



universität
wien

MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

„We or Me: The Influence of Individualism and
Collectivism on the Endowment Effect“

verfasst von / submitted by

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angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of
Master of Science (MSc)

Wien, 2016 / Vienna 2016

Studienkennzahl lt. Studienblatt /
degree programme code as it appears on
the student record sheet:

A 066 840

Studienrichtung lt. Studienblatt /
degree programme as it appears on
the student record sheet:

Masterstudium Psychologie

Betreut von / Supervisor:

Mag. Dr. Christoph Kogler

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ACKNOWLEDGEMENT

“Home is now behind you, the world is ahead!” (J.R.R. Tolkien)

What is home? For me, it is the security of being surrounded by people whose support, friendship, guidance and trust are all you need to be prepared for the world. I am lucky to have those people by my side. These lines are dedicated to them.

My first and most important home was created by my mother. And what a great home it was and still is! Thank you for your unconditional love and friendship, the laughter and adventures. Human languages lack words to describe how much you gave me. Thank you, Mum!

I am thankful to have the greatest friends of all, who admittedly do not provide a material home but a home in their hearts for me whenever I need one. I hope I am able to gift you with the same patience and warmth you offer me every day. Among them I especially would like to thank Anna, Claudia, Ivana and Katharina for the time they were willing to spend on reading and correcting my master's thesis. Thank you, guys!

I also would like to express my gratitude to Prof. OStr. Mag. Karl Pinter for arousing my interest in psychology as well as the professors and lecturers of the Faculty of Psychology at the University of Vienna for their effort to maintain it.

Finally, my thank goes to Mag. Dr. Christoph Kogler who supported and supervised me throughout the last year in order to plan, conduct and record this study.

ZUSAMMENFASSUNG

Personen, die ein bestimmtes Objekt besitzen, schreiben diesem einen unverhältnismäßig höheren Wert zu als Personen, die das gleiche Objekt nicht besitzen. Dieses Phänomen ist bekannt als der Endowment Effekt. Das Ziel der vorliegenden Studie ist herauszufinden, ob kulturelle Unterschiede im Endowment Effekt bestehen. Der Fokus liegt dabei auf Individualismus und Kollektivismus. Zusätzlich wurden die Kovariaten Religiosität, Begründungen für Armut und Reichtum als auch das gewünschte Ausmaß an Gleichberechtigung verschiedener Gruppen erhoben. 180 Personen nahmen an der Studie teil, welche in einem 2 (Käufer, Verkäufer) x 3 (Kollektivismus, Individualismus, Kontrollgruppe) Zwischensubjekt-Design durchgeführt wurde. Während die Ergebnisse keinen Einfluss von Individualismus und Kollektivismus nahelegen, konnte beobachtet werden, dass Religiosität und strukturelles Begründen von Armut und Reichtum den Endowment Effekt schwächen. Des Weiteren geht das Bedürfnis nach einer Gleichstellung der Geschlechter mit einem niedrigeren Endowment Effekt einher. Die Analyse zeigte auch, dass der Unterschied zwischen Kauf- und Verkaufspreisen bei den männlichen Probanden sehr groß war, während er in der weiblichen Stichprobe nahezu verschwand. Diese Ergebnisse sprechen für eine Einflussnahme verschiedenster kultureller Faktoren auf die Stärke des Endowment Effekts.

Stichwörter: Endowment Effekt, Verlustaversion, Individualismus, Kollektivismus, Religiosität, Armut, Reichtum, Gleichberechtigung, Gender

ABSTRACT

When people are asked to value an object in their possession and others are asked to value the same object without possessing it, prices can be observed to differ irrationally. This phenomenon is referred to as the endowment effect. The present study's aim is to investigate cultural differences in the effect with focus on individualism and collectivism. Additionally, religiosity, reasoning of poverty and wealth as well as desired equality factors were observed. 180 participants took part in the study which was conducted in a 2 (buyer, seller) x 3 (collectivism, individualism, control) between-subject design. While the results do not suggest an influence of collectivism and individualism, religiosity and structural reasoning of poverty and wealth were found to weaken the effect. Furthermore, to be in favour of gender equality in Austria is linked to a lower endowment effect. The analyses also revealed a gender effect; while the gap between buying and selling prices was large for men, it could not be observed in the female sample. These results lead to the assumption that various cultural factors moderate and mediate the strength of the endowment effect.

Keywords: Endowment Effect, Loss Aversion, Individualism, Collectivism, Religiosity, Poverty, Wealth, Equality, Gender

1. INTRODUCTION

1.1. The Endowment Effect

In 1980, Thaler presented a paper in order to show that relying on normative theories instead of descriptive ones, will lead to errors when predicting consumer choices. Normative theories are hypothetical presumptions about rational decisions of consumers, while descriptive theories describe decisions consumers actually make. To illustrate his argument he gives the following example:

Two survey questions: (a) Assume you have been exposed to a disease which if contracted leads to a quick and painless death within a week. The probability you have the disease is 0.001. What is the maximum you would be willing to pay for a cure? (b) Suppose volunteers were needed for research on the above disease. All that would be required is that you expose yourself to a 0.001 chance of contracting the disease. What is the minimum payment you would require to volunteer for this program? (You would not be allowed to purchase the cure.) (pp. 43-44)

Contrary to the normative theory, there is mostly a huge gap between the answers to question (a) and (b). For example, in case (a) you would like to get rid of the probability of 0.001 to have the disease and would pay €100 for a cure, while in case (b) to you not having the disease with a probability of 0.001 has a worth of €5000. This gap also occurs between people who are asked at which price they would buy an object and people, who are asked at which price they would sell the same object, when they already own it. The price buyers are willing to pay (willingness to pay; WTP) for an object is lower compared to the price sellers are willing to accept (willingness to accept; WTA) for the same object.

1.1.1. Explaining the endowment effect: loss aversion

Thaler (1980) called this phenomenon the *endowment effect* and explained it with the help of the *prospect theory* postulated by Kahneman and Tversky (1979). There, the authors concluded that we all value an object based on our personal reference point at that time. This means that the seller's reference point is the owning of an object while

the buyer's reference point is not owning the same object. If a seller sold the object he or she would experience this as a loss whereas buying the object would mean a gain for the buyer. One aspect of the prospect theory is *loss aversion*. Loss aversion means that losses are perceived much more intense than gains (Kahneman & Tversky, 1984). Therefore, sellers will give away their object only if they receive a large gain to compensate their pain of losing. Buyers on the other hand will not pay such a high price for the same object as the pleasure of gaining is not as big as the pain of losing.

