability	-.43	-.14	.10	.14	-.12	.32*	.04
Openness to Experience	.21	.02	-.07	-.01	-.16	-.10	-.04
Gender (female)	-.12	-.51*	.07	.14	-.18	.13	-.14
Age	-.02	-.04	.00	.07	-.01	-.01	-.00
Country Dummy BRA	-	-	-		-	-	-.31
Country Dummy CHN	-	-	-		-	-	-.54**
Country Dummy FRA	-	-	-		-	-	-.64***
Country Dummy GER	-	-	-		-	-	-.33†
Country Dummy SWE	-	-	-		-	-	.07
F	*2.05*	*4.93***	*19.04***	*16.21***	*12.19***	2.67**	*32.30***
R^2(ΔR^2)	*.61 (.05)*	*.52 (.02)*	*.67 (.00)*	*.62 (.03)*	*.48 (.04)*	*.30 (.08)*	*.50 (.01)*
Adjusted R^2	*.31*	*.42*	*.64*	*.58*	*.44*	*.19*	*.48*
Trustability							
Intercept	3.49	8.05***	4.27***	4.14***	5.27***	4.913***	5.06***
Importance Trustability	.65**	.38*	.54***	.50***	.40***	.49***	.46***
Enjoyment	.13	.01	-.15*	.08	-.08	-.00	-.03
Attachment	-.11	.04	-.05	-.09	.11	.01	.00
Interest	.00	-.03	-.02	.02	.01	-.05	-.02
Extraversion	-.05	-.06	.11	-.05	.09	-.02	.02
Conscientiousness	.04	.06	-.02	.02	.02	-.06	-.02
Emotional Stability	-.15	-.01	.06	-.05	-.01	.06	.00
Openness to Experience	.18	-.08	.07	.06	-.04	.06	.04
Gender (female)	.05	-.00	.04	.01	.02	.28	.02
Age	.01	-.09†	.01	.05†	.02	.01	.02**
Country Dummy BRA	-	-	-	-	-	-	-.05
Country Dummy CHN	-	-	-	-	-	-	-.10
Country Dummy FRA	-	-	-	-	-	-	-.33**
Country Dummy GER	-	-	-	-	-	-	.07
Country Dummy SWE	-	-	-	-	-	-	.07
F	*1.86*	*1.53*	*5.20***	*4.90***	*2.61***	*4.61***	*11.91***
R^2 (ΔR^2)	*.59 (.09)*	*.25 (.03)*	*.36 (.04)*	*.33 (.01)*	*.16 (.01)*	*.43 (.02)*	*.27 (.01)*
Adjusted R^2	*.27*	*.09*	*.29*	*.26*	*.10*	*.34*	*.24*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; base for the ΔR^2 are the results of Table 3-14; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-19: Personality's Effects on the Minimum Tolerable Level

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Comfort							
Intercept	-1.44	2.55	1.48	-.66	.00	-3.88*	-.32
Importance Comfort	.96*	.40	.43**	.61***	.00***	.89***	.65***
Enjoyment	-.14	-.22	-.24*	.07	.11	.18	-.07†
Attachment	.01	.44*	.04	-.28***	.45	-.03	.00
Interest	-.01	-.28*	.02	.16*	.27	-.01	.07†
Extraversion	-.15	-.10	-.02	-.20**	.41	-.03	-.04
Conscientiousness	.14	.01	.21*	-.01	.98	.09	.07
Emotional Stability	.26	.29†	.05	.04	.32	.07	.06
Openness to Experience	-.08	-.06	-.09	.06	.65	-.10	-.05
Gender (female)	1.95†	.60†	.63*	.21	.53	.39	.41***
Age	.02	-.04	.00	.08**	.21	.11**	.03**
Country Dummy BRA	-	-	-	-	-	-	.67**
Country Dummy CHN	-	-	-	-	-	-	.19
Country Dummy FRA	-	-	-	-	-	-	.10
Country Dummy GER	-	-	-	-	-	-	-.36*
Country Dummy SWE	-	-	-	-	-	-	.32†
F	*1.97*	*2.94***	*3.27****	*8.72****	*6.80****	*4.90****	*18.22****
$R^2(\Delta R^2)$	*.60 (.03)*	*.40 (.06)*	*.26 (.05)*	*.47 (.05)*	*.34 (.02)*	*.45 (.02)*	*.36 (.01)*
Adjusted R^2	*.30*	*.26*	*.18*	*.41*	*.29*	*.36*	*.34*
Image							
Intercept	1.24	-.40	.77	-1.10	.29	-3.04*	-.10
Importance Image	.68*	.38†	.42***	.66***	.66***	.74***	.62***
Enjoyment	-.31	-.03	-.14	.08	-.06	.11	-.05
Attachment	-.05	.16	.07	-.14†	.02	.00	.01
Interest	.09	-.26*	.06	.02	.08	.01	.08**
Extraversion	-.06	-.13	.09	-.09	.13†	.12	.02
Conscientiousness	.29	-.09	.13	.02	.09	-.01	.05
Emotional Stability	.43	.10	.01	.11	-.13	-.01	-.00
Openness to Experience	-.13	.18	-.11	-.01	-.05	-.08	-.03
Gender (female)	2.37**	.40	.05	.11	.09	.44	.24**
Age	-.08	.11	.01	.06†	.01	.12***	.02**
Country Dummy BRA	-	-	-	-	-	-	.53**
Country Dummy CHN	-	-	-	-	-	-	-.10
Country Dummy FRA	-	-	-	-	-	-	-.13
Country Dummy GER	-	-	-	-	-	-	-.41**
Country Dummy SWE	-	-	-	-	-	-	-.01
F	*5.58***	*1.41*	*3.65****	*13.18****	*11.29****	7.76***	*23.34****
$R^2(\Delta R^2)$	*.81 (.05)*	*.24 (.03)*	*.28 (.02)*	*.57 (.02)*	*.46 (.03)*	*.56 (.01)*	*.41 (.00)*
Adjusted R^2	*.67*	*.07*	*.21*	*.53*	*.41*	*.49*	*.40*
Trustability							
Intercept	2.01	2.81	.77	-.24	-.96	-2.27	-.01
Importance Trustability	.62	.30	.71***	.85***	.96***	.76***	.79***
Enjoyment	-.17	-.25	-.00	.07	-.16†	.09	-.04
Attachment	.04	.34	-.13	-.16†	.01	-.06	-.05
Interest	-.36	-.41**	-.03	.07	.14†	-.00	.03
Extraversion	-.32	-.05	-.04	-.21**	.16*	.02	-.05
Conscientiousness	.27	.08	-.01	-.02	.04	.11	.03
Emotional Stability	.54	.03	.08	-.01	.01	.08	.05
Openness to Experience	.15	-.01	-.04	.06	-.07	-.14	-.02
Gender (female)	3.00**	.76†	.60*	.22	.22	.32	.42***
Age	-.07	.08	.02	.06	.01	.11**	.03**
Country Dummy BRA	-	-	-	-	-	-	.63**
Country Dummy CHN	-	-	-	-	-	-	.06
Country Dummy FRA	-	-	-	-	-	-	-.12
Country Dummy GER	-	-	-	-	-	-	.03
Country Dummy SWE	-	-	-	-	-	-	.17
F	*2.67**	*1.91*†	*3.18***	*7.49****	*8.30****	*3.69****	*14.06****
$R^2(\Delta R^2)$	*.67 (.11)*	*.30 (.01)*	*.26 (.01)*	*.43 (.05)*	*.38 (.02)*	*.38 (.02)*	*.30 (.00)*
Adjusted R^2	*.42*	*.14*	*.18*	*.37*	*.34*	*.27*	*.29*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; base for the ΔR^2 are the results of Table 3-15; $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

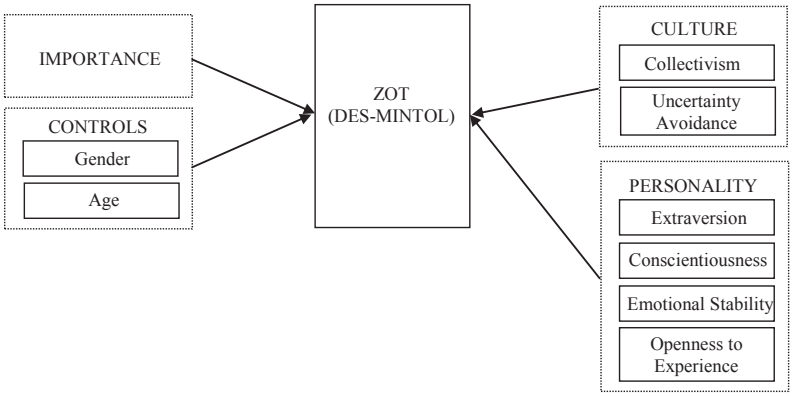
There is a negative effect of extraversion on the minimum tolerable performance level of trustability in the German sample (β = -.21, p < .01) and a positive effect in the Swedish sample (β = -.316, p < .05). Further, a significant positive effect of con-scientiousness on the minimum tolerable performance level of comfort is observable in the French sample (β = .21, p < .05). The results display a significant positive effect of emotional stability on the MINTOL of comfort in the Chinese sample (β = .29, p < .10).

Significant country effects are also found. For the product factor comfort the country dummies for Brazil (β = .67, p < .01) and Sweden (β = .32, p < .10) have significant positive effects and the dummy for Germany (β = -.36, p < .10) shows a significant negative effect. For image a significant positive effect for the Brazilian dummy (β = .53, p < .01) and a significant negative effect for the German dummy (β = -.41, p < .01) are observable. With respect to trustability the Brazilian dummy shows a significant positive effect (β = .63, p < .01).

3.4.4 The Effects of Culture and Personality on the ZOT

A new model was set up for the analysis of the potential effects of culture and personality on the width of the ZOT. Figure 3-7 illustrates the potential relationships between the width of the ZOT and the importance of a product factor, culture, and personality.

Figure 3-7: Research Model I.4



As the results of Model I.1 (Table 3-15) show that involvement had almost no effects on the width of the tolerance zone, it will not be considered in the following regression model. The elimination of variables serves the purpose of minimizing the number of independent variables in the model as the small sample sizes of the individual countries only allow for a small number of variables.

The results for the ordinary least square regression analysis are displayed in Table 3-20. The explained variance for the regression models varies between zero percent (for example, for image in the Swedish sample) and 54 percent (for trustability in the Brazilian sample). The

models for comfort in the Brazilian, Chinese, German, and Swedish sample were not significant and will not be used for further discussion. The same applies for the model for image in the Swedish sample and trustability in the Chinese sample.

Culture: As displayed in Table 3-20, collectivism has a significant positive effect on the ZOT of comfort in the pooled sample (β = .15, p < .10) as well as on the ZOT of image in the Chinese (β = .72, p < .05) and pooled (β = .22, p < .01) sample. Uncertainty avoidance has a positive effect on the ZOT of trustability in the French sample (β = .59, p < .05).

Personality: The results for personality show that only the dimensions extraversion and emotional stability have an effect on the ZOT. The results for emotional stability are mixed. It has a significant negative effect on the ZOT of image in the Chinese sample (β = -.40, p < .05) and a significant positive effect on that ZOT in the U.S. American sample (β = .30, p < .01). Extraversion shows positive effects on the ZOT of trustability in the Brazilian (β = .36, p < .10) and the German (β = .15, p < .10) samples.

Table 3-20 also displays the results for potential country effects in the pooled sample. For the product factor comfort significant negative effects are found four the Brazilian (β = -.92, p < .01), the Chinese (β = -.44, p < .05), and the French (β = -.57, p < .01) dummies. Also for the product factor image these country dummies show significant negative effects with β = -.88, p < .01 for the Brazilian, β = -.51, p < .05 for the Chinese and β = -.54, p < .05 for the French dummies. For the product attribute trustability a significant negative effect is observable for the Brazilian dummy (β = -.76, p < .05).

Table 3-20: The Effects of Culture and Personality on the ZOT

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Comfort							
Intercept	3.13	3.84	.44	3.27*	4.39***	7.10***	3.40***
Importance	.03	.22	.21	.24*	-.32**	-.27	-.02
Collectivism	.26	.30	.12	.09	-.04	.16	.15†
Uncertainty Avoidance	-.55	-.11	.34	.07	.20	-.31	-.02
Extraversion	.13	.15	.02	.10	-.07	.10	.04
Conscientiousness	-.10	.06	-.14	-.06	-.10	-.16	-.08
Emotional Stability	-.11	-.25	.09	.06	-.03	.16	.01
Openness to Experience	.00	-.03	-.04	-.11	.11	.03	.03
Gender (female)	-1.36†	-.52	-.64**	-.05	-.10	-.35	-.35**
Age	.03	-.11	.01	-.06	.01	-.09**	-.01
Country Dummy BRA	-	-	-	-	-	-	-.92**
Country Dummy CHN	-	-	-	-	-	-	-.44*
Country Dummy FRA	-	-	-	-	-	-	-.57**
Country Dummy GER	-	-	-	-	-	-	.03
Country Dummy SWE	-	-	-	-	-	-	-.09
F	*1.54*	*1.32*	*1.94†*	*.96*	*1.30*	*3.03***	*3.63****
R^2	*.50*	*.21*	*.16*	*.08*	*.08*	*.31*	*.09*
Adjusted R^2	*.17*	*.05*	*.08*	*.00*	*.02*	*.21*	*.07*
Image							
Intercept	3.21	2.63	-.61	1.34	4.49**	7.00***	2.98***
Importance	.15	.50*	.52***	.34***	.11	-.22	.18***
Collectivism	.28	.72*	.12	.24	.08	.05	.22**
Uncertainty Avoidance	-.51	-.22	.39	.05	-.10	-.17	-.08
Extraversion	.17	.16	-.05	-.12	.04	-.04	.03
Conscientiousness	-.15	.16	-.14	-.05	-.08	-.11	-.07
Emotional Stability	-.36	-.40*	.07	.03	.01	.30**	.04
Openness to Experience	.15	-.12	.03	.02	-.11	.00	-.01
Gender (female)	-2.10*	-.77*	-.05	.06	-.30	-.27	-.34**
Age	.03	-.11	-.01	.01	-.02	-.13**	-.03†
Country Dummy BRA	-	-	-	-	-	-	-.88**
Country Dummy CHN	-	-	-	-	-	-	-.51*
Country Dummy FRA	-	-	-	-	-	-	-.54*
Country Dummy GER	-	-	-	-	-	-	.04
Country Dummy SWE	-	-	-	-	-	-	.13
F	*2.45†*	*3.37***	*4.41****	*2.28**	*.81*	2.84**	*5.00****
R^2	*.61*	*.40*	*.30*	*.17*	*.05*	*.29*	*.12*
Adjusted R^2	*.36*	*.28*	*.23*	*.10*	*.00*	*.19*	*.10*
Trustability							
Intercept	5.65†	3.15	1.47	5.25***	6.01***	7.60***	4.93***
Importance	-.26	.18	-.20	-.35**	-.54***	-.23	-.32***
Collectivism	.70	.76*	.07	-.06	-.09	.01	.10
Uncertainty Avoidance	-.62	.16	.59*	-.21	.15	-.29	-.03
Extraversion	.36†	.06	.15	.15†	-.09	-.01	.06
Conscientiousness	-.27	-.06	-.07	.04	-.07	-.15	-.05
Emotional Stability	-.05	-.16	-.05	-.04	-.03	-.04	-.05
Openness to Experience	-.29	-.03	.11	.00	.04	.17	.07
Gender (female)	-2.21**	-.67†	-.69*	-.22	-.16	-.02	-.36***
Age	.02	-.16†	-.01	.00	.02	-.09*	-.01
Country Dummy BRA	-	-	-	-	-	-	-.76*
Country Dummy CHN	-	-	-	-	-	-	-.15
Country Dummy FRA	-	-	-	-	-	-	-.29
Country Dummy GER	-	-	-	-	-	-	-.05
Country Dummy SWE	-	-	-	-	-	-	-.16
F	*.4.05***	*1.74*	*2.00**	*1.80†*	*3.00***	*1.75†*	*5.58****
R^2	*.72*	*.25*	*.16*	*.14*	*.17*	*.20*	*.12*
Adjusted R^2	*.54*	*.11*	*.08*	*.06*	*.11*	*.09*	*.09*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

3.4.5 The Effects of Culture and Personality on Importance and Involvement

The above presented results offer insights into the potential direct effects of culture and personality on the determinants of the ZOT and its width. In the following, the indirect effects of these variables through importance and involvement will be tested to complete the picture of potential effects of culture and personality on the model's variables.

Importance: The Tables 3-21, 3-22, and 3-23 present the results of the applied ordinary least squares regression analyses to investigate the potential effects of collectivism and uncertainty avoidance as well as of extraversion, conscientiousness, emotional stability, and openness to experience on the importance of the three product factors comfort, image, and trustability. Table 3-23 displays the results for the regressions models including the two cultures and the four personality dimension. Nine of the 21 calculated regression models are not significant and the results will not be used for further discussion. For the remaining models the explained variance ranges between .06 (for comfort in the German sample) and .33 (for image in the Brazilian sample). As the results show, uncertainty avoidance has a significant positive effect on the importance of comfort in the French (β = .57, p < .001), Swedish (β = .29, p < .10), and in the pooled (β = .25, p < .001) samples. No effects of collectivism could be observed. The regression models show mixed results with respect to personality. Extraversion has a significant positive effect on the importance of image in the French (β = .20, p < .05), German (β = .17, p < .10), and in the pooled (β = .09, p < .05) sample and a significant negative effect on the importance of trustability in the German (β = -.11, p < .10) and Swedish (β = -.13, p < .05) samples. Conscientiousness has significant positive effects on the importance of comfort in the pooled sample (β = .08, p < .05) as well as on the importance of trustability in the Swedish (β = .15, p < .05) and the pooled (β = .09, p < .01) samples. Emotional stability has a significant negative effect on the importance of trustability in the German sample (β = -.14, p < .05). For the importance of trustability the results show significant positive effects of openness to experience in the Swedish (β = .32, p < .001) and the pooled (β = .07, p < .05) samples.

Table 3-21: Culture's Effects on Importance

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Importance of Comfort							
Intercept	5.57*	8.25***	3.28***	2.52*	3.74***	4.39***	4.00***
Collectivism	.20	.07	-.10	.15	-.03	-.18	-.01
Uncertainty Avoidance	.15	-.16	.58***	.16	.28*	.37*	.28***
Gender (female)	.42	.06	.26	.44*	.56***	.22	.38***
Age	-.05	.15*	.00	.03	.01	-.01	-.00
Country Dummy BRA	-	-	-	-	-	-	.31
Country Dummy CHN	-	-	-	-	-	-	.26
Country Dummy FRA	-	-	-	-	-	-	-.01
Country Dummy GER	-	-	-	-	-	-	-.56***
Country Dummy SWE	-	-	-	-	-	-	-.04
F	*.84*	*1.28*	*4.34***	*1.96*	*4.17***	*2.22*†	*10.37****
R^2	*.15*	*.11*	*.15*	*.07*	*.11*	*.12*	*.16*
Adjusted R^2	*.00*	*.03*	*.12*	*.03*	*.08*	*.06*	*.14*
Importance of Image							
Intercept	5.48†	3.92*	5.50***	2.27	4.57***	3.28*	4.22***
Collectivism	-.36	.02	-.25	.27	-.23	-.15	-.09
Uncertainty Avoidance	.43	.49*	.26	.31	.33†	.64**	.37***
Gender (female)	-1.19†	.03	-.96***	-.44†	-.26	-.32	-.49***
Age	-.03	-.04	-.03†	.00	-.03	-.03	-.03**
Country Dummy BRA	-	-	-	-	-	-	.42
Country Dummy CHN	-	-	-	-	-	-	.37†
Country Dummy FRA	-	-	-	-	-	-	.02
Country Dummy GER	-	-	-	-	-	-	-.32†
Country Dummy SWE	-	-	-	-	-	-	-.08
F	*1.19*	*1.29*	*4.97****	*3.07**	*2.28*†	2.99*	*8.00****
R^2	*.20*	*.11*	*.17*	*.10*	*.06*	*.15*	*.13*
Adjusted R^2	*.03*	*.03*	*.14*	*.07*	*.03*	*.10*	*.11*
Importance of Trustability							
Intercept	4.86***	5.38***	4.94***	6.73***	4.44***	5.61***	4.97***
Collectivism	.23	-.04	-.03	.06	.14	-.09	.04
Uncertainty Avoidance	.24	.13	.06	-.16	.14	.04	.07
Gender (female)	.48†	-.08	.26	.13	.50***	.38†	.35***
Age	-.01	.25	.03*	-.02	.00	.00	.01
Country Dummy BRA	-	-	-	-	-	-	.62***
Country Dummy CHN	-	-	-	-	-	-	.47***
Country Dummy FRA	-	-	-	-	-	-	.07
Country Dummy GER	-	-	-	-	-	-	.12
Country Dummy SWE	-	-	-	-	-	-	-.05
F	*2.13*	*.67*	*2.07*†	*.79*	*4.26***	*1.20*	*6.88****
R^2	*.31*	*.06*	*.08*	*.03*	*.11*	*.07*	*.11*
Adjusted R^2	*.16*	*.00*	*.04*	*.00*	*.08*	*.01*	*.09*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-22: Personality's Effects on Importance

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Importance of Comfort							
Intercept	6.16**	7.29***	4.02***	3.97***	4.55***	3.30***	4.49***
Extraversion	-.08	.01	.09	-.11	-.07	.13*	-.00
Conscientiousness	.16	.15	.14*	.10	.02	.16†	.11**
Emotional Stability	-.01	.16	-.09	-.08	-.04	.06	-.04
Openness to Experience	.05	-.03	.07	-.02	.12	-.02	.05
Gender (female)	.82	.14	.32†	.33†	.52**	.21	.34***
Age	-.05	-.15*	.00	.04	.00	.00	-.01
Country Dummy BRA	-	-	-	-	-	-	.31
Country Dummy CHN	-	-	-	-	-	-	.39*
Country Dummy FRA	-	-	-	-	-	-	.02
Country Dummy GER	-	-	-	-	-	-	-.57***
Country Dummy SWE	-	-	-	-	-	-	-.05
F	*.60*	*2.00*†	*1.68*	*1.99*†	*2.54**	*1.84*	*7.88****
R^2	*.17*	*.20*	*.10*	*.10*	*.10*	*.15*	*.15*
Adjusted R^2	*.00*	*.01*	*.04*	*.05*	*.06*	*.07*	*.13*
Importance of Image							
Intercept	4.38*	5.59***	4.80***	2.71	5.00***	4.84***	4.73***
Extraversion	.00	.08	.21*	.17	.03	.05	.10**
Conscientiousness	.03	-.17	.05	.14	-.02	.12	.04
Emotional Stability	.53*	.14	.09	-.16	-.10	-.14	-.05
Openness to Experience	-.09	.10	-.15	.18	.16	.01	.05
Gender (female)	-.21†	-.13	-.76**	-.83	-.32	-.39	-.53***
Age	-.05	-.06	-.03	.00	-.04*	-.03	-.04**
Country Dummy BRA	-	-	-	-	-	-	.43
Country Dummy CHN	-	-	-	-	-	-	.45*
Country Dummy FRA	-	-	-	-	-	-	.07
Country Dummy GER	-	-	-	-	-	-	-.39*
Country Dummy SWE	-	-	-	-	-	-	-.05
F	*3.43**	*.96*	*3.86***	*2.38**	*1.53*	*.77*	*5.77****
R^2	*.55*	*.11*	*.19*	*.12*	*.06*	*.07*	*.11*
Adjusted R^2	*.39*	*.00*	*.14*	*.07*	*.02*	*.00*	*.09*
Importance of Trustability							
Intercept	6.64***	5.10***	4.60***	5.46***	4.29***	4.15***	4.68***
Extraversion	-.07	.10	.08	-.11†	-.13*	.05	-.03
Conscientiousness	.14	.13	-.01	.05	.16**	.21*	.10**
Emotional Stability	-.13	-.07	-.04	-.14*	.05	-.01	-.02
Openness to Experience	.05	-.14	.06	.33***	.09	-.02	.07**
Gender (female)	.67	.29	.23	-.04	.44**	.37†	.31***
Age	-.02	.04	.03*	-.01	.01	.01	.01
Country Dummy BRA	-	-	-	-	-	-	.59**
Country Dummy CHN	-	-	-	-	-	-	.59***
Country Dummy FRA	-	-	-	-	-	-	.11
Country Dummy GER	-	-	-	-	-	-	.14
Country Dummy SWE	-	-	-	-	-	-	-.06
F	*.81*	*1.245*	*1.81*	*3.33***	*5.57****	*1.77*	*7.20****
R^2	*.22*	*.13*	*.10*	*.16*	*.20*	*.14*	*.14*
Adjusted R^2	*.00*	*.03*	*.05*	*.11*	*.16*	*.06*	*.12*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-23: The Effects of Culture and Personality on Importance

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Importance of Comfort							
Intercept	4.88†	7.82***	2.44*	3.12*	3.49***	2.80*	3.56***
Collectivism	.24	-.05	-.08	.16	-.03	-.18	-.00
Uncertainty Avoidance	.13	-.14	.57***	.13	.29†	.32*	.25***
Extraversion	-.01	.03	.10	-.11	-.07	.10	-.01
Conscientiousness	.12	.15	.10	.09	.00	.12	.08*
Emotional Stability	.03	.16	-.11	-.09	-.03	.08	-.04
Openness to Experience	.01	-.02	.07	-.01	.13	.02	.06
Gender (female)	.79	.13	.21	.39†	.52**	.17	.34***
Age	-.06	-.15*	.00	.04	.01	-.00	-.00
Country Dummy BRA	-	-	-	-	-	-	.26
Country Dummy CHN	-	-	-	-	-	-	.33*
Country Dummy FRA	-	-	-	-	-	-	.02
Country Dummy GER	-	-	-	-	-	-	-.53***
Country Dummy SWE	-	-	-	-	-	-	-.02
F	*.48*	*1.53*	*2.86***	*1.81*†	*2.45**	*2.15**	*7.92****
R^2	*.20*	*.21*	*.20*	*.13*	*.13*	*.21*	*.17*
Adjusted R^2	*.00*	*.07*	*.13*	*.06*	*.07*	*.12*	*.15*
Importance of Image							
Intercept	3.03	4.26*	4.69***	.92	4.31***	2.94†	3.64***
Collectivism	.53	.01	-.22	.29	-.22	-.12	-.08
Uncertainty Avoidance	.45	.47*	.29	.33	.35†	.64**	.37***
Extraversion	.21	.03	.20*	.17†	.02	-.01	.09*
Conscientiousness	.28	-.17	.02	.10	-.05	.06	.01
Emotional Stability	.27	.15	.08	-.18	-.10	-.11	-.05
Openness to Experience	.28	.05	-.14	.22	.16	.09	.06
Gender (female)	.75	-.10	-.88***	-.71**	-.35	-.38	-.55***
Age	.06	-.07	-.03	-.01	-.03	-.03	-.03**
Country Dummy BRA	-	-	-	-	-	-	.38
Country Dummy CHN	-	-	-	-	-	-	.38†
Country Dummy FRA	-	-	-	-	-	-	.08
Country Dummy GER	-	-	-	-	-	-	-.32†
Country Dummy SWE	-	-	-	-	-	-	-.03
F	*2.41*†	*1.29*	*3.26***	*2.61**	*1.59*	*1.58*	*6.21****
R^2	*.56*	*.18*	*.22*	*.17*	*.09*	*.17*	*.14*
Adjusted R^2	*.33*	*.04*	*.15*	*.11*	*.03*	*.06*	*.12*
Importance of Trustability							
Intercept	4.62*	5.06***	4.43***	5.68***	3.43***	3.69***	4.42***
Collectivism	.12	-.07	-.04	.09	.16	-.35	.04
Uncertainty Avoidance	.31	.08	.09	-.15	.08	-.25	.04
Extraversion	.00	.10	.08	-.11†	-.13*	.68	-.03
Conscientiousness	.12	.13	-.02	.06	.15*	2.19*	.09**
Emotional Stability	-.13	-.06	-.04	-.14*	.05	-.05	-.02
Openness to Experience	.06	-.15	.06	.32***	.09	-.28	.07*
Gender (female)	.53	.29	.21	-.01	.45**	1.56	.32***
Age	-.01	.03	.03*	-.01	.01	.12	.01
Country Dummy BRA	-	-	-	-	-	-	.58**
Country Dummy CHN	-	-	-	-	-	-	.58***
Country Dummy FRA	-	-	-	-	-	-	.11
Country Dummy GER	-	-	-	-	-	-	.14
Country Dummy SWE	-	-	-	-	-	-	-.04
F	*1.00*	*.94*	*1.39*	*2.71****	*4.70****	*1.32*	*6.18****
	.35	*.14*	*.11*	*.18*	*.22*	*.14*	*.14*
Adjusted R^2	*.00*	*.00*	*.03*	*.11*	*.17*	*.04*	*.12*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Gender has a significant positive effect in the importance of comfort in the German (β = .39, p < .10), Swedish (β = .52, p < .01), and in the pooled (β = .34, p < .001) samples, indicating that women consider comfort more important than men. For the product factor image gender has a significant negative effect on the importance of that product attribute in the French (β = -.88, p < .001), German (β = -.71, p < .01), and the pooled (β = -.55, p < .001) sample. Image is less important for women than for men. Further, gender has a significant positive effect on the importance of trustability in the Swedish (β = .45, p < .01)and the pooled (β = .32, p < .001) samples. Age shows a significant negative effect on the importance of image only in the pooled sample (β = -.03, p < .01).

As shown in Table 3-23 country specific effects can be observed. For the importance of comfort a significant positive effect of the country dummy for China (β = .33, p < .05) and a significant negative effect for the dummy of Germany (β = -.53, p < .001) is found. With respect to image the dummy of China (β = .38, p < .10) shows a significant positive and the dummy of Germany (β = -.32, p < .10) a significant negative effect. The country dummies for Brazil (β = .58, p < .01) and China (β = .58, p < .001) show significant positive effects.

Involvement: The Tables 3-24, 3-25 and 3-26 provide the regression results for the potential effects of collectivism and uncertainty avoidance as well as of extraversion, conscientiousness, emotional stability, and openness to experience on the involvement variables enjoyment, attachment, and interest. Table 3-26 offers the results for the regressions models including the two cultural and the four personality dimension. Eight of the 21 calculated models are not significant and the results will not be used for further discussion. For the remaining models the explained variance ranges between .07 (for trustability in the Swedish sample) and .75 (for comfort in the Brazilian sample). The results show that uncertainty avoidance has a significant positive effect on attachment in the Chinese (β = .49, p < .10) and in the pooled (β = .22, p < .05) samples. It also has a significant positive effect on interest in the pooled sample (β = .32, p < .01). Collectivism shows no effects. Extraversion has a significant positive effect on enjoyment in the French (β = .22, p < .10) and in the pooled (β = .12, p < .05) samples as well as on attachment in the Brazilian sample (β = .46, p < .10). Further, it shows a significant positive effect on interest in the pooled sample (β = .32, p < .01). Conscientiousness has a significant positive effect on enjoyment in the Brazilian (β = .51, p < .05) and in the French (β = .20, p < .05) samples. It also shows a positive effect on interest in the French (β = .26, p < .05), Swedish (β = .10, p < .05), and in the pooled (β = .16, p < .01) samples. The results also show significant positive effects of emotional stability on enjoyment in the Brazilian (β = .50, p < .05) and in the French (β = .18, p < .10) samples. A positive effect is also observable for interest in the Brazilian sample (β = .99, p < .01). The results for openness to experience also show significant positive effects. The variable positively effects enjoyment in the pooled sample (β = .11, p < .10), attachment in the Chinese (β = .53, p < .01) and pooled (β = .10, p < .10) samples as well as interest in the Chinese sample (β = .42, p < .10).

As displayed in Table 3-26 gender has a significant positive effect on enjoyment in the French sample (β = .60, p < .05) and a significant negative effect in the pooled sample (β = -.24, p < .10) which means that in the pooled sample women score lower in the involvement-variable enjoyment. Gender negatively effects attachment in the pooled sample (β = -.41, p < .001) and interest in the German (β = -.90, p < .01), Swedish (β = -.84, p < .01), U.S. American (β = -

1.14, $p < .01$), and pooled ($\beta = -.66$, $p < .001$) samples. Hence, women are less attached to and interested in cars than men. Age has significant negative effects on enjoyment in the French ($\beta = -.06$, $p < .01$) and pooled ($\beta = -.03$, $p < .05$) samples. Further, age negatively effects interest in the Brazilian ($\beta = -.13$, $p < .05$) and in the French ($\beta = -.07$, $p < .01$) samples. The results of the pooled sample show country specific effects. The country dummies for Brazil ($\beta = -.57$, $p < .10$), France ($\beta = -1.02$, $p < .001$), Germany ($\beta = -1.66$, $p < .001$), and Sweden ($\beta = -1.08$, $p < .001$) show significant negative effects on enjoyment.

The variable attachment is negatively affected by the country dummies of Brazil ($\beta = -.94$, $p < .01$), France ($\beta = -.84$, $p < .001$), Germany ($\beta = -1.22$, $p < .001$), and Sweden ($\beta = -1.30$, $p < .001$) and positively influenced by the dummy of China ($\beta = -.62$, $p < .01$).