At this point, one could wonder why the loss of money does not lead to loss aversion for the buyers, too. Based on several experiments conducted by Kahneman, Knetsch and Thaler in 1990, Tversky and Kahneman (1991) concluded that the money spent by buyers to receive a good is not experienced as a loss. Novemsky and Kahneman (2005) presented the same results after conducting experiments over a few years. These included five conditions: the buying condition, in which people got a list of prices ranging from \$0.00 to \$9.25 and had to decide for each price if they buy the object or not. Secondly, the selling condition, in which the participants were gifted with an object and asked for which amount they would sell it with the help of the same list. Thirdly, the choice condition which was already introduced by Kahneman and colleagues (1990). There, the participants had to indicate for each price whether they take the object or the money. Furthermore, two new conditions were implemented, namely the risky buying and the risky selling condition. Both, risky buyers and sellers had the opportunity to gamble. If buyers chose to gamble, they could either receive the good and pay nothing or pay money without getting the good with equal chances. When they refused to gamble they would neither lose nor gain anything. The outcome for sellers was either retaining the object and gaining money or losing the object and receiving no money. When refusing to gamble, they would simply keep the object, meaning no loss and no gain as for buyers. The authors concluded that only risky buyers experience loss aversion, since the buying prices were more than half of the selling prices whereas prices stated by risky buyers were about half of the selling prices. Besides this evidence, some authors came to the opposite conclusion. For example, in an experiment conducted by Bateman, Kahneman, Munro, Starmer and Sugden (2005) the authors reported results that are indicative of loss aversion also appearing for buyers. As a possible explanation they stated that these results could emerge when participants are financially bad situated and perceive their budget reserves as exhausted. While the first theory described above implies that the gap between WTP

and WTA is created mainly by sellers pushing up the price at which they would sell the object, the one of Bateman and colleagues (2005) signifies that the gap appears because sellers as well as buyers show loss averse behaviour, sellers indicating high prices for the transaction and buyers low prices. At the present moment there is no agreement regarding the loss aversion of buyers. However, some other important empirical findings concerning loss aversion and the endowment effect have been gained.

In the 2000s a lot of researchers focused on mechanisms underlying loss aversion. Brenner, Rottenstreich, Sood and Bilgin (2007) postulated two different types of loss aversion, *valence loss aversion* and *possession loss aversion*. In valence loss aversion, a valence loss represents any change of the status quo in a negative direction (e.g., becoming ill or having to pay a fine) whereas valence gains are received as positive changes (e.g., getting cured). In this case the authors agree on the original statement of loss aversion: Losses loom larger than gains. Possession loss aversion describes changes in the possession, so, giving up an object in one's possession is a loss while receiving an object is perceived as a gain, irrespectively of the attractiveness of the object. The authors hypothesize that "transitions of items out of one's possession are exaggerated relative to transitions into one's possession: departures loom larger than arrivals" (Brenner et al., 2007, p. 370) and that possession losses can also be regarded as positive changes. If so, people focus on this positive change instead of the possession loss. They conducted two studies in which they varied the changes either to be positive or negative and found out that possession loss aversion is much stronger than valence loss aversion.

Other researchers tried to investigate variables that moderate or mediate loss aversion and the endowment effect, for instance Ariely, Huber and Wertenbroch (2005). They assumed emotional attachment and cognitive perspective change to be factors to moderate and mediate loss aversion. When the emotional attachment towards an object is high, sellers' (in case of the endowment effect) willingness to give away the object should decrease. Furthermore, different cognitive perspectives for buyers and sellers could lead to different ways of processing information, especially when the tasks for buyers and sellers differ from each other, like it is the case for most empirical studies on the endowment effect. The research of Shu and Peck (2011) supports the theory of emotional attachment by Ariely et al. (2005), but they postulate that emotional attachment consists of two different constructs, namely psychological ownership

(attachment) and affective reaction (emotion) and supported their theory with results from nine experiments.

Concerning attachment, another interesting approach was taken by Strahilevitz and Loewenstein (1998). With the help of three studies they showed that the duration of ownership plays an important role in the endowment effect: The selling price of an owned object increases with the duration of the possession and participants who lost an object will pay a higher price for getting it back when they owned it for a longer period of time. With regard to loss aversion this also supports the hypothesis formulated by Ariely et al. (2005) that a loss hurts even more when the attachment to an object increases, for example through longer duration of the possession.

1.1.2. Explaining the endowment effect: ownership and regret

Aside from loss aversion, alternative explanations for the endowment effect have been presumed. In 1992, Beggan showed that an object is considered as more attractive when it is owned. He explains this phenomenon by self-enhancement. People want to see themselves in a positive way and will therefore overvalue an object which they associate with themselves. The results of Gawronski, Bodenhausen and Becker (2007) suggest evidence for the theory of Beggan (1992). In their study they tried to find a link between the evaluation of the self and an object and called it *associative self-anchoring*. They demonstrated that when people choose an object they create an association between this object and the self, as opposed to rejected items. When their self-evaluation was positive, the evaluation of the owned item was also positive, people who evaluated their selves negatively also transferred this to the chosen item. As the authors conclude, this could be a possible explanation for the endowment effect. Therefore, when sellers see themselves in a positive way and attribute this feeling to the owned object, their WTA will be much higher than the WTP of the buyers, who never had a chance to create an association to the object they never owned. Additionally, sellers with a negative evaluation of themselves give away an item for a lower price than sellers with a positive self-evaluation. This was confirmed in three experiments of Alexopoulos, Šimleša and Francis (2015). In the first experiment participants had to complete a reasoning test before they received an object. Regardless of their actual performance, they all received a score of 25% correct answers and got the information that the average score is 54% correct answers (self-threat). They included a control

group who just had to rate the graphical quality of the logic test without getting results (no self-threat). Then all participants had to do a self-esteem scale and afterwards they ran the typical procedure of testing the endowment effect, including participants of the four conditions: self-threat seller, no self-threat seller, self-threat chooser and no self-threat chooser condition. The results showed that participants in the self-threat condition described themselves as less confident than participants who did not experience self-threat. Selling prices of participants in the self-threat condition were significantly lower than those of participants in the control condition. Furthermore, no significant difference between selling and choice prices was to be found for the threat condition. The authors replicated this study by using a different manipulation of self-threat and came to the same results. In the third study they tested the counterpart: Will sellers' positive feelings about their selves increase their object valuation? In order to answer this question they varied the seating arrangement for the participants. One group had to get into a slumped position while the other was able to sit upright. In this position they had to complete an achievement test and were all told to have scored in the highest category possible. Then they were asked how proud they would feel about their performance followed again by the common procedure to test the endowment effect. As the authors expected, participants in the upright position felt prouder about their performance in the test and showed a significant endowment effect, while it was eliminated for participants in the slumped position. In summary these results suggest that the experience of self-threat leads to a negative self-evaluation and a negative object evaluation, eliminating the endowment effect whereas a positive evaluation of the self originating from pride increases the selling price of an object.

Morewedge, Shu, Gilbert and Wilson (2009) explained why there is still no agreement when it comes to causes and influences on the endowment effect. Concerning studies which try to find proof that either loss aversion or ownership effects are the reason for the endowment effect, they state that "in such studies the sellers are owners and the buyers are nonowners, and thus it is impossible to tell from the results whether ownership or loss aversion produced the endowment effect" (p. 948). Because of this criticism, they came up with a way to turn buyers into owners. Four groups of people joined their first experiment: owner-sellers, who received a mug and had to decide whether to keep it or sell it for a monetary sum between \$0.50 and \$12.50 in \$0.50 increments. The second group was defined as nonowner-buyers who did not receive the mug and had to choose between gaining the mug or an amount of money of

the same range. So far, there was no difference between this experiment and other typical experiments concerning the endowment effect, but additionally the condition owner-buyer was implemented. Participants in this condition were given a mug and had to choose between receiving a second identical mug or an amount of money also ranging from \$0.50 to \$12.50 in \$0.50 increments. To prevent the results to be interpreted wrongly they added a nonowner-pair-buyers condition, in which participants did not receive the mug and could decide either to get a pair of identical mugs or an amount of money ranging from \$1 to \$25 in \$1 increments. This was to control the problem that owner-buyers may value the second mug less, because they did not want to own two identical ones or valued the two mugs in combination. The results showed that both owner-sellers and owner-buyers valued the mug significantly higher than nonowner-buyers and nonowner-pair-buyers and no endowment effect between owner-sellers and owner-buyers was found. If loss aversion was the right explanation for the endowment effect, buyers regardless of whether they own a mug or not should value it less than sellers, because they experience a gain. So the authors conclude that ownership instead of loss aversion is the driver of the endowment effect, because the object was valued higher when it was owned, no matter if the owner was a buyer or seller.

The trading of lottery tickets is a common method to study a big variety of economic behaviours and was often used to validate suggested theories and predictions. This also applies to the endowment effect. Some researchers assumed that the behaviour of people cannot be explained through loss aversion when testing the endowment effect in a lottery setting (e.g., Kogler, Kühberger & Gilhofer, 2013). Bar-Hillel and Neter (1996) found out that participants are not likely to exchange their originally given lottery ticket for another, even if both had the same chance of winning the lottery. This is mainly due to the possibility of regretting the decision when the new ticket does not win, which seems to be more painful than a losing original ticket. These results also emerged when participants knew that there was no possibility to find out whether one's original ticket had won or not. As mentioned above, also Kogler et al. (2013) focused on lottery tickets when researching the endowment effect. They established four conditions: The participants had to imagine either to be in possession of a ticket or to only inspect it (possession vs. inspection) and to either keep the owned/inspected ticket or to exchange it for another ticket (not switching vs. switching). All participants were then asked to imagine that their chosen ticket lost the lottery, but

their exchanged ticket had won. Next, they had to predict how much regret they would feel in this situation on a 10-point scale. The results suggest that the combination of possession and switching leads to the highest experience of regret, but there was no main effect for the variable switching or not switching. For this experiment, the authors assumed regret rather than loss aversion to be a source of the endowment effect.

Given the reported experiments and results researchers do not agree on the underlying mechanism that causes us to value an object much higher when we are selling it than we do when buying the same object. Despite that, the endowment effect is a well-known and highly accepted phenomenon in economical decision making, what can also be noticed by reference to the multitude of researched influencing factors presented in the next section.

1.1.3. Emotions and other influences on the endowment effect

The influence of emotions on the endowment effect is a relatively widely researched topic compared to other marginal reported influences which will be displayed later. One of the first attempts to test the impact of specific emotions on the effect as opposed to the impact of affective reactions in general, was drawn by Lerner, Small and Loewenstein (2004). In their experiment they showed participants neutral, disgusting or sad video clips. In order to intensify the manipulation (disgust or sadness) participants were asked to write down how they would feel in that specific situation as protagonist. Viewers of the neutral clip were requested to write about daily activities. Subsequently the endowment experiment was conducted with groups of sellers and choosers. The reports of the participants revealed a clear distinction between sadness and disgust, speaking for a successful manipulation. This also eliminated the possibility of manipulating towards negative feelings in general. In the neutral condition a significant difference between selling and buying prices appeared as expected, whereas sadness decreased the selling prices so heavily that a reversed endowment effect occurred, leaving higher buying prices than selling prices. Compared to the neutral condition, disgust reduced both the selling and the buying prices leading to no endowment effect at all. This result is consistent with the theory of Rozin, Haidt and McCauley (1993) which indicated that disgust leads to avoidance of gaining new possessions and the impulse to get rid of current belongings. Concerning sadness, other researchers came to a complete different result. For example, like Lin, Chuang,

Kao and Kung (2006) primed their participants either in direction of happiness or sadness by letting them recall past experiences. With the help of a self-rating emotion scale they proved the manipulation to be successful and found no significant difference between selling and buying prices for people in the sadness condition, but awfully well for the happiness condition. The contrary was postulated by Zhang and Fishbach (2005) who manipulated the mood of participants through a survey which focused on negative life events for the negative mood condition (which can be compared to the feeling of sadness on consideration of the survey questions) or on “funny thoughts” in the positive mood condition. The participants were then asked at which minimum price they would sell a pen or at which maximum price they would buy it, respectively. The results indicated no endowment effect for participants in a positive mood, but only for participants in negative and neutral moods. To summarize, the influence of sadness varies a lot throughout the described studies ranging from reversing the endowment effect (Lerner et al., 2004) via eliminating it (Lin et al., 2006) up to not influencing it at all (Zhang & Fishbach, 2005).