Table 3-24: Culture's Effects on Involvement

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Enjoyment							
Intercept	5.89	6.04*	4.30***	2.21	2.79**	6.36***	4.13***
Collectivism	-.67	-.04	.03	.13	-.11	-.12	-.01
Uncertainty Avoidance	-.13	.28	-.07	.18	.18	.02	.08
Gender (female)	-1.98*	-.14	.42	-.22	-.03	-.60	-.04
Age	.05	-.11	-.06**	-.03	-.01	-.07	.15*
Country Dummy BRA	-	-	-	-	-	-	-.23†
Country Dummy CHN	-	-	-	-	-	-	-.03*
Country Dummy FRA	-	-	-	-	-	-	-.65†
Country Dummy GER	-	-	-	-	-	-	.37
Country Dummy SWE	-	-	-	-	-	-	-1.16***
F	*1.67*	*.52*	*2.35*†	*.83*	*.29*	*1.38*	*13.27****
R^2	*.26*	*.04*	*.09*	*.03*	*.01*	*.08*	*.23*
Adjusted R^2	*.10*	*.00*	*.05*	*.00*	*.02*	*.02*	*.21*
Attachment							
Intercept	4.75	1.09	2.78*	1.21	2.06*	5.14**	3.34***
Collectivism	.22	.04	-.12	.01	.11	-.11	.03
Uncertainty Avoidance	.05	.68*	.46†	-.07	.09	.29	.22*
Gender (female)	-.83	.04	-.25	-.25	-.35†	-.60†	-.08
Age	-.08	.03	-.04	.08	.00	-.07†	.11*
Country Dummy BRA	-	-	-	-	-	-	-.41***
Country Dummy CHN	-	-	-	-	-	-	-.02
Country Dummy FRA	-	-	-	-	-	-	-.96**
Country Dummy GER	-	-	-	-	-	-	.62**
Country Dummy SWE	-	-	-	-	-	-	-.87***
F	*.99*	*1.81*	*1.60*	*1.23*	*1.01*	2.37†	*16.82****
R^2	*.17*	*.13*	*.06*	*.04*	*.03*	*.12*	*.27*
Adjusted R^2	*.00*	*.06*	*.02*	*.01*	*.00*	*.07*	*.25*
Interest							
Intercept	9.12*	-1.18	4.09***	1.91	2.87**	4.15*	3.06***
Collectivism	-.90	.34	-.09	.34	.05	-.26	.03
Uncertainty Avoidance	.10	.76*	.47†	.12	.37†	.46†	.38***
Gender (female)	-.70	.25	-.38	-.77**	-.66**	-1.18***	-.00
Age	-.08	.06	-.07**	.03	-.01	-.01	.09
Country Dummy BRA	-	-	-	-		-	-.63***
Country Dummy CHN	-	-	-	-		-	-.03†
Country Dummy FRA	-	-	-	-		-	-.19
Country Dummy GER	-	-	-	-		-	.17
Country Dummy SWE	-	-	-	-		-	-.21
F	*.98*	*1.94*	*3.00**	*4.00***	*2.93**	*4.00***	*5.29****
R^2	*.17*	*.13*	*.11*	*.13*	*.08*	*.19*	*.10*
Adjusted R^2	*.00*	*.06*	*.07*	*.10*	*.05*	*.15*	*.09*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-25: Personality's Effects on Involvement

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Enjoyment							
Intercept	-1.70	4.25†	2.34*	3.09*	2.24*	6.34***	3.89***
Extraversion	.13	.25†	.22†	.06	.10	-.03	.12**
Conscientiousness	.48**	.20	.19†	-.11	.03	-.11	.04
Emotional Stability	.51**	-.10	.18†	-.01	-.11	-.05	-.05
Openness to Experience	.02	.20	-.14	.05	.20†	.13	.11†
Gender (female)	-.09	-.07	.54*	-.32	-.17	-.60	-.24†
Age	.03	-.11	-.06**	-.02	-.01	-.07	-.03*
Country Dummy BRA	-	-	-	-	-	-	-.55†
Country Dummy CHN	-	-	-	-	-	-	.40
Country Dummy FRA	-	-	-	-	-	-	-1.02***
Country Dummy GER	-	-	-	-	-	-	-1.67***
Country Dummy SWE	-	-	-	-	-	-	-1.09***
F	*12.83****	*1.63*	*3.41***	*.57*	*1.14*	*1.05*	*14.02****
R^2	*.82*	*.17*	*.18*	*.03*	*.05*	*.09*	*.24*
Adjusted R^2	*.76*	*.07*	*.12*	*.00*	*.01*	*.00*	*.22*
Attachment							
Intercept	2.53	1.45	3.87***	.88	3.33***	4.94***	4.14***
Extraversion	.29	.02	.03	-.05	-.02	.06	.04
Conscientiousness	.47	-.01	-.02	.01	.00	.03	.02
Emotional Stability	.04	-.15	.25*	-.19†	-.14	-.12	-.08
Openness to Experience	.09	.58***	-.19	.22	.04	.18	.09†
Gender (female)	-.05	.05	.00	-.46	-.44*	-.72**	-.42***
Age	-.11†	.04	-.04†	.09†	.00	-.07	-.02
Country Dummy BRA	-	-	-	-	-	-	-.87**
Country Dummy CHN	-	-	-	-	-	-	.67**
Country Dummy FRA	-	-	-	-	-	-	-.83***
Country Dummy GER	-	-	-	-	-	-	-1.25***
Country Dummy SWE	-	-	-	-	-	-	-1.33***
F	*3.21***	*2.7**	*1.47*	*.15*	*.95*	1.65	*16.17****
R^2	*.53*	*.25*	*.08*	*.09*	*.04*	*.13*	*.26*
Adjusted R^2	*.37*	*.16*	*.03*	*.03*	*.00*	*.05*	*.25*
Interest							
Intercept	3.85†	.75	4.35***	1.30	2.74*	4.34**	3.49***
Extraversion	.17	.18	.08	.14	.14	.07	.14**
Conscientiousness	-.11	-.08	.28**	.24†	.23*	.19	.19***
Emotional Stability	.96***	-.21	.10	-.02	-.07***	-.00	-.04
Openness to Experience	-.26	.49*	-.19	.12	.09	-.18	.02
Gender (female)	.46	.25	-.16	-1.02***	-	-1.07**	-.67***
Age	-.11*	.07	-.07**	.01	-	-.01	-.03*
Country Dummy BRA	-	-	-	-	-	-	-.00
Country Dummy CHN	-	-	-	-	-	-	.35
Country Dummy FRA	-	-	-	-	-	-	.03
Country Dummy GER	-	-	-	-	-	-	-.46*
Country Dummy SWE	-	-	-	-	-	-	-.17
F	*7.82****	*1.82*	*3.21***	*3.30***	*2.72**	*2.45**	*5.69****
R^2	*.73*	*.18*	*.17*	*.16*	*.11*	*.18*	*.11*
Adjusted R^2	*.64*	*.08*	*.12*	*.11*	*.07*	*.11*	*.09*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-26: The Effects of Culture and Personality on Involvement

	BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
Enjoyment							
Intercept	.48	4.66 †	2.48 †	2.04	1.83	6.48 **	3.66 ***
Collectivism	-.15	-.16	.11	.14	.10	-.13	.01
Uncertainty Avoidance	-.33	.01	-.17	.22	.01	.11	.06
Extraversion	.05	.26 †	.22 †	.06	-.10	-.04	.12 *
Conscientiousness	.51 *	.21	.20 *	-.13	.20	-.12	.04
Emotional Stability	.50 *	-.08	.18 †	-.02	-.08	-.03	-.05
Openness to Experience	.02	.21	-.15	.07	.17 †	.13	.11 †
Gender (female)	.05	-.09	.60 *	-.26	-.18	-.65	-.24 †
Age	.02	-.12	-.06 **	-.02	-.01	-.07	-.03 *
Country Dummy BRA	-	-	-	-	-	-	-.57 †
Country Dummy CHN	-	-	-	-	-	-	.38
Country Dummy FRA	-	-	-	-	-	-	-1.02 ***
Country Dummy GER	-	-	-	-	-	-	-1.66 ***
Country Dummy SWE	-	-	-	-	-	-	-1.08 ***
F	*9.39***	*1.21*	*2.60**	*.70*	*.93*	*.80*	*11.85****
R^2	*.83*	*.17*	*.18*	*.05*	*.05*	*.09*	*.24*
Adjusted R^2	*.75*	*.03*	*.11*	*.00*	*.00*	*.00*	*.22*
Attachment							
Intercept	-.08	.02	2.76 †	.90	2.62 *	4.04 *	3.24 ***
Collectivism	.79	.02	-.10	.04	-.02	-.09	.03
Uncertainty Avoidance	.12	.49 †	.45 †	-.04	-.01	.33	.22 *
Extraversion	.46 †	-.03	.04	-.05	-.14	.03	.04
Conscientiousness	.35	-.02	-.05	.01	.04	-.00	-.00
Emotional Stability	.20	-.15	.23 *	-.20 †	.10	-.10	-.08
Openness to Experience	-.07	.53 **	-.19	.22	.09	.22	.10 †
Gender (female)	-.01	.08	-.10	-.44	-.43 *	-.73 *	-.41 ***
Age	-.12 †	.04	-.04 †	.09 †	.00	-.07	-.02
Country Dummy BRA	-	-	-	-	-	-	-.94 **
Country Dummy CHN	-	-	-	-	-	-	.61 **
Country Dummy FRA	-	-	-	-	-	-	-.84 ***
Country Dummy GER	-	-	-	-	-	-	-1.22 ***
Country Dummy SWE	-	-	-	-	-	-	-1.30 ***
F	*2.83**	*2.62**	*1.49*	*1.21*	*.83*	1.44	*14.25****
R^2	*.60*	*.31*	*.11*	*.09*	*.05*	*.15*	*.27*
Adjusted R^2	*.39*	*.19*	*.04*	*.02*	*.00*	*.05*	*.25*
Interest							
Intercept	5.59 †	-1.78	3.24 *	.16	1.21	4.03 †	2.16 **
Collectivism	.08	.40	.00	.34	.14	-.24	.05
Uncertainty Avoidance	-.35	.50	.33	.08	.20	.37	.32 **
Extraversion	.13	.11	.09	.14	-.05	.03	.14 **
Conscientiousness	-.12	-.11	.26 *	.22	.10 *	.15	.16 **
Emotional Stability	.99 **	-.25	.09	-.04	.11	.03	-.04
Openness to Experience	-.31	.42 †	-.19	.14	.29	-.14	.03
Gender (female)	.64	.31	-.20	-.90 **	-.84 **	-1.14 **	-.66 ***
Age	-.13 *	.08	-.07 **	.00	-.01	-.01	-.03 *
Country Dummy BRA	-	-	-	-	-	-	-.08
Country Dummy CHN	-	-	-	-	-	-	.26
Country Dummy FRA	-	-	-	-	-	-	.02
Country Dummy GER	-	-	-	-	-	-	-.42 †
Country Dummy SWE	-	-	-	-	-	-	-.12
F	*5.49***	*1.93*†	*2.60**	*2.79***	*2.43**	*2.14**	*5.62****
R^2	*.75*	*.25*	*.18*	*.18*	*.13*	*.21*	*.13*
Adjusted R^2	*.61*	*.12*	*.11*	*.12*	*.07*	*.11*	*.11*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Tables 3-27, 3-28 and 3-29 summarize the pooled sample's regression results for the dependent and independent variables of the ZOT for the three product factors comfort, image, and trustability.

Table 3-27: Regression Results Pooled Sample (Comfort)

	Importance Comfort	Involvement Enjoyment	Involvement Attachment	Involvement Interest	DES Comfort	MIN Comfort
Intercept	3.05***	.97	1.24*	.42	3.51***	.06
Collectivism	-.00	-.02	.03	.05	-.07	-.22**
Uncertainty Avoidance	.25***	-.16†	.12	.25*	.10	.10
Extraversion	-.02	.08†	-.04	.09†	.00	-.04
Conscientiousness	.08*	-.02	-.04	.16**	-.02	.06
Emotional Stability	-.04	-.00	-.05	-.00	.07*	.07†
Openness	.04	.05	.05	-.02	-.02	-.05
Enjoyment	.13***	-	.37***	.29***	-.03	-.07†
Attachment	.02	.45***	-	.26***	-.05	.00
Interest	-.02	.22***	.15***	-	.05	.07†
Importance Comfort	-	.22***	.09*	-.04	.62***	.65***
Country Dummy BRA	.35	-.19	-.75**	.34	-.24	.71**
Country Dummy CHN	.27†	-.02	.40*	.01	-.20	.21
Country Dummy FRA	.17	-.66***	-.47**	.53*	-.43**	.14
Country Dummy GER	-.30*	-.91***	-.52**	.35†	-.29†	-.32†
Country Dummy SWE	.15	-.47**	-.88***	.53**	.18	.28
Gender (female)	.37***	.01	-.17†	-.47***	-.02	.35***
Age	.00	-.02†	.00	-.02	.02*	.03**
F	*8.06***	*28.69***	*28.63***	*12.57***	*14.34***	*16.75***
R^2	*.21*	*.48*	*.48*	*.29*	*.33*	*.37*
Adjusted R^2	*.18*	*.47*	*.46*	*.27*	*.31*	*.34*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-28: Regression Results Pooled Sample (Image)

	Importance Image	Involvement Enjoyment	Involvement Attachment	Involvement Interest	DES Image	MIN Image
Intercept	2.05***	1.09†	1.24*	.42	3.23***	.22
Collectivism	-.10	.01	.03	.05	.05	-.17*
Uncertainty Avoidance	.26**	-.17†	.12	.25*	-.03	.06
Extraversion	.03	.06	-.04	.09*	.04	.02
Conscientiousness	-.04	.01	-.04	.16**	-.04	.04
Emotional Stability	-.02	-.00	-.05	-.00	.04	.00
Openness to Experience	.02	.05	.05	-.02	-.04	-.03
Enjoyment	.21***	-	.37***	.29***	-.04	-.05
Attachment	.09*	.42***	-	.26***	-.01	.01
Interest	.24***	.15***	.15***	-	.13**	.08*
Importance Image	-	.24***	.09*	-.04	.77***	.62***
Country Dummy BRA	.60*	-.26	-.75**	.34	-.32	.56*
Country Dummy CHN	.18	-.01	.40*	.01	-.54**	-.07
Country Dummy FRA	.37*	-.70***	-.47**	.53*	-.65***	-.10
Country Dummy GER	.25	-1.01***	-.52**	.35†	-.34†	-.38*
Country Dummy SWE	.35*	-.51**	-.88***	.53*	.07	-.04
Gender (female)	-.30**	.16	-.17†	-.47***	-.13	.20*
Age	-.02	-.01	.00	-.02	-.00	.02*
F	*16.71***	*30.11***	*29.11***	*16.38***	*28.43***	*21.01***
R^2	*.35*	*.49*	*.49*	*.35*	*.50*	*.42*
Adjusted R^2	*.33*	*.48*	*.47*	*.33*	*.48*	*.40*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Table 3-29: Regression Results Pooled Sample (Trustability)

	Importance Trustability	Involvement Enjoyment	Involvement Attachment	Involvement Interest	DES Trustability	MIN Trustability
Intercept	4.56 ***	1.09 †	1.28 *	-.43	5.44 ***	.58
Collectivism	.04	.01	.02	.08	-.09 †	-.20 *
Uncertainty Avoidance	.06	-.17 †	.14 †	.13	-.04	-.01
Extraversion	-.02	.06	-.03	.07 †	.02	-.05
Conscientiousness	.11 ***	.01	-.05	.15 **	-.02	.03
Emotional Stability	-.02	-.00	-.05	.01	.01	.05
Openness to Experience	.07 *	.05	.05	-.03	.04	-.02
Enjoyment	-.02	-	.39 ***	.19 ***	-.03	-.05
Attachment	.02	.42 ***	-	.21 ***	.01	-.05
Interest	-.07 **	.15 ***	.17 ***	-	-.01	.04
Importance Trustability	-	.24 ***	.04	.34 ***	.46 ***	.80 ***
Country Dummy BRA	.58 **	-.26	-.72 **	.10	-.03	.68 *
Country Dummy CHN	.59 ***	-.01	.40 *	-.07	-.07	.10
Country Dummy FRA	.11	-.70 ***	-.44 *	.35 †	-.31 *	-.08
Country Dummy GER	.11	-1.01 ***	-.50 **	.25	.08	.06
Country Dummy SWE	-.04	-.51 **	-.86 ***	.36 †	.05	.13
Gender (female)	.27 .000	.16	-.21 *	-.34 **	.00	.37 **
Age	.01	-.01	.00	-.01	.02 *	.03 *
F	*5.67***	*27.02***	*28.63***	*13.19***	*10.79***	*12.79***
R^2	*.16*	*.47*	*.48*	*.30*	*.27*	*.31*
Adjusted R^2	*.13*	*.45*	*.46*	*.28*	*.25*	*.28*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

As an assessment of measurement invariance was not possible (see chapter 3.3.4) the results can only serve as an illustration and provide a first impression if country specific differences with respect to these variables exist. For all three product attributes the calculated models were significant. None of the models reaches an explained variance above 50 percent.

As the tables show, country specific differences exist. There are significant results observable for the country dummies. Future research should enable a comparison between the country samples to be able to identify the country specific differences in more detail.

The following paragraph offers a discussion of the results, implications as well as the limitations of this study.

3.5 Summary of Study I: Discussion of the Results, Implications, Limitations, and Future Outlook

The aim of the study was to investigate the structure of the ZOT across national borders. Further, potential effects of culture and personality on the ZOT and its determinants were to be detected. Research Question I.1 asked if the structure of the ZOT differs across national borders. In order to answer that research question, it was tested if the importance of product attributes has a positive effect on the level of desired (H I.1) and minimum tolerable expectation standards (H I.2) as well as a negative effect on the width of the ZOT (H I.3). Further, the hypothesized negative effect of involvement on the width of the ZOT was tested (H I.4). Table 3-30 provides an overview of the resulted regression coefficients for each of these relationships. The significant results are printed in bold numbers.

Table 3-30: The Structure of the ZOT - Regression Coefficients per Country

H I.1-I.4	Attribute	BRA $N = 24$ β	CHN $N = 56$ β	FRA $N = 103$ β	GER $N = 111$ β	SWE $N = 145$ β	USA $N = 72$ β	Pooled $N = 511$ β
[HI.1+] IMP → DES	Comfort	**.97** ***	**.61** ***	**.68** ***	**.86** ***	**.38** ***	**.69** ***	**.63** ***
	Image	**.68** *	**.59** ***	**.94** ***	**.89** †	**.73** †	**.45** **	**.77** ***
	Trustability	**.61** **	**.40** *	**.57** ***	**.54** ***	**.36** ***	**.46** ***	**.46** ***
[HI.2+] IMP → MINTOL	Comfort	**1.00** *	**.53** *	**.46** ***	**.66** ***	**.66** ***	**.93** ***	**.66** ***
	Image	**.74** **	**.44** *	**.43** ***	**.64** ***	**.65** ***	**.74** ***	**.62** ***
	Trustability	**1.14** †	.30	**.70** ***	**.91** ***	**.91** ***	**.82** ***	**.80** ***
[HI.3-] IMP → ZOT	Comfort	n.s.	.08	n.s.	n.s.	n.s.	-.24	-.04
	Image	n.s.	.15	**.52** ***	**.25** *	n.s.	**-.29** †	**.15** **
	Trustability	-.53	.10	n.s.	n.s.	**-.55** ***	**-.36** †	**-.34** ***
[HI.4-] INV → ZOT								
ENJOY → ZOT	Comfort	n.s.	**.40** *	n.s.	n.s.	n.s.	-.01	.05
ATTACH → ZOT		n.s.	**-.41** *	n.s.	n.s.	n.s.	-.02	-.05
INTEREST → ZOT		n.s.	**.22** †	n.s.	n.s.	n.s.	-.18	-.02
ENJOY → ZOT	Image	n.s.	**.30** †	-.09	.06	n.s.	-.01	.01
ATTACH → ZOT		n.s.	**-.34** †	-.02	.01	n.s.	.12	-.01
INTEREST → ZOT		n.s.	**.41** **	.09	.08	n.s.	-.10	.04
ENJOY → ZOT	Trustability	-.20	.26	n.s.	n.s.	.08	-.07	.03
ATTACH → ZOT		.046	-.32	n.s.	n.s.	.11	.13	.07
INTEREST → ZOT		-.08	.38 **	n.s.	n.s.	-.14 †	-.14	-.06

Note: Unstandardized Regression Coefficients are displayed; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; n.s. = not significant; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

The results of the study showed that the importance of product attributes has a positive effect on the desired and the minimal tolerable performance level within all samples (excluding the relationships between importance and the minimum tolerable for comfort in the Swedish sample and the minimum tolerable for trustability in the Chinese sample). The negative effect of importance on the width of the ZOTs was confirmed only to a certain extent. The results for the relationship were mixed. Positive effects of importance on the width of the ZOT were found for the product attribute image in the French, German, and pooled samples. Significant negative effects were detected for the factor image in the U.S. American sample as well as for trustability in the Swedish, U.S. American, and pooled samples which reflects only partly the findings of Gwynne, Devlin, and Ennew (2000) who tested these relationships in a service setting. Considering the relationships between importance and involvement and the desired and minimum tolerable performance levels Gwynne, Devlin, and Ennew's (2000) basic assumptions of the ZOT model were confirmed for all samples. Hence, the concept of the ZOT is applicable for complex products such as cars and further, the basic assumptions with respect to the structure of the ZOT hold across countries.

The assumed negative effects of the involvement dimensions on the width of the ZOT were not supported. The corresponding regression models were either not significant or the explained variance of the models was negligible. Hence, an interpretation of that data is not possible. Reasons for that are manifold. It might be due to the fact that the width of the ZOT was not directly measured. It is a calculated construct (DES - MINTOL). If the values of both, the desired and the minimum tolerable performance change in the same direction, the width of

the ZOT might not change. Hence, the effects of the independent variables are visible through the desired and minimum tolerable performance levels but not through the width of the ZOT. Further, the individual country samples were rather small. Especially for the regressions with four and more independent variables the explanatory power of the models is strongly decreased.[236] Another reason for the poor results with respect to involvement might be the operationalization of involvement through Bloch's (1981) involvement scale. The scale was developed in a single-country context. Its applicability across nations has not been tested so far which addresses one limitation of the study. Due to the small sample sizes it was not possible to conduct a multigroup CFA. Hence, it is not possible to assess measurement invariance across the samples.

Research question I.2 asked which of Hofstede's cultural dimensions do affect the variables of the ZOT and how can their potential influence can be characterized. Table 3-31 summarizes the regression coefficients for the relationships between the cultural dimensions and the desired and the minimum tolerable performance levels of the three product factors as well as their tolerance zones. The significant results are again printed in bold numbers.

Table 3-31: Culture's Effects on the ZOT

		BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
	Attribute	**β**	**β**	**β**	**β**	**β**	**β**	**β**
RQ I.2								
COLL → DES	Comfort	-.28	.07	-.22	.01	-.15	.03	-.06
	Image	.36	.21	-.12	.17	-.05	.26	.05
	Trustability	n.s.	n.s.	-.18	-.01	-.17	-.17	**-.09** *
COLL → MINTOL	Comfort	-.38	-.13	**-.35** **	-.08	-.13	-.17	**-.22** **
	Image	.07	n.s.	**-.28** †	-.07	-.13	.12	**-.17** **
	Trustability	-.16	-.46	-.28	.05	-.11	-.16	**-.18** *
COLL → ZOT	Comfort	n.s.	n.s.	.12	n.s.	n.s.	.16	**.15** †
	Image	.28	**.72** *	.12	.24	n.s.	.05	**.22** **
	Trustability	.70	n.s.	.07	-.06	-.09	.01	.10
UA → DES	Comfort	-.04	-.09	.10	.24	.13	.15	.09
	Image	**-.68** †	.01	-.04	.13	-.07	.07	-.04
	Trustability	n.s.	n.s.	-.19	-.12	.16	-.08	-.05
UA → MINTOL	Comfort	.78	-.12	-.23	.18	-.05	**.49** *	.12
	Image	.14	n.s.	-.35	.07	.08	**.33** †	.08
	Trustability	.64	-.26	**-.69** **	.10	.01	.30	-.00
UA → ZOT	Comfort	n.s.	n.s.	.34	n.s.	n.s.	-.31	-.02
	Image	-.51	-.22	.39	.05	n.s.	-.17	-.08
	Trustability	-.62	n.s.	.59 *	-.21	.15	-.29	-.03

Note: Unstandardized Regression Coefficients are displayed; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; n.s. = not significant; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

The results for the pooled sample showed significant negative effects of collectivism on the minimum tolerable performance levels of all three product factors implying that individuals scoring high in collectivism have a lower minimum tolerable performance level. Assuming a constant level of the desired performance level this would translate into a larger tolerance zone. The assumption is confirmed by the results for the desired performance level and the

[236] See Cohen (1992), p. 156.

width of the ZOT. The desired performance levels of comfort and image are not affected by collectivism. The results also revealed a significant positive effect of collectivism on the ZOTs of these two product factors. Hence, individuals with higher values in collectivism have a larger ZOT and accept more heterogeneity in the performance of a product. An explanation for this is that individuals scoring high in collectivism are rather harmony seeking. They might keep the minimum tolerable performance level low to avoid disappointment with a product and the potentially resulting conflict. Large ZOTs indicate that these individuals are more tolerant when assessing the actual performance of a product. These findings are in line with the results of Chan, Wan, and Sin (2009).[237] The authors proposed that collectivistic (Asian) cultures are more tolerant with service failures than individualistic (Western) cultures. They argued that collectivistic cultures show higher fatalistic tendencies which again help to alleviate discontent. Donthu and Yoo (1998) argued that collectivistic customers would conform to and tolerate poor service due to their harmony seeking behavior.[238] The study results showed that the assumptions and findings of Donthu and Yoo (1998) and Chan, Wan, and Sin (2009) are also applicable for complex products.

With respect to the width of the ZOT, Reimann, Lünemann, and Chase (2008) found that customers from a culture with a higher degree of uncertainty avoidance do not accept a wide variety in performance with respect to service delivery.[239] Linking this to Johnston's (1995) idea of the three interlinked ZOTs (Chapter 3.1), it was argued that the width of the tolerance zones of an individual are negatively related to uncertainty avoidance. The results of the study (as presented in Table 3-31) are not sufficient to generalize an influence of uncertainty avoidance on the desired and minimum tolerable performance level as well as on the width of the ZOT. An influence of uncertainty avoidance on the ZOT cannot be confirmed. The results with respect to culture and the variables of the ZOT have to be handled with care. It was not possible to conduct a multigroup CFA. Hence, the data was not tested for invariance which limits the explanatory value of the findings for the pooled sample.

Research Question I.3 asked which personality dimensions do affect the variables of the ZOT and how the potential influence can be characterized. Table 3-32 summarizes the findings. The table presents the results for the effects of the personality dimensions extraversion, conscientiousness, emotional stability, and openness to experience on the desired and minimum tolerable performance levels of the factors comfort, image, and trustability as well as on the ZOTs of these product factors. Only a very few significant results (printed in bold numbers) on the effects of the personality traits were detected. It is not possible to generalize an effect of the personality dimensions on the desired and minimum tolerable performance level as well as on the width of the ZOT based on the results. Still, as some effects are observable, one cannot neglect the impact of personality on the research variables. More research is required to verify the given effects of the four personality dimensions.

[237] See Chan/Wan/Sin (2009), p. 292.
[238] See Donthu/Yoo (1998), p. 181.
[239] See Reimann/Lünemann/Chase (2008), p. 70.

Table 3-32: Personality's Effects on the ZOT

		BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
	Attribute	***β***	***β***	***β***	***β***	***β***	***β***	***β***
EXTRA → DES	Comfort	.10	-.07	-.04	-.10	.06	.04	.00
	Image	n.s.	-.06	.03	**-.22** *	**.16** †	.06	.03
	Trustability	n.s.	n.s.	.11	-.05	.09	-.02	.02
EXTRA → MINTOL	Comfort	n.s.	-.10	-.02	**-.20** **	.41	-.03	-.04
	Image	-.06	n.s.	.09	-.09	**.13** †	.12	.02
	Trustability	-.32	-.05	-.04	**-.21** **	**.16** *	.02	-.05
EXTRA → ZOT	Comfort	n.s.	n.s.	.02	n.s.	n.s.	.10	.04
	Image	.17	.16	-.05	-.12	n.s.	-.04	.03
	Trustability	**.36** †	n.s.	.15	**.15** †	-.09	-.01	.06
CONS → DES	Comfort	.17	.04	.06	-.08	-.00	-.08	-.01
	Image	n.s.	.06	-.02	-.04	-.02	-.13	-.04
	Trustability	n.s.	n.s.	-.02	.02	.02	-.06	-.02
CONS → MINTOL	Comfort	n.s.	.01	**.21** *	-.01	.98	.09	.07
	Image	.29	n.s.	.13	.02	.09	-.01	.05
	Trustability	.27	.08	-.01	-.02	.04	.11	.03
CONS → ZOT	Comfort	n.s.	n.s.	-.14	n.s.	n.s.	-.16	-.08
	Image	-.15	.16	-.14	-.05	n.s.	-.11	-.07
	Trustability	-.27	n.s.	-.07	.04	-.07	-.15	-.05
EMOSTA → DES	Comfort	.02	.10	**.15** †	.10	-.08	**.25** **	**.07** †
	Image	n.s.	-.14	.10	.14	-.12	**.32** *	.04
	Trustability	n.s.	n.s.	.06	-.05	-.01	.06	.00
EMOSTA → MINTOL	Comfort	n.s.	**.29** †	.05	.04	.32	.07	.06
	Image	.43	n.s.	.01	.11	-.13	-.01	-.00
	Trustability	.54	.03	.08	-.01	.01	.08	.05
EMOSTA → ZOT	Comfort	n.s.	n.s.	.09	n.s.	n.s.	.16	.01
	Image	-.36	**-.40** *	.07	.03	n.s.	**.30** **	.04
	Trustability	-.05	n.s.	-.05	-.04	-.03	-.04	-.05
OPEN → DES	Comfort	.09	-.01	-.12	-.06	.04	-.05	-.02
	Image	.21	.02	-.07	-.01	n.s.	-.10	-.04
	Trustability	n.s.	n.s.	.07	.06	-.04	.06	.04
OPEN → MINTOL	Comfort	n.s.	-.06	-.09	.06	.65	-.10	-.05
	Image	-.13	n.s.	-.11	-.01	-.05	-.08	-.03
	Trustability	.54	.03	.08	-.01	.01	.08	.05
OPEN → ZOT	Comfort	n.s.	n.s.	-.04	n.s.	n.s.	.03	.03
	Image	-.36	**-.40** *	.07	.03	n.s.	**.30** **	.04
	Trustability	-.05	n.s.	-.05	-.04	-.03	-.04	-.05

Note: Unstandardized Regression Coefficients are displayed; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; n.s. = not significant; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

To obtain a complete picture of the potential effects of culture and personality, their influence on the variables importance and involvement was also tested. Table 3-33 summarizes the regression coefficients of collectivism and uncertainty avoidance as well as of extraversion, consciousness, emotional stability, and openness to experience on the importance of the three product factors.

Table 3-33: The Effects of Culture and Personality on Importance

		BRA $N = 24$	CHN $N = 56$	FRA $N = 103$	GER $N = 111$	SWE $N = 145$	USA $N = 72$	Pooled $N = 511$
	Attribute	**ß**	**ß**	**ß**	**ß**	**ß**	**ß**	**ß**
COL → IMPORT	Comfort	n.s.	n.s.	-.08	.16	-.03	-.18	-.00
	Image	.53	n.s.	-.22	.29	n.s.	n.s.	-.08
	Trustability	n.s.	n.s.	n.s.	.09	.16	n.s.	.04
UA → IMPORT	Comfort	n.s.	n.s.	**.57** ***	.13	**.29** †	.32	**.25** ***
	Image	.45	n.s.	.29	.33	n.s.	n.s.	**.37** ***
	Trustability	n.s.	n.s.	n.s.	-.15	.08	n.s.	.04
EXTRA → IMPORT	Comfort	n.s.	n.s.	.10	-.11	-.07	.10	-.01
	Image	.21	n.s.	**.20** *	**.17** †	n.s.	n.s.	**.09** *
	Trustability	n.s.	n.s.	n.s.	**-.11** †	**-.13** *	n.s.	-.03
CONS → IMPORT	Comfort	n.s.	n.s.	.10	.09	.00	.12	**.08** *
	Image	.28	n.s.	.02	.10	n.s.	n.s.	.01
	Trustability	n.s.	n.s.	n.s.	.06	**.15** *	n.s.	**.09** **
EMOSTA → IMPORT	Comfort	n.s.	n.s.	-.11	-.09	-.03	.08	-.04
	Image	.27	n.s.	.08	-.18	n.s.	n.s.	-.05
	Trustability	n.s.	n.s.	n.s.	**-.14** *	.05	-.05	-.02
OPEN → IMPORT	Comfort	n.s.	n.s.	.07	-.01	.13	.02	.06
	Image	.28	n.s.	-.14	.22	n.s.	n.s.	.06
	Trustability	n.s.	n.s.	n.s.	**.32** ***	.09	-.28	**.07** *

Note: Unstandardized Regression Coefficients are displayed; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; n.s. = not significant; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

Collectivism shows no effects on the importance of the product attributes. Uncertainty avoidance shows significant positive effects on the importance of comfort and image. Even though uncertainty avoidance shows no direct effect on the minimum tolerable and desired performance levels, it has indirect effects through their importance. The result follows the findings of Taras, Kirkman, and Steel (2010), who stressed the need for the examination of moderating effects of cultural values in behavioral research.[240] They found that cultural values were stronger related to emotions and attitudes than behaviors.