Martinez, Zeelenberg and Rijsman (2011) conducted a study about the influence of regret and disappointment. They referred to the work of Lerner et al. (2004) and expected disappointment to reverse the endowment effect. As a manipulation, participants had to write a description of a typical day, an experience of regret or an experience of disappointment depending on the condition they were in. As predicted the endowment effect was reversed under the disappointment condition and did not appear under the regret condition.

The master’s thesis of Esterle (2015) dealt with two emotions that had never been researched relating to the endowment effect before, namely compassion and envy. Two groups of people had to read a story that either created compassionate or envious feelings, a control group had to read about a biological issue. Next, all participants answered questions concerning their text. With the help of a list of prices, sellers (who had been endowed with an USB flash driver) and buyers had to indicate their selling and buying prices, respectively. As hypothesized, the priming of both emotions weakened the endowment effect, but did not eliminate it. Further analysis showed that selling prices were much higher in the control group than in the other two conditions, while there was no difference in buying prices between the three groups. These results suggest that the gap between WTA and WTP is mainly influenced by sellers, again speaking for the loss aversion account as an explanation for the endowment effect, as

described earlier. Though, the influence of specific emotions on the effect is researched only insufficiently and further analyses are necessary in order to understand the underlying dynamics.

Apart from emotions other interesting insights have been gained in the last years. For example, the WTA-WTP disparity seems to be independent from the age of the participants (Harbaugh, Krause & Vesterlund, 2001). The authors had kindergartners, 5th graders and college undergraduates decide between two objects, one of which they were endowed with and could not find a difference between these three groups. Furthermore, neither kindergartners and 5th graders nor kindergartners and undergraduates differed significantly in their likelihood of switching to the nonendowed item. A very similar experiment was conducted by Lakshminaryanan, Chen and Santos (2008) who found that the endowment effect can also be observed in non-human primates (see also Brosnan et al., 2007). While in these experiments with primates different kinds of food were used to test the endowment effect, the object of interest varied in all other studies with mugs, pens, chocolate bars, tokens and lottery tickets representing the most common items. Van Dijk and van Knippenberg (1998) criticized that previous studies often did not focus on the comparability of the endowed goods and the exchange goods although it is very important for the endowment effect that people can evaluate the net result of the trade. For example, when the endowment effect is tested in a way that researchers endow the participants with one good (let's say a mug) and analyse the likelihood of people to switch to another good (a pen) (e.g., Harbaugh et al., 2001), it is not possible to predict whether an endowment effect occurs or not as people are not able to compare the gains and losses of the trade. Van Dijk and van Knippenberg (1998) do not refer to experiments in which people can sell or buy goods for money as it is done in most studies concerning the endowment effect nowadays.

The endowment effect depends on a big variety of external and internal influences that may interact with, mediate or moderate each other. The present study's aim is to investigate the influence of collectivism and individualism on the endowment effect. Those constructs will be explained in the next chapter followed by an overview of research on them in regard to the endowment effect.

1.2. Individualism and Collectivism

Since 1980, when Hofstede attempted to describe differences among cultures, the constructs of individualism and collectivism gained a lot of attention in the field of cross-cultural sciences (Oyserman, Coon & Kemmelmeier, 2002). One of the most cited researchers on this topic is Triandis (1995) who defined individualism and collectivism based on four attributes. The first attribute is about the definition of oneself. While individualists define themselves by concepts that are independent of a group, collectivists tend to see themselves as part of a group and use this ideology for forming a self-concept. The second defining attribute are goals. Collectivists' goals are oriented towards the goals of their in-group. When personal goals and in-group goals differ they give in-group goals priority. Also individualists' goals can overlap with group goals, but when it comes to a discrepancy they give precedence to their personal goals. Social behaviour acts as the third attribute. Social behaviour of individualists depends on their attitudes and internal processes whereas collectivists stick to norms, duties and obligations. As a fourth attribute, Triandis mentions relationships, which are very important to collectivists and will hardly be dropped, even if the costs of a relationship are higher than its benefits. Conversely, individualists are more likely to let go of a relationship when the costs outweigh the benefits. While Hofstede (1980) described individualism and collectivism as one single dimension with individualism and collectivism being opposites, Triandis and his colleagues refer to them as two different dimensions. Therefore, it can be inferred that no culture and its members are either individualistic or collectivistic (e.g., Singelis, Triandis, Bhawuk & Gelfand, 1995; Triandis & Gelfand, 1998). Societies in which both, individualism and collectivism levels are high or low are imaginable. The results presented by Paquet and Kline (2009) also support the two dimensional approach. They compared three scales of individualism and collectivism which failed to correlate with each other. However, they also found that the average correlation between individualism and collectivism was $r = -.025$ speaking for two separate constructs rather than for individualism and collectivism being the opposite of each other on one single scale. Li and Aksoy (2007) came to the same result in their study as well as in its replication.

Besides the four main attributes as a definition, Triandis (1995) described individualism and collectivism with another 60 culture specific attributes (as cited in Singelis et al., 1995). There are different forms of individualism and collectivism which

can be distinguished mainly by the attributes *horizontal* and *vertical*, leading to four cultural orientations. In vertical individualism people see themselves different from others and want to be distinguished. They accept hierarchical structures, inequality and competitions with others. In horizontal individualism, people also see themselves as unique and independent, but the individual is equal in status with others. Vertical collectivism describes cultures in which individuals see themselves as part of an in-group whose members are different from each other, so the will of group authorities is accepted as well as competition with out-groups and inequality within the in-group. In cultures that tend to horizontal collectivism, people see themselves as very similar to each other and equal in status and authorities are not easily accepted (Triandis & Gelfand, 1998). This approach was also found to be the most suitable to describe individualism and collectivism by Paquet and Kline (2009). But the results of the studies conducted by Li and Aksoy (2007) failed to support the distinction between horizontal and vertical individualism and collectivism.

Triandis (1995) also named countries that show at least one of these four characteristics. Examples for horizontal individualism are Sweden and Australia, for vertical individualism it is France and the United States of America, India and traditional Greece being examples for vertical collectivism and the Israel kibbutz and other monastic orders for horizontal collectivism (as cited in Singelis et al., 1995). In 2003, Kemmelmeier et al. conducted a study whose results suggested a relationship between authoritarianism and collectivism, but none for individualism. In another more detailed experiment with samples from seven different countries on authoritarianism the same authors found out that especially vertical collectivism is significantly and positively related to authoritarianism in all samples. Other significant positive correlations with authoritarianism could be found for horizontal collectivism in Japan and the USA and for vertical individualism in Bulgaria, Germany, New Zealand and Poland while horizontal individualism in Bulgaria and Poland revealed a negative correlation with authoritarianism.