The results for personality showed significant positive effects of extraversion on the importance of image in the French, German, and pooled samples. Individuals that score high on extraversion are described as active, talkative, person-oriented, optimistic, fun-loving, outgoing, and affectionate (see Chapter 2.3.2). According to Govers and Schoormans (2005) people prefer products with a product personality that matches their self-image.[241] The factor image includes, for example, the attributes sportiness, prestige, or the unique design of a car. These are attributes that correspond to lifestyle, fun, and the representation of a person through a product. People that are, for example, fun-loving and outgoing consider attributes which serve the need of fun and enjoyment as more important. The same line of argumentation can be used to explain the significant positive effect of conscientiousness on the importance of comfort (pooled sample) and trustability (Swedish and pooled samples). Individuals scoring high on conscientiousness are described as organized, reliable, self-disciplined, scrupulous, neat, and persevering. According to the results, these individuals rated

[240] See Taras/Kirkman/Steel (2010), p. 444.
[241] See Govers/Schoormans (2005), p. 193.

the car attributes such as environmental friendliness, reliability, safety, and the overall quality of a car (attributes of the factor trustability) important. These are attributes that are rather down to earth and reasonable and fit the characteristics of these individuals. Further, there is a significant negative effect of emotional stability (individuals scoring high are described as relaxed, calm, and stable) on the importance of trustability in the German sample and a significant positive effect of openness to experience (people are described as imaginative, creative, sensitive to beauty, aware of their feelings) on trustability in the German and pooled samples. The results show an effect of personality on the product preference of customers. People chose consciously or unconsciously products that match their personalities. If marketers design product variants with varying product-personalities, for example especially safe and comfortable cars or extravagant and sporty small cars, they can meet the needs of different customer types, and hence, can increase their market shares.[242]

Table 3-34 displays the summarized regression coefficients describing the effects of collectivism, uncertainty avoidance, extraversion, consciousness, emotional stability, and openness to experience on the involvement factors enjoyment, attachment, and interest. Again, only very few significant results were found. It is not possible to generalize an effect of culture and the investigated personality dimensions on the involvement dimensions enjoyment, attachment, and interest based on the results. Only some effects are observable and more research is required to verify the given effects of culture and personality on involvement.

Table 3-34: The Effects of Culture and Personality on Involvement

		BRA $N = 24$	**CHN** $N = 56$	**FRA** $N = 103$	**GER** $N = 111$	**SWE** $N = 145$	**USA** $N = 72$	**Pooled** $N = 511$
	Factor	***β***	***β***	***β***	***β***	***β***	***β***	***β***
COL → INVOLVE	Enjoyment	-.15	n.s.	.11	n.s.	n.s.	n.s.	.01
	Attachment	.79	.02	n.s.	n.s.	n.s.	n.s.	.03
	Interest	-.35	.50	.33	.08	.20	.37	**.32** **
UA → INVOLVE	Enjoyment	-.33	n.s.	-.17	n.s.	n.s.	n.s.	.06
	Attachment	.12	**.49** †	n.s.	n.s.	n.s.	n.s.	**.22** *
	Interest	-.35	.50	.33	.08	.20	.37	**.32** **
EXTRA → INVOLVE	Enjoyment	.05	n.s.	**.22** †	n.s.	n.s.	n.s.	**.12** *
	Attachment	**.46** †	-.03	n.s.	n.s.	n.s.	n.s.	.04
	Interest	.13	.11	.09	.14	-.05	.03	**.14** **
CONS → INVOLVE	Enjoyment	**.51** *	n.s.	**.20** *	n.s.	n.s.	n.s.	.04
	Attachment	.35	-.02	n.s.	n.s.	n.s.	n.s.	-.00
	Interest	-.12	-.11	**.26** *	.22	**.10** *	.15	**.16** **
EMOSTA → INVOLVE	Enjoyment	**.50** *	n.s.	**.18** †	n.s.	n.s.	n.s.	-.05
	Attachment	.20	-.15	n.s.	n.s.	n.s.	n.s.	-.08
	Interest	**.99** **	-.25	.09	-.04	.11	.03	-.04
OPEN → INVOLVE	Enjoyment	.02	n.s.	-.15	n.s.	n.s.	n.s.	**.11** †
	Attachment	-.07	**.53** **	n.s.	n.s.	n.s.	n.s.	**.10** †
	Interest	-.31	**.42** †	-.19	.14	.29	-.14	.03

Note: Unstandardized Regression Coefficients are displayed; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; n.s. = not significant; BRA = Brazil; CHN = China; FRA = France; GER = Germany; SWE = Sweden; USA = United States of America.

[242] See Govers/Schoormans (2005), p. 194.

Implications for Research

A major challenge of cross-cultural satisfaction research addresses the problem of measurement invariance, comparability of data across nations and cultures, and with that, the generalizablity of marketing models that were developed in a western context.[243] The ZOT is such a model that was developed in the western world and hence, the comparability and cross-national applicability of the model might was assumed to be a challenge.[244] The results showed that the ZOT model is applicable across nations and cultures. The structure of the ZOT with respect to the influence of attribute importance and involvement on the desired and minimum tolerable performance levels was similar in Brazil, China, France, Germany, Sweden, and the USA. The results approve, that future cross-cultural research in consumer behavior can apply the model as a base to measure and explain phenomenon related to customer satisfaction.

To the best of the author's knowledge there has been no other study so far that investigates the structure of ZOT within different nations and that examines the potential effects of an individual's cultural background as well as his or her personality on the model's variables. The study contributes to the cross-cultural consumer behavior literature. The results show that the basic assumptions of the model hold in varying national cultures. In all three country samples, the hypothesized structure and characteristics of the ZOT were confirmed. To a certain extent, effects of culture and personality were detected. Further, the study followed the call for research to apply the model for high-involvement products. The results show, that it was possible to use the model in the context of the automobile industry.

Managerial Implications

One of the applications of the ZOT model is to explain that customers accept a certain degree of heterogeneity in quality they receive.[245] Investigating individual characteristics, such as culture and personality, and their influence on the variables of the ZOT, will help managers to understand variations in the reactions of customers on product performance. Some customer groups might be satisfied with a specific performance level of an attribute others not, resulting in, for example, complaining behavior of one group of customers whereas the other group is happy with the same quality. Even though a product reaches high satisfaction levels in one customer segment it does not necessarily mean that it achieves the same level of satisfaction in another segment. The results of the study showed that a car manufacturer who offers very sporty, fast and prestigious cars with less focus on comfort and space will attract customers that are more outgoing and extraverted as well as focused on image and prestige. Customers within this group might have low minimum tolerable performance levels with respect to comfort and space. If the car does not offer too much space it would be still fine for them. Compared to other characteristics of a car, this product attribute is not too important for this customer group. On the other hand, customers who are family oriented, down to earth and with higher levels of conscientiousness might not be happy with such a small and narrow sports car. Other characteristic of a car are important, such as space, comfort or fuel economy.

[243] See Morgeson et al. (2011), p. 200.
[244] See Gorn (1997), p. 7; Spreng/Chiou (2000), p. 831.
[245] See Stodnick/Marley (2013), p. 36.

Their minimum tolerable performance level with respect to comfort and space might be higher. Hence, the performance of the sports car with respect to comfort and space would lie above the minimum tolerable comfort level of one customer but below the level of the other customer; one customer would be happy and satisfied, the other not.

Managerial implications of the study address the management of expectations and quality in terms of offered performance levels of product attributes to finally reach customer satisfaction. Expectations are considered as one predictor of satisfaction. To satisfy their customers, manufacturers of goods have to meet or even exceed expectations. As resources are limited, the major challenge for producers of complex products is to find out how much investment should be made to reach a sufficient level of performance for which product attributes and with that, to generate satisfaction. The required performance level lies somewhere between the minimum tolerable and desired performance levels. The results of the study show that importance is a predictor of the desired and minimum tolerable performance levels of product attributes. Higher importance of an attribute results in a higher minimum tolerable performance level leading to a narrower ZOT. As those customers with a narrow ZOT are more likely to be dissatisfied special attention should be given to such attributes which show a high importance. In terms of quality and satisfaction, managers need to identify those attributes of a product that shows the highest importance. The study also demonstrates that within different national borders different product attributes are considered as important (see Table 3-4). Therefore, in each country the most important attributes need to be identified.

Assessing the cultural values of different target groups might provide managers with an orientation of what is important and which level of performance of the important attributes needs to be offered. The study shows that individuals with higher values in collectivism have lower minimum tolerable performance levels and larger tolerance zones. They are easier to satisfy and less effort needs to be invested to favorably influence satisfaction. Further, the results show that the personality of individuals has an influence of the importance of specific attributes. The influence of the cultural background and personality of consumers on the importance of product attributes shows that a standardization of products across markets might lead to different levels of satisfaction in these markets. Marketers need to balance the pros, such as the potential for economies of scale, and cons, like the potentially foregone increase in sales and market share, of standardization. Offering product variants that fulfill the same functional needs but address the individual preferences with respect to attributes included that specific performance levels can lead to higher overall satisfaction.

Limitations and Future Research Directions

As all studies, this study has its limitations. A major imitation of the study is the small sample size for each country. Invariance tests based on multigroup confirmatory factor analysis were not possible due to the small sample sizes. Nevertheless, the results for the pooled sample were analyzed and interpreted. Future research should be based on larger sample sizes which allow for invariance tests. Business students from six countries responded to the questionnaire. With respect to the experience with the product the different country samples were very heterogeneous. Only 30 percent of the Chinese subjects ($N = 67$) possessed a driver's license and only 23 percent drove a car frequently (daily or three to five days per week). Asking

Chinese respondents about the importance of certain attributes of a car and the preferred performance levels they expect might be biased or even not realistic as the students of the Chinese sample are not familiar with the product category. Further research should involve only the actual users of cars as respondents.

Considering only uncertainty avoidance and collectivism as elements of culture is argued to be of limited use as culture is considered as a holistic concept.[246] Future research should also include the dimensions power distance, masculinity vs. femininity, and long-term vs. short-term orientation to provide a more comprehensive picture of the potential influence of culture on the ZOT. Also later added cultural dimensions such as indulgence versus restraint should be included in future research.

As the results suggest, effects of culture and personality on the ZOT and its determinants are partly observable. Still, a clear picture of the effects of culture and personality as complex phenomenon cannot be drawn from the study. More research is required in the context of other products and consumer types.

[246] See Furrer/Liu/Sudharshan (2000), p. 363.

4 Study II: The Confirmation/Disconfirmation-Paradigm in a Cross-Cultural Perspective – A Study across Countries

With Oliver's (1980) C/D-Paradigm the most prominent approach to explain the process of customer satisfaction formation was introduced. The paradigm suggests a conscious or unconscious comparison of the perceived performance of a product or service with the expected performance. The result of this comparison is a specific level of confirmation or disconfirmation which again defines if a customer is satisfied, delighted, or dissatisfied.[247] So far, the C/D-Paradigm was dominantly investigated in a single-country context. There is a lack of research that verifies the generalizability of the C/D-Paradigm across nations and that investigates the potential effects of culture and personality.[248] Further, most of the satisfaction research was conducted in service settings. There is a need for research to investigate the determinants of customer satisfaction for complex products, here automobiles.[249]

Therefore, the study will:

1) examine the C/D-Paradigm for a high-involvement product in a cross-national setting, and
2) investigate the effects of individuals' cultural backgrounds as well as the personality on the C/D-Paradigm.

After a short literature review on the process of satisfaction formation introducing the C/D-Paradigm, the potential effects of culture and personality will be outlined. It is followed by the introduction of the applied research method. Structural Equation Models (SEM) are applied to examine the cross-cultural comparability of the C/D-Paradigm. Further, by means of regression analysis, the potential effects of Hofstede's cultural dimensions and the Big Five personality traits on customer satisfaction and its determinants will be provided. The chapter concludes with the discussion of the results.

4.1 The Process of Customer Satisfaction/Dissatisfaction Formation across Nations

This subchapter will introduce the extended C/D-Paradigm followed by a critical assessment of the model. Further, the cross-cultural applicability of the model will be discussed and potential effects of Hofstede's cultural variables collectivism, masculinity, power distance, uncertainty avoidance, and long-term orientation (see Chapter 2.3.1) as well as of the Big Five personality traits neuroticism, extraversion, agreeableness, openness to experience, and consciousness (see Chapter 2.3.2) will be outlined.

4.1.1 The C/D-Paradigm

With Oliver's introduction of the C/D-Paradigm in 1980, an integrative frame explaining customer satisfaction was established.[250] Oliver (1980) proposed a cognitive model that describes customer satisfaction as a function of expectation and expectancy disconfirmation.

[247] See Oliver (1980), p. 461.
[248] See Spreng/Chiou (2002), p. 830.
[249] See Szymanski/Henard (2001), p. 32.
[250] See Szymanski/Henard (2001) for an overview.

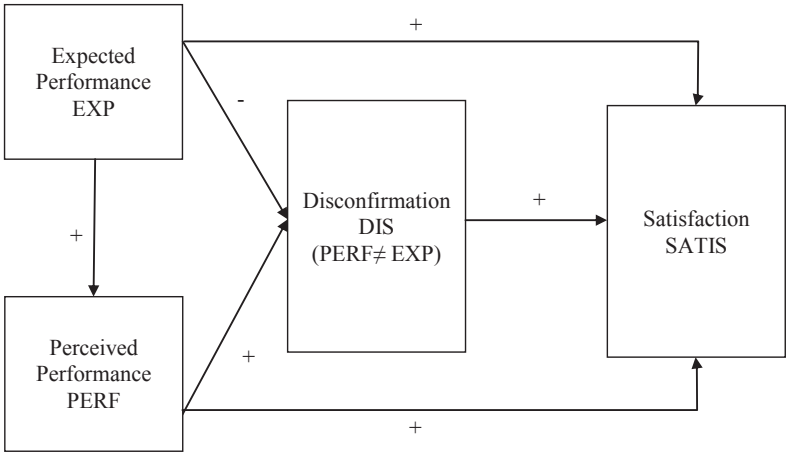
F. Krüger, *The Influence of Culture and Personality on Customer Satisfaction,*
International Management Studies, DOI 10.1007/978-3-658-12557-8_4,

According to Churchill and Surprenant (1982) expectations (expected performance), perceived performance, disconfirmation, and satisfaction are the major variables within the C/D-Paradigm.[251] In its original form the paradigm suggests that individuals compare the performance of a product to their pre-use expected performance. The comparison results in a certain degree of disconfirmation, which determines if the individual is satisfied or dissatisfied. Various studies have examined the nature of the relationships between the variables extending the original C/D-Paradigm including direct relationships between perceived expectations and satisfaction as well as between perceived performance and satisfaction.[252] Figure 4-1 serves as an illustration of the extended paradigm. The illustrated relationships between expected performance, perceived performance, disconfirmation, and satisfaction will be discussed in the following.

Satisfaction is the consequence of buying and using a product and comparing the costs and benefits.[253] In a cognitive process individuals compare their prior expectations with their perception of performance leading to satisfaction or dissatisfaction. In this context *customer expectations* have two functions.[254] First, they can serve as comparative references, which refer to a comparison standard against which the actual experience of performance is assessed, leading to confirmation or disconfirmation.[255] Churchill and Surprenant (1982) defined *disconfirmation* as the difference between expected performance (expectations) and perceived performance. If an individual has high expectations but receives a good with poor performance, he or she is negatively disconfirmed. If the good performs just as expected the individual's expectations are confirmed and if the good performs better than expected, the individual is positively disconfirmed.

[251] See Churchill/Surprenant (1982), p. 493.
[252] See Oliver (2010), pp. 96-127 for a review.
[253] See Churchill/Surprenant (1982), p. 493.
[254] See Szymanski/Henard (2001), p. 17.
[255] See Churchill/Surprenant (1982), p. 492; Patterson (1993), p. 459; Szymanski/Henard (2001), p. 17.

Figure 4-1: The Extended Confirmation/Disconfirmation-Paradigm



Source: Adapted from Oliver (2010), pp. 96-127; Spreng/Chiou (2002), p. 830; Anderson/Sullivan (1993), p. 127.

Studies have shown that if expectations are high, individuals are more likely to be disappointed about the actual performance, leading to negative disconfirmation.[256] Helson's Adaptation Level Theory offers an explanation here. The theory states that the perception of stimuli always relates to an adapted standard. Applied to customer satisfaction, the theory suggests that the individual's level of expectations can be considered as this adapted standard.[257] Further, performance has a positive effect on disconfirmation since a high performance might exceed expectations leading to positive disconfirmation. Therefore, the following hypotheses can be proposed:

H II.1: The higher the degree of expected performance, the lower is the level of disconfirmation.

H II.2: The higher the degree of perceived performance, the higher is the level of disconfirmation.

Second, expectations can influence satisfaction directly without a comparison of what the individual expects and actually perceives as performance. According to assimilation theory, individuals tend to reduce the dissonance which arises when expectations and perceived performance diverge. If the individual has high pre-consumption expectations of a product he or she will perceive the performance better than it actually is. Koelemeijer, and Roest (1995)

[256] See Yi (1990) for a review.
[257] See Oliver (1980), p. 461.

showed a positive effect of expectations on perceived performance.[258] Further, expectations have a positive influence on the satisfaction judgment.[259] Therefore:

H II.3: The higher the degree of expected performance, the higher is the level of perceived performance.

H II.4: The higher the degree of expected performance, the higher is the level of satisfaction.

Churchill and Surprenant (1982) found mixed results for the influence of disconfirmation on satisfaction. In case of nun-durable products they found a much stronger influence of disconfirmation on satisfaction than for the case of durable goods. The direct effect of disconfirmation on satisfaction can be explained as follows. Individuals who consider the actual performance better than what they expected (positive disconfirmation, higher level of disconfirmation) are more satisfied and individuals with a lower level of disconfirmation are dissatisfied, which results in the following hypothesis:

H II.5: The higher the degree of disconfirmation, the higher is the level of satisfaction.

Further, perceived performance can have a direct positive effect of on satisfaction.[260] For example, in the studies of Churchill and Surprenant (1982), Patterson (1993), and Burton, Sheather, and Roberts (2003) the effect of perceived performance dominated the impact of the expected performance and disconfirmation on satisfaction. It is especially the case for high-involvement products. According to Patterson (1993), the level of involvement influences the sensitivity to the actual performance of the product.[261] Thus, the following hypothesis can be formulated:

H II.6: The higher the degree of perceived performance, the higher is the level of satisfaction.

Critical Assessment of the C/D-Paradigm

The C/D-Paradigm, as presented above, is widely discussed and criticized in the satisfaction literature. Woodruff, Cadotte, and Jenkins (1983) criticized the C/D-Paradigm as being too focused on a pure cognitive process ignoring the potential link between cognitive processes and emotions.[262] Pieters, Koelemeijer, and Roest (1995) even went so far to state: "*In a way, the basic model treats the customer as a bookkeeper, who compares expectations with experiences, takes their difference, adds differences up to a sum score, and then decides whether this overall difference is good or bad. […] such a model does assume that customers have a balance sheet in their heads*."[263] They called for further research to develop a more dynamic and less rational approach to model customer satisfaction. Homburg and Giering (2001) sug-

[258] See Pieters/Koelemeijer/Roest (1995), p. 30.
[259] See Szymanski/Henard (2001), p.17; Pieters/Koelemeijer/Roest (1995), p. 30.
[260] See Churchill/Surprenant (1982), p. 503; Patterson (1993), p. 459, Burton/Sheather/Roberts (2003), p. 29.
[261] See Patterson (1993), p. 452.
[262] See Woodruff/Cadotte/Jenkins(1983), p. 297.
[263] Pieters/Koelemeijer/Roest (1995),p. 30.

gested to include affective processes to explain and predict satisfaction.[264] Gelbrich (2009), for example, found that anger directly influences customer satisfaction.[265]

Another critical aspect to mention is the operationalization of the research variables. The existing variety of expectation types and definitions creates ambiguity and makes the comparison of research results difficult.[266] Further, the model in its traditional form ignores the dynamic nature of expectations and the role of alternative products of a specific category.[267] Expectations change over time as they are determined by prior experiences, exposure to marketing stimuli, the communication of reference groups, and the quality of a typical brand in that category.[268] Earlier research questions the structure of the C/D-Paradigm in general. Kanning and Bergmann (2009) found that the only predictor of satisfaction is the performance of a product.[269] Expectations did not offer any additional explanation in their study. Other studies found similar results.[270] Yüksel and Yüksel (2001) claimed that the structure of the satisfaction formation process depends on the product category (e.g., high-involvement versus low-involvement products) and the buying situation especially in the case of services.[271]

Fournier and Mick's (1999) longitudinal investigation of satisfaction confirmed the C/D-Paradigm for specific consumer cases.[272] Still, they conclude that researchers in the field of customer satisfaction need to consider the following characteristics of the satisfaction formation process: "*...(1) consumer product satisfaction is an active, dynamic process; (2) the satisfaction process often has a strong social dimension; (3) meaning and emotion are integral components of satisfaction; (4) the satisfaction process is context-dependent and contingent, encompassing multiple paradigms, models, and modes; and finally, (5) product satisfaction is invariably intertwined with life satisfaction and the quality of life itself.*"[273]

Despite this critical assessment the C/D-Paradigm, it still offers a base for research on customer satisfaction and its related constructs. In satisfaction research the paradigm

- offers the base for assumptions and definitions (e.g., Evanschitzky, Sharma, and Prykop, 2012; Tam (2005); Diehl and Poynor, 2010),
- is tested for its applicability for different consumer groups and products (e.g., Yüksel and Yüksel, 2001; Tam, 2005), and
- is extended and challenged (e.g., Lin, Tsai, and Chiu, 2009; Diehl and Poynor, 2010; Darke, Ashworth, and Main, 2010; Trudel, Murray, and Cotte, 2012).

[264] See Homburg/Giering (2001), p. 45.
[265] See Gelbrich (2009), p. 49.
[266] See Kanning/Bergmann (2009), p. 379.
[267] See Yüksel/Yüksel (2001), p. 110.
[268] See Johnson/Fornell (1991), p. 276; Patterson (1993), p. 451; Kopalle/Lehmann/Farley (2010), p. 253.
[269] See Kanning/Bergmann (2009), p. 388.
[270] See e.g., Churchill/Surprenant (1982), p. 503; Patterson (1993), p. 459, Burton/Sheather/Roberts (2003), p. 29.
[271] See Yüksel/Yüksel (2001), p. 109.
[272] See Fournier/Mick (1999), p. 15.
[273] Loc. cit.

4.1.2 *Cross-Cultural Applicability of the C/D-Paradigm and the Potential Effects of Culture and Personality*

The Applicability of the C/D-Paradigm across Cultures

According to Spreng and Chiou (2000), the C/D-Paradigm is a classical model that was developed in a Western context and only few studies exist that test the model in different cultural contexts.[274] In a laboratory study Spreng and Chiou tested the basic assumptions of the paradigm for the USA and Taiwan. The authors argued that cultural values might influence the structure of the model across countries. They outlined two reasons for a potential non-applicability of the C/D-Paradigm across cultures. First, they argued that in cultures, which score high in collectivism, a type of norm, formed by the members of the in-group the individual belongs to serves as the comparison standard, rather than prior individual expectations about a product or service. According to Spreng and Chiou (2002) such a deviating comparison standard would influence the relationship between expectations and disconfirmation. Second, based on Hall's (1976) cultural dimension 'high context' versus 'low context', Spreng and Chiou argued that the C/D-Paradigm, defined as a pure cognitive process, would not hold in high context cultures. In low context cultures, such as the USA or Germany, communication is rather explicit in both, verbal and written form. Cognitive values are considered as more important. In contrast, in high context cultures (e.g., China), a lot of information is coded within the context. Not only cognitive values, but also affective values are important. Comparing the results of their experiments in the two countries they were able to support the generalizability of the C/D-Paradigm for the USA and Taiwan. However, they used different measures of satisfaction and its determinants for the two countries. A test for measurement invariance, and hence the generalizability of data, was not possible. Spreng and Chiou called for further research testing the applicability of the C/D-Paradigm across nations and cultures.

Tam (2005) examined the dynamics of expectations for Chinese consumers in the context of the C/D-Paradigm. The results of the study provide support for an applicability and generalizability of the paradigm for Chinese consumers. The sample used in Tam's study (73 restaurant visitors) is rather small leaving room for misinterpretation of data and lack of generalizability. Tam called for further research to investigate the applicability of the paradigm for more countries using common measures to ensure construct and measurement equivalence. Following this call for research one aim of Study II is to test if the hypotheses II.1 - II.6 can be supported for different countries, or, if the structure of the C/D-Paradigm shows country-specific characteristics. Following the call for research, Study II will investigate the following research question:

RQ II.1: Does the structure of the C/D-Paradigm differ across countries?

The Potential Effects of Hofstede's Dimensions of Culture

Donthu and Yoo (1998) conducted a study to investigate the potential effects of Hofstede's (1980) cultural dimensions power distance, uncertainty avoidance, long-term orientation, and

[274] See Spreng/Chiou (2002), pp. 830-831.

individualism on overall service *expectations*. The masculinity-femininity dimension was not included in their study as they found that it is not strongly related to expectations.[275] Donthu and Yoo argued that service providers have the power over their customers due to their expertise and ability to serve their customer's needs, their endowment with the required skills (e.g., lawyers, bankers, and insurance agents) and equipment (e.g., airlines, taxis, movie theaters). As customers from high power distance cultures tolerate inequalities in power, they would respect the provider's superior position. As those customers may think that the provider knows and works better than they do, they would accept or tolerate poor service. Based on these arguments, Donthu and Yoo (1998) claimed that customers with high power distance have lower expectations. The negative effect of power distance on the overall service expectations was confirmed in their study. According to Donthu and Yoo (1998) customers who score high in uncertainty avoidance have higher service quality expectations. These customers actively avoid uncertainty through planning and risk aversion. When making a purchasing decision they take time in evaluating their options. Hence, due to this careful planning and risk-aversion, the customers are likely to develop higher expectations. The positive relationship between uncertainty avoidance and expectations was confirmed.[276] Donthu and Yoo (1998) also suggested that individualistic customers have higher service quality expectations and long-term oriented customers have lower service quality expectations than short-term oriented customers. For the dimension individualism/collectivism they argue that in a service context customers who score high on individualism, do not accept poor service whereas rather collectivistic customers would conform to and tolerate poor service due to their harmony seeking behavior.[277] Donthu and Yoo (1998) also confirmed the negative relationship between long-term orientation and expectations. They explain that individuals who score high on long-term orientation, do not pursue truth eagerly.[278] For these individuals no aspect is absolutely right or wrong. They would also sacrifice today for a better future as they put little importance on past-and-today-oriented values. Such consumers do not expect perfect service right from the start. Instead, they would allow the provider to improve in the long run, and hence, have lower initial expectations. Furrer, Liu, and Sudharshan (2000) confirmed that in societies with higher degrees in individualism service quality expectations are higher. As collectivistic customers already prepare ex-ante to conform to any potential service level that might be provided, they have lower expectations. Individuals who score high on individualism, develop higher expectations as they are more focused on their individual well-being, and hence, would not tolerate low quality.

With respect to *perceived performance*, Ueltschy et al. (2004) stated that "*perceptions are filtered through the lens of culture...*"[279]. Culture is likely to influence the perception of performance as perception is based on attitudes, values, and beliefs. Values are elements of every culture.[280] In Ueltschy et al.'s (2004) scenario-based experimental study the authors found that in situations with high expectations and performance, English-Canadian respondents perceived lower service quality than U.S. and French-Canadian subjects. In the study Hofstede's

[275] See Donthu/Yoo (1998), p. 180.
[276] See loc. cit., p. 184.
[277] See loc. cit., p. 181.
[278] See loc. cit., p. 182.
[279] Ueltschy et al. (2004), p. 62.
[280] See loc. cit., p. 902.

dimensions on perceptions were not operationalized and measured but only use as a base to define culture.

The above mentioned studies examined the influence of culture only on selected aspects of the C/D-Paradigm. To the best of the author's knowledge there is no study investigating the effect of culture, specifically of Hofstede's cultural dimensions, on the entire satisfaction formation process. However, analysis of cultural effects on the satisfaction formation process might reveal sources of invariance of satisfaction measures. Therefore, Study II will contribute to the cross-cultural satisfaction literature and will answer the following research question:

RQ II.2: Does culture influence perceived expectations, perceived performance, disconfirmation and satisfaction?

The Potential Effects of the Big Five Personality Traits

The effects of the personality dimensions neuroticism, extraversion, agreeableness, openness to experience, and consciousness on customer satisfaction and its determinants have not received much attention in the literature so far. Mooradian and Olver (1997) found a moderating relationship between extraversion and neuroticism with customer satisfaction and post-purchase behavior through consumption-based emotions.[281] They did a questionnaire survey in the context of automobiles. The findings do not address potential direct effects of personality traits on satisfaction and its determinants. Tan, Foo, and Kwek (2004) proposed that customers' personality traits affect the experience of a service as customers can affect the service delivery process and its outcomes.[282] They found a positive direct effect of agreeableness on satisfaction. Tan, Foo, and Kwek argued that highly agreeable customers can tolerate lower levels of quality as these individuals are "*by nature courteous, good-natured, cheerful, and tolerant*".[283]

As only little research on the potential influence of personality on the satisfaction formation process exists so far, the following research questions will be investigated:

RQ II.3: Does personality influence perceived expectations, perceived performance, disconfirmation, and satisfaction?

The research questions will be investigated by means of two research models. Model II.1 investigates the structure of the C/D-Paradigm across nations. Hypotheses II.1-II.6 will be tested in China, Germany, and the USA. These countries were chosen as they represent the major markets of the cooperating car-manufacturer. Model II.2 addresses the potential effects of culture and personality on the C/D-Paradigm. In the following the questionnaire design and the measures used in Study II will be introduced.

[281] See Mooradian/Olver (1997), p. 388.
[282] See Tan/Foo/Kwek (2004), p. 287.
[283] Loc. cit., p. 288.

4.2 Description of the Method of Study II

When testing the C/D-Paradigm, a major challenge was to overcome the time lag between expectation formation before the purchase of a product, the actual consumption phase, and finally the individual's processing of the information gained during that entire process. Therefore it was necessary to manipulate the subjects' expected performance and the perceived performance. The manipulation of subjects was realized by employing the so called scenarios. Next to the investigation of the structure of the ZOT, Study I provided helpful information for formulating the scenarios as required for Study II. Test and experience reports were developed describing scenarios with specific product experiences before the purchase and during usage. The following sub-chapter introduces the scenario technique providing a literature review illustrating the use of scenario based surveys in satisfaction research. Based on the literature review a systematic guideline for the development of a scenario based questionnaire will be derived. In the second sub-chapter the guideline will be used to illustrate the development process and the setup of the two study designs of the research project.

4.2.1 Scenario Based Surveys for Research on Customer Satisfaction

Within customer satisfaction research the scenario approach is common use.[284] Subjects are manipulated according to a research problem by means of scenarios. The respondents obtain, for example, descriptions of products or services, events, or consumption situations. With this kind of information framing, the researcher has the possibility to place the subjects in a certain situation. The application of scenarios is considered as useful when exploring complex constructs and situations which are not easy to operationalize in a real-world environment.[285] Table 4-1 provides an overview of selected studies in the field of satisfaction research applying the scenario technique.

[284] See Alford/Sherrell (1996), p. 77; Ueltschy et al. (2004), p. 904.
[285] See Ueltschy et al. (2004), p. 904.

Table 4-1: Scenario-based Surveys and Experiments in CS Research

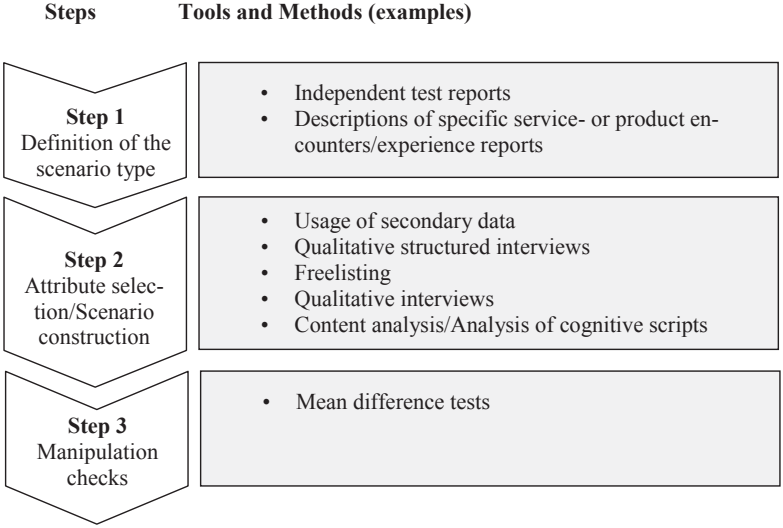
Authors	Research Object/ Subjects	Research Variables	Type of Scenarios	Construction of Scenarios/ Attribute Selection	Scenario Testing Method
Chan/Wan/ Sin (2009)	Study 1: restaurant scenario/ 244 undergraduate students Study 2: movie theater/ 238 undergraduate students Study 3: computer service/212 participants	Study 1: Concern for Face (CFF), Belief in Fate (BIF), Dissatisfaction Study 2: Social presence, Concern for Face (CFF), Belief in Fate (BIF), Dissatisfaction Study 3: Brand name effects, Concern for Face (CFF), Belief in Fate (BIF), Dissatisfaction	- Study 1: Written scenarios describing a social or nonsocial service failure - Study 2: Written scenarios describing a nonsocial service failure in a private or public context - Study 3: Written scenarios describing a social failure with a fate-suggestive or fate-unrelated brand name	Study 1: Application of Smith, Bolton and Wagner's (1999) restaurant scenario Study 2: No information available Study 3: No information available	Study 1: pretests, mean difference tests Study 2: pretests, mean difference tests Study 3: pretests, mean difference tests
Gelbrich (2009)	Mobile phones/ 138 undergraduate students	Anger, Helplessness, CS, Customer loyalty, Frequency of use	- Written scenarios with a descriptions of a core event with two manipulated levels of anger and helplessness - 2x2 between-subjects design	No information available	Pretests with 77 undergraduate students; Manipulation check: mean difference tests
Homburg/ Hoyer/ Koschate (2005)	Restaurant service/ 80 students	CS, Willingness to pay	- Expectations: Written scenarios describing a restaurant - Experience: Written scenarios with description of a core event; 8 scenarios, within-subject design	Based on secondary data from other academic studies	No information available
Ueltschy et al. (2004)	Dental services/ 587 undergraduate business students from the U.S. and Canada	Ethnicity, Service quality, CS	- Formulation of written scenarios for expectation manipulation and - Written scenarios describing the actual visit of a dentist - 2x2 factorial design, between subjects	Based on a combination of theoretically based scales	Pretest of scenarios with 33 U.S. and 31 Canadian subjects

Table 4-1: Scenario-based Surveys and Experiments in CS Research (cont.)

Authors	Research Object/ Subjects	Research Variables	Type of Scenarios	Construction of Scenarios/ Attribute Selection	Scenario Testing Method
Kopalle/ Lehmann (2001)	Car tires/60 MBA business students	Expected level of quality, Disconfirmation sensitivity, Perfectionism, CS, Optimism, Involvement, Expertise	- Written scenarios with 5 performance options, in the format of real-life independent test reports	Based on secondary data from a independent testing lab	No information available
Smith/ Bolton/ Wagner (1999)	Study 1: Restaurant service/ 375 business students; Study 2: 602 Hotel service/ business travelers	Disconfirmation, Distributive justice, Procedural justice, Interactional justice, Service encounter satisfaction	- Written scenarios with hypothetical service encounters in which service failures occurred in the context of Study 1: restaurant setting and Study 2: hotel setting - 2x2 between-subjects design	No information available	Manipulation checks in main study: mean difference tests
Alford/ Sherrell (1996)	Dental services/ 163 university students	General affect, Provider affect, Performance, Disconfirmation, CS, Repeat patronage intentions	- Description of scenarios my means of videotaped service interactions	Qualitative prestudy (cognitive scripts) to identify common actions and the common process of a dentist visit	No information provided
Churchill/ Surprenant (1982)	Study 1: Video Disc Player/ 126 mall visitors; Study 2: Plant/ 180 mall visitors	Perceived expectations, Perceived performance, Disconfirmation, Satisfaction	- Expectations: Written scenarios in the format of independent test reports - product performance: Written scenarios describing a core event - 3x3 factorial design	Based on pretests	Analysis of variance in main study

The studies presented in Table 4-1 investigate customer satisfaction and its related constructs such as expectations, emotions, or post-purchase constructs like loyalty or word-of-mouth recommendation. The table offers information on the scenario development process of each study if available. All articles were analyzed with respect to the structure and development of the study design including the definition of research subjects and the research object (e.g., a product or service), the definition of the research variables, the type of scenario applied, the approach to construct the scenarios including the selection method of the product/service attributes that were used in the scenario descriptions and finally, the method for testing the intended manipulations. The systematization of the development of a study design applying the scenarios is the result of the literature review. The majority of the presented studies follow the same process taking four major steps as illustrated in Figure 4-2.

Figure 4-2: The Process of Scenario Development



In *Step 1* the nature of the scenario is defined. Depending on the variables of interest, researchers use for example fictitious test and experience reports or written or videotaped descriptions of specific service- or product encounters to manipulate research subjects accordingly. For example, Churchill and Surprenant (1982) used video disc players as research objects in their study. They manipulated the respondents' expectations by providing printed messages giving information about the capabilities of the product.[286] To increase the credibility they communicated an independent testing lab as the source of the messages. Alford and Sherrell (1996) asked their subjects to watch a videotaped visit to a dentists' office. The respondents received a description of the setting and were asked to imagine themselves in place of the patient in the videotape. They had to imagine that their tooth were hurting. After watching the video they were asked to respond to a computer-administered questionnaire.

[286] See Churchill/Surprenant (1980), p. 494.

To be able to construct the scenarios, certain attributes (characteristics) of the product or service have to be selected (*Step 2*). It is important that the final scenarios are familiar to the respondent and that they describe a realistic product or service situation.[287] In the example of Churchill and Surprenant's (1982) video disc player the chosen product attributes were the quality of sound, the design of the player and the ease of handling it as the descriptors of the product. The choice of the attributes can be based, for example, on secondary data. For example, real-life test reports can offer insights about relevant product attributes when evaluating a certain product or service. Most of the above analyzed studies use secondary data as a base when deciding for specific attributes. Another approach is the identification of relevant attributes by employing quantitative or qualitative research methods such as qualitative structured interviews, freelisting, or, like in the case of Alford and Sherrell's (1996) study, the analysis of cognitive scripts. For the preparation of the video sequence it was necessary to identify the common actions and the common process of a dentist visit. For that purpose Alford and Sherrell (1996) conducted a pretest ($N = 36$) asking subjects for their general attitude toward dentists. Further, they had to list all actions they take when visiting a dentist's office. In that way, the authors received cognitive scripts which were then used to construct the video sequence.

In the *3rd Step* it is tested if the intended manipulations are achieved by means of the scenarios. In all the analyzed studies (provided that the information was included in the study) mean difference tests were used for the purpose.

As mentioned before, the application of scenarios is a common method in satisfaction related research. Literature indicates that the primary advantage of the technique is to overcome difficulties associated with field observations, such as the expense and time involved.[288] Ueltschy et al. (2004) stated that the technique is good to investigate complex constructs which are difficult to operationalize in a real-world setting.[289] Further, according to Smith, Bolton, and Wagner (1999) the application of scenarios reduces biases from memory lapses, rationalization tendencies, and consistency factors.[290] Such biases are common in results based on retrospective self-reports. Discussed limitations of the scenario approach refer, for example, to a trade-off between control and generalizability.[291] The challenge is to define the right degree of required manipulation of the respondents without overwriting actual behavioral tendencies of individuals. In that context Mattila (1999) stated that written scenarios would undermine the influence of affect and behavioral responses. Thus, real-life emotions would be neglected as scenarios are only limited to represent cognitive responses.[292]

4.2.2 Scenario Formulation

To be able to investigate the entire process of satisfaction formulation, the scenario approach was used in the dissertation project. The application of scenarios offered a solution to overcome the time lag between information gathering, purchase and usage of the product. Subjects

[287] See Alford/Sherrell (1996), p. 77; Ueltschy et al. (2004), p. 904.
[288] See Smith/Bolton/Wagner (1999), p. 362.
[289] See Ueltschy et al. (2004), p. 904.
[290] See Smith/Bolton/Wagner (1999), p. 362.
[291] See Alford/Sherrell (1996), p. 77.
[292] See Mattila (1999), p. 260.

were required to give information about their expectations of a subcompact car before a purchase and the perception of the car while using it. Different expected and perceived performance levels were required. It was necessary to manipulate the expected and perceived performance of each individual participating in the study. The expected performance as well as the perceived performance are manipulated on three levels resulting in a 3x3 factorial design with nine groups. Table 4-2 displays the nine groups with the scenarios used and the intended manipulations for each group.

The five most important attributes of a subcompact car were chosen to describe the product's performance. The results on the importance of product attributes derived in Study I provided for the attributes. Reliability, safety, fuel economy, overall manufacturing quality, and the overall driving qualities were identified as the most important attributes in China, Germany, and the USA (see Table 3-4).

Table 4-2: Groups of the 3x3 Factorial Between Subjects Design

Group 1 (tHeH) Expectations High/ Perceived Performance High	**Group 2 (tHeM)** Expectations High/ Perceived Performance Medium	**Group 3 (tHeL)** Expectations High/ Perceived Performance Low
Group 4 (tMeH) Expectations Medium/ Perceived Performance High	**Group 5 (tMeM)** Expectations Medium/ Perceived Performance Medium	**Group 6 (tMeL)** Expectations Medium/ Perceived Performance Low
Group 7 (tLeH) Expectations Low/ Perceived Performance High	**Group 8 (tLeM)** Expectations Low/ Perceived Performance Medium	**Group 9 (tLeL)** Expectations Low/ Perceived Performance Low

Note: t = test report, e = experience report, H = High, M = Medium, L = Low.

To formulate the appropriate performance levels of these attributes, terms and expressions had to be found which are typical and commonly used to describe a car in all three countries. For that purpose, a qualitative study (*Pre-study to Study II*) was conducted. Subjects from China ($N = 14$), Germany ($N = 32$), and the USA ($N = 12$) were asked to spontaneously write down all notions and phrases describing a more than acceptable, acceptable and unacceptable performance of the five product attributes. The aim of the freelisting was to identify common terms that describe a certain performance level of an attribute x. The resulting list of terms for each attribute forms a semantic domain which can be defined as *"…an organized set of word, concepts, or sentences, all on the same level of contrast, that jointly refer to a single conceptual sphere*."[293] According to Weller and Romney (1988) a domain contains items that are mutually interdependent reflecting the way how a cultural group classifies/describes a concept. Such a domain definition ensures that in each scenario those expressions are used that are common and known for all subjects in the target sample and which are not dictated by the researcher.[294]

An online questionnaire (surveymonkey.com) was developed in German language in order to conduct the pre-study. The questionnaire can be found in Appendix 3. A typical question is

[293] Weller/Romney (1988), p. 9.
[294] See loc. cit., p. 11.

for example "Please, write down every notion and phrase that comes to your mind in connection with an UNACCEPTABLE performance with regard to the overall manufacturing quality of a car." After testing the wording of the questionnaire with German students some minor changes were required. Afterwards the questionnaire was translated into Chinese and English. Following Brislin (1986), two bilingual native speakers translated the questionnaire to the languages of the target countries independently. The translators compared the two translations together with the researcher and, in case differences occurred between the versions, agreed on the most suitable expressions. A third bilingual person back-translated the questionnaire. German, Chinese, and U.S. American students were invited via e-mail to participate in the pre-study. In total 84 subjects responded to the questionnaire. Typically 10 to 30 subjects per group are sufficient for conducting the freelisting method.[295] After cleaning the data 58 usable questionnaires with 14 responses from China, 32 from Germany, and 12 from the USA were available.

For the tabulation of the results and making the country-specific results comparable all responses were translated into German by bilingual native speakers. The items mentioned for each of the nine domains were then ranked according to their frequency of response.[296] Finally, the items of the domains were compared between the countries and the most common expressions in all three countries were selected for the later formulation of the test reports. For example, the respondents were asked to write down every notion and phrase that came into their mind in connection with an unacceptable performance with regard to the overall manufacturing quality of a car. The most common items after tabulation for that domain are shown in Table 4-3. In Germany the use of cheap material was mentioned 19 times, followed by rusting (6 times), rattling (5 times), and products from China (3 times). The US subjects used the terms and expressions cheap material (5 times), frequent visits of workshops (3 times), ugly design (3 times), and bad performance in test reports (2 times) most frequently. In the Chinese sample the terms and expressions ratting sound (2 times), bad performance in test reports (2 times), and lacking stability and robustness (2 times) were mentioned most frequently. Also the processing of cheap material was used in that sample. The most common items of all nine domains were selected. In the example of the unacceptable performance with regard to the overall manufacturing quality of a car these were the use of cheap material, rattling, and rust.

[295] See Weller/Romney (1988), p. 14.
[296] See loc. cit.

Table 4-3: Freelisting Results (example)

CHN (*N* = 14)		GER (*N* = 32)		USA (*N* = 12)	
Items	**Frequency**	**Items**	**Frequency**	**Items**	**Frequency**
Rattling Sound	2	Cheap Material	19	Cheap Material	5
Bad Performance in Test Reports	2	Rust	6	Frequent Visits of Workshop	3
Lacking Stability/Robustness	2	Rattling Sound	5	Ugly Design	3
Cheap Material	1	Product from China	3	Bad Performance in Test Reports	2

Note: The table lists the frequency of mentioned items for the domain unacceptable performance of the attribute "Overall Manufacturing Quality of a Car"; CHN = China, GER = Germany; USA = United States of America.

Further, test reports from magazines and the internet were used to find usable expressions and phrasings for formulating the scenarios comprehensively and in a colloquial language. It was necessary to make the scenarios as understandable and as easy to follow as possible.

Table 4-4 gives the example of unacceptable performance for the attribute Overall Manufacturing Quality of a car.

Table 4-4: Formulation of a Scenario

Selected Items from the Pre-study (Freelisting):
Cheap Material, Rattling Sound, Rust
Wording in Test Report:
Looking at experience reports of Gamma Lab-users, rusting in the front door area as well as on the bumper seems to be typical for the Gamma Lab. Overall, in this subcompact car one has the impression that cheap materials were processed. This overall bad impression is even worse considering the rattling here and there.
Wording in the Experience Report:
You constantly hear rattling and on the bumper you found a bit of rust. The processed materials inside the car appear very cheap but still functional to you.

Note: The underlying domain is unacceptable performance of the product attribute "Overall Manufacturing Quality of a Car".

4.2.3 Questionnaire Design and Measures

After the formulation of the scenarios the questionnaire for Study II was set up. The final questionnaire can be found in Appendix 3. It consists of nine parts with a total number of 140 items. The structure of the questionnaire is presented in Table 4-5.

Table 4-5: Structure of the Questionnaire

Part/Items	Description	Source
A1-4	Filter questions, product experience	
B1-19	Attribute importance	Jaccard/Brinberg/Ackerman (1986)
C1-6	Manipulation of expectations by means of test-reports, measurement of expectations (attribute specific and global measurement)	Churchill/Surprenant (1982)
C7	Purchase probability	Churchill/Surprenant (1982)
D1-6	Manipulation of perceived product performance by means of experience reports, measurement of perceived performance (attribute specific and global measurement)	Churchill/Surprenant (1982)
E1-6	Measurement of the disconfirmation level (attribute specific and global measurement)	Churchill/Surprenant (1982)
F1-6	Measurement of customer satisfaction (attribute specific and global measurement)	Churchill/Surprenant (1982)
F7	Recommendation probability	
G1-45	Measurement of the Big Five personality traits applying the Big Five Inventory (BFI)	John/Srivastava (1999), Rammstedt/John (2005)
H1-38	Measurement of cultural dimensions	Yoo/Donthu/Lenartowicz (2009, 2011)
I1-8	Demographic data	

Part A consists of filter questions (item A1 and A2) and questions concerning the experience with cars (items A3 and A4). In part B the importance of 19 attributes of cars in general was asked. Here, the same items were used as in Study I.

The measurement of the variables perceived expectation (expected performance), perceived performance, disconfirmation, and satisfaction (part C - F) follows the approach of Churchill and Surprenant (1982). The four constructs are measured with a multi-item as well as with a single-item global measure. To measure, for example, the expected performance of the overall quality of the car the item “In your opinion, how will be the overall quality of the previously described subcompact car?” was used as well as a multi-item, attribute specific measure using the five manipulated attributes reliability, safety, fuel economy, overall manufacturing quality, and overall driving qualities. The expected and perceived performance related items are measured on a seven-point scale anchored at 1 = "very inferior" and 7 = "very superior". The items for disconfirmation are measured on a seven-point scale with the anchor points 1 = "Much too high: it was worse than I thought" and 7 = "Much too low: it was better than I thought". Question C7 aims at measuring the purchasing likelihood after reading the test report (item: “How likely is it that you would buy the car?”). Question F7 measures the recommendation likelihood (item: “How likely are you to recommend the Gamma Lab to your family and friends?”). Again, a seven-point scale is used anchored at 1 = very low and 7 = very high.

In Part G the Big Five personality traits are measured applying the Big Five Inventory (BFI).[297] Extraversion was measured with 8 items (e.g., "I see myself as someone who is talkative."), agreeableness with 10 items (e.g., "I see myself as someone who is helpful and unselfish with others."), conscientiousness with 9 items (e.g., "I see myself as someone who is a reliable worker."), neuroticism with 8 items (e.g., "I see myself as someone who is depressed, blue."), and openness with 10 items (e.g.,"I see myself as someone who is original, comes up with new ideas."). With a total of 45 items the BFI is a rather economical instrument that requires less time and effort of the respondents.[298] It also shows high reliability and validity across cultures.[299] The items are measured with a seven-point scale anchored at 1 = "strongly disagree" and 7 = "strongly agree".

The CVSCALE was applied to measure Hofstede's Cultural Dimensions (Part H). The instrument measures the five dimensions power distance (5 items, e.g., "People in higher positions should avoid social interaction with people in lower positions."), uncertainty avoidance (5 items, e.g., "It is important to closely follow instructions and procedures."), collectivism (6 items, e.g., "Individuals should sacrifice self-interest for the group."), long-term orientation (6 items, e.g., "Careful management of money (Thrift)"), and masculinity (4 items, e.g., "It is more important for men to have a professional career than it is for women.") on an individual level and is applicable for non-work related situations.[300] It has shown appropriate reliability, meaning high internal consistency, and validity in previous studies.[301] A seven-point scale is used anchored at 1 = "strongly disagree" and 7 = "strongly agree". For the dimension long-term orientation the seven-point scale is anchored at 1 = "very unimportant" and 7 = "very important".

In addition, Part H also contains the constructs perfectionism (8 items, e.g., "One of my goals is to be perfect in everything I do.") and disconfirmation sensitivity (4 items, e.g., "I notice when product performance does not match the quality I expect.") measured with the same scale as the culture related items.

Part I of the questionnaire contains typical demographic variables, for example, nationality and nationality at birth, age, and gender.

Pre-testing, Modifying, and Translating the Questionnaire

The questionnaire was pretested extensively.The aim of a first pre-test was to find major flaws and mistakes in the questionnaire. Twelve German business students were asked to fill out the questionnaire, which is a sufficient number of subjects according to Sheatsley (1983).[302] As recommended in literature, a briefing was conducted introducing the students to the research questions and the research model the questionnaire based on.[303] After minor adaptations a second test group of 34 German business students was asked to fill out the

[297] See John/Srivastava (1999), p. 21, Rammstedt/John (2005), p. 197.
[298] See Rammstedt/John (2005), p. 196.
[299] See Schmitt et al. (2007), p. 201.
[300] SeeYoo/Donthu/Lenartowicz (2009), p. 30.
[301] See loc. cit.
[302] See Sheatsley (1983), p. 226.
[303] See Presser et al. (2004), p. 117.

questionnaire. Aim of the second pre-test was to check if the groups were manipulated by the test and experience reports as intended. Following Malhotra, Agarwal, and Peterson (1996) two bilingual native speakers translated the questionnaire independently.[304] The translators compared the two translations together with the researcher, and discussed the most suitable expressions in case differences occurred between the versions. As suggested by Harzing (2005) a third bilingual person back-translated the questionnaire and compared the versions together with the researcher.[305]

4.2.4 Data Collection, Entry, Cleaning, and Manipulation Checks

The data was collected in the three countries between March and June 2010. The full sample consists of undergraduate and graduate business or social sciences students. Students were chosen as they represent young high-volume car buyers- and essential customer segment of the cooperating multinational car manufacturer. The students were recruited in class room sessions of management and economics lectures of partner universities in each country. 360 questionnaires were distributed and collected in each country. The final sample consists of 945 students with 318 subjects from China (61.9 percent female), 314 from Germany (58 percent female), and 313 subjects from the USA (52.4 percent female) (see Table 4-6).

Table 4-6: Demographic Description of the Sample

	CHN *N* = 318	**GER** *N* = 314	**USA** *N* = 313
Gender			
Female	197 (61.9%)	182 (58%)	164 (52.4%)
Male	121 (38.1%)	132 (42%)	148 (47.3%)
Mean Age (SD)	20.90 (1.38)	21.50 (1.29)	20.50 (1.35)
Study Program			
Undergraduate	318	304	298
Graduate	-	10	15
Subject of Studies			
Management/Economics	316	285	260
Social Sciences	1	7	13
Others	1	22	40
Driver's License Available	52 (16.4%)	303 (96%)	305 (97.4%)
Access to Car	46 (14.4%)	256 (81.5%)	296 (94.5%)

Note: SD = Standard Deviation; CHN = China, GER = Germany; USA = United States of America.

Manipulation checks were performed to check if the intended manipulation of the expected performance and the perceived performance was reached (Tables 4-7 and 4-8).

Further, according to cross-national literature on consumer behavior, recommended tests for measurement invariance were conducted using multigroup confirmatory factor analysis (MGCFA).[306] The analysis is necessary for assessing if a cross-national comparison of the data is possible. Following the recommendations in the literature, factor loadings and vari-

[304] See Malhorta/Agarwal/Perterson (1996), p. 24.
[305] See Harzing (2005), p. 217.
[306] See e.g., Horn/McArdle (1992); Steenkamp/Baumgartner (1998); van Herk/Poortinga/Verhallen (2005); Milfont/Fischer (2010).

ances of the variables were constrained to be equal across the three country samples and configural invariance, metric invariance, and scalar invariance was tested.[307] To compare the measurement models the difference in the CFI between the models was tested. The difference should not be higher than .01.[308] As Cheung and Rensvold (2002) asserted, the χ^2 difference test is not a good indicator of measurement invariance when the sample size is large.[309] The results of the χ^2 difference test were not considered critical in comparing the models. Table 4-9 presents the results of the CFA for Model II.1 including the variables expected performance, perceived performance and disconfirmation.

Table 4-7: Manipulation Checks per Country (ANOVA)

Manipulation	F-value	Treatment	Mean (SE)	95% Confidence
China				
Expected performance	879.77***	High	6.06 (.07)	5.91 to 6.20
		Medium	4.40 (.08)	4.23 to 4.57
		Low	1.52 (.07)	1.38 to 1.67
Perceived performance	484.65***	High	5.96 (.09)	5.78 to 6.14
		Medium	3.86 (.12)	3.62 to 4.10
		Low	1.70 (.11)	1.56 to 1.85
Germany				
Expected performance	416.61***	High	5.93 (.08)	5.76 to 6.09
		Medium	3.66 (.10)	3.47 to 3.85
		Low	2.08 (.10)	1.88 to 2.27
Perceived performance	438.53***	High	5.65 (.09)	5.47 to 5.84
		Medium	3.68 (.09)	3.50 to 3.87
		Low	1.82 (.10)	1.63 to 2.01
USA				
Expected performance	331.89***	High	5.81 (.11)	5.59 to 6.03
		Medium	3.87 (.10)	3.68 to 4.06
		Low	1.97 (.10)	1.76 to 2.18
Perceived performance	416.07***	High	5.81 (.09)	5.63 to 6.00
		Medium	3.78 (.12)	3.55 to 4.01
		Low	1.72 (.09)	1.56 to 1.89

Note: Multiattribute measures were tested, ***$p < .001$, China $N = 318$, Germany $N = 314$, USA $N = 313$, SE = Standard Error.

[307] See Steenkamp/Baumgartner (1998), pp. 78.
[308] See Cheung/Rensvold (2002), p. 251.
[309] See loc. cit., p. 234.

Table 4-8: Manipulation Checks per Country (Tukey Test)

Manipulation	Comparison	Difference	SE	*p*
China				
Expected performance	eH vs. eL	4.53	.11	***
	eM vs. eL	2.87	.11	***
	eH vs. eM	1.66	.11	***
Perceived performance	eH vs. eL	4.26	.14	***
	eM vs. eL	2.16	.13	***
	eH vs. eM	2.10	.14	***
Germany				
Expected performance	eH vs. eL	3.85	.14	***
	eH vs. eM	2.27	.13	***
	eM vs. eL	1.58	.13	***
Perceived performance	tH vs. tL	3.83	.13	***
	tM vs. tL	1.97	.14	***
	tH vs. tM	1.86	.14	***
USA				
Expected performance	eH vs. eL	3.84	.15	***
	eH vs. eM	1.96	.15	***
	eM vs. eL	1.88	.14	***
Perceived performance	tH vs. tL	4.09	.14	***
	tM vs. tL	2.06	.14	***
	tH vs. tM	2.03	.14	***

Note: Multiattribute measures were tested, SE = Standard Error, ***$p < .001$, China $N = 318$, Germany $N = 314$, USA $N = 313$.

The global measure for satisfaction was used in the model. All factor loadings were statistically significant with factor loadings larger than .4 and showed squared multiple correlations above the .5 threshold. Next to Cronbach's Alphas composite reliabilities and the average variance extracted were estimated, reflecting internal consistency of the indicators measuring a particular factor.[310] The required minimum composite reliability of .6 was achieved for all variables. Also the requirements for the average variance extracted were met (> .5).

Table 4-10 summarizes the results of the models' fit. The CFI and the RMSEA were satisfying for the three countries with .982 and .064 for the Chinese, .966 and .090 for the German, and .966 and .091 for the U.S. sample respectively.

The results of the MGCFA for the variables expected performance, perceived performance, and disconfirmation are also presented in first model (configural invariance) show an acceptable fit (χ^2/df = 3.11; RMSEA = .047; TLI = .96; CFI = .97) meaning that the factor structure is invariant across the three countries. The second model, testing for metric invariance, shows that the constructs were measured adequately in all countries. Again, an adequate fit of the model can be observed (χ^2/df = 3.00; RMSEA=.046; TLI=.96; CFI=.97). Comparing model one and two, the chi-square difference test ($\Delta\chi^2$ (24) = 44.08) is statistically significant

[310] See Fornell/Larcker (1981), p. 49.

at $p < .005$ level, which indicates a noninvariance. Still, the CFI difference test shows that the factor structure can be considered invariant across the three countries with ΔCFI = .001, which is smaller than the .01 cutoff point as proposed by Cheung and Rensvold (2002). To sum up, metric invariance can be assumed. The requirements for scalar invariance (model 3) are partly met. The fit of model three is adequate with $\chi^2/df = 3.37$; RMSEA = .050; TLI = .96; CFI = .96. The requirements for the chi-square difference test ($\Delta\chi^2$ (29) = 194.58; $p <$ .000) are not met but the CFI difference test shows invariance between the country samples (ΔCFI = .009). Hence, scalar invariance is given.

Table 4-9: Scale Items, Factor Loadings, and Construct Reliability (C/D-Paradigm)

Variables and items	Factor loadings			α (CR; AVE)		
	CHN	GER	USA	CHN	GER	USA
Expected performance				.95	.95	.96
Reliability	.949	.924	.942	(.95; .80)	(.94; .77)	(.96; .82)
Safety	.935	.912	.911			
Fuel economy	.836	.783	.807			
Overall manufacturing quality	.849	.882	.934			
Driving qualities	.870	.869	.919			
Perceived performance				.97	.96	.97
Reliability	.946	.944	.958	(.97; .87)	(.96; .83)	(.97; .85)
Safety	.921	.916	.926			
Fuel economy	.910	.856	.828			
Overall manufacturing quality	.933	.918	.933			
Driving qualities	.941	.929	.951			
Disconfirmation				.95	.96	.96
Reliability	.916	.936	.921	(.95; .81)	(.96; .83)	(.95; .81)
Safety	.878	.911	.921			
Fuel economy	.868	.859	.841			
Overall manufacturing quality	.897	.919	.911			
Driving qualities	.930	.928	.892			

Note: CHN = China; GER = Germany; USA = United States of America; α = Coefficient Alpha; CR = Composite Reliabilities; AVE = Average Variance Extracted; CHN $N = 318$; GER $N = 314$; USA $N = 313$.

Table 4-10: CFA and MGCFA Results (C/D-Paradigm)

	N	χ^2	*df*	*p*	CFI	RMSEA	ΔCFI
CFA results							
China	318	186.20	81	-	.982	.064	-
Germany	314	284.75	81	-	.966	.090	-
USA	313	290.90	81	-	.966	.091	-
Pooled sample	945	538.60	81	-	.974	.077	-
MGCFA results							
Configural invariance	945	760.93	244	-	.971	.047	-
Full metric invariance	945	805.01	268	.000	.970	.046	.001
Full scalar invariance	945	999.59	297	.000	.961	.050	.009

Note: CFA = Confirmatory factor analysis, MGCFA = Multigroup confirmatory factor analysis, *df* = Degrees of freedom, CFI = Comparative fit index, RMSEA = Root mean square error of approximation.

To be able to analyze the influence of culture on the variables of the C/D-Paradigm the culture related variables were introduced to Model II.1.

Table 4-11 presents the scale items, factor loadings and construct reliability for expected performance, perceived performance, disconfirmation, and satisfaction. Several items had to be deleted for the cultural dimension power distance, uncertainty avoidance, and collectivism (written in grey) as factor loadings were too low. The assessment of reliability and validity of the dimensions long-term orientation and masculinity resulted in rather low values for the Cronbach's Alpha, Composite Reliability (CR), and the Average Variance Extracted (AVE) (see Table 4-11). These dimensions will be excluded from further analysis. Power distance, uncertainty avoidance, and collectivism will be considered in the following analysis.

Table 4-11: Scale Items, Factor Loadings, and Construct Reliability (C/D-Paradigm and Culture)

Variables and items	Factor loadings			α (CR; AVE)		
	CHN	GER	USA	CHN	GER	USA
Expected performance				.95	.95	.96
Reliability	.950	.926	.956	(.95;.80)	(.95;.77)	(.95;.82)
Safety	.936	.918	.930			
Fuel Economy	.833	.789	.799			
Manufacturing Quality	.866	.896	.930			
Driving Quality	.882	.877	.915			
Perceived performance				.97	.96	.97
Reliability	.948	.948	.960	(.97; .87)	(.96; .84)	(.97; .85)
Safety	.929	.922	.929			
Fuel Economy	.906	.855	.829			
Manufacturing Quality	.938	.926	.933			
Driving Quality	.948	.937	.952			
Disconfirmation				.96	.96	.96
Reliability	.926	.948	.937	(.96; .81)	(.96; .83)	(.95; .81)
Safety	.891	.926	.936			
Fuel Economy	.868	.855	.840			
Manufacturing Quality	.892	.913	.901			
Driving Quality	.924	.922	.884			
Power Distance				.60	.64	.60
People in higher positions should make most decisions without consulting people in lower positions.	.733	1.012	.850	(.62; .45)	(.69; .53)	(.64; .48)
People in higher positions should not ask the opinions of people in lower positions too frequently.	.608	.464	.510			
People in higher positions should avoid social interaction with people in lower positions.						
People in lower positions should not disagree with decisions by people in higher positions.						
People in higher positions should not delegate important tasks to people in lower positions.						
Uncertainty Avoidance				.76	.77	.76
It is important to have instructions spelled out in detail so that I always know what I'm expected to do.	.715	.707	.710	(.77; .46)	(.78; .47)	(.76; .45)
It is important to closely follow instructions and procedures.	.580	.564	.690			
Rules and regulations are important because they inform me of what is expected of me.	.794	.754	.660			
Instructions for operations are important.	.610	.706	.620			
Standardized work procedures are helpful.						

Note: CHN = China; GER = Germany; USA = United States of America; α = Coefficient Alpha; CR = Composite Reliabilities; AVE = Average Variance Extracted; CHN N = 318; GER N = 314; USA N = 313; variables and items in grey were deleted.

Table 4-11: Scale Items, Factor Loadings, and Construct Reliability (C/D-Paradigm and Culture) (cont.)

Variables and items	Factor loadings			α (CR; AVE)		
	CHN	GER	USA	CHN	GER	USA
Collectivism				.65	.73	.71
Individuals should sacrifice self-interest for the group.	.604	.586	.610	(.65; .38)	(.73; .48)	(.71; .45)
Group success is more important than individual success.	.651	.734	.730			
Group loyalty should be encouraged even if individual goals suffer.	.597	.738	.680			
Individuals should stick with the group even through difficulties.						
Group welfare is more important than individual rewards.						
Individuals should only pursue their goals after considering the welfare of the group.						
Long-Term Orientation				.55	.69	.71
Working hard for success in the future	.721	.675	.880	(.57; .40)	(.69; .53)	(.79; .65)
Personal steadiness and stability	.532	.776	.720			
Careful management of money (Thrift)						
Going on resolutely in spite of opposition (Persistence)						
Long-term planning						
Giving up today's fun for success in the future						
Masculinity				.68	.43	.62
It is more important for men to have a professional career than it is for women.	.867	.439	.700	(.71; .55)	(.46; .31)	(.62; .45)
Solving difficult problems usually requires an active, forcible approach, which is typical of men.	.598	.654	.640			
Men usually solve problems with logical analysis; women usually solve problems with intuition.						
There are some jobs that a man can always do better than a woman.						

Note: CHN = China; GER = Germany; USA = United States of America; α = Coefficient Alpha; CR = Composite Reliabilities; AVE = Average Variance Extracted; CHN N = 318; GER N = 314; USA N = 313; variables and items in grey were deleted.

Table 4-12: Results of CFA and MGCFA (C/D-Paradigm and Culture)

	N	χ^2	*df*	*p*	CFI	RMSEA	ΔCFI
CFA results							
China	318	392.73	235	-	.975	.046	-
Germany	314	504.67	235	-	.959	.061	-
USA	313	484.64	235	-	.963	.058	-
Pooled sample	945	765.48	235	-	.973	.049	-
MGCFA results							
Configural invariance	945	2150.87	847		.934	.040	-
Full metric invariance	945	2262.60	875	.000	.930	.041	.004
Full scalar invariance	945	2289.84	883	.000	.929	.041	.001

Note: CFA = Confirmatory factor analysis, MGCFA = Multigroup confirmatory factor analysis, *df* = Degrees of freedom, CFI = Comparative fit index, RMSEA = Root mean square error of approximation.