However, individualism and collectivism do not only exist at levels of culture, countries and societies, but they also appear on an individual level. In this case individualism is referred to as *idiocentric* and collectivism as *allocentric* (Triandis, Leung, Villareal & Clack, 1985). In their work from 1991, Markus and Kitayama suggest that on an individual level it is self-construals that are reflected in differences among cultures. The authors speak of individualism as *independent* and of collectivism as

interdependent self-construal. People with an independent self-construal tend to see themselves as different from other people while the interdependent self-construal is characterized by acceptance of sameness among all people. This theory corresponds with Triandis' first defining attribute (Singelis et al., 1995). Independent views of the self can be found in American and Western European cultures, whereas interdependent views are characteristics for the Japanese and other Asian cultures as well as many African and Latin-American cultures (Markus & Kitayama, 1991). Yet, the authors state that "within a given culture, however, individuals will vary in the extent to which they are good cultural representatives and construe the self in the mandated way" (p. 226). Furthermore, they predict that these two different ways to define oneself have an influence on cognitions, emotions and motivations as people should vary in their attentiveness to others, depending on their self-construal. Also, on this individual level individualism and collectivism seem to be two different constructs, so individuals may act more independently in some situations, while behaving interdependently in others (Kemmelmeyer et al., 2003). Li and Aksoy (2007) compared this classification (independent/interdependent vs. same/different) of Markus and Kitayama (1991) with Triandis' and Gelfand's (1998) approach (individualism/collectivism vs. horizontal/vertical). They identified vertical individualism to be reflected by an independent/different self-construal, horizontal individualism to match the independent/same self-construal, vertical collectivism to be reflected by an interdependent/same self-construal and horizontal collectivism to match the interdependent/different self-construal.

In 2002, Oyserman et al. did a meta-analysis to compare and sum up empirical research on individualism and collectivism since 1980. Self-esteem was among the analysed psychological constructs. They predicted self-esteem to be higher for individualists and individualism to be associated with the wish of preserving self-esteem. By comparing 30 studies, they found a positive correlation between individualism and self-esteem, but only one source reported a negative correlation between collectivism and self-esteem. Furthermore, well-being seemed to be correlated positively with individualism. Regardless of these and other interesting results, the authors criticize that most researchers dealing with individualism and collectivism mainly use student samples. This comes with a problem of generalization. Students of all cultures are mainly higher educated than nonstudents, therefore it is possible that they do not differ significantly in their scores of individualism and collectivism and do not represent the

differences in a society or culture correctly. The authors conclude that discrepancies between individualism and collectivism are not very large and are often displayed as more consistent than they really are.

Studies that directly examine the association between the endowment effect and individualism and collectivism are very rare. In contrast, research on loss and risk aversion was done in a lot of different countries in order to discover systematic differences in both, the degree of averse behaviour and the tendency towards individualism or collectivism in a society. Hereof one attempt was made by Bontempo, Bottom and Weber (1997). They compared the risk perception of students in four different countries, namely the USA and the Netherlands representing more individualistic societies and Taiwan and Hong Kong (which is a special administrative region of China) representing more collectivistic societies. The participants had to value the riskiness of 30 monetary lotteries. Interestingly, the results showed that for both Western countries risk perception mainly depended on the probability of a loss, while in Taiwan and Hong Kong the magnitude of a loss was the crucial factor for the valuation of risk. Gains seemed to have a small effect on reducing the perceived risk, especially for Taiwan. As the authors did research on risk aversion instead of loss aversion one can conclude the impact of cultural orientation on loss aversion only with caution, but the findings tend to suggest more loss averse behaviour for collectivists. Another group of researchers only focused on loss aversion and tried to find differences in its degree between Slovakian, Polish and Bolivian students (Bačová, Brezina & Leśniak, 2010). In their experiment, participants had to imagine a few outcomes of a future lottery, either they gained or lost a small (€1, €3 or €5) or a big amount (€60, €80 or €100) of money. After each imaginary lottery they were asked to rate how happy or sorry they would feel. Afterwards they had to fill out a four-item-questionnaire, with each item covering one of Triandis' (1995) postulated cultural orientations (vertical individualism, horizontal individualism, vertical collectivism, horizontal collectivism). The Bolivian sample appeared to be both, more collectivistic and individualistic and showed no loss aversion at all, neither for small nor big amounts of money, instead gains always loomed larger than losses. Slovaks and Poles experienced losses as more intense than gains when they imagined losing or winning big amounts of money, while gains loomed larger in small amounts. However, the authors did not find statistical evidence for a connection between loss aversion and individualism/collectivism.

De Dreu and McCusker (1997) did an experiment to examine how participants with different social value orientations behave when either gains or losses are framed. They distinguished three orientations, *pro-socials* (who can be described with the same characteristics as collectivists), *individualists* and *competitors* (who both can be characterized by individualistic attributes). This study shows that in case of a possible loss, pro-socials and individualists pursue the goals that match their social value orientation (cooperation vs. no cooperation), while showing a contrary behaviour when confronted with gains. Competitors could be expected to show the same behaviour as individualists according to their likewise individualistic attributes, but this was not verified.

A study that dealt with the same social value orientations and the endowment effect was conducted by Lin and Lin (2006). Like De Dreu and McCusker (1997) they classified participants with the help of the decomposed game. Then participants had to either imagine having bought a bottle of wine for NT\$300 a year ago and were asked at which price they would sell this bottle (seller) or imagine a wine merchant who had bought a bottle of wine for NT\$300 a year ago and had to state at which price they would buy this bottle (buyer). The results showed an overall endowment effect with the mean price for selling being NT\$503.41 and the mean buying price being NT\$381.83. Further analysis revealed that the highest selling prices were stated by competitors followed by individualists. Pro-socials were willing to accept the smallest amount of money for their bottle of wine. On contrary, buying prices were highest for pro-socials followed by individualists and ending up at competitors whose mean buying price was the lowest. In turn, this result demonstrates a large endowment effect for competitors as the difference between selling and buying prices were significantly bigger than it was for individualists. For pro-socials the gap between WTA and WTP only differed insignificantly, uncovering no endowment effect for pro-socials. As pro-socials resemble collectivists while both individualists and competitors can be referred to as individualistic, these results suggest the absence of the endowment effect for collectivists. The authors argue that collectivists (pro-socials) care more about the outcome of others and tend to cooperate more than individualists (and competitors) who are more interested in their personal outcome.

The only study that ever directly tried to link the endowment effect to variables of individualism and collectivism was conducted by Maddux et al. (2010). They made an attempt to find differences in the extent of the endowment effect for people with an

independent vs. an interdependent self-construal. Since the authors argued that independent self-construals can mainly be found in Western and interdependent self-construals in Eastern cultures their first two studies used the ethnic background of participants as a condition. Students from the Northwestern University took part in the first study. 59 of these described themselves as White or European while 57 participants stated to be from Asian or East Asian heritage. Half of the participants were endowed with a coffee mug and told to indicate for each price from a list of prices ranging from \$0.00 to \$10.00 in \$0.50 increments if they sell the mug or not (sellers). The other half of participants, who did not receive the mug, were shown the same list and asked to decide for each price if they buy the mug or not (buyers). The results revealed a significant endowment effect for both samples, but it was significantly larger for European Americans ($M_{diff} = 3.24$; $M_{seller} - M_{buyer}$) than for Asians and Asian Americans ($M_{diff} = 1.6$). They replicated this study by using a box of chocolate instead of mugs and invited students from the University of Waterloo in Canada to participate. Again students describing their ethnical background as Western showed a significantly larger endowment effect ($M_{diff} = 2.98$) than students with an Asian or East Asian background ($M_{diff} = 1.66$). To verify these results, in a third experiment at a University in China the authors included a manipulation to prime self-construals instead of asking participants about their ethnical background. The priming task for people in the independent condition was to write a text about their uniqueness and outstanding character and skills, while participants in the interdependent condition were asked to write about their friendships and relationships with others, in a control condition no task was implemented. As a next step the participants were either or not endowed with a coffee mug and had to decide for each price of a list (0 Yen up to 40 Yen in 2-Yen increments) whether they sell/buy the mug or not with respect to the role condition (seller vs. buyer) they were in. This time the authors did find a significant endowment effect for the control condition and for the participants that had been primed with an independent self-construal, but none for participants in the interdependent self-construal condition. They explained these findings by reporting results from a forth study that revealed evidence for a decrease in the endowment effect when self-criticism appears (which is more salient in people with interdependent self-construals) and an increase of the effect when self-enhancement is made salient (what can be found mainly in persons with independent self-construals).

To sum up the described results, collectivists seem to be more cooperative, do not show loss aversive behaviour that much and show a smaller endowment effect than individualists do. However, the current studies do not suffice to take this theory as proven. A lot more studies and design variations have to be conducted to get an approximate complete picture of interactions between cultural orientations and the endowment effect. In the next two sections a few other possible factors will be introduced that potentially play a role in these interactions according to the current available literature on this topic.

1.3. Religiosity, Wealth and Equality

In his paper, Huntington (1993) distinguishes between eight different civilisations, namely “Western, Confucian, Japanese, Islamic, Hindu, Slavic-Orthodox, Latin American and possibly African civilization” (Huntington, 1993, p. 25). Strikingly, this classification mainly depends on religious aspects, what can be interpreted in the meaning of religion being a very important factor in cultures, societies or civilization, as Huntington calls it. Gorsuch (1988) names religiosity as an important influence on psychological effects and advises psychologists in research to deal more with this topic as religiosity cannot be excluded from investigating people’s personality, beliefs and behaviours. Several years later a group of researchers took the advice (Cukur, De Guzman & Carlo, 2004). By ascertaining data from 475 participants from Turkey (mainly Muslims), the Philippines (mainly Catholics) and the USA (mainly Protestants) they came to a multitude of interesting results concerning individualism, collectivism, values and religiosity. First of all, the results did not suggest a difference in the degree of religiosity among the countries. Horizontal individualism was found to be significantly higher in the US and Philippian sample than in the Turkish sample. Vertical individualism was significantly higher in the US and Turkish sample than in the Philippian sample, whereas vertical collectivism was significantly higher in the latter sample than in the US and Turkish one. The degree of horizontal collectivism did not differ significantly among the samples. Furthermore, religiosity correlated significantly positively with conservation and benevolence and significantly negatively with openness-to-change values in all samples. Horizontal and vertical collectivism did both correlate significantly positively with religiosity while the expected negative correlation between religiosity and individualism was not found.

Concerning the interaction between religiosity and the endowment effect, various researchers have found religiosity to be linked with risk averse behaviour (e.g., Hilary & Hui, 2009; Kumar, Page & Spalt, 2011; Price & Sheremeta, 2015) while little is known about its influence on loss aversion or the endowment effect. The same is true for the variables wealth and poverty. Though, there is evidence for poverty being related to collectivism (Vandello & Cohen, 1999). In this paper the authors wanted to investigate the distribution of individualism and collectivism within the United States. By developing an US collectivism index and examining poverty rates among the different states they found a significant correlation of $r = .31$ between these two variables. The authors argued that social independence (individualism) can be a consequence of financial independence while in case of poverty the help and exchange with others is more useful. Besides actual poverty and wealth rates, different beliefs of their causes may be related to individualism or collectivism. For example, people with different ethnic background attribute different reasons to poverty. African-Americans explain poverty more through structural reasons (e.g., socioeconomic system) than Whites who tend to think about it in a more individual way (e.g., personal effort). Also lower income and lower education increases the structural point of view while older persons and men are more likely to give individual reasons (Hunt, 1996). In the same study Vandello and Cohen (1999) came to the conclusion that gender equality and women's rights as well as racial equality can be found to a greater extent in more individual oriented states. These results draw a picture of a rather tolerant open-minded individualism and a conservative collectivism, fitting the findings of Cukur et al. (2004) who described a relation between collectivism and conservation.

The results reported in the latest section do not give any hint about causality. So it is not clear if religiosity leads to a more collectivistic worldview or vice versa. However, as long as a relationship between religiosity and collectivism can be verified, one could imagine religiosity to be related to a lower endowment effect as well as collectivism is related to it. This also applies to wealth, poverty and their causes. If poverty or structural reasoning of it correlates with collectivism these two variables are meant to reduce the endowment effect compared to wealth and individual reasoning. Also equality can therefore be expected to increase the endowment effect as it is related to an individualistic worldview.