Table 4-12 shows the results of the CFA and MGCFA. The results of the first model (configural invariance) show a satisfactory fit (χ^2 = 2150.87; *df* = 847; CFI = .934; RMSEA = .040) meaning that the factor structure is invariant across the three countries. In the second model, testing for metric invariance, it can be seen that the constructs were measured adequately in all countries. Again, an adequate fit of the model can be observed (χ^2 = 2262.60; *df* = 875; CFI = .930; RMSEA = .041). Comparing model one and two, the CFI difference test shows that the factor structure can be considered invariant across the three countries with ΔCFI = .004. The value is smaller than the proposed .01 cutoff point. Summarizing, metric invariance can be assumed. The requirements for scalar invariance (model 3) are partly met. The fit of model three is adequate with χ^2 = 2289.84; *df* = 883; CFI = .929; RMSEA = .041. The CFI difference test shows invariance between the country samples (ΔCFI = .001). Hence, scalar invariance is given.

In the third step personality related items were introduced to Model II.1. Table 4-13 displays the scale items, factor loadings, and construct reliability for expected performance, perceived performance, disconfirmation, agreeableness, extraversion, conscientiousness, neuroticism, and openness to experience. For the personality related dimensions several items measuring agreeableness, extraversion, neuroticism, and openness to experience had to be deleted as their factor loadings were too low. All personality dimensions will be included in the later analysis.

Table 4-13: Scale Items, Factor Loadings, and Construct Reliability (C/D-Paradigm and Personality)

Variables and items	Factor loadings			α (CR; AVE)		
	CHN	GER	USA	CHN	GER	USA
Expected performance				.95	.95	.96
Reliability	.949	.923	.944	(.94; .77)	(.96; .82)	(.95; .79)
Safety	.934	.912	.912			
Fuel economy	.836	.783	.806			
Overall manufacturing quality	.849	.882	.931			
Driving qualities	.871	.869	.918			
Perceived performance				.97	.96	.97
Reliability	.947	.945	.958	(.96; .83)	(.97; .85)	(.97; .87)
Safety	.921	.917	.926			
Fuel economy	.910	.856	.828			
Overall manufacturing quality	.933	.917	.934			
Driving qualities	.940	.929	.951			
Disconfirmation				.96	.96	.96
Reliability	.916	.936	.923	(.96; .83)	(.95; .81)	(.95; .80)
Safety	.878	.912	.922			
Fuel economy	.868	.859	.841			
Overall manufacturing quality	.898	.919	.911			
Driving qualities	.929	.927	.891			
Agreeableness				.56	.79	.85
starts quarrels with others. (r)	.646	.781	.793	(.79; .65)	(.85; .75)	(.82; .61)
often has arguments with others. (r)	.597	.832	.929			
is helpful and unselfish with others.						
tends to find fault with others. (r)						
has a forgiving nature.						
is generally trusting.						
can be cold and aloof. (r)						
is considerate and kind to almost everyone.						
is sometimes rude to others. (r)						
likes to cooperate with others.						
Extraversion				.82	.84	.85
is talkative.	.705	.812	.773	(.85; .50)	(.86; .50)	(.78; .29)
is full of energy.	.72	.486	.626			
generates a lot of enthusiasm.	.724	.619	.660			

Note: CHN = China; GER = Germany; USA = United States of America; α = Coefficient Alpha; CR = Composite Reliabilities; AVE = Average Variance Extracted; CHN N = 318; GER N = 314; USA N = 313; variables and items in grey were deleted.

Table 4-13: Scale Items, Factor Loadings, and Construct Reliability (C/D-Paradigm and Personality) (cont.)

Variables and items	Factor loadings			α (CR; AVE)		
	CHN	GER	USA	CHN	GER	USA
tends to be quiet. (r)	.632	.827	.722			
is sometimes shy, inhibited. (r)	.414	.603	.626			
is outgoing, sociable.	.735	.823	.830			
is reserved. (r)						
has an assertive personality.						
Conscientiousness				.78	.84	.82
does a thorough job.	.507	.679	.594	(.85; .34)	(.83; .36)	(.78; .29)
is a reliable worker.	.426	.686	.584			
tends to be disorganized. (r)	.707	.484	.613			
tends to be lazy. (r)	.662	.640	.651			
perseveres until the task is finished.	.494	.543	.576			
does things efficiently.	.588	.782	.616			
makes plans and follows through with them.	.445	.505	.586			
does a thorough job.	.436	.647	.624			
is a reliable worker.	.529	.546	.548			
Neuroticism				.79	.77	.79
is relaxed, handles stress well. (r)	.579	.560	.649	(.77; .37)	(.79; .34)	(.79; .39
can be tense.	.671	.791	.618			
worries a lot.	.714	.48	.776			
is emotionally stable, not easily upset. (r)	.464	.627	.513			
can be moody.	.555	.652	.500			
gets nervous easily.	.737	.477	.656			
remains calm in tense situations. (r)						
is depressed, blue.						
Openness to experience				.81	.81	.76
is original, comes up with new ideas.	.880	.835	.831	(.81; .60)	(.79; .39)	(.79; .40)
has an active imagination.	.580	.631	.607			
is inventive.	.859	.835	.730			
generates a lot of enthusiasm.	.724	.619	.660			
tends to be quiet. (r)	.632	.827	.722			

Note: CHN = China; GER = Germany; USA = United States of America; α = Coefficient Alpha; CR = Composite Reliabilities; AVE = Average Variance Extracted; CHN N = 318; GER N = 314; USA N = 313; variables and items in grey were deleted.

Table 4-14 shows the CFA and MGCFA results. With respect to the MGCFA, the results of the first model show a good fit (χ^2 = 5311.12; *df* = 2327; CFI = 890; RMSEA = .037) meaning that the factor structure is invariant across the three countries. For the second model an adequate fit of the model can be observed (χ^2 = 5484.88; *df* = 2373; CFI = .885; RMSEA = .037).Comparing model one and two, the CFI difference test shows that the factor structure can be considered as invariant across the three countries with ΔCFI = .005. Hence, metric invariance can be assumed. The fit of model three is adequate with χ^2 = 7549.19; *df* = 2425; CFI = .811; RMSEA = .047. The CFI difference test shows variance between the country samples (ΔCFI = .074). Therefore, scalar invariance is not given.

Table 4-14: Results of CFA and MCFA (C/D-Paradigm and Personality)

	N	χ^2	***df***	***P***	**CFI**	**RMSEA**	**ΔCFI**
CFA results							
China	318	1519.36	745	-	.911	.057	-
Germany	314	1646.61	745	-	.902	.062	-
USA	313	1712.95	745	-	.896	.065	-
Pooled sample	945	3576.85	745	-	.893	.063	-
MGCFA results							
Configural invariance	945	5311.12	2327	-	.890	.037	-
Full metric invariance	945	5484.88	2373	.000	.885	.037	.005
Full scalar invariance	945	7549.19	2425	.000	.811	.047	.074

Note: CFA = Confirmatory factor analysis, MGCFA = Multigroup confirmatory factor analysis, *df* = Degrees of freedom, CFI = Comparative fit index, RMSEA = Root mean square error of approximation.

Common Method Bias

Empirical tests were conducted to examine if the results were affected by common method bias. Firstly, the correlation coefficients were analyzed for each country as well as for the pooled sample. The results of the correlation analysis for the pooled sample are presented in Table 4-15. No highly correlated variables were observable. Hence, the likelihood of common method bias was low. In the second step, the Variance Inflation Factors (VIF) for all independent variables were generated.[311] The values were below the threshold of 10 within the pooled and the country samples. The result also suggests that the potential influence of common method bias was minimal.

[311] See Mela/Kopalle (2002), p. 667.

Table 4-15: Pair-wise Correlations - Study II (Pooled Sample)

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Expected Performance	4.04	1.80													
2 Perceived Performance	3.90	1.85	.11 **												
3 Disconfirmation	3.92	1.56	-.5 **	.55 **											
4 Satisfaction	3.80	1.90	.10 **	.88 **	.53 **										
5 Power Distance	2.39	1.22	-.03	-.05	.01	-.04									
6 Uncertainty Avoidance	5.10	.92	-.05	.01	.01	.00	-.08 *								
7 Collectivism	4.44	1.05	.08 *	-.02	-.06	-.01	-.03	.23 **							
8 Extraversion	4.74	1.05	-.01	.04	-.02	.04	-.05	-.09 **	.02						
9 Conscientiousness	4.81	.90	-.00	.01	.01	.01	-.10 **	.10 **	.02	.23 **					
10 Agreeableness	5.77	1.16	-.03	-.02	-.00	.00	-.12 **	.06	.03	-.05	.22 **				
11 Openness to Experience	4.79	1.10	.02	.02	.01	.03	-.02	-.04	.06	.35 **	.13 **	-.08 *			
12 Neuroticism	3.80	1.03	.01	-.01	.00	-.01	.05	.09 **	-.03	-.24 **	-.19 **	-.25 **	-.14 **		
13 Gender	-	-	-.09 **	.02	.05	-.01	.09 **	-.11 **	-.07 *	.07 *	-.03	.12 **	-.19 **	-.01	
14 Age	20.94	1.70	.02	.01	.03	.01	.06	.00	-.03	-.03	.02	.04	-.02	-.04	.14 **

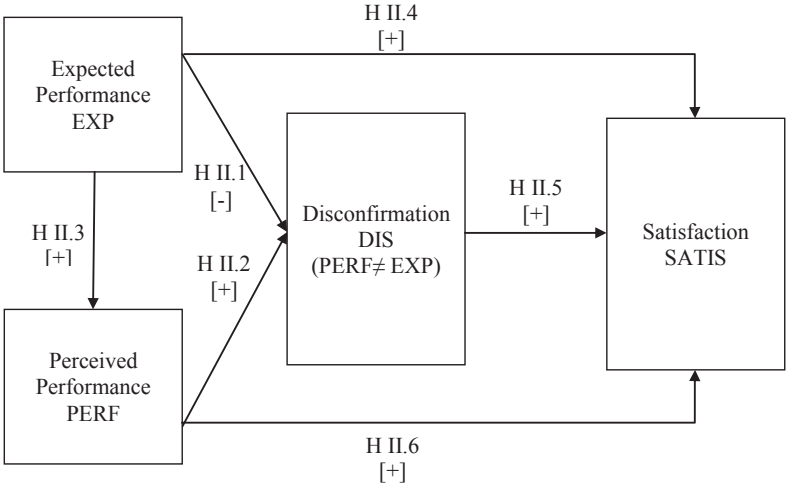
Note: $N = 945$;SD=standard deviations.

4.3 A Cross-National Investigation of the C/D-Paradigm - Results of Study II

4.3.1 The C/D-Paradigm in Cross-National Comparison – A Macro-Perspective

Research Question II.1 asks whether the structure of the C/D-Paradigm differs across countries. To assess the question, the Hypotheses H II.1 - H II.6 were tested within each country sample as well as for the pooled sample. Summarizing the hypotheses as formulated in Chapter 5.1, Figure 4-3 illustrates Research Model II.1. A partial mediation with hypothesized direct effects of expected performance and perceived performance on satisfaction and indirect effects of these two variables through disconfirmation can be observed.

Figure 4-3: Research Model II.1



To test for the hypotheses and to examine Research Question II.1a multisample path analysis applying maximum-likelihood procedure (AMOS 20) was used to compare the model structure between the three countries. Table 4-16 presents the path coefficients for the three countries. For all countries a significant negative effect of perceived expectations on disconfirmation, and a significant positive effect of perceived performance on disconfirmation was observed, which supports Hypotheses II.1 and II.2. The hypothesized assimilation effects of expected performance on perceived performance (Hypothesis II.3) and satisfaction (Hypothesis II.4) can only be supported for the U.S. sample. In the Chinese sample, expected performance only affects perceived performance. Hypothesis II.4 cannot be confirmed for the Chinese sample. No significant results were found testing Hypotheses II.3 and II.4 for Germany. The positive effect of disconfirmation on satisfaction (Hypothesis II.5) can only be confirmed for the Chinese and U.S. samples. For the German sample only the predicted direction of the effect of disconfirmation on satisfaction can be observed. However, the effect is not significant. For all three countries the predicted positive effect of perceived performance on satisfaction (Hypothesis II.6) can be observed.

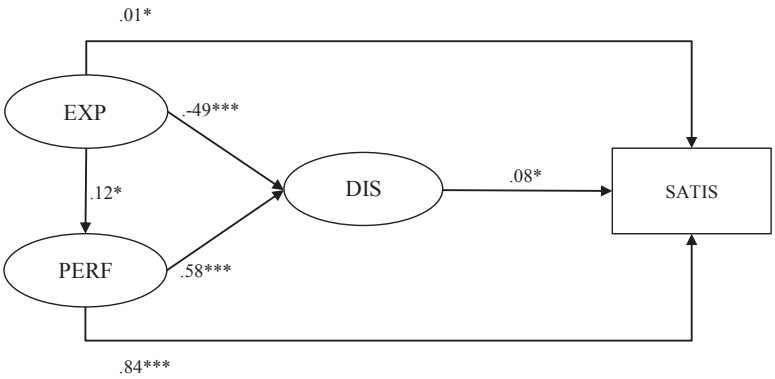
Table 4-16: Estimated Path Coefficients for China, Germany, and the USA

	CHN			GER			USA		
	β	SE	CR	*β*	SE	CR	*β*	SE	CR
[H1-] EXP → DIS	-.49***	.04	-10.25	-.63 ***	.03	-17.16	-.66 ***	.03	-16.82
[H2+] PERF → DIS	.58***	.04	12.09	.70 ***	.03	18.98	.67 ***	.03	17.30
[H3+] EXP → PERF	.12*	.06	2.09	.08	.06	1.37	.15 **	.06	2.63
[H4+] EXP → SATIS	.01*	.03	.20	.08	.07	1.30	.08 †	.05	1.70
[H5+] DIS → SATIS	.08*	.05	1.99	.08	.10	1.03	.12 *	.08	1.98
[H6+] PERF → SATIS	.84***	.04	20.87	.84 ***	.07	12.75	.83 ***	.05	16.51

Note: Standardized regression weights are displayed; *β* = path coefficients; SE = Standard Error; CR = Composite Reliability, †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .00$; CHN = China; GER = Germany; USA = United States of America.

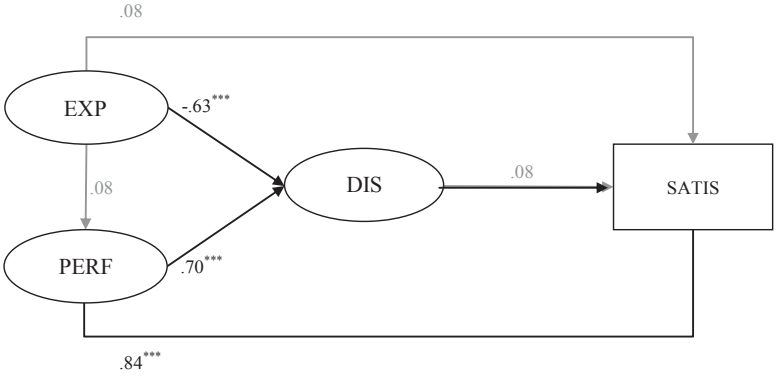
Figures 4-4, 4-5, and 4-6 illustrate the resulting model structure for each country by representing the significant path coefficients.

Figure 4-4: The Structure of the C/D-Paradigm for the Chinese Sample



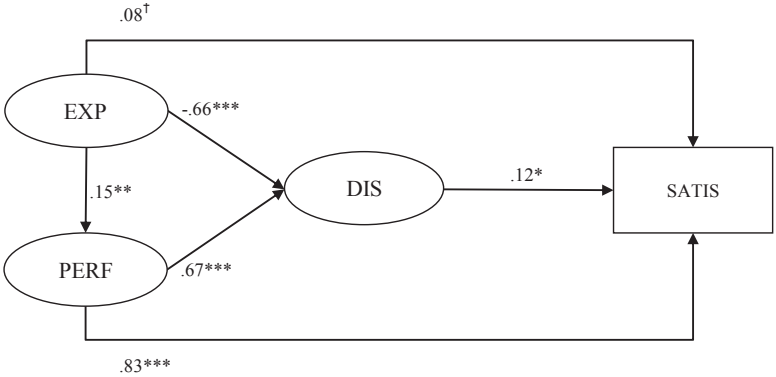
Note: $\chi^2 = 191.36$; $df = 88$; CFI = .984; RMSEA = .06; standardized regression weights are displayed; †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Figure 4-5: The Structure of the C/D-Paradigm for the German Sample



Note: $\chi^2 = 266.37$; $df = 88$; CFI = .973; RMSEA =.08; standardized regression weights are displayed; $^{\dagger}p < .1$; $*p < .05$; $**p < .01$; $***p < .001$; nonsignificant paths are printed in grey.

Figure 4-6: The Structure of the C/D-Paradigm for the U.S. American Sample



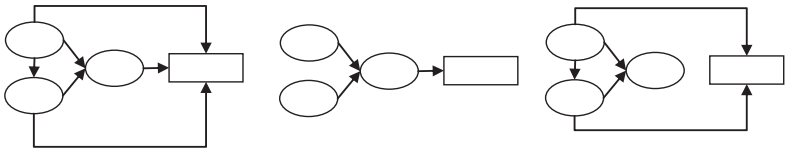
Note: $\chi^2 = 292.28$; $df = 88$; CFI = .968; RMSEA =.09; standardized regression weights are displayed; $^{\dagger}p < .1$; $*p < .05$; $**p < .01$; $***p < .001$.

To further test if these model structures show the best fit in each country, the hypothesized partial mediation model was compared to a full mediation model and a non-mediated model (see Figure 4-7) following the procedure of James, Mulaik, and Brett (2006).[312]

In the full mediation model only the indirect effects of expected performance and perceived performance through disconfirmation on satisfaction were considered. In the non-mediation model only the direct paths of these two variables on satisfaction were defined. The potential effects through disconfirmation were neglected.

[312] See James/Mulaik/Brett (2006), p. 242.

Figure 4-7: The Partial Mediation, Full Mediation and Non-Mediation Model



Model 1: Partial Mediation Model 2: Full Mediation Model 3: Non-Mediation

Table 4-17 presents the results of the comparisons between the hypothesized Model 1 (partial mediation) and Model 2 (full mediation) as well as between Model 1 and Model 3 (non-mediation) for each group.

Table 4-17: Model Fit for Full Mediation, Partial Mediation and Non-Mediation

	χ^2	*df*	$\Delta\chi^2$	*df*	*p*	CFI	RMSEA
China							
Model 1: Partial mediation	191.36	88	-	-	-	.984	.06
Model 2: Full mediation	552.26	90	360.90	2	.000	.926	.13
Model 3: Non-mediation	195.35	89	3.99	1	.025	.983	.06
Germany							
Model 1: Partial mediation	266.37	88	-	-	-	.972	.08
Model 2: Full mediation	611.78	90	345.41	2	.000	.918	.14
Model 3: Non-mediation	267.41	89	1.04	1	.250	.972	.08
USA							
Model 1: Partial mediation	292.28	88	-	-	-	.968	.09
Model 2: Full mediation	685.57	90	393.29	2	.000	.908	.15
Model 3: Non-mediation	296.14	89	3.86	1	.050	.968	.09

Note: CFA = Confirmatory factor analysis, MGCFA = Multigroup confirmatory factor analysis, *df*= Degrees of freedom, CFI = Comparative fit index, RMSEA = Root mean square error of approximation.

For the Chinese sample the model fit indices suggest an acceptable fit for our hypothesized partial mediation model (χ^2 = 191.36; *df* = 88; CFI = .98; RMSEA = .06). The full mediation model did not fit the data well with χ^2 = 552.26; *df* = 90; CFI = .93; RMSEA = .13. The change in the value of chi-square between the fully mediated model and the hypothesized model was significant ($\Delta\chi^2$ = 360.90, *df* = 2). The non-mediation model fitted data well (χ^2 = 195.35; *df* = 89; CFI = .93; RMSEA = .06). Comparing the partial mediation model to Model 3 it achieved a better fit. The change in the value of chi-square between the non-mediation model and the hypothesized model was significant ($\Delta\chi^2$ =3.99, *df* = 1). The partial mediation model can be considered as the best model to explain satisfaction in the Chinese sample.

The partial mediation model suggested a good fit of data in the German sample (χ^2 = 266.37; *df* = 88; CFI = .97; RMSEA = .08). In comparison, the full mediation model did not fit the data well (χ^2 = 611.78; *df* = 90; CFI = .92; RMSEA = .14). Further, the change in the value of chi-square between the full mediation model and the hypothesized model was significant ($\Delta\chi^2$ = 345.41, *df* = 2). For the non-mediation model the results suggest a good model fit (χ^2 = 267.41; *df* = 89; CFI = .97; RMSEA = .08). For the German sample the comparison of the hypothesized partial mediation model and the non-mediation model suggested that both mod-

els that are equally good in terms of model fit. Still, in the partial-mediation model the influence of disconfirmation on satisfaction is not significant. Therefore, no indirect effects of expected performance and perceived performance through disconfirmation can be observed in the German sample.

For the U.S. American sample also the partial mediation model was found to be the best model to explain satisfaction. It fitted the data well with χ^2 = 292.28; *df* = 88; CFI = .97; RMSEA = .09. The fit indices for the full mediation suggested a poor fit of data (χ^2 = 685.57; *df* = 90; CFI = .91; RMSEA = .15). Also in U.S. Amrican sample the value for the RMSEA was beyond the suggested threshold. Comparing the hypothsized model to Model 2 the difference in the model fit was significant ($\Delta\chi^2$ = 393.29, *df* = 2). Also the non-mediation model showed a good fit of data (χ^2 = 296.14; *df* = 89; CFI = .97; RMSEA = .09). The comparison with the hypothsized Model 1 suggest a better fit of the partial medation model. When comparing both models the change in the value of chi-square was significant ($\Delta\chi^2$ = 3.86, *df* = 1). The partial mediation model can be considered as the best model to explain satisfaction in the U.S. American sample.

Table 4-18 summarizes the squared multiple correlations for the variables perceived performance, disconfirmation, and satisfaction. For disconfirmation and satisfaction the variances explained are high in all three countries indicating that the model is well applicable to explain these constructs across countries.

Table 4-18: Squared Multiple Correlations for Model II.1

	CHN	GER	USA
PERF	.015	.007	.023
DIS	.507	.825	.746
SATIS	.793	.814	.824

Note: DIS= Disconfirmation, PERF = Perceived Performance, SAT = Satisfaction, CHN = China, GER = Germany, USA = United States of America.

The hypothesized assimilation effects were confirmed for the Chinese and U.S. American samples. An explained variance explained of .015 for the Chinese sample and .023 for the U.S. American sample (see Table 4-18) indicates that perceived expectations are only a weak explanatory variable for perceived performance. Hence, the assumed assimilation effect of expected performance on perceived performance is observable in these two countries but is rather small as it explains only very little variance.

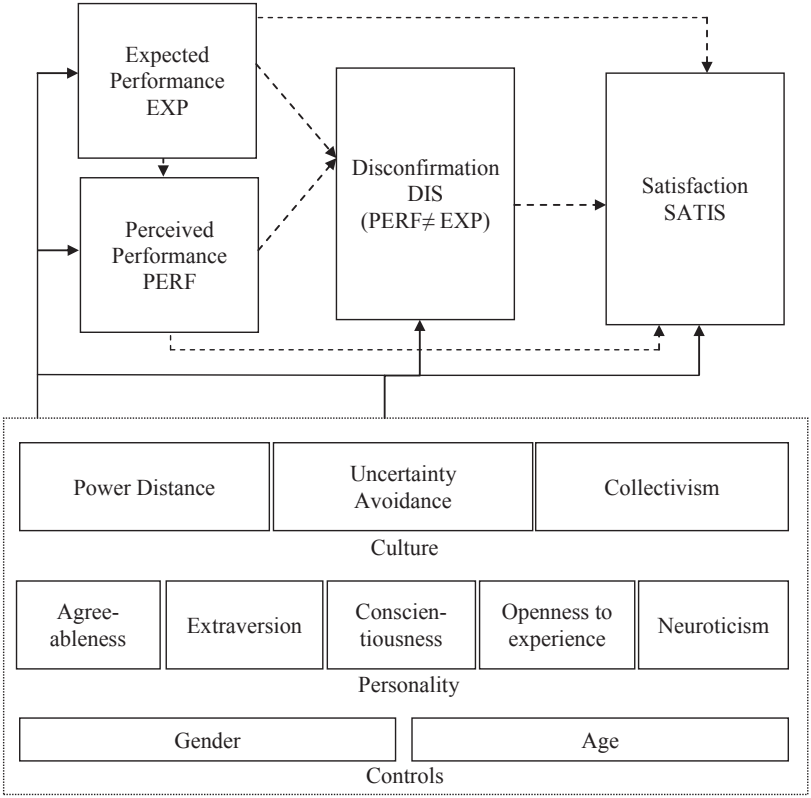
4.3.2 The Effects of Individual Cultural Values and Personality on the C/D-Paradigm - A Micro-Perspective

While the first part of Study II took a macro perspective when comparing the model structure across countries now the focus will be on the influence of individual. Research questions II.2 and II.3 ask whether culture and personality directly influence expected performance, perceived performance, disconfirmation, and satisfaction. To examine Research Questions II.2 and II.3 the first model was extended by Hofstede's cultural dimensions power distance, collectivism, and uncertainty avoidance as well as by the five personality dimensions neuroticism, extraversion, agreeableness, openness to experience, and consciousness.

Figure **4-8** shows the potential relationships between the variables within the C/D-Paradigm (broken lines) and the culture and personality related variables.

Ordinary least squares regression analyses was used to test for the potential relationships between the variables of the C/D-Paradigm and the cultural- and personality dimensions. Table 4-19 presents the regression results for the variable expected performance. Only the models for China and the USA are significant and explain four percent and three percent of the variance, respectively. Hence, the explanatory power of the independent variables is rather low.

Figure 4-8: Research Model II.2



Power distance has no effects on the expected performance. Uncertainty avoidance has a significant negative effect on the expected performance in China (β = -.21, p < .10) and the USA (β = -.33, p < .05) which implies that individuals scoring high on uncertainty avoidance have lower expectations. Collectivism has significant positive effects in the Chinese (β = .20, p < .05) and in the U.S. American (β = .25, p < .05) samples. Individuals that score high in collectivism have higher expectations. The personality variables have no influence on the

expected performance. The control variables gender and age only affect the expected performance in the Chinese sample; gender has a significant negative (β = -.48, p < .05) and age a significant positive effect (β = .15, p < .05).

Table 4-19: Regression Results for Expected Performance

	CHN N = 318	GER N = 314	USA N = 313	Pooled N = 945
Intercept	1.31	3.86*	6.66***	3.72***
Power Distance	-.08	-.03	-.13	-.07
Uncertainty Avoidance	-.21†	.03	-.33*	-.15*
Collectivism	.20*	-.02	.25*	.16**
Extraversion	-.09	.05	-.05	-.04
Conscientiousness	-.06	-.08	.17	.03
Agreeableness	.02	.05	-.06	-.01
Openness	.17	-.03	-.10	.03
Neuroticism	.00	.05	.04	.05
Gender (female)	-.48*	-.22	-.39	-.21
Age	.15*	.02	-.07	.02
Country Dummy CHN	-	-	-	-.07
Country Dummy GER	-	-	-	-.05
F	*2.14**	*.26*	*1.75†*	*1.47*
R^2	*.07*	*.01*	*.06*	*.02*
Adjusted R^2	*.04*	*.00*	*.03*	*.01*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †p < .10; *p < .05; **p < .01; ***p < .001; CHN = China; GER = Germany; USA = United States of America.

Table 4-20 offers the results for perceived performance for the three countries and for the pooled sample. As presented in the table, none of the models is significant. Hence, an interpretation of data is not possible.

Table 4-20: Regression Results for Perceived Performance

	CHN N = 318	GER N = 314	USA N = 313	Pooled N = 945
Intercept	1.91	1.84	5.58**	3.26**
Expected Performance	.12*	.09	.12*	.11**
Power Distance	-.06	-.08	-.08	-.08
Uncertainty Avoidance	.09	.14	-.05	.05
Collectivism	.04	-.20†	-.07	-.06
Extraversion	.16	.11	-.11	.06
Conscientiousness	.14	-.10	-.01	-.01
Agreeableness	-.11	-.04	.05	-.02
Openness	-.01	.09	-.03	.01
Neuroticism	-.09	.13	.02	-.01
Gender (female)	.13	.50*	-.07	-.10
Age	.03	.03	-.04	.01
Country Dummy CHN	-	-	-	-.01
Country Dummy GER	-	-	-	-.01
F	*1.18*	*1.23*	*.78*	*1.31*
R^2	*.04*	*.04*	*.03*	*.02*
Adjusted R^2	*.01*	*.01*	*.00*	*.00*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; †p < .10; *p < .05; **p < .01; ***p < .001; CHN = China; GER = Germany; USA = United States of America.

Table 4-21 displays the results for disconfirmation. As the C/D-Paradigm proposes, the variables expected performance and perceived performance are included in the analysis. All four models are significant and explain between 47 (China) and 75 (Germany) percent of the variance. Expected performance has the intended negative effect and perceived performance the assumed positive effect on disconfirmation in all three samples.

Table 4-21: Regression Results for Disconfirmation

	CHN $N = 318$	**GER** $N = 314$	**USA** $N = 313$	**Pooled** $N = 945$
Intercept	3.69^{**}	2.32^{**}	4.55^{***}	3.37^{***}
Expected Performance	$-.42^{***}$	$-.54^{***}$	$-.51^{***}$	$-.49^{***}$
Perceived Performance	$.49^{***}$	$.57^{***}$	$.52^{***}$	$.52^{***}$
Power Distance	.02	$.06^{\dagger}$	.00	.03
Uncertainty Avoidance	-.03	$-.13^{*}$	.03	-.05
Collectivism	-.04	.06	-.01	.00
Extraversion	$-.24^{**}$	.05	-.05	$-.09^{*}$
Conscientiousness	$.17^{\dagger}$	.03	$-.15^{*}$	.03
Agreeableness	-.04	.07	.01	.01
Openness	.09	-.04	.05	.04
Neuroticism	.02	.00	.06	.03
Gender (female)	.02	.09	.04	-.05
Age	.02	**.05***	-.01	**.03**†
Country Dummy CHN	3.69	-	-	-.08
Country Dummy GER	-.42	-	-	-.12
F	24.60^{***}	79.45^{***}	58.63^{***}	110.96^{***}
R^2	.49	.76	.70	.79
Adjusted R^2	.47	.75	.69	.62

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; CHN = China; GER = Germany; USA = United States of America.

With respect to culture, power distance has a weak positive effect on disconfirmation in the German sample ($\beta = .06$, $p < .10$) and uncertainty avoidance has a significant negative effect ($\beta = -.13$, $p < .05$) in that sample. That means that individuals that score higher in uncertainty avoidance have smaller values in disconfirmation. Collectivism shows no effects. Extraversion has significant negative effects on disconfirmation in the Chinese ($\beta = -.24$, $p < .01$) and in the pooled ($\beta = -.09$, $p < .05$) samples, which means that those people that score higher in extraversion score lower in disconfirmation. The results for conscientiousness are mixed. It has a weak positive effect in the Chinese sample ($\beta = .17$, $p < .10$) and a negative effect in the U.S. American sample ($\beta = -.15$, $p < .05$).With respect to the control variables, only age shows significant results. It has significant positive effects in the German ($\beta = .05$, $p < .05$) and in the pooled ($\beta = .03$, $p < .10$) samples.

Tables 4-22 shows the results for satisfaction. According to the C/D-Paradigm the regression model includes the variables expected performance, perceived performance, and disconfirmation. These variables show the predicted effects. All four regression models are significant and explain between 77 (Chinese) and 79 (USA) percent of the variance.

Table 4-22: Regression Results for Satisfaction

	CHN $N = 318$	**GER** $N = 314$	**USA** $N = 313$	**Pooled** $N = 945$
Intercept	-1.61	-.79	-.79	-.69
Expected Performance	.01*	.12	.13**	.07***
Perceived Performance	.80***	.84***	.83***	.83***
Disconfirmation	.12**	.17*	.21***	.14***
Power Distance	.04	-.03	.01	.01
Uncertainty Avoidance	-.03	.01	-.04	-.02
Collectivism	.04	.03	-.04	.01
Extraversion	.06	.00	.10†	.06†
Conscientiousness	-.02	.03	.04	.00
Agreeableness	.13*	.02	-.01	.04
Openness	.01	.00	-.04	-.01
Neuroticism	.09†	.01	-.01	.04
Gender (female)	.01	.01	-.13	-.05
Age	.02	-.01	.00	.00
Country Dummy CHN	-	-	-	.08
Country Dummy GER	-	-	-	-.12
F	*82.53****	*83.91****	*90.55****	*222.13****
R^2	*.78*	*.78*	*.80*	*.78*
Adjusted R^2	*.77*	*.78*	*.79*	*.78*

Note: Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline in the pooled sample regression model; $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; CHN = China; GER = Germany; USA = United States of America.

The culture variables power distance, uncertainty avoidance and collectivism show no significant effects on satisfaction. Extraversion has a weak significant positive effects on satisfaction within the U.S. American ($\beta = .10$, $p < .10$) and the pooled ($\beta = .06$, $p < .10$) samples, which implies that individuals who score high in extraversion are more satisfied. Agreeableness has a significant positive effect ($\beta = .13$, $p < .05$) on satisfaction in the Chinese sample. Neuroticism also has a weak significant positive effect on satisfaction in that sample. The control variables show no effects.

To assess potential indirect effects of the culture and personality variables on disconfirmation and satisfaction, a regression analysis was conducted for the pooled sample (see Table 4-26).