1.4. Extended Framework: Gender

In the literature men are mainly described as more individualistic and independent as well as that they tend to focus more on differences among each other while women tend to concentrate more on the connection to others (e.g., Markus & Kitayama, 1991). In reference to this hypothesis Dommer and Swaminathan (2013) studied the differences in the endowment effect based on gender. Therefore, they ran a study at the University of Pittsburgh using an object (a reusable shopping bag) that either had the logo of the University of Pittsburgh (in-group object) or the logo of a rival university (out-group) on it. For a control condition nothing was printed on the bag. While men showed lower selling prices in the out-group condition and higher selling prices in the in-group condition compared to the control condition, women's selling prices were only higher in the in-group condition but not in the out-group condition. Buying prices did not differ significantly between the bag conditions neither for men nor for women. The results revealed an endowment effect for both, women and men in all conditions with exception of men in the out-group condition whose buying prices were not different than selling prices in this condition. The authors argued that these findings can be explained by women's lower degree of differentiation between self and others. Kashima et al. (1995) came to a similar conclusion. They found individualism and collectivism not to be related to gender, but to culture (by comparing Australia, Hawaii, Japan, Korea and the United States) whereas on a relational dimension gender differences appeared. This dimension is meant to describe the extent of emotional relatedness to others. Women tend to see themselves as more relational to others than men do. This assorts well with the report of Cukur et al. (2004) who neither found horizontal nor vertical individualism and collectivism to differ depending on gender. In contrast, Neef, Pisitsungkagarn and Hsieh (2008) did find a gender difference. They reported women to describe their self-construal to be less independent than men.

However, in terms of the endowment effect, little is known about gender differences. Schmidt and Traub (2002) did a study on loss aversion. Their results showed more loss averse behaviour for women whereas in general, studies that control for gender do not find any differences neither in the degree of loss aversion nor in the endowment effect (Lerner et al., 2004; Wieland, Sundali, Kemmelmeier & Sarin, 2014).

1.5. Hypotheses

The aim of the present experiment was to investigate the influence of collectivism and individualism on the endowment effect as well as the impact of three covariates. Therefore, the following hypotheses were constructed. First, individualistic priming will increase the endowment effect compared to neutral priming (H1). Contrary, collectivistic priming will weaken the endowment effect compared to neutral priming (H2). This is because collectivistic priming should increase loss aversive behaviour. Furthermore, three covariates were included in the hypotheses and analysis. Primarily, religiosity is expected to influence the selling and buying price towards a lower endowment effect (H3). As religiosity can be seen as related to a higher degree of collectivism, its impact should therefore take the same direction as collectivism itself. The same is true for the structural reasoning of wealth and poverty. People who experience wealth and poverty to be dependent on structural factors like the financial system should show a lower endowment effect than people who attribute individual factors (e.g., effort, talent) for wealth and poverty (H4). Finally, conservatism is expected to decrease the endowment effect as it is related to collectivism (H5). The latest hypothesis is tested by assessing personal opinions about the degree of equality different groups should have in a society.

2. METHOD

2.1. Design

According to the hypotheses, the study was conducted in a 2 (transaction role: buyer vs. seller) x 3 (priming: collectivism vs. individualism vs. control group) between-subject design to test if collectivism and individualism have an influence on the endowment effect. A control group was included, which was neither manipulated in the direction of collectivism nor towards individualism, to be able to analyse and interpret the data more precisely. Additionally the influence of the covariates religiosity, reasoning of poverty and wealth and desired equality between different groups was examined. The participants were randomly assigned to one of the six conditions with respect to an equal distribution over the conditions and had to complete the survey in paper-pencil format.

2.2. Participants

All participants were recruited in buildings of the University of Vienna and the FH Technikum Wien as well as in surrounding coffee shops and canteens from the end of August until the beginning of November in 2015. Furthermore some people were recruited in a students' hostel in the same time frame. 186 people took part in the study, but ten of them had to be excluded either because they stated to know the endowment effect and were able to describe it correctly or because they did not mark the prices of the price elicitation scale correctly. The final overall sample consisted of 176 participants (126 females, 50 males). The average age was 24.09 ($SD = 5.20$). 65 people reported to have a university degree. 48 of these reported to have a bachelor's degree, 16 to have a master's degree and one person reported to have a doctorate degree. Another 109 participants had a qualification for university entrance. A total of 165 participants declared themselves as full-time students, mainly majoring in a field of social sciences (44.3%) like political sciences, law and cultural and social anthropology, followed by students majoring in a field of engineering sciences (14.8%) and human sciences (14.8%). Students majoring in psychology were excluded due to the fact that they would easily guess the intention of the study and maybe even know the endowment effect. The average net income was €730.09 with a standard deviation of

€506.13, however, eleven participants did not answer this question. 28 to 32 participants were tested per condition. For the final distribution of participants in the six conditions see Table 1.

Table 1. Distribution of participants in conditions.

Role	Priming			Total
	Collectivism	Individualism	Control Group	
Buyer	29	29	32	90
Seller	29	29	28	86
Total	58	58	60	176

2.3. Scales and Procedure

For testing the endowment effect a black USB flash drive with a data volume of two gigabyte was used. The data volume was indicated on both the flash drive and the survey. One up to four participants were tested at a time. The members of a testing group shared the same condition and had to wait for each other after finishing each task. This arrangement ensured that no confusion about different instructions occurred and slower participants were not influenced by hearing the instructions of upcoming tasks. Once they had agreed to participate they were seated at a quiet place where they were able to write and would not be disturbed. Then they were handed the survey and were asked to read the introduction (see Appendix I & II). Subsequently, participants, who were in the role of the buyer, were shown the USB flash drive. When the participants were in the role of the seller the USB flash drive was given to them. The sellers were given the flash drive at the beginning of the study in order to make sure that they got attached and the feeling of possession until they had to do the price elicitation scale (see Strahilevitz & Loewenstein, 1998). To reduce the differences between the two role conditions, the flash drive was shown to buyers in this early stage too.