Table 4-23: Moderating Effects of Culture and Personality (Pooled Sample)

	Disconfirmation	**Satisfaction**
Intercept	3.47***	-.57
Expected Performance	-.49***	.07**
Perceived Performance	.52***	.83***
Disconfirmation	-	.14***
Power Distance	.04	.01
Uncertainty Avoidance	-.05	-.01
Collectivism	.00	.00
Extraversion	-.08*	.06†
Conscientiousness	.03	.01
Agreeableness	.00	.03
Openness	.03	-.01
Neuroticism	.02	.03
Gender (female)	-.05	-.05
Age	.03†	-.01
Country Dummy CHN	-.07	.09
Country Dummy GER	-.13	-.10
PDxEXP	-.01	-.01
PDxPERF	.03	.03
PDxDIS	-	-.04
UAxEXP	.02	.06
UAxPERF	.00	-.08†
UAxDIS	-	.11*
COLxEXP	.01	-.04
COLxPERF	-.02	.04
COLxDIS	-	-.01
EXTRAxEXP	.01	.01
EXTRAxPERF	-.01	.05
EXTRAxDIS	-	.02
CONSxEXP	-.05	.03
CONSxPERF	.06†	.04
CONSxDIS	-	-.04
AGREExEXP	.05	.03
AGREExPERF	-.03	-.04
AGREExDIS	-	.05
OPENxEXP	-.03	-.04
OPENxPERF	-.01	.02
OPENxDIS	-	-.08
NEUROxEXP	.05	-.05
NEUROxPERF	-.01	.01
NEUROxDIS	-	-.04
F	*51.88***	*86.33***
R^2	*.63*	*.79*
Adjusted R^2	*.62*	*.78*

Note: $N = 945$; Unstandardized Regression Coefficients are displayed; the U.S. sample is the baseline; †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$; CHN = China; GER = Germany; USA = United States of America.

The model includes disconfirmation, power distance, uncertainty avoidance, collectivism, extraversion, conscientiousness, agreeableness, openness, and neuroticism as variables influencing disconfirmation and satisfaction directly as well as moderating variables with indirect effects through the expected performance, perceived performance, and disconfirmation. As the results show, uncertainty avoidance has a weak negative effect on satisfaction through perceived performance ($\beta = -.08$, $p < .10$) and a positive effect on satisfaction through disconfirmation ($\beta = .11$, $p < .05$).Conscientiousness has a weak positive effect on disconfirmation through perceived performance ($\beta = .06$, $p < .10$).

4.4 Summary of Study II: Discussion of the Results, Implications, Limitations, and Future Outlook

Study II aimed at analyzing the structure of the C/D-Paradigm in China, Germany, and the USA, and with that, to assess its generalizabilty across the three countries. In a second step the potential influence of culture and personality on the model's variables perceived expectations, perceived performance, dissatisfaction, and satisfaction was tested.

The Structure of the C/D-Paradigm across Nations

The results showed that the basic structure of the C/D-Paradigm is similar in all three countries. The assumed partial mediation model can be considered as the best model to explain satisfaction in China, Germany, and the USA. Perceived performance has the strongest influence on satisfaction in the three countries supporting the findings from literature. Several studies have shown that the effect of perceived performance dominates the impact of the expected performance and disconfirmation on satisfaction.[313] Kanning and Bergmann (2009) found that the only predictor of satisfaction is the performance of a product.[314] According to Patterson (1993) it is especially the case for high-involvement products.[315] Whereas in the Chinese and U.S. American samples expected performance and perceived performance had indirect effects on satisfaction through disconfirmation only perceived performance effected satisfaction in the German sample. Here the comparison process was observable but did not matter for the final satisfaction judgment. Disconfirmation had no effect on satisfaction in Germany, confirming the finding of Kanning and Bergmann (2009). Still, Pieters, Koelemeijer, and Roest (1995) stressed that the dominance of the actual performance perception does to preclude the importance of expectations in the satisfaction formation process.[316] In the Chinese and U.S. American samples assimilation effects of perceived expectations on perceived performance and satisfaction were observable even though the positive effect of expected performance on satisfaction was rather weak in both countries. More research is required to reconfirm this relationship in a non-experimental setting. The positive effect of expected performance on perceived performance shows that individuals from both countries tend to adjust their performance perception according to their prior expectations. If an individual has high pre-consumption expectations of a product he/she will perceive the performance better than it actually is.

The results showed only a limited number of effects with respect to culture. Individuals who score high in uncertainty avoidance, have lower expectations within the Chinese and U.S. American samples. The result contradicts to the findings of Donthu and Yoo (1998) who stated that customers with relatively high scores in uncertainty avoidance actively avoid uncertainty through planning and risk aversion. When making a purchasing decision these individuals take time in evaluating their options. Due to this careful planning and risk-aversion, these customers are likely to develop higher expectations. As described by Hofstede

[313] See, e.g., Churchill/Surprenant (1982), p. 503; Patterson (1993), p. 459; Spreng/Chiou (2002), p. 837; Burton/Sheather/Roberts (2003), p. 29.
[314] See Kanning/Bergmann (2009), p. 388.
[315] See Patterson (1993), p. 452.
[316] See Pieters/Koelemeijer/Roest (1995), p. 30.

(2001, 2005) individuals with relatively high scores in uncertainty avoidance have a lower tolerance for ambiguity, show higher stress, and anxiety levels and strive for clarity and structure.[317] Any deviation from normal is not accepted. These individuals are more resistant to changes. Referring to Festinger's theory of dissonance, these characteristics could also lead to lower expectations. According to that theory individuals strive for cognitive consistency or consonance. The state of consonance is achieved if, for example, the expectations of the individual correspond to the actual experience. If a discrepancy between expectations and reality exists (dissonance) the individual will be motivated to do anything to decrease the dissonance. An individual is motivated to try to reduce the gap between the expected performance and the perceived performance which can be achieved by an increase in the perceived performance (assimilation theory) or by an ex-ante reduction of expectations.[318] The consumer keeps expectations low to avoid disappointment. Considering the typical characteristics of individuals scoring high on uncertainty avoidance, these customers might want to avoid disappointment by keeping the expectation level low. Further, the results for the German sample showed that individuals scoring higher on uncertainty avoidance have smaller values in disconfirmation. The results from the moderation analysis (pooled sample) showed that uncertainty avoidance has a weak negative effect on satisfaction through perceived performance and a positive effect on satisfaction through disconfirmation. More research is required to confirm these findings.

The C/D-Paradigm and Culture

The results of the Chinese and U.S. American samples showed that individuals scoring high on collectivism have higher expectations. This contradicts the findings of the service literature. Furrer, Liu, and Sudharshan (2000) found that in societies with higher scores in individualism service quality expectations are higher. As collectivistic customers already prepare ex-ante to conform to any potential service level that might be provided, they have lower expectations. In the context of a high-involvement product, such as a car, it might be different. According to Nayeem (2012), more collectivistic consumers look for social approval from others which is especially the case when making highly visible or high involvement purchases such as automobiles.[319] For these consumers status symbolizes respect and consideration. When purchasing a high-involvement good, such as a car, expectations are rather high as the product is essential for the self-presentation and the status within the group.

The C/D-Paradigm and Personality

The personality dimensions extraversion, conscientiousness, agreeableness, openness to experience, and neuroticism have no effects on the expected performance or the perceived performance. Extraversion showed negative effects on disconfirmation within the Chinese and pooled samples. It implies that the higher the degree of extraversion the lower is the level of disconfirmation. These individuals have a tendency towards negative disconfirmation. Nevertheless, extraversion had a weak significant positive effect on satisfaction in the U.S. American and in the pooled samples, implying that individuals scoring high on extraversion

[317] See Hofstede (2001), pp. 94-367; Hofstede (2005), pp. 57-132.
[318] See Pieters/Koelemeijer/Roest (1995), p. 18.
[319] See Nayeem (2012), p.51.

are more satisfied. Individuals with relatively high scores in extraversion are described as sociable, active, talkative, person-oriented, optimistic, fun-loving, and affectionate.[320] Relating these characteristics to the findings it could be argued that, even though these individuals are very critical in the expectations-performance comparison, they are easy to satisfy. These customers might forgive minor defects and discrepancies in what they expected and finally received with the product as outgoing persons show a lot of positive emotions. Tan, Foo, and Kwek (2004) found a positive direct effect of agreeableness on satisfaction and argued that highly agreeable customers can tolerate lower levels of quality. Individuals with relatively high levels of agreeableness are described as courteous, good-natured, cheerful, and tolerant. The findings of Tan, Foo, and Kwek can be confirmed for the Chinese sample. Neuroticism has only a weak significant positive effect on satisfaction within the Chinese sample. More research is required to verify this relationship. The potential moderating effects of the personality dimensions were examined for the pooled sample. The results showed that conscientiousness has a very weak positive effect on disconfirmation through perceived performance. More research needs to be conducted to generalize this finding.

The *control variables* gender and age only affect the expected performance in the Chinese sample; gender has a significant negative and age a significant positive effect. With respect to disconfirmation only age showed significant results. It has significant positive effects in the German and in the pooled samples.

Implications for Research

The study makes several contributions to marketing literature. First, the results show that the C/D-Paradigm as one of the most widely used models in the satisfaction literature originally developed in a western context, is, next to the USA and German also applicable in China. Thus, the generalizablity of the C/D-Paradigm across the three countries has been demonstrated. More research is required to test the model's structure in more countries to validate a generalizability of the model across nations. Second, the results show that in all three countries the experience with the product dominates the satisfaction judgment. Especially in the German sample the actual experience influences the satisfaction judgment. This finding provides support for a performance based model of satisfaction in which the customer's expectations have weaker effects on satisfaction than performance perception.[321] Third, the study has shown that expectations can have different effects in the satisfaction formation process. They were not only the reference points in the comparison process resulting in satisfaction. For the Chinese and the U.S. American samples the results also provided support that assimilation effects of expectations on the performance perceptions can exist. Fourth, to the best of the authors knowledge, no research study existed so far that examined to potential influence of Hofstede's cultural dimensions individualism versus collectivism, masculinity versus femininity, power distance, uncertainty avoidance, and long-term versus short-term orientation on the entire satisfaction formation process. This study provides an unique insight into the relationships between perceived expectations, perceived performance, disconfirmation, satisfaction, and the cultural dimensions. Even if only few effects were detected, it has

[320] See Mulyanegara/Tsarenko/Anderson (2009), p. 236; Weiner/Greene (2008), p. 316.
[321] See Spreng and Chiou (2000), p. 837.

been demonstrated that culture has an influence on the satisfaction formation process. More research is required that investigates the effects of culture on the extended C/D-Paradigm. Fifth, an important implication of the study relates to the effects of customers' personality traits on the satisfaction formation process. So far, there has been only little research conducted investigating the potential effects of personality on the satisfaction formation process. To the best of the author's knowledge, this is the first study that investigates the potential effects of the Big Five personality traits neuroticism, extraversion, agreeableness, openness to experience, and consciousness on perceived expectations, perceived performance, disconfirmation, and satisfaction. The results demonstrate that the degree of extraversion affects the satisfaction judgment. More research is required elaborating the effects of personality traits on satisfaction and its determinants.

Managerial Implications

The findings of this study have various managerial implications. First, the C/D-Paradigm was tested in three culturally very different countries. In all three countries, the model is applicable. This finding shows, that the measurement of customer satisfaction can be based on the C/D-Paradigm in the three countries which eases cross-cultural market research as standardized measurement models can be assumed when designing the measurement tool. Second, the study shows that the perceived performance of a car is the major predictor of satisfaction in China, Germany, and the USA. Enhancing product performance should be the major concern for management. A third result addresses the management of expectations. It is common use for marketers of high-involvement products in very competitive markets to raise customer expectations to achieve sales.[322] A lot of effort and financial resources are invested in advertising activities and sales presentations. The results show that such activities might have the intended effects in China and the USA. In both country samples, the results demonstrated a positive effect of the perceived expectations on the perceived performance as well as on satisfaction due to assimilation effects. Raising expectations trough, for example, advertising activities might increase the perception of the performance of a product. Higher expectations also increase the satisfaction level of a customer in these two countries. Anyway, marketing managers face a trade off when deciding for an optimal level of expectation manipulation. According to the basic assumption of the C/D-Paradigm it would be advisable to keep a customer's expectations low (but still high enough that the customer buys the product) as lower expectations lead to a higher level of positive disconfirmation (due to a surprise effect) resulting in satisfaction or even delight. More research is required that enables marketing managers to assess the optimal level of expectations. Fourth, the study proved certain effects of culture and personality on the satisfaction formation process. These findings confirm that customers have different values, needs, preferences, and expectations. Accounting for the cultural background and the personality of individuals might give marketers valuable insights for strategy development and product design. For example, the results showed that individuals scoring high in collectivism have higher levels of expectations as the product is essential for the self-presentation and the status within the group. This should be considered in the management of expectations as discussed above.

[322] See Patterson (1993), p. 462.

Limitations and Perspectives for Future Research

A concern of the study addresses the strong manipulation of the respondents through the test and experience reports. A major limitation of the scenario approach refers to the trade-off between control and generalizability. The researcher has to define the right degree of required manipulation of the respondents without overwriting actual behavioral tendencies of individuals. Because of the manipulations it was not possible for the individuals to have their own individual experiences, which might be one reason why culture and personality had so little effects. Despite these manipulations, some effects were found. Further research should investigate the potential influence of culture and personality in real life consumption situations. A second limitation addresses the sample selected for the study. As the cooperating multinational car manufacturer considered the future care buyers as most interesting, students were selected as respondents. Within each country students from only one university were asked to answer the questionnaires. Students represent a homogenous group from an occupational-stage-of-life cycle. They might have similar experience with the research objects. According to Ueltschy et al. (2004) these homogenous demographic characteristics allow for more precise predictions. Calder, Phillips, and Tybout (1981) argued in favor of homogeneous samples as they allow for more precise theoretical predictions and as they decrease the risk of false conclusion. Enis, Cox, and Stafford (1972) argued in favor of student samples in terms of economy and convenience. Results of their study supported the use of student samples in consumer behavior studies given the fact that internal validity has a high priority. A disadvantage of students is the potential lack of product experience. This is especially the case for the Chinese sample of the Study II. As the results show, only 16 percent of the Chinese respondents possessed a driver's license and only 14 percent do had regular access to a car, meaning that they only had little experience with the product category. According to standards-based theories, the process of satisfaction formation was modeled by using the manipulated expectations as the comparative referents to which the perceived performance is compared to.[323] However, one might argue that the U.S. American or German subjects responded differently to the manipulations than the Chinese did as they already have real-life experiences in the particular product category. To make sure that all respondents were manipulated in the same way, manipulation checks were performed. Hence, the risk of the potential effects of product experience was limited. Future research should include other consumer types with respect to their age and regions in which they live in the sample countries.

In the study only power distance, uncertainty avoidance, and collectivism were included to analyze the potential effects of cultures. As already mentioned in Chapter 3.5, culture is considered as a holistic concept.[324] Including only the three instead of the six dimensions of culture is discussed to be of limited use.[325] Future research should also include the dimensions power distance, masculinity vs. femininity, and long-term vs. short-term orientation as well as indulgence vs. restraint to provide a more comprehensive picture of the potential influence of culture on the C/D-Paradigm.

[323] See Teas/DeCarlo (2004), pp. 272ff.
[324] See Furrer/Liu/Sudharshan (2000), p. 363.
[325] See loc. cit.

Despite these limitations the study offers a valuable contribution to the satisfaction literature as it investigated the applicability of the C/D-Paradigm in three culturally distinct nations. It further investigated the entire process of customer satisfaction formation in the light of culture and personality. More research should follow expanding the choice of products and countries.

5 Summary, Conclusions and Future Outlook

One aim of the dissertation project was to test the applicability and generalizablity of two frequently used models of consumer behavior in a cross-cultural setting which are the Zone of Tolerance model and the Confirmation/Disconfirmation-Paradigm. Further, the potential influences of culture and personality on both models' variables were investigated. After a general introduction to the topic and the discussion of the major theories explaining satisfaction and its related constructs, the research design of the doctoral thesis was introduced (Chapter 2). Two empirical studies were conducted. Study I analyzed the applicability of the ZOT in Brazil, China, France, Germany, Sweden, and the USA (Chapter 3). Study II compared the structure of the C/D-Paradigm between China, Germany, and the USA (Chapter 4). Additionally, the potential influence of the cultural dimensions individualism versus collectivism, masculinity versus femininity, power distance, uncertainty avoidance, and long-term versus short-term orientation, as well as the personality traits neuroticism, extraversion, agreeableness, openness to experience, and consciousnesson the models' variables was analyzed in both studies.

Summary of the Findings of Study I

Research Question I.1 asked whether the nature of the ZOT differs across countries. For that propose a quantitative online survey was conducted asking respondents from Brazil, China, France, Germany, Sweden, and the USA for their minimum tolerable and their desired performance levels of 19 product attributes that are commonly used to describe a car. Further, the respondents were asked to assess the importance of the attributes. In a next step, product involvement was measured. The results of the applied ordinary least squares regression analysis showed that in each sample similar relationships between the research variables exist. In all six countries the importance of product attributes has a positive effect on the minimum tolerable and the desired performance level. The higher the importance of a product feature, the higher is the required performance level to fall within the ZOT. Involvement showed no remarkable effects on the minimum tolerable and the desired performance levels. The hypothesized structure of the ZOT was confirmed in each investigated country.

Research Question I.2 asked which of Hofstede's cultural dimensions affect the structure of the ZOT and how their influence can be characterized. The potential effects of collectivism and uncertainty avoidance on the minimum tolerable and the desired performance level were tested. The results for the pooled sample showed significant negative effects of collectivism on the minimum tolerable performance levels of the analyzed product factors. Hence, individuals scoring high on collectivism have a lower minimum tolerable performance level which would translate into a larger tolerance zone if a constant level of the desired performance can be assumed. The result implies that individuals scoring high on collectivism have larger ZOTs, and hence, would accept more heterogeneity in the performance of a product. The results of Study I show a significant negative effect of collectivism on the desired performance level only for the product factor trustability. The desired performance levels of comfort and image are not affected by collectivism. An influence of uncertainty avoidance on the minimum tolerable and the desired performance levels was not confirmed.

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Research Question I.3 focused on the potential influence of personality on the variables of the ZOT. It further asked how the potential influence might be characterized. Only few significant results on the effects of the personality traits extraversion, conscientiousness, emotional stability, and openness to experience on the desired and minimum tolerable performance level of the factors comfort, image, and trustability as well as on the ZOTs of these product factors were detected. Hence, it was not possible to generalize an effect of the personality dimensions on the desired and minimum tolerable performance level as well as on the width of the ZOT. Nevertheless, as some effects are observable one cannot neglect the impact of personality on the research variables.

Summary of the Findings of Study II

One aim of Study II was to analyze if the structure of the C/D-Paradigm differs across countries (*Research Question II.1*). An empirical study tested if the hypothesized relationships between the expected performance, the perceived performance, disconfirmation, and satisfaction were similar in China, Germany, and the USA. By means of a multisample path analysis applying maximum-likelihood procedure the model's structure was compared between the three countries. The results showed that the basic structure of the model is similar in all three countries. A partial mediation model proved to be the best model to explain the emergence of satisfaction in China, Germany, and the USA.

Research Question II.2 asked if culture influences perceived expectations, perceived performance, disconfirmation, and satisfaction. The results showed only a limited number of effects with respect to culture. Individuals that score high on uncertainty avoidance have lower expectations within the Chinese and U.S. American samples. The results of the Chinese and U.S. American samples also showed that individuals that score high on collectivism have higher expectations.

Research Question II.3 focused on the potential effects of personality on perceived expectations, perceived performance, disconfirmation, and satisfaction. The results showed that the personality related dimensions extraversion, conscientiousness, agreeableness, openness to experience, and neuroticism have no effects on the expected performance or the perceived performance. Extraversion showed negative effects on disconfirmation within the Chinese and pooled samples. Extraversion had a weak significant positive effect on satisfaction in the U.S. American and in the pooled samples. A positive direct effect of agreeableness on satisfaction was confirmed for the Chinese sample. Within the Chinese sample also neuroticism had only a weak significant positive effect on satisfaction. For the pooled sample the potential moderating effects of the personality dimensions were examined. The results showed that conscientiousness has a very weak positive effect on disconfirmation through perceived performance.

Implications for Research

One challenge of cross-cultural satisfaction research addresses the problem of measurement invariance, comparability of data across nations and cultures, and with that, the

generalisability of marketing models that were developed in a western context.[326] Authors such as Gorn (1997) or Spreng and Chiou (2002) stressed that the comparability and cross-national applicability of consumer behavioral models is a challenge.[327] The underlying dissertation followed the call for research to test if the process of satisfaction formation and the related constructs and models to this process are the same across nations and cultures.[328] Further, the thesis contributes to the literature that addresses the potential effects of individual characteristics such as the cultural background as well as the personality on these models.[329] The results of both studies showed that the ZOT model as well as the C/D-Paradigm are applicable across nations and cultures. Both models showed similar structures within the researched country samples. The structure of the ZOT with respect to the influence of attribute importance and involvement on the desired and minimum tolerable performance levels was similar in Brazil, China, France, Germany, Sweden, and the USA. Despite certain model characteristics that were unique for the Chinese, German, and the U.S. American samples, the results for the C/D-Paradigm showed that the basic structure of the model is similar in all three countries. The partial mediation model can be considered the best model to explain satisfaction in the three countries. Both studies showed only weak effects of the cultural dimensions and personality traits on the variables of the ZOT model and the C/D-Paradigm. The identified effects should encourage more research that verifies the effects of culture and personality on the models' variables. In addition to these findings, both studies contribute to the product related satisfaction literature as they used a subcompact car as the research object.

Managerial Implications

The satisfied customer is an important asset for a multinational corporation. Any corporation should strive for the satisfaction of consumers' needs resulting from, in the customers' perspective, more than adequate performance of a good. For that purpose it is necessary to identify the customers' needs, wants, and expectations and to satisfy these. Hence, the management needs the corresponding customer related data. When implementing customer satisfaction measurement and management programs managers should consider measurement problems such as cross-cultural invariance of measures of satisfaction or the equivalence of data. So far, the test for measurement invariance was more or less neglected.[330] Only by means of the statistical approaches and tools presented in the dissertation thesis it can be ensured if data can be compared between the target countries and hence, if the data offers a base to develop a corporation's international strategies. The results showed that, *the ZOT as well the C/D-Paradigm can be used as explanatory models in cross-national market research.* Both models showed similar structures in the investigated countries and can be base for data analysis and interpretation. Further, the dissertation thesis offers *a guideline for the development of a cross-national research design*.

[326] See Morgeson et al. (2011), p. 200.
[327] See Gorn (1997), p. 7; Spreng/Chiou (2000), p. 831.
[328] See Morgeson et al. (2011), p. 200.
[329] See e.g., Bosnjak et al. (2007), p. 587; Ueltschy et al. (2004), p. 901; Matzler et al. (2005), p. 32; Baumgartner (2002), p. 288.
[330] See Steenkamp/Baumgartner (1998), p. 78.

Furthermore, the two studies aimed at answering the question, if multinational marketers can use the same strategy across countries to favorably influence customer satisfaction. Answering that question, three major findings need to be highlighted:

1. Different product attributes are considered as important and lead to satisfaction in each investigated country.

Study I showed that in each country product attributes are rated differently with respect to their importance. Additionally, the importance of a product attribute influences the minimum tolerable as well as the desired performance level of that attribute: Higher importance of an attribute results in a higher minimum tolerable performance level. This can lead to a narrower ZOT. As those customers with a narrow ZOT are more likely to be dissatisfied special attention should be given to such attributes which show a high importance. For the purpose of product and marketing strategy formulation, managers should identify the, from the customer's perspective most, important product attributes.

2. Performance perception matters more than the expectation-performance comparison.

The results of Study II showed that the actual performance perception is the major predictor of satisfaction. Linking this to the findings of Study I it can be argued that major attention should be paid to those attributes in each market that are considered as most important when planning the product design and marketing strategy. Again, the identification of the most important attributes is required to favorably influence satisfaction in each country. This attribute related information offers the base for an adaptation of strategies and tools for each market. For the most important attributes in each market the performance should be maximized.

3. Culture and personality are valuable predictors of consumer behavior.

In both studies, culture and personality affected the models' variables to a certain extend. When analyzing their target groups, the cultural background as well as personality related characteristics can offer managers valuable information on the values, needs, and interests of the potential customers. Formulating an unique product strategy for a specific cultural group ensures that marketing efforts result in the greatest possible return. These findings contribute to the literature on international marketing and the standardization versus adaptation debate.[331] Still, offering adapted products for each group can lead to higher costs. So there is a trade-off between higher production costs and the level of adaptation which would result in higher satisfaction. The results show that *there is less a choice between standardization or adaptation.* The challenge is to find the right level of adaptation.

Limitations and Perspectives for Future Research

As with all empirical studies, there are several limitations to this dissertation thesis. In customer satisfaction research, a major challenge is to overcome the time lag between expectation formation before the purchase of a product, the actual consumption phase, and,

[331] See Usunier/Lee (2005), pp. 227-236.

finally, the individual's processing of the information gained during that entire process. Hence, the questionnaire based studies addressed phenomena that involve a longer period of time in real life settings. To be able to conduct the studies, it was necessary to either hypothesize product experience or to manipulate the consumption process. Both studies based on assumptions, hypothetical product use, and the manipulation of consumption processes. Due to the manipulations it was not possible for the respondents to include their own individual experiences with the product which might be an explanation why culture and personality had so little effects. Despite the pragmatic problems when conducting satisfaction research, more real life data based on longitudinal studies should be conducted investigating real consumption processes to deepen the understanding of the satisfaction formation process and potential differences across countries.

Another limitation refers to the sample characteristics of both studies. A major imitation of the Study I is the small sample size for each country. Due to the small sample sizes invariance tests based on multigroup confirmatory factor analysis were not possible. Future research should be based on larger sample sizes which allow for invariance tests. Further, business students from different countries responded to the questionnaires of both studies. With respect to the experience with the product the different country samples were very heterogeneous. Asking for example less experienced Chinese respondents about the importance of certain attributes of a car and the preferred performance levels they expect might result in biased data. Further research should involve only the actual users of cars as respondents. Further, more product types should be analyzed to be able to generalize the studies' finings.

In both studies only certain cultural dimensions were included in the analysis and data interpretation. As culture is considered as a holistic concept the exclusion of cultural dimension might be of limited use.[332] Future research should also include the dimensions power distance, masculinity vs. femininity, long-term vs. short-term orientation as well as indulgence vs. restraint to provide a more comprehensive picture of the potential influence of culture on the ZOT.

Despite these limitations the dissertation thesis offers a valuable contribution to the cross-cultural consumer behavior literature and marketing practice. It showed that two important models that explain aspects of consumer behavior are applicable across nations and cultures. Both models can be applied as theoretical fundaments of satisfaction to explain further phenomena. This finding opens new perspectives for cross-cultural marketing research comparing the behavior of individuals with differing cultural backgrounds and investigating the influence of individuals' characteristics such as personality or culture on satisfaction.

[332] See Furrer/Liu/Sudharshan (2000), p. 363.

List of References

Alford, B.L./Sherrell, D.L. (1996): The Role of Affect in Consumer Satisfaction Judgments of Credence-Based Services, in: Journal of Business Research, 37, pp. 71-84.

Anderson E.W./Fornell, C./Rust, R.T. (1997): Customer Satisfaction, Productivity, and Profitability: Differences Between Goods and Services, in: Marketing Science, 16 (2), pp. 129-145.

Anderson, E.W./Sullivan, M.W. (1993): Antecedents and Consequences of Customer Satisfaction for Firms, in: Marketing Science, 12(2), pp. 125-143.

Arbuckle, J. L. (2011): Amos™ 20 User's Guide, SPSS, Chicago.

Batra, R./Homer, P. M./Kahle, L.R. (2001): Values, Susceptibility to Normative Influence, and Attribute Importance Weights: A Nomological Analysis, in: Journal of Consumer Psychology, 11 (2), pp. 115-128.

Baumgartner, H. (2002): Toward a Personology of the Consumer, in: Journal of Consumer Research, 29, pp. 286-292.

Berry, L./Parasuraman, A. (1991): Marketing Services: Competing Through Quality, The Free Press, New York.

Blackwell, R.D./Miniard, P.W./Engel, J.F. (2001): Consumer Behavior, 9th Ed., Harcourt College Publishers, Fort Worth.

Bloch, P. H. (1981): An Exploration into the Scaling of Consumers' Involvement with a Product Class, in: Advances in Consumer Research 8 (1), pp. 61-65.

Block, J. (1995): A Contrarian View of the Five-Factor Approach to Personality Description, in: Psychological Bulletin, 117 (2), pp. 187-215.

Block, J. (2010): The Five-Factor Framing of Personality and Beyond: Some Ruminations, in: Psychological Inquiry, 21, pp. 2-25.

Blythe, J. (2013): Consumer Behavior, 2nd Ed., SAGE Publications, London et al.

Bosnjak, M./Bratko, D./Galesic, M./Tuten, T. (2007): Editorial: Consumer Personality and Individual Differences: Revitalizing a Temporarily Abandoned Field, in: Journal of Business Research, 60, pp. 587-589.

Boston Consulting Group (2013): The Beyond BRIC Auto Markets: A Close Look at Four Clusters - An In-Depth Look at the Challenges and Opportunities, https://www.bcgperspectives.com/content/articles/automotive_globalization_beyond_bric_auto_markets_close_look_four_clusters/ (10.04.2014).

F. Krüger, *The Influence of Culture and Personality on Customer Satisfaction,*
International Management Studies, DOI 10.1007/978-3-658-12557-8,

Boulding, W./Kalra, A./Staelin, R./Zeithaml, V. (1993): A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions, in: Journal of Marketing Research, 30 (Feb.), pp. 7-27.

Brislin, M.B. (1986):The Wording and Translation of Research Instruments, in: Lonner, W. J. (Ed.): Field Methods in Cross-Cultural Research. Sage Publications Inc, Thousand Oaks, pp. 137-164.

Brown, T.A. (2006): Confirmatory Factor Analysis for Applied Research, The Guilford Press, New York.

Burton, S./Sheather, S./Roberts, J. (2003): Reality or Perception? The Effect of Actual and Perceived Performance on Satisfaction and Behavioral Intention, in: Journal of Service Research, 5 (4), pp. 192-302.

Byrne, B.M. (2010). Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming, 2nd Ed., Routledge, New York, London.

Cadotte, E./Woodruff, R./Jenkins, R. (1987): Expectations and Norms in Models of Consumer Satisfaction, in: Journal of Marketing Research, 24 (Aug.), pp. 305-314.

Calder, B.J./Phillips, L.W./Tybout, A.M. (1981): Designing Research for Application, in: The Journal of Consumer Research, 8 (2), pp. 197-207.

Carlsmith, J.M./Aronson, E. (1963): Some Hedonic Consequences of the Confirmation and Disconfirmation of Expectations, in: Journal of Abnormal and Social Psychology, 66 (Feb.), pp. 151-156.

Chan, H./Wan, L.C./Sin, L.Y.M (2009): The Contrasting Effects of Culture on Consumer Tolerance: Interpersonal Face and Impersonal Fate, in: Journal of Consumer Research, 36 (Aug.), pp. 292-304.

Chang, S.-J./van Witteloostuijn, A./Eden, L. (2010): Common Method Variance in International Business Research, in: Journal of International Business Studies, 41, pp. 178 - 184.

Cheung, F.M./Vijver, F.J.R. van de/Leong, F.T.L. (2011): Toward a New Approach to the Study of Personality in Culture, in: American Psychologist, 66, pp. 593 - 603.

Cheung, G.W./Rensvold, R.B. (2002): Evaluating Goodness-of-Fit Indexes for Testing Measurement Invariance, in: Structural Equation Modeling, 9, pp. 233-255.

Church, A.T. (2000): Culture and Personality: Toward an Integrated Cultural Trait Psychology, in: Journal of Personality, 68, pp. 651-703.

Churchill, G./Surprenant C. (1982): An Investigation into the Determinants of Customer Satisfaction, in: Journal of Marketing Research, 19, pp. 491-504.

Churchill, G.A. (1979): A Paradigm for Developing Better Measures of Marketing Constructs, in: Journal of Marketing Research, XVI, pp. 64-73.

Cohen, J. (1992): A Power Primer, in: Psychological Bulletin, 112 (1), pp. 155-159.

Cortina, J.M. (1993): What is Coefficient Alpha? An Examination of Theory and Applications, in: Journal of Applied Psychology, 78 (1), pp. 98-104.

Costa, P.T., Jr./McCrae, R.R. (1985): The NEO Personality Inventory Manual, Psychological Assessment Resources, Odessa.

Costa, P.T., Jr./McCrae, R.R. (1992): Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) Professional Manual, Psychological Assessment Resources, Odessa.

Costa, P.T./Terracciano, A./McCrae, R.R. (2001): Gender Differences in Personality Traits Across Cultures: Robust and Surprising Findings, in: Journal of Personality and Social Psychology, 81 (2), pp. 322-331.

Craig, C.S./Douglas, S.P. (2000): International Marketing Research, 2nd Ed., Wiley, New York.

Cronin Jr., J./Taylor, S.A. (1994): SERVPERF versus SERVQUAL: Reconciling Performance-based and Perceptions-minus-expectations Measurement of Service Quality, in: Journal of Marketing, 58 (1), pp. 125-131.

Darke, P.R./Ashworth, L./Main, K.J. (2010): Great Expectations and Broken Promises: Misleading Claims, Product Failure, Expectancy Disconfirmation and Consumer Distrust, in: Journal of the Academy of Marketing Science, 38, pp. 347 - 362.

Day, G.S. (1970): Buyer Attitudes and Brand Choice, Free Press, New York.

Day, R.L. (1984): Modeling Choices Among Alternative Responses to Dissatisfaction, in: Advances in Consumer Research 11, Perreault, W. D. (Ed.), Atlanta: Association for Consumer Research, pp. 496-499.

de Mooij, M. (2011): Consumer Behavior and Culture: Consequences for Global Marketing and Advertising, 2nd Ed., Sage Publication Inc., Thousand Oaks.

Diehl, K./Poynor, C. (2010): Great Expectations?! Assortment Size, Expectations, and Satisfaction, in: Journal of Marketing Research, 47 (April), pp. 312-322.

Donthu, N./Yoo, B. (1998): Cultural Influence on Service Quality Expectations, in: Journal of Service Research, 1 (2), pp. 178-186.

Enis, B.M./Cox, K.K./Stafford, J.E. (1972),: Students as Subjects in Consumer Behavior Experiments, in: Journal of Marketing Research, 9 (1), pp. 72-74.

European Society for Opinion and Marketing Research (ESOMAR) (2010): Global Market Research 2010, http://www.esomar.org/uploads/industry/reports/global-market-research-2010/ESOMAR_GMR2010_Cover-Contents-FirstChapter.pdf, Amsterdam: ESOMAR (11.01.2014).

European Society for Opinion and Marketing Research (ESOMAR) (2013): Global Market Research 2013, http://www.esomar.org/uploads/industry/reports/global-market-research-2013/ESOMAR-GMR2013-Preview.pdf, Amsterdam: ESOMAR (11.01.2014).

Evanschitzky, H./Sharma,A./Prykop, C. (2012): The Role of the Sales Employee in Securing Customer Satisfaction, in: European Journal of Marketing, 46 (3), pp. 489 -508.

Eysenck, H. J. (1992): Four Ways Five Factors are not Basic, in: Personality and Individual Differences, 13 (8), pp. 667 - 673.

Festinger, L. (1957): A Theory of Cognitive Dissonance, Stanford University Press, Stanford.

Fornell, C. (1992): A National Customer Satisfaction Barometer: The Swedish Experience, in: Journal of Marketing, 56 (Jan.), pp. 6-21.

Fornell, C./Larcker, D.F. (1981): Evaluating Structural Equation Models with Unobserved Variables and Measurement Error, in: Journal of Marketing Research, XVIII (Feb.), pp. 39-50.

Fournier, S./Mick, D.G. (1999): Rediscovering Satisfaction, in: Journal of Marketing, 63 (Oct.), pp. 5-23.

Fraj, E./Martinez, E. (2006): Influence of Personality on Ecological Consumer Behaviour, in: Journal of Consumer Behavior, 5 (3), pp. 167-181.

Furrer, O./Liu, B.S./Sudharshan, D. (2000): The Relationship Between Culture and Service Quality Perceptions: Basis for Cross-Cultural Market Segmentation and Resource Allocation, Journal of Service Research, 2 (4), pp. 355-371.

Gelbrich, K. (2009): Beyond Just Being Dissatisfied: How Angry and Helpless Customers React to Failures When Using Self-Service Technologies, in: Schmalenbach Business Review, 2009, 61(1), pp. 40-59.

Giese, J.L./Cote, J.A. (2000): Defining Customer Satisfaction, in: Academy of Marketing Science Review, 2000 (1), pp. 1-24.

Gonzales, R. (2009): Data Analysis for Experimental Design, Guilford Press, New York.

Gorn, G. (1997): Breaking Out of the North American Box, in: Brucks, M./MacInnis, D. J. (Eds.), NA - Advances in Consumer Research, 24, pp. 6-8.

Gosling, S.D./Rentfrow, P.J./Swann Jr., W.B. (2003): A Very Brief Measure of the Big-Five Personality Domains, in: Journal of Research in Personality, 37, pp. 504-528.

Govers, P.C. M./Schoormans, J.P.L. (2005): Product Personality and its Influence on Consumer Preference, in: Journal of Consumer Marketing, 22 (4), pp. 189 - 197.

Gunkel, M./Schlaegel, C./Langella, I. M./Peluchette, J. V. (2010): Personality and Career Decisiveness: An International Empirical Comparison of Business Students' Career Planning, in: Personnel Review, 39 (4), pp. 503 – 524.

Gwynne, A. L./Devlin, J. F./Ennew, C. T. (2000): The Zone of Tolerance: Insights and Influences, in: Journal of Marketing Management, 16, pp. 545-564.

Hall, E./Hall, M. (1990): Understanding Cultural Differences: Germans, French and Americans, Intercultural Press, Yarmouth.

Halstead, D./Hartman, D./Schmidt, S. L. (1994): Multisource Effects on the Satisfaction Formation Process, in: Journal of the Academy of Marketing Science, 22 (Spring), pp. 114-129.

Handelsblatt.com (2014), 23 Prozent weniger - Volkswagen Absatz in den USA bricht ein, http://www.handelsblatt.com/unternehmen/industrie/fast-23-prozent-weniger-volkswagen-absatz-in-den-usa-bricht-ein/9286056.html (21.02.2014).

Harzing, A.W. (2005): Does the Use of English-language Questionnaires in Cross-national Research Obscure National Differences?, in: International Journal of Cross Cultural Management, 5, pp. 213-224.

Helson, H. (1948): Adaptation-Level as a Basis for Quantitative Theory of Frames of Reference, in: Psychological Review, 55 (Nov.), pp. 297-313.

Helson, H. (1959): Adaptation Level Theory, in: Koch, S. (Ed.) (1959), Psychology: a Study of a Science, 1, McGraw-Hill, New York, pp. 565-621.

Henard, D. H./Dacin, P. A. (2010): Reputation for Product Innovation: Its Impact on Consumers, in: Journal of Product Innovation Management, 27, pp. 321 - 335.

Hill, C.W.L. (2009): International Business - Competing in the Global Market Place, 7th Ed., Irvin McGraw-Hill: Boston etc.

Hill, N./Alexander, J. (2006): Handbook of Customer Satisfaction and Loyalty Measurement, 3rd Ed., Gower Publishing Ltd: Hampshire.

Hill, N./Roche, G./Allen, R. (2007): Customer Satisfaction: The Customer Experience Through the Customer's Eyes, Cogent Publishing Ltd: London.

Hofstede, G. (1980): Culture's Consequences, International Differences in Work-Related Values, SAGE publications: Newbury Park etc.

Hofstede, G. (2001): Culture’s Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations, 2nd Ed., SAGE publications, Thousand Oaks etc.

Hofstede, G. (2005): Cultures and Organizations: Software of the Mind, 2nd Ed., McGraw-Hill: New York.

Hofstede, G. (2010): Cultures and Organizations: Software of the Mind, 3rd Ed., McGraw-Hill: New York.

Hofstede, G./Bond, M.H. (1988): The Confucius Connection: From Cultural Roots to Economic Growth, in: Organizational Dynamics, 16(4), pp. 5-21.

Hofstede, G./Hofstede, G. J. (2013): The Dimension Data Matrix, http://www.geerthofstede.com/research--vsm (14.11.2013).

Hofstede, G./Hofstede, G. J./Minkov, M. (2010): Cultures and Organizations – Software of the Mind – Intercultural Cooperation and Its Importance for Survival, 3rd Ed., McGraw-Hill Professional: New York.

Hofstede, G./McCrae, R.R. (2004): Personality and Culture Revisited: Linking Traits and Dimensions of Culture, in: Cross-Cultural Research, 38, pp. 52-88.

Homburg, C./Hoyer, W.D./Koschate, N. (2005): Customers' Reactions to Price Increases: Do Customer Satisfaction and Perceived Motive Fairness Matter?, in: Journal of the Academy of Marketing Science, 33 (1), pp. 36-49.

Homburg, C./Giering, A. (2001): Personal Characteristics as Moderators of the Relationship Between Customer Satisfaction and Loyalty – An Empirical Analysis, in: Psychology & Marketing, 18 (1), pp. 43-66.

Homburg, C./Koschate, N./Hoyer, W.D. (2005): Do Satisfied Customers Really Pay More? A Study of the Relationship Between Customer Satisfaction and Willingness to Pay, in: Journal of Marketing, 69 (April), pp. 84-96.

Horn, J.L./McArdle, J.J. (1992): A Practical and Theoretical Guide to Measurement Invariance in Aging Research, in: Experimental Aging Research: An International Journal Devoted to the Scientific Study of the Aging Process, 18 (3), pp. 117-144.

Hovland, C.I./Harvey, O.J./Sherif, M. (1957): Assimilation and Contrast Effects in Reactions to Communication and Attitude Change, in: Journal of Abnormal and Social Psychology, 55 (2), pp. 244-252.

Howard, J./Sheth, J. (1969), The Theory of Buyer Behavior, New York.

Hunt, H. K. (1977): CS/D-Overview and Future Research Direction, in: Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction, Hunt, H. K. (Ed.) Cambridge, MA: Marketing Science Institute.

Jaccard, J./Brinberg, D./Ackerman, L.J. (1986): Assessing Attribute Importance: A Comparison of Six Methods, in: Journal of Consumer Research, 12 (4), pp. 463-468.

James, L.R./Mulaik, S.A./Brett. J.M. (2006): A Tale of Two Methods, in: Organizational Research Methods,9 (2), pp. 233-244.

John, O.P./Srivastava, S. (1999): The Big-Five Trait Taxonomy: History, Measurement, and Theoretical Perspectives, in: Pervin, L./John, O. P. (Eds.) (2001), Handbook of Personality: Theory and Research, 2nd Ed., Guilford, New York.

Johnson, M.D./Fornell, C. (1991): A Framework for Comparing Customer Satisfaction across Individuals and Product Categories, in: Journal of Economic Psychology, 12, pp. 267-286.

Johnston, R. (1995): The Zone of Tolerance: Exploring the Relationship Between Service Transactions and Satisfaction with the Overall Service, in: International Journal of Service Industry Management, 6 (2), pp. 46-61.

Kahneman, D./Tversky, A. (1972): Prospect Theory: An Analysis of Decisions under Risk, in: Econometrica, 47, pp. 263-291.

Kanning, U.P./Bergmann, N. (2009): Predictors of Customer Satisfaction: Testing the Classical Paradigms, in: Managing Service Quality, 19 (4), pp. 377-390.

Kassarjian, H.H./Sheffet, M. J. (1991): Personality and Consumer Behavior: An Update, in: Kassarjian, H.H./Robertson, T.S. (Eds.), Perspectives in Consumer Behavior (4th Ed.), Prentice Hall, Englewood Cliffs, pp. 281 - 303.

Keller, P.A./McGill, A.L. (1994): Differences in the Relative Influence of Product Attributes under Alternative Processing Conditions: Attribute Importance versus Attribute Ease of Imagability, in: Journal of Consumer Psychology, 3 (1), pp. 29-49.

Kline, R. B. (2011): Principles and Practice of Structural Equation Modeling, 3rd Ed., Guilford, New York.

Kopalle, P.K./Lehmann/D.R./Farley, J.U. (2010): Consumer Expectations and Culture: The Effect of Belief in Karma in India, in: Journal of Consumer Research, 37 (2), pp. 251-263.

Lachman, R. (1997): Taking Another Look at the Elephant: Are We Still (Half)Blind? Comments on the Cross-Cultural Analysis of Achievement Motivation by Sagie et al. (1996), in: Journal of Organizational Behavior, 18 (4), pp. 317-321.

La Tour, S.A./Peat, N.C. (1979): Conceptual and Methodological Issues in Consumer Satisfaction Research, in: Wilie, W.L. (Eds.), Advances in Consumer Research. Ann Arbor, pp. 588-592.

Lastovicka, J. L. /Gardner, D. M. (1979): Components of Involvement in: Attitude Research Plays for High Stakes, in: Maloney J.C./B. Silverman, B. (Eds.), Chicago, American Marketing Association, pp. 53-73.

Lin, C.-P./Tsai, Y.H./Chiu, C.-K. (2009): Modeling Customer Loyalty from an Integrative Perspective of Self-Determination Theory and Expectation-Confirmation Theory, in: Journal of Business Psychology, 24 (3), pp. 315-326.

Lou, X./Homburg, Ch. (2007): Neglected Outcomes of Customer Satisfaction, in: Journal of Marketing, 71 (April), pp. 133-149.

Lynn, M./Gelb, B. (1996): Identifying Innovative National Markets for Technical Consumer Goods, in: International Marketing Review, 13 (6), pp. 43-57.

Malhotra, N.K. (2010): Marketing Research - An Applied Orientation, 6th Ed., Pearson Education, Upper Saddle River.

Malhotra, N.K./Agarwal, J./Peterson, M. (1996): Methodological Issues in Cross-Cultural Marketing Research, A State-of-the-Art Review, in: International Marketing Review, 13(5), pp. 7-43.

Mano, H./Oliver, R.L. (1993): Assessing the Dimensionality and Structure of the Consumption Experience: Evaluation, Feeling, and Satisfaction, in: Journal of Consumer Research, 20 (Dec.), pp. 451-466.

Mattila, A.S. (1999): The Role of Culture in the Service Evaluation Process, in: Journal of Service Research, 1 (3), pp. 250-261.

Matzler, K./Faullant, R./Renzl, B./Leiter V. (2005): The Relationship Between Personality Traits (Extraversion and Neuroticism), Emotions and Customer Self-Satisfaction, in: Innovative Marketing, 1(2), pp. 32-39.

McAdams, D.P. (1995): What Do We Know When We Know a Person?, in: Journal of Personality, 63 (3), pp. 365-396.

McCrae, R.R. (2000): Trait Psychology and the Revival of Personality and Culture Studies, in: American Behavioral Scientist, 44, pp. 10-31.

McCrae, R.R./John, O.P. (1992): An Introduction the Five-Factor Model and Its Applications, in: Journal of Personality, 60 (2), pp. 172-215.

McCrae, R. R. (2001): Trait Psychology and Culture: Exploring Intercultural Comparisons, in: Journal of Personality, 69 (4), pp. 819-846.

McKinsey&Company (2013): The Road to 2020 and Beyond: What's Driving the Global Automotive Industry?, http://www.mckinsey.com/client_service/automotive_and_assembly/latest_thinking (02.05.2014).

Mela, C.F./Kopalle, P.K. (2002): The Impact of Collinearity on Regression Analysis: the Asymmetric Effect of Negative and Positive Correlations, in: Applied Economics, 34, pp. 667-677.

Milfont, T.L./Fischer, R. (2010): Testing Measurement Invariance Across Groups: Application in Cross-Cultural Research, in: International Journal of Psychological Research,3 (1), pp. 111-121.

Miller, J.A. (1977): Exploring Satisfaction, Modifying Models, Eliciting Expectations, Posing Problems, and Making Meaningful Measurement, in: Hunt, H. K. (Ed.), Conceptualization and Measurement of Customer Satisfaction and Dissatisfaction. Cambridge, pp. 72-91.

Mooradian, T.A./Olver, J.M. (1997): I Can't Get no Satisfaction: The Impact of Personality and Emotion on Postpurchase Processes, Psychology and Marketing, 14 (4), pp. 379-393.

Morgeson, F.V./Mithas, S./Keiningham, T.L./Aksoy, L. (2011): An Investigation of the Cross-National Determinants of Customer Satisfaction, in: Journal of the Academy of Marketing Science, 39, pp. 198-215.

Mowen, C. J./Park, S./Zablah, A. (2007): Toward a Theory of Motivation and Personality with Application to Word-of-Mouth Communications, in: Journal of Business Research, 60, pp. 590-596.

Mulyanegara, R.C./Tsarenko, Y./Anderson, A. (2009): The Big Five and Brand Personality: Investigating the Impact of Consumer Personality on Preferences Towards Particular Brand Personality, in: Journal of Brand Management, 16 (4), pp. 234-247.

Nadiri, H./Hussain, K. (2005): Diagnosing the Zone of Tolerance for Hotel Services, Managing Service Quality, 15 (3), pp. 259-277.

Nayeem, T. (2012): Decision-making Styles of Individualist and Collectivist Automobile Consumers in Australia, in: International Journal of Business and Management, 7 (16), pp. 44-55.

Oliver, R.L. (1977): Effect of Expectation and Disconfirmation on Postexposure Product Evaluations: An Alternative Interpretation, in: Journal of Applied Psychology, 62 (Aug.), pp. 480-486.

Oliver, R.L. (1980): A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions, in: Journal of Marketing Research, 17 (Nov.), pp. 460-469.

Oliver, R.L. (1981): Measurement and Evaluation of Satisfaction Process in Retail Setting, in: Journal of Retailing, 57 (Fall), pp. 25-48.

Oliver, R.L. (1989): Processing of the Satisfaction Response in Consumption: A Suggested Framework and Research Propositions, in: Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, 2, pp. 1-16.

Oliver, R.L. (1992): An Investigation of the Attribute Basis of Emotion and Related Affects in Consumption: Suggestions for a Stage-Specific Satisfaction Framework, in: Advances

in Consumer Research, Sherry, J. F./Sternthal, B. (Eds.), Ann Arbor, Association for Consumer Research, pp. 237-244.

Oliver, R.L. (2010): Satisfaction: A Behavioral Perspective on the Consumer, 2nd. Ed., McGraw-Hill, New York.

Oliver, R.L./Swan, J.E. (1989), Consumer Perceptions of Interpersonal Equity and Satisfaction in Transactions: A Field Survey Approach, in: Journal of Marketing, 53 (April), pp. 21-35.

Oliver, R.L./Yau, H.M. (1994): Consumer Behaviour in China: Customer Satisfaction and Cultural Values, Routledge, London.

Parasuraman, A./Berry, L. L./Zeithaml, V. A. (1991): Understanding Customer Expectations of Service, in: Sloan Management Review, Spring, pp. 39-48.

Parasuraman, A.,/Zeithaml, V.A. /Berry, L.L. (1993): A Conceptual Model of Service Quality and its Implications for Future Research, in: Journal of Marketing, 49 (Fall), pp. 41-50.

Parasuraman, A./Zeithaml, V.A. /Berry, L.L. (1994): Alternative Scales for Measuring Service Quality: A Comparative Assessment Based upon Psychometric and Diagnostic Criteria, in: Journal of Retailing, 70 (3), pp. 201-230.

Patterson, P.G. (1993): Expectations and Product Performance as Determinants of Satisfaction for a High-Involvement Purchase, in: Psychology & Marketing, 10 (5), pp. 449-465.

Pieters, R./Koelemeijer, K./Roest, H. (1995): Assimilation Processes in Service Satisfaction Formation, in: International Journal of Service Industry Management, 6 (3), pp. 17-33.

Podsakoff, P.M./MacKenzie, S.B./Lee, J.-Y. (2003): Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies, in: Journal of Applied Psychology, 88 (5), pp. 879-903.

Presser, S./Couper, M.P./Lessler, J.T./Martin, E./Martin, J./Rothgeb, J.M./Singer, E. (2004): Methods for Testing and Evaluating Survey Questions, in: Public Opinion Quaterly, 68 (1), pp. 109-130.

Rammstedt, B./John, O.P. (2005): Kurzversion des Big Five Inventory (BFI-K): Entwicklung und Validierung eines ökonomischen Inventars zur Erfassung der Fünf Faktoren der Persönlichkeit, in: Diagnostica, 51 (4), pp. 195-206.

Razali, N. M./Wah, Y. B. (2011): Power Comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling Tests, in: Journal of Statistical Modeling and Analytics, 2 (1), pp. 21-33.

Reimann, M./Lünemann, U.F./Chase, R.B. (2008): Uncertainty Avoidance as a Moderator of the Relationship between Perceived Service Quality and Customer Satisfaction, in: Journal of Service Research 11 (1), pp. 63-73.

Reynolds, N.L./Simintiras, A. (2000): Establishing Cross-National Equivalence of the Customer Satisfaction Dissatisfaction Construct, EBMS Working Paper No. 2000/6, Swansea University, SA2 8PP, UK.

Ryan, A.M./Schmit, M.J./Johnson, R. (1996): Attitudes and Effectiveness: Examining Relations at an Organizational Level, in: Personnel Psychology, 49 (4), pp. 853-882.

Schmitt, D.P./Allik, J./McCrae, R.R./Benet-Martínez, V. (2007): The Geographic Distribution of Big Five Personality Traits: Patterns and Profiles of Human Self-Description Across 56 Nations, in: Journal of Cross-Cultural Psychology, 38 (2), pp. 173-212.

Sheatsley, P.B. (1983): Questionnaire Construction and Item Writing, in: Rossi, P.H./Wright, J.D./Anderson, A.B. (Eds.): Handbook of Survey Research, pp. 195 - 230.

Sherif, M./Hovland, C.I. (1961): Social Judgment: Assimilation and Contrast Effects in Communication and Attitude Change, Yale University Press, New Haven.

Sivakumar, K./Nakata, C. (2001): The Stampede Toward Hofstede's Framework: Avoiding the Sample Design Pit in Cross-Cultural Research, in: Journal of International Business Research, 32 (3), pp. 555-574.

Smith, A.K./Bolton, R.N./Wagner, J. (1999): A Model of Customer Satisfaction with Service Encounters Involving Failure and Recovery, in: Journal of Marketing Research, Vol. XXXVI (Aug.), pp. 356-372.

Soares, A.M./Farhangmehr, M./Shoham, A. (2007): Hofstede's Dimensions of Culture in International Marketing Studies, in: Journal of Business Research, 60, pp. 277-284.

Solomon, M.R. (2006), Consumer Behavior: Buying, Selling, and Being, 7th Ed., Pearson Education, Upper Saddle River.

Spector, P./Cooper, C.L./Sparks, K. (2001): An International Study of the Psychometric Properties of the Hofstede Values Survey Module 1994: A Comparison of Individual and Country/Province Level Results, in: Applied Psychology, 50 (2), pp. 269-281.

Spiegel.de (2012), Interview with Martin Winterkorn, CEO Volkswagen Corporation, http://www.spiegel.de/international/business/spiegel-interview-with-vw-chief-martin-winterkorn-the-next-step-is-the-electric-car-a-719730.html, 27.7.2012.

Spreng, R.A. (1999): Perceived Performance in Satisfaction Research, in: Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, 12, pp. 100-108.

Spreng, R.A./Chiou, J. (2002): A Cross-Cultural Assessment of the Satisfaction Formation Process, in: European Journal of Marketing, 36 (7/8), pp. 829-839.

Steel, P./Taras, V. (2010): Culture as a Consequence: A Multilevel Multivariate Meta-Analysis of the Effects of Individual and Country Characteristics on Work-Related Cultural Values, in: Journal of International Management, 16, pp. 211-233.

Steenkamp, J.E.M./Baumgartner, H. (1998): Assessing Measurement Invariance in Cross-National Consumer Research, in: Journal of Consumer Research,25 (1), pp. 78-90.

Stodnick, M./Marley, K. A. (2013): A Longitudinal Study of the Zone of Tolerance, in: Managing Service Quality, 23 (1), pp. 25-42.

Swan, J.E./ Trawick, I. F./Carroll, M.G. (1982): Satisfaction Related to Predictive, Desired Expectations: A Field Study, in: New Findings on Consumer Satisfaction and Complaining, in: Hunt, H. K./Day, R. L. (Eds.), Bloomington, pp. 15-22.

Szymanski, D.M./Henard, D.H. (2001): Customer Satisfaction: A Meta-Analysis of the Empirical Evidence, in:Journal of the Academy of Marketing Science, 29 (1), pp. 16-35.

Tam, J.L.M. (2005): Examining the Dynamics of Consumer Expectations in a Chinese Context, in: Journal of Business Research, 58 (6), pp. 777-786.

Tan, H.H./Foo M. D./Kwek M.H. (2004): The Effects of Customer Personality Traits on the Display of Positive Emotions, in: Academy of Management Journal,47 (2), pp. 287-96.

Taras, V./Kirkman, B. L./Steel, P. (2010): Examining the Impact of Culture's Consequences: A Three-Decade, Multi-Level, Meta-Analytic Review of Hofstede's Cultural Value Dimensions, in: Journal of Applied Psychology, 95 (3), pp. 405-439.

Teas, R.K. (1994): Expectations as a Comparison Standard in Measuring Service Quality: An Assessment of a Reassessment, in: Journal of Marketing, 58 (Jan.), pp. 132-139.

Teas, R.K./DeCarlo, T. (2004): An Examination and Extension of the Zone-of-Tolerance Model: a Comparison to Performance-Based Models of Perceived Quality, in: Journal of Service Research, 6 (3), pp. 272-286.

Trudel, R./Murray, K.B./Cotte, J. (2012): Beyond Expectations: The Effect of Regulatory Focus on Consumer Satisfaction, in: International Journal of Research in Marketing, 29, pp. 93-97.

Tse, D.K./Wilton, P.C. (1988): Models of Consumer Satisfaction: An Extension, in: Journal of Marketing Research, 25 (May), pp. 204-212.

Tse, D.K./Wong, J.K./Tan, C.T. (1988): Towards some Standardized Cross-Cultural Consumption Values, in: Advances in Consumer Research, 15, pp. 387-395.

Ueltschy, L.C./Laroche, M./Tamilia, R.D./Yannopoulos, P.P. (2004): Cross-Cultural Invariance of Measures of Satisfaction and Service Quality, in: Journal of Business Research, 57, pp. 901-912.

Usunier, J-C./Lee, J.A. (2005): Marketing Across Cultures, 4th Ed., Pearson Education: Harlow etc.

van Herk, H./Poortinga, Y.H./Verhallen, T.M.M. (2005): Equivalence of Survey Data: Relevance for International Marketing, in: European Journal of Marketing, 39 (¾), pp. 351-364.

van Riel, A.C.R./Semeijn, J./Janssen,W. (2003): E-Service Quality Expectations: A Case Study, in: Total Quality Management & Business Excellence, 14 (4), pp. 437-450.

Weiner, I. B./Greene, R. L. (2008): Handbook of Personality Assessment, John Wiley & Sons, Hoboken, New Jersey.

Weller, S.C./Romney, A.K. (1988): Systematic Data Collection, Sage Publication, Newbury Park.

Westbrook, R.A. (1987): Product/Consumption-Based Affective Responses and Postpurchase Processes, in: Journal of Marketing Research, 24 (Aug.), pp. 258-270.

Westbrook, R.A./Oliver, R. (1991): The Dimensionality of Consumption Emotion, Patterns and Consumer Satisfaction, in: Journal of Consumer Research, 18 (June), pp. 84-91.

Westbrook, R.A./Reilly, M.D. (1983): Value Percept Disparity: An Alternative to the Disconfirmation of Expectations Theory of Consumer Satisfaction, in: Advances in Consumer Research,10, pp. 256-261.

Woodruff, R.B./Cadotte,E.R./Jenkins, R.L. (1983): Modeling Consumer Satisfaction Processes Using Experience-Based Norms, in: Journal of Marketing Research, 20 (Aug.), pp. 296-304.

Yap, K. B./Sweeney, J. C. (2007): Zone-of-Tolerance Moderate the Service Quality-Outcome Relationship, in: Journal of Services Marketing, 21 (2), pp. 137-148.

Yi, Y. (1990): A CriticalReview of Consumer Satisfaction, in: Review of Marketing 1990, Ed. Zeithaml, V., Chicago: American Marketing Association, pp. 68-123.

Yilmaz, I. (2010): Do Hotel Customers use a Multi-Expectation Framework in the Evaluation of Services? A Study in Cappadocia, Turkey, in: Tourism & Hospitality Research, 10 (1), pp. 59-69.

Yoo, B./Donthu, N./ Lenartowicz, T. (2011): Measuring Hofstede's Five Dimensions of Cultural Values at the Individual Level: Development and Validation of CVSCALE, in: Journal of International Consumer Marketing, 23 (3-4), pp. 193-210.

Yoo, B./Donthu, N./Lenartowicz, T. (2009): Individual Cultural Values: A Multi-Country Investigation, working paper, http://people.hofstra.edu/Boonghee_Yoo/cvscale.pdf, 11.12.2009.

Yüksel, A./Yüksel, F. (2001): The Expectancy-Disconfirmation Paradigm: A Critique, in: Journal of Hospitality & Tourism Research, 25 (2), pp. 107-131.

Zeithaml, V. (2000): Service Quality, Profitability, and the Economic Worth of Customers: What We Know and What We Need to Learn, in: Journal of the Academy of Marketing Science, 28 (1), pp. 67-85.

Zeithaml, V./Berry, L.L./Parasuraman, A. (1993): The Nature and Determinants of Customer Expectations of Services, in: Journal of the Academy of Marketing Science, 21 (1), pp. 1-12.

Zhang, J./Beatty, S. E./Walsh, G. (2008): Review and Future Directions of Cross-Cultural Consumer Services Research, in: Journal of Business Research, 61, pp. 211-224.

Appendix

Appendix 1: Questionnaire of Study I

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Quality Assessment of a Car

The aim of this questionnaire is to analyze both, the importance of certain product attributes and the expectations with regard to certain characteristics of cars. Furthermore, the factors personality and culture will be subject to investigation as they might influence the ratings.

The questionnaire is subdivided into six parts in which we would like to ask you about the following topics:

- Your behavior with regard to using cars
- Your opinion about the importance of certain product attributes of cars
- Your expectations of certain product attributes of cars
- Your cultural and personality traits as well as
- Your socio-demographic characteristics

Please, take the time you need to answer the questions. Since the questionnaire includes not only various topics but also different questioning and rating methods, **we advise you to read the instructions to each question carefully**. To switch from one page to another please use the buttons „Previous Page“ and „Next Page“, respectively. **Please, answer all questions.** After you have answered the last questionyour questionnaire will be automatically send to us.

Among the participants of this survey three prices will be raffled off. With a little bit of luck, you can win one of them:

1st Price: an Amazon-gift card of 100€
2nd Price: an Amazon-gift card of 50€
3rd Price: an Amazon-gift card of 25€

To participate in the raffle you will be asked to provide your email address at the end of the questionnaire. **Providing your email address is completely voluntary** and only necessary if you would like to participate in the raffle.

All your responses will be treated anonymously and strictly confidential! If you should have any questions or worries please do not hesitate to contact us or use the space provided on the last page of the questionnaire for comments and remarks.

We would like to thank you in advance for your cooperation and would like to wish you the best of luck for the raffle.

F. Krüger, *The Influence of Culture and Personality on Customer Satisfaction,*
International Management Studies, DOI 10.1007/978-3-658-12557-8,

Part I

In the first part of the questionnaire we would like to ask you about both your pattern of useof as well as your attitude towards cars.

For the first questions (see below) please use the drop-down function to select your answer.

Do you possess a driver's license?

O yes
O no
O currently attending drivers education

What type of car do you prefer?

O subcompact class (sedan)
O mid-size car (small family car)
O mid-size luxury cars
O full-size luxury cars
O vans (SUV)
O

Do you regularly have access to a car?

O yes
O no

How often do you personally drive a (your) car?

O very often (every (other) day)
O often (3-5 days per week)
O sometimes (once a week)
O rarely (1-2 times a month)
O very rarely (once in half a year)
O never

To what kind of car do you regularly have access to?

O a new car
O a used car
O a leased or rented car

What brand is it? _____

Which model is it? _____

Part II

In the following part statements will be presented to you which will apply more or less to you. Please use the 7-point-scale with the corner points "Strongly disagree" and "Strongly agree" to indicate your response. You can indicate any level of (dis)agreement by selecting the corresponding item between these two extremes. Please select your answer by ticking the corresponding level with a mouse click.

Please express your level of (dis)agreement with respect to the presented statements.

	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
It is worth the extra cost to drive an attractive and attention-getting car.							
I prefer to drive a car with a strong personality of its own.							
I have sometimes imagined being a race driver.							
Cars offer me relaxation and fun when life's pressures build up.							
Sometimes I get too wrapped up in my car.							
Cars are nothing more than appliances.							
I generally feel a sentimental attachment to the cars I own.							
Driving my car is one way I often use to relieve daily pressure.							
I do not pay much attention to car advertisements in magazines or on TV.							
I get bored when other people talk to me about their cars.							
I have little or no interest in car races.							
Driving along an open stretch of road seems to „recharge" me in body, mind and spirit.							
It is natural that young people become interested in cars.							
When I'm with a friend, we often end up talking about cars.							
I don't like to think of my car as being ordinary.							
Driving my car is one of the most satisfying and enjoyable things I do.							
I enjoy discussing cars with my friends.							
I am willing to pay an additional amount for the latest safety features.							
I cannot imagine a life without a car anymore.							
I am willing to pay an additional amount for an especially environmentally friendly car.							
Driving a car makes me feel free and independent.							

Part III

In the next part we will ask you to rate the attributes of a car in regard to their importance to you.

Please use the 7-point-scale with the corner points “Very unimportant” and “Very important” to indicate your response.

You can indicate any intermediate level by selecting the corresponding item between these two extremes. Please select the answer that most closely describes your current point of view by ticking the corresponding level with a mouse click. Please tick only one item per row.

	Very un-important 1	2	3	4	5	6	Very important 7
Acceleration/ high engine performance							
Sportiness							
High environmental friendliness							
Reliability							
Fuel economy							
Prestige							
Spaciousness (interior)							
High quality heating							
Circumferential visibility							
Spacious trunk							
Reputation of the brand/ producer							
Overall quality (robustness of the chassis, material processing etc.)							
Comfortableness of the front seats							
Uniqueness of the interior and exterior design							
Comfortableness of getting into and out of the car							
User -friendliness of the control elements							
Above-average driving qualities (roadability, breaks, steering)							
Safety (modern safety features)							
High-quality air conditioning							

Part IV

The next part will deal with your **personal expectations** of the product attributes as used in the previous parts of the questionnaire. For this purpose you will be asked to indicate your expectations for the following two points a) and b).

a) Your **MINIMAL TOLERABLE** performancelevel of a product attribute- the lowest level of performance that you would still tolerate
b) Your **DESIRED** performance level of a product attribute you believe a company can and should provide

Both expectation values of the performance level of a product attribute shall be rated on a **9-point-scale with the corner points 1 („low performance level")** and **9 („high performance level").** Thus, it is necessary to make two ticks in each row (see example).