Next, the participants were asked to read the instructions for the priming task. Since the study was conducted in Austria, a western country, it was expected that most participants would possess an individualistic attitude (e.g., Maddux et al., 2010; Markus & Kitayama, 1991). In order to assure an even distribution of individualistic and collectivistic attitudes a priming task was conducted. Trafimow, Triandis and Goto (1991) tried to prime participants with the help of a task they called *Similarities and*

differences with family and friends (SDFF). There, people being primed towards individualism had to think about differences between themselves and their family and friends, whereas persons being primed towards collectivism had to think about commonalities for two minutes. This task was described as a very good method of priming (Oyserman & Lee, 2008). However, the task was adapted by asking the participants to write down differences and commonalities respectively between themselves and other people, as the textualisation was expected to have an even bigger manipulation effect (see Appendix III & IV, respectively). Furthermore, a control group was included in which participants simply had to describe their way to work or to university (see Appendix V). Like in the original task of Trafimow et al. (1991), participants were given two minutes for completion. All participants were asked to write down whatever comes to their minds, either in form of keywords or in complete sentences. After two minutes they were asked to turn the page and to read the following instructions concerning a price elicitation scale (see Appendix VI & VII) attentively.

When testing the endowment effect, a price elicitation scale is often used. In the present study, for participants in the role of the buyer, the scale consisted of 20 prices ranging from €0.50 to €10.00 in €0.50 increments (see Appendix VIII). They were asked to decide for each price whether they would buy the flash drive or not. Participants in the role of the seller were given the scale ranging from €10.00 to €0.50 in €0.50 increments (see Appendix IX) and had to decide for each price, if they sell the flash drive they received at the beginning of the study or not. If they had some questions or did not understand the instructions the process was explained verbally with an example but without priming them towards a specific price. Then they marked the prices on the price elicitation scale. After they had made their decision a 20-sided die was casted once. Each side of the die corresponded to one price on the scale (1-20). The result of the toss was compared to their indication at the particular price. Depending on that the buyers were either paid the money or given the USB flash drive, sellers were either paid the money or could keep the USB flash drive. Then they were asked to complete the survey on the next few pages, which started with the manipulation check.

The manipulation check was included in the survey to test whether the priming was successful or not. It consisted of four items from the *Self-Construal Scale* constructed by Singelis (1994), two of them originating from the scale of interdependent items (e.g., “I stay in a group if they need me, even when I am not happy with the group”) and two others from the scale of independent items (e.g., “I enjoy being unique

and different from others”). The items were translated to German (see Appendix X) and assessed with a Likert scale ranging from 1 (not at all) to 5 (absolutely) instead of a 7-point Likert scale used for the original items. The reason for this change was to match this scale to all other scales in the survey which originally were used with a 5-point Likert scale.

These four items were followed by questions about religiosity. Since religiosity was expected to influence the strength of the endowment effect a scale to validate this presumption was added. Participants had to answer six questions about the intensity of their religious or spiritual beliefs (e.g., “How much do you believe in the teachings of your religion?”). The items of this scale were taken over from the *Religious Commitment Scale* of Cohen, Malka, Rozin and Cherfas (2006, Study 3) and were translated to German. One item was added asking participants about their religious confession (see Appendix XI). The reason to add the seventh item was due to the expectation that the answers to the other six items will widely range according to the religious confession. Again the participants had to answer on a 5-point Likert scale ranging from ‘not at all’ to ‘highly’.

After that, participants had to answer the items of the *Causes of Poverty and Wealth Scale* (Kreidl, 2000). There are hints in the literature (Hunt, 1996) that the reasoning of poverty and wealth has at least an influence on thinking rather individualistic or collectivistic about the world. Therefore, the Causes of Poverty and Wealth Scale was translated to German. This scale was used to find out if either people think that poverty and health is self-made or depends on structural factors like the economy system. Like in the original paper, a total of 14 items were used, seven pertaining to poverty, seven to wealth (see Appendix XII & XIII, respectively), including four items defined as individual reasons (e.g., “Lack of ability or talent”, “Hard work”) and three structural reasons (e.g., “Failure of the economic system”, “More opportunities to begin with”) each. The answering scale also ranged from 1 (never) to 5 (very often).

Afterwards the participants answered questions about their equality opinions. As described above, the intensity of equality between different groups of people in a culture is a main aspect when it comes to collectivism and individualism (Vandello & Cohen, 1999). Since there is not a suitable scale dealing with personal attitudes towards the equality of different groups, a scale was constructed to test whether these attitudes have an impact on the endowment effect or not (see Appendix XIV). This scale consisted of three items to be answered on a Likert scale, ranging from 1 (not at all) to 5

(in all aspects) and asked about the attitude in terms of equality between men and women, heterosexuals and homosexuals as well as between natives and foreigners (e.g., “In your view, should men and women have equal rights in Austria?”).

After some demographic questions (see Appendix XV) several control items were included (see Appendix XVI). As well as the exclusion of students of psychology it was necessary to make sure that participants were not familiar with the endowment effect and could not figure out the aim of the study. Therefore, two more questions were introduced at the end of the survey, asking if the participant has ever heard of the effect and if so to describe it briefly. Some people stated to have heard about the effect but were not able to describe it in any way. These participants were not excluded from the final analysis as they did not seem to have gotten a hint by doing the study, thus had not figured out what the intention of the study was.

At the end, the participants were asked to rate the attractiveness of the USB flash drive for two reasons. On one hand, this was to be able to control the personal need of the flash drive. So there could have been participants wanting to buy one anyway and others already possessing some flash drives. The first group would certainly attribute a higher value to the object of interest than the second group. On the other hand, there was an interest in analysing to what extent the result of the game (earning money or the USB flash drive) could influence the attractiveness of the object (see Beggan, 1992). Finally, they had to sign a sheet to confirm that they had earned the money or the flash drive. The completion of the experiment took approximately 15 minutes.

3. RESULTS

3.1. Manipulation Check

The first analysis was to check if the manipulation of individualism and collectivism worked as intended. Therefore, a scale with the two independent items of the Self-Construal Scale of Singelis (1994) was built; the two interdependent items were used for an interdependent scale. The Kolmogorov-Smirnov Test (KS-Test) did not show a normal distribution, neither for the two items of the independent scale, nor for the two items of the interdependent scale. Therefore, the Kruskal-Wallis Test was conducted in order to test the intensity of the manipulation. For the independent scale, the test did not reveal a significant difference between the three groups ($H(2) = 0.25, p = .883$). The same is true for the interdependent scale ($H(2) = 0.90, p = .637$). By conducting an ANOVA basically the same results were observed¹. The priming manipulation did not affect people's answers on the two independent items ($M_{IND} = 3.99, SD = 0.78; M_{COL} = 3.98, SD = 0.84; M_{CTRL} = 4.09, SD = 0.64; F(2,173) = 