Example:

	My MINIMAL TOLERABLE level of performance									**My DESIRED level of performance**								
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Attribute X				**X**												**X**		

Please indicate for each of the listed product attributes the following:

a) **Your minimal tolerable level of performance** (by ticking the corresponding item of the first half of the row) **and**
b) **Your desired level of performance** (by ticking the corresponding item of the second half of the row)

Aid: Minimal tolerable level of performance: the lowest level of performance that you would still tolerate

Desired level of performance: the level of performance of a product attribute you wish to provide given what believe a company can and should provide and w

PLEASE TAKE CARE OF THE SCALE DEFINITIONS:
1 = low level of performance
9 = high level of performance

You can indicate any intermediate level by selecting the corresponding item between these two extremes.

	My MINIMAL TOLERABLE level of performance									**My DESIRED level of performance**								
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Acceleration/ high engine performance																		
Sportiness																		
High environmental friendliness																		
Reliability																		
Fuel economy																		
Prestige																		
Spaciousness (interior)																		
High quality heating																		
Circumferential visibility																		
Spacious trunk																		
Reputation of the brand/ producer																		
Overall quality (robustness of the chassis, material processing etc.)																		
Comfortableness of the front seats																		
Uniqueness of the interior and exterior design																		
Comfortableness of getting into and out of the car																		
User -friendliness of the control elements																		
Above-average driving qualities																		

(roadability, breaks, steering)

Part V

In the following part of the questionnaire various personality traits will be presented that may or may not apply to you.

Please use the **7-point-scale with the corner points "disagree strongly"** and **"agree strongly"** to indicate your response. Please select the answer that most closely corresponds to your level of (dis)agreement by ticking the corresponding level with a mouse click. You should rate the extent to which pair of traits applies to you, even if one characteristic applies more strongly than the other.

	Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
	1	2	3	4	5	6	7
Extraverted, enthusiastic							
Critical, quarrelsome							
Dependable, self-disciplined							
Anxious, easily upset							
Open to new experiences							
Reserved, quiet							
Sympathetic, warm							
Disorganized, careless							
Calm, emotionally stable							
Conventional, uncreative							

Part VI

In the following part we will ask you to express your opinion about **work and life-related statements and values**.

In the first subsection you will be asked to indicate your level of (dis)agreement to the listed statements. Please use the **5-point-scale with the corner points "Strongly disagree"** and **"Strongly agree"** to indicate your response.

Please indicate your level of (dis)agreement concerning the following statements by ticking the corresponding item in each row with a mouse click.

	Strongly disagree 1	2	3	4	Strongly agree 5
Men usually solve problems with logical analysis; women usually solve problems with intuition.					
Individuals should sacrifice self-interest for the group.					
It is important to closely follow instructions and procedures.					
People in higher positions should not ask the opinions of people in lower positions too frequently.					
Individuals should stick with the group even through difficulties.					
People in higher positions should make most decisions without consulting people in lower positions.					
Group loyalty should be encouraged even if individual goals suffer.					
Standardized work procedures are helpful.					
There are some jobs that a man can do better than a woman.					
Instructions for operations are important.					
Group welfare is more important than individual rewards.					
It is important to have instructions spelled out in detail so that I always know what I'm expected to do.					
People in higher positions should not delegate important tasks to people in lower positions.					
Group success is more important than individual success.					
People in lower positions should not disagree with decisions by people in higher positions.					
Solving difficult problems usually requires an active, forcible approach, which is typical for men.					
It is more important for men to have a professional career than it is for women.					
Rules and regulations are important because they inform me of what is expected of me.					
Individuals should only pursue their goals after considering the welfare of the group.					

For the following questions the response method changes. In this subsection you are asked to rate the statements according to their **importance** to you. Please use the **5-point-scale with the corner points "Very unimportant"** and **"Very important"** to indicate your response.

Rate the following statements with regard to their <u>importance</u> to you by ticking the corresponding item in each row.

	Very unim-portant 1	2	3	4	Very important 5
Careful management of money (Thrift)					
Going on resolutely in spite of opposition (Persistence)					
Personal steadiness and stability					
Long-term planning					
Giving up today's fun for success in the future					

Part VII

In the last part of the questionnaire we need some socio-demogarphic data from you for analysis purposes.

Again, we would like to point out that your responses will be treated completely anonymously!

After having answered the last question you will be asked to fill in your email address to participate in the raffle. Once again we would like to remind you that providing your email address is completely voluntary and only necessary if you want to take part in the raffle.

Once you have completed the questionnaire, please press the button „Finished" to exit the survey.

Gender

O male
O female

Age

_____

Nationality

_____

Family status

O single
O married
O divorced
O widowed

Course of study

O undergraduate/bachelor
O graduate/master

Name of the study program/ Major

_____

Monthly net income

- O 0-400 $
- O 400-850 $
- O 850-1400 $
- O 1400-2100 $
- O 2100- 2800$
- O 2800$ and more

Please use the space provided below for any comments or remarks you would like to make with regard to the topic of the survey or the questionnaire itself.

Comments:

_____

If you want to participate in the raffle please provide your email address in the box below.

Email address:

_____

Thank you very much for your participation in this research project!

Appendix 2: Questionnaire of the Pre-study (Freelisting)

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Quality Assessment Questionnaire for Subcompact Cars

It will take approximately 10 minutes to answer this questionnaire. Please, take the time you need to answer the questions.

Introductory Remarks:

The following questionnaire consists of two parts with different questioning types. Therefore, we advise you to read the instructions to each question carefully.

There are neither "right" nor "false" answers in this questionnaire. You do not have to be an expert to fill out the questionnaire. Please, read the questions as well as the instructions carefully and give your answers spontaneously. Please answer all questions. Start now with the reply.

All your responses will be treated anonymously and strictly confidential.

Part I

Do you possess a driver's license?

- O yes
- O no
- O currently attending drivers education

Do you regularly have access to a car?

- O yes
- O no

How often do you personally drive a (your) car?

- O very often (every (other) day)
- O often (3-5 days per week)
- O sometimes (once a week)
- O rarely (1-2 times a month)
- O very rarely (once in half a year)
- O never

To what kind of car do you have access to?

- O a new car
- O a used car
- O a rental car

Part II

In this part of the questionnaire 5 car attributes will be presented to you: fuel economy (thrift), reliability, overall quality impression (robustness of the chassis, material processing etc.), driving quality (road holding, brakes, steering), and safety (modern safety equipment).

Please, write down every notion and phrase that comes to your mind spontaneously in connection with the mentioned performance characteristics of the attributes (more than acceptable: excellent performance; acceptable: good performance; unacceptable: poor performance). There is no right/good or false/bad answer.

Fuel Economy (Thrift)

Please, write down every notion and phrase that comes to your mind in connection with a MORE THAN ACCEPTABLE performance with regard to fuel economy of a car. Please use the text field provided below for your notions.

Please, write down every notion and phrase that comes to your mind in connection with an ACCEPTABLE performance with regard to fuel economy of a car. Please use the text field provided below for your notions.

Please, write down every notion and phrase that comes to your mind in connection with an UNACCEPTABLE performance with regard to fuel economy of a car. Please use the text field provided below for your notions.

Reliability

Please, write down every notion and phrase that comes to your mind in connection with a MORE THAN ACCEPTABLE performance with regard to reliability of a car. Please use the text field provided below for your notions.

Please, write down every notion and phrase that comes to your mind in connection with an ACCEPTABLE performance with regard to reliability of a car. Please use the text field provided below for your notions.

Please, write down every notion and phrase that comes to your mind in connection with an UNACCEPTABLE performance with regard to reliability of a car. Please use the text field provided below for your notions.

Overall Quality Impression (robustness of the chassis, material processing etc.)

Please, write down every notion and phrase that comes to your mind in connection with a MORE THAN ACCEPTABLE performance with regard to the overall quality impression of a car. Please use the text field provided below for your notions.

_____
_____
_____
_____

Please, write down every notion and phrase that comes to your mind in connection with an ACCEPTABLE performance with regard to the overall quality impression of a car. Please use the text field provided below for your notions.

_____
_____
_____
_____

Please, write down every notion and phrase that comes to your mind in connection with an UNACCEPTABLE performance with regard to the overall quality impression of a car. Please use the text field provided below for your notions.

_____
_____
_____
_____

Driving Quality (road holding, brakes, steering)

Please, write down every notion and phrase that comes to your mind in connection with a MORE THAN ACCEPTABLE performance with regard to driving quality of a car (road holding, brakes, steering). Please use the text field provided below for your notions.

Please, write down every notion and phrase that comes to your mind in connection with an ACCEPTABLE performance with regard to driving quality of a car (road holding, brakes, steering). Please use the text field provided below for your notions.

Please, write down every notion and phrase that comes to your mind in connection with an UNACCEPTABLE performance with regard to driving quality of a car (road holding, brakes, steering). Please use the text field provided below for your notions.

Safety (modern safety equipment)

Please, write down every notion and phrase that comes to your mind in connection with a MORE THAN ACCEPTABLE performance with regard to car safety (modern safety equipment). Please use the text field provided below for your notions.

Please, write down every notion and phrase that comes to your mind in connection with an ACCEPTABLE performance with regard to car safety (modern safety equipment). Please use the text field provided below for your notions.

Please, write down every notion and phrase that comes to your mind in connection with an UNACCEPTABLE performance with regard to car safety (modern safety equipment). Please use the text field provided below for your notions.

Part II

In the last part of the questionnaire we need some socio-demographic data about you for analysis purposes.

Again, we would like to point out that your responses will be treated completely anonymously.

You are?

O female
O male

How old are you?

O 18 - 20 years
O 21 - 24 years
O 25 - 29 years
O 30 - 34 years
O 35 - 39 years
O 40 - 49 years
O 50 - 59 years
O 60 years and older

What is you nationality?

_____

What was your nationality at birth (if different)?

_____

In which study program are you?

O undergraduate (e.g.,Bachelor)
O graduate (e.g.,Master)
O other

Appendix 3: Questionnaire of Study II

(with manipulation of high expected performance and low perceived performance)

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Study on Consumer Behavior

Thank you in advance for your participation in our international study on consumer behavior.

This questionnaire consists of different parts comprising of various kinds of questions. Please read each question with the respective instructions carefully. In case you have any comments on the study we have provided some space for your comments at the end of the questionnaire.

Completion of this survey will take about 30 minutes. Please, take your time answering the questions carefully. There are no "correct" or "incorrect" answers in this questionnaire. You do not need to be an expert to complete this questionnaire. Please read all statements/questions carefully and check the answer/option that represents your opinion the closest. Should you want to change your answer, please cross out your initial response clearly and mark your correct choice. **Please do not leave a statement or question unanswered.**

Furthermore, participation offers you the chance to win a $50 Amazon Gift Card.

To take part in the raffle you will be asked to provide your e-mail-address at the very end. Providing your e-mail-address is completely voluntary and only necessary if you wish to participate in the raffle. It will be documented separately from your questionnaire.

Your answers will be treated anonymously and are strictly confidential.

Thank you once again for your participation!

Please, start now answering the questions.

Part A

In the first part of this questionnaire we need some information about your experience with cars. Please, mark the respective response options that best fits you.

A1 Do you have a driver's license?

O 1. yes
O 2. I am participating in driver's education right now.
O 3. no

If you answered this question with 'no', please turn to page 2 and continue with part B.

A2 Do you have access to a car?

O 1. Yes, I own a car.
O 2. Yes, I have access to a family car/a car of a friend.
O 3. No.

If you answered this question with 'no', please turn to page 2 and continue with part B.

A3 If at all, how frequently do you use a car...?

		Nearly every day	At least once a week	At least once a month	At least once a year	Never/ not possible
1.	for trips on a freeway?	□	□	□	□	□
2.	for trips on a highway?	□	□	□	□	□
3.	for trips within the city?	□	□	□	□	□
4.	to commute to work/college?	□	□	□	□	□
5.	to go shopping?	□	□	□	□	□
6.	to pull a trailer or caravan?	□	□	□	□	□
7.	with a second person in the passenger seat of the car?	□	□	□	□	□
8.	with one or more people in the backseats of the car?	□	□	□	□	□
9.	with bigger items/suitcases etc. in the car or in the trunk?	□	□	□	□	□

A4 What kind of car was the car, which you mainly use, when it was purchased?

O 1. new car
O 2. used car
O 3. do not know

Part B

In the next step we would like to ask you to rate the following characteristics/attributes of a car according to their importance to you.

How important are the following characteristics/attributes of a car for you in general?

		Very unim-portant			Neither nor			Very important
		1	2	3	4	5	6	7
B1	Acceleration/high engine performance	□	□	□	□	□	□	□
B2	Sportiness	□	□	□	□	□	□	□
B3	Environment-friendliness	□	□	□	□	□	□	□
B4	Reliability	□	□	□	□	□	□	□
B5	Fuel economy	□	□	□	□	□	□	□
B6	Prestige/status	□	□	□	□	□	□	□
B7	Spacious interior	□	□	□	□	□	□	□
B8	Effective heating	□	□	□	□	□	□	□
B9	Circumferential visibility	□	□	□	□	□	□	□
B10	Spacious trunk	□	□	□	□	□	□	□
B11	Reputation of the brand/producer	□	□	□	□	□	□	□
B12	Overall manufacturing quality (robustness of the chassis, material processing etc.)	□	□	□	□	□	□	□
B13	Comfort of the front seats	□	□	□	□	□	□	□
B14	Uniqueness of the interior and exterior design	□	□	□	□	□	□	□
B15	Ease of getting in and out of the car	□	□	□	□	□	□	□
B16	User-friendliness of the control elements	□	□	□	□	□	□	□
B17	Above-average driving qualities (driving stability, steering)	□	□	□	□	□	□	□
B18	Safety (modern safety features)	□	□	□	□	□	□	□
B19	Effective air conditioning	□	□	□	□	□	□	□

Part C

Please try to imagine yourself in the following situation:
You possess a drivers license for already a couple of years. So far, you drove an old used car, which has to be replaced now. Please imagine now that you are planning to purchase a new subcompact car. After you have acquired much information, you have decided for a Gamma Lab. Shortly before the purchase you read a somewhat older test report about that subcompact car by chance. Please read the following test report closely:

We tested the new subcompact car Gamma Lab for you with respect to its reliability, its safety features, its fuel consumption, as well as its manufacturing quality and its driving qualities. To us, the Gamma Lab is a reliable companion all around both on the daily short trips and on longer road trips. The car runs without any problems. In prominent break-down statistics, the Gamma Lab regularly scores best. With regard to safety, the Gamma Lab with its robust car body and its extensive number of safety features equipped as standard, provides us with a good feeling of security. In the established crash tests the Gamma Lab takes first place. Mileage amounted to 49miles/gallon on average in our test. In our opinion that is above average fuel efficiency and has to fear no comparison. Rattling and rust appear to be strangers to the Gamma Lab. All in all, this subcompact stands out due to its very good selection and precise manufacturing of high-quality materials. We rate the driving qualities of the Gamma Lab as very good. Due to its stable driving characteristics, driving the Gamma Lab was simply fun for our test driver. Furthermore, this subcompact shows a very direct steering providing full control over the car and high driving stability also when the road surface is uneven.

Please, turn to the next page after reading the test report.

After reading the test report we are now interested in your **EXPECTATIONS** about the Gamma Lab. Please answer the following questions spontaneously without turning back to the test report.

In your opinion, how will be the performance/quality of the just described subcompact car with respect to the following characteristics?

		Very inferior			Medium			Very superior
		1	2	3	4	5	6	7
C1	The reliability of the car will be ...	□	□	□	□	□	□	□
C2	The safety of the car will be ...	□	□	□	□	□	□	□
C3	The fuel economy of the car will be ...	□	□	□	□	□	□	□
C4	The overall manufacturing quality of the car (e.g., robustness of the chassis, material processing etc.) will be …	□	□	□	□	□	□	□
C5	The driving qualities of the car (e.g., driving stability, steering behavior) will be …	□	□	□	□	□	□	□

In your opinion, how will be the overall quality of the previously described subcompact car?

		Very inferior			Medium			Very superior
		1	2	3	4	5	6	7
C6	The overall quality will be ...	□	□	□	□	□	□	□

How likely is it that you would buy the car?

		Very small			middle			Very high
		1	2	3	4	5	6	7
C7	The likelihood that I would buy the car is	□	□	□	□	□	□	□

Part D

Please try to imagine now that you have purchased the Gamma Lab. The price seemed adequate to you. You possessed some savings with which you were able to pay most of the purchasing price. The rest was covered by your family.

The following report summarizes your experiences of the first six months as a Gamma Lab owner.

You have been the owner of a Gamma Lab subcompact car for 6 months. You drive your new car almost every day, especially around the city. You have made the following experiences. Your car possesses various ticks with regard to its reliability. From time to time, the starter provides for some trouble to you, so that you have to almost persuade your car to start up. During the last 6 months you experienced two breakdowns – one due to a problem with the engine and one due to the exhaust. You received only a small number of safety features without any additional costs. Your Gamma Lab only provides you with small feeling of security. In the most recent crash test, which you just read by chance, your car model ranked last. For your daily trips you observe an average mileage of about 26 miles/gallon, just like a SUV. You continuously hear louder rattling sounds both in the front and the rear of your car, which you are unable to identify. You observe various rust patches around the doors and on the bumpers. The materials employed in the interior appear to be rather cheap but at least somewhat functional. With regard to the driving qualities, your Gamma Lab possesses rather inferior driving stability already when the road surface is a little bit uneven. The steering of your vehicle is hard and reacts only with delay.

Please, turn to the next page after reading the report.

As documented in the report, you have been able to make some experiences with the actual performance of your Gamma Lab. We are now interested in how you personally judge the **ACTUAL PERFORMANCE** of the previously described car.
Please answer the following questions spontaneously without turning back to the report.

In your opinion, how do you judge the actual performance/quality of the following characteristics of the just described subcompact car?

		Very inferior			Medium			Very superior
		1	2	3	4	5	6	7
D1	I consider the performance with respect to reliability of the car as ...	□	□	□	□	□	□	□
D2	I consider the performance with respect to safety of the car as...	□	□	□	□	□	□	□
D3	I consider the performance with respect to fuel economy of the car as ...	□	□	□	□	□	□	□
D4	I consider the performance with respect to overall processing/manufacturing quality (e.g., robustness of the chassis, material processing etc.) of the car as …	□	□	□	□	□	□	□
D5	I consider the performance with respect to driving quality (driving stability, steering) of the car as …	□	□	□	□	□	□	□

How do you judge the overall quality of the just described subcompact car?

		Very inferior			Medium			Very superior
		1	2	3	4	5	6	7
D6	I consider the overall quality of the car as ...	□	□	□	□	□	□	□

Part E

Let us return to your expectations which you had formed after having read the original test report. After you have now been able to make some experiences with the actual performance of the subcompact car Gamma Lab, we are interested whether the actual performance met your expectations or not. Please answer the following questions spontaneously without turning back to the report.

After the experience of the actual performance of the car, how do you rate your level of expectations of the following characteristics which you had in the beginning?

		Much too high: it was worse than I thought			Exactly right: it totally met my expectations			Much too low: it was better than I thought
		1	2	3	4	5	6	7
E1	At the beginning, my expectations of the reliability of the car were ...	□	□	□	□	□	□	□
E2	At the beginning, my expectations of the safety of the car were ...	□	□	□	□	□	□	□
E3	At the beginning, my expectations of the fuel economy of the car were ...	□	□	□	□	□	□	□
E4	At the beginning, my expectations of the overall processing/manufacturing quality (e.g., robustness of the chassis, material processing etc.) of the car were ...	□	□	□	□	□	□	□
E5	At the beginning, my expectations of the driving quality (driving stability, steering) of the car were…	□	□	□	□	□	□	□

After the experience of the actual performance of the car, how do your rate your expectations which you had in the beginning considering the overall quality of the car?

		Much too high: it was worse than I thought			Exactly right: it totally met my expectations			Much too low: it was better than I thought
		1	2	3	4	5	6	7
E6	In the beginning, my expectations of the overall quality of the car were ...	□	□	□	□	□	□	□

Part F

Furthermore, we are interested in your **SATISFACTION** with your new subcompact car, the Gamma Lab. How satisfied are you with respect to...

		Completely unsatisfied			Neither satisfied nor unsatisfied			Completely satisfied
		1	2	3	4	5	6	7
F1	the reliability of the car.	□	□	□	□	□	□	□
F2	the safety of the car.	□	□	□	□	□	□	□
F3	the fuel economy of the car.	□	□	□	□	□	□	□
F4	the overall processing/manufacturing quality (e.g., robustness of the chassis, material processing etc.) of the car.	□	□	□	□	□	□	□
F5	the driving quality (driving stability, steering) of the car.	□	□	□	□	□	□	□

How satisfied are you in total with the car?

		Completely unsatisfied			Neither satisfied nor unsatisfied			Completely satisfied
		1	2	3	4	5	6	7
F6	In total I am ... with the car.	□	□	□	□	□	□	□

How likely are you to recommend the Gamma Lab to your family and friends?

		Very low			Medium			Very high
		1	2	3	4	5	6	7
F7	The likelihood that I would recommend the car to my family and friends is ...	□	□	□	□	□	□	□

Part G

Let us now come to a totally different topic. It is very important to us to get to know how you view yourself with respect to the following characteristics and statements.
To which extent do you agree or disagree with the following statements?

I see myself as someone who … (please mark only one response option/box for each statement)

		Strongly disagree			Neither agree nor disagree			Strongly agree
		1	2	3	4	5	6	7
G1	is talkative.	□	□	□	□	□	□	□
G2	tends to find fault with others.	□	□	□	□	□	□	□
G3	does a thorough job.	□	□	□	□	□	□	□
G4	is depressed, blue.	□	□	□	□	□	□	□
G5	is original, comes up with new ideas.	□	□	□	□	□	□	□
G6	is reserved.	□	□	□	□	□	□	□
G7	is helpful and unselfish with others.	□	□	□	□	□	□	□
G8	can be somewhat careless.	□	□	□	□	□	□	□
G9	is relaxed, handles stress well.	□	□	□	□	□	□	□
G10	is curious about many different things.	□	□	□	□	□	□	□
G11	is full of energy.	□	□	□	□	□	□	□
G12	starts quarrels with others.	□	□	□	□	□	□	□
G13	is a reliable worker.	□	□	□	□	□	□	□
G14	can be tense.	□	□	□	□	□	□	□
G15	is ingenious, a deep thinker.	□	□	□	□	□	□	□
G16	generates a lot of enthusiasm.	□	□	□	□	□	□	□
G17	has a forgiving nature.	□	□	□	□	□	□	□
G18	tends to be disorganized.	□	□	□	□	□	□	□

I see myself as someone who … (please mark only one response option/box for each statement)

		Strongly disagree			Neither agree nor disagree			Strongly agree
		1	2	3	4	5	6	7
G19	worries a lot.	□	□	□	□	□	□	□
G20	has an active imagination.	□	□	□	□	□	□	□
G21	tends to be quiet.	□	□	□	□	□	□	□
G22	is generally trusting.	□	□	□	□	□	□	□
G23	tends to be lazy.	□	□	□	□	□	□	□
G24	is emotionally stable, not easily upset.	□	□	□	□	□	□	□
G25	is inventive.	□	□	□	□	□	□	□
G26	has an assertive personality.	□	□	□	□	□	□	□
G27	can be cold and aloof.	□	□	□	□	□	□	□
G28	perseveres until the task is finished.	□	□	□	□	□	□	□
G29	can be moody.	□	□	□	□	□	□	□
G30	values artistic, aesthetic experiences.	□	□	□	□	□	□	□
G31	is sometimes shy, inhibited.	□	□	□	□	□	□	□
G32	is considerate and kind to almost everyone.	□	□	□	□	□	□	□
G33	does things efficiently.	□	□	□	□	□	□	□
G34	remains calm in tense situations.	□	□	□	□	□	□	□
G35	prefers work that is routine.	□	□	□	□	□	□	□
G36	is outgoing, sociable.	□	□	□	□	□	□	□
G37	is sometimes rude to others.	□	□	□	□	□	□	□

I see myself as someone who … (please mark only one response option/box for each statement)

		Strongly disagree			Neither agree nor disagree			Strongly agree
		1	2	3	4	5	6	7
G38	makes plans and follows through with them.	□	□	□	□	□	□	□
G39	gets nervous easily.	□	□	□	□	□	□	□
G40	likes to reflect, play with ideas.	□	□	□	□	□	□	□
G41	has few artistic interests.	□	□	□	□	□	□	□
G42	likes to cooperate with others.	□	□	□	□	□	□	□
G43	is easily distracted.	□	□	□	□	□	□	□
G44	is sophisticated in art, music, or literature.	□	□	□	□	□	□	□
G45	often has arguments with others.	□	□	□	□	□	□	□

Part H

In the following part of the questionnaire we would like to ask you to give your personal opinion to work- and life related statements and values.

To which extent do you agree or disagree with the following statements?
(please mark only one response option/box for each statement)

		Strongly disagree			Neither agree nor disagree			Strongly agree
		1	2	3	4	5	6	7
H1	Men usually solve problems with logical analysis; women usually solve problems with intuition.	□	□	□	□	□	□	□
H2	I notice when product performance does not match the quality I expect.	□	□	□	□	□	□	□
H3	People in higher positions should avoid social interaction with people in lower positions.	□	□	□	□	□	□	□
H4	It makes me uneasy to see an error in my work.	□	□	□	□	□	□	□
H5	Individuals should sacrifice self-interest for the group.	□	□	□	□	□	□	□
H6	It is important to closely follow instructions and procedures.	□	□	□	□	□	□	□
H7	I am very unhappy when products do not perform as well as I expect them to do.	□	□	□	□	□	□	□
H8	People in higher positions should not ask the opinions of people in lower positions too frequently.	□	□	□	□	□	□	□
H9	Individuals should stick with the group even through difficulties.	□	□	□	□	□	□	□
H10	I get mad at myself when I make mistakes.	□	□	□	□	□	□	□
H11	People in higher positions should make most decisions without consulting people in lower positions.	□	□	□	□	□	□	□
H12	Customers should be delighted whenever products exceed customer expectations.	□	□	□	□	□	□	□

(please mark only one response option/box for each statement)

		Strongly disagree			Neither agree nor disagree			Strongly agree
		1	2	3	4	5	6	7
H13	Group loyalty should be encouraged even if individual goals suffer.	□	□	□	□	□	□	□
H14	Standardized work procedures are helpful.	□	□	□	□	□	□	□
H15	It is very important for me to be right.	□	□	□	□	□	□	□
H16	There are some jobs that a man can always do better than a woman.	□	□	□	□	□	□	□
H17	One of my goals is to be perfect in everything I do.	□	□	□	□	□	□	□
H18	Instructions for operations are important.	□	□	□	□	□	□	□
H19	Little errors bother me a lot.	□	□	□	□	□	□	□
H20	Group welfare is more important than individual rewards.	□	□	□	□	□	□	□
H21	It is important to have instructions spelled out in detail so that I always know what I'm expected to do.	□	□	□	□	□	□	□
H22	People will probably think less of me if I make a mistake.	□	□	□	□	□	□	□
H23	People in higher positions should not delegate important tasks to people in lower positions.	□	□	□	□	□	□	□
H24	I am very happy when products perform better than I expect.	□	□	□	□	□	□	□
H25	Group success is more important than individual success.	□	□	□	□	□	□	□
H26	People in lower positions should not disagree with decisions by people in higher positions.	□	□	□	□	□	□	□
H27	I hate being less than the best at things.	□	□	□	□	□	□	□

(please mark only one response option/box for each statement)

		Strongly disagree			Neither agree nor disagree			Strongly agree
		1	2	3	4	5	6	7
H28	Solving difficult problems usually requires an active, forcible approach, which is typical for men.	□	□	□	□	□	□	□
H29	It is more important for men to have a professional career than it is for women.	□	□	□	□	□	□	□
H30	Rules and regulations are important because they inform me of what is expected of me.	□	□	□	□	□	□	□
H31	I should be upset if I make a mistake.	□	□	□	□	□	□	□
H32	Individuals should only pursue their goals after considering the welfare of the group.	□	□	□	□	□	□	□

Please rate the following statements according to their importance to you.
(please only mark one response option/box for each statement)

		Very unimportant			Neither nor			Very important
		1	2	3	4	5	6	7
H33	Careful management of money (Thrift)	□	□	□	□	□	□	□
H34	Going on resolutely in spite of opposition (Persistence)	□	□	□	□	□	□	□
H35	Personal steadiness and stability	□	□	□	□	□	□	□
H36	Long-term planning	□	□	□	□	□	□	□
H37	Giving up today‘s fun for success in the future	□	□	□	□	□	□	□
H38	Working hard for success in the future	□	□	□	□	□	□	□

Part I

Finally we need some demographic data about you for statistical purposes. Please answer the following eight questions.

I1 What is you nationality? _____

I2 What was your nationality at birth? _____

I3 How old are you? _____

I4 Are you?

O 1. female
O 2. male

I5 In what kind of study program are you enrolled at the moment?

O 1. Undergraduate (e.g., Bachelor)
O 2. Graduate (e.g., Master, Dissertation)
O 3. Others: _____

I6 Which subject do you study at this university?

O 1. Management/Economics
O 2. Social Sciences
O 3. Others: _____

I7 How much money do you have every month for your disposal on average (e.g., from scholar ship, pocket money, income from a job, etc.)?

_____

I8 How much money do you spend each month for pure consumption on average (e.g., for clothes, food, entertainment, hobbies, etc.)?

_____

Please use the area below for possible comments.

Comments:

If you want to participate in the raffle, provide your e-mail address in the following area.
Email address:

_____

Can we contact you for future studies? If you do not agree your e-mail address will be deleted from our system right after the raffle.

O 1. yes
O 2. no

Thank you very much for your participation in this research project

Appendix 4: Pair-wise Correlations - Study II (China)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Expected Performance													
2 Perceived Performance	.12 *												
3 Disconfirmation	-.38 **	.49 **											
4 Satisfaction	.08	.87 **	.50 **										
5 Power Distance	-.05	-.05	.01	-.01									
6 Uncertainty Avoidance	-.06	.02	.06	.00	-.03								
7 Collectivism	.13 *	.05	-.06	.05	-.12 *	.21 **							
8 Extraversion	-.03	.11 *	-.05	.10	-.13 *	-.12 *	.01						
9 Conscientiousness	.02	.10	.09	.09	-.16 **	.05	.11 *	.22 **					
10 Agreeableness	.04	-.01	-.01	.03	-.15 **	.06	.16 **	-.02	.33 **				
11 Openness to Experience	.12 *	.07	-.01	.08	-.02	-.03	.09	.38 **	.16 **	-.04			
12 Neuroticism	-.01	-.10	.01	-.07	.13 *	.09	-.07	-.35 **	-.31 **	-.26 **	-.14 *		
13 Gender	-.15 **	.02	.06	.03	-.19 **	-.02	-.07	.10	.04	.12 *	-.12 *	-.02	
14 Age	.11 *	.02	.02	.03	.06	.08	-.02	-.11	.07	-.01	-.03	.03	-.11

Note: *N = 318.*

Appendix 5: Pair-wise Correlations - Study II (Germany)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Expected Performance													
2 Perceived Performance	.08												
3 Disconfirmation	-.54 **	.62 **											
4 Satisfaction	.10	.88 **	.57 **										
5 Power Distance	-.04	-.01	.07	-.03									
6 Uncertainty Avoidance	-.00	.04	-.04	.04	-.01								
7 Collectivism	.01	-.05	-.01	-.02	-.03	.26 **							
8 Extraversion	.01	.02	.03	.01	-.08	-.07	.06						
9 Conscientiousness	-.02	-.07	-.02	-.05	-.02	.01	-.03	.20 **					
10 Agreeableness	-.02	-.03	.03	-.00	-.09	.07	-.06	.00	.25 **				
11 Openness to Experience	-.03	.04	.03	.02	-.03	-.07	.01	.43 **	.12 *	-.01			
12 Neuroticism	.02	.01	-.05	.00	-.00	.05	.04	-.17 **	-.17 **	-.31 **	-.05		
13 Gender	-.07	.10	.14 *	.08	.15 **	-.02	.04	-.19 **	-.19 **	-.09	-.13 *	-.29 **	
14 Age	.01	.04	.08	.03	.03	-.01	-.08	-.06	.08	.02	-.05	-.14 *	.20 **

Note: $N = 314$.

Appendix 6: Pair-wise Correlations - Study II (USA)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Expected Performance													
2 Perceived Performance	.13 *												
3 Disconfirmation	-.53 **	.55 **											
4 Satisfaction	.14 *	.89 **	.52 **										
5 Power Distance	-.01	-.01	-.01	-.01									
6 Uncertainty Avoidance	-.07	-.05	.01	-.07	-.15 **								
7 Collectivism	.12 *	-.02	-.10	-.02	.00	.28 **							
8 Extraversion	-.02	-.07	-.08	-.02	-.06	.11	.10						
9 Conscientiousness	.01	-.02	-.09	-.02	-.19 **	.29 **	.03	.22 **					
10 Agreeableness	-.04	.01	.02	.00	-.24 **	.09	.00	.08	.34 **				
11 Openness to Experience	-.04	-.06	-.01	-.04	.01	-.01	.08	.34 **	.01	.01			
12 Neuroticism	.03	.02	.06	.01	.03	.10	-.02	-.19 **	-.07	-.25 **	-.15 **		
13 Gender	-.10	-.01	.06	-.04	-.25 **	.07	-.15 *	.00	.25 **	.31 **	-.19 **	.12 *	
14 Age	-.04	-.01	.02	-.01	-.06	.08	-.03	-.05	.02	.02	.08	-.10	-.13 *

Note: $N = 313$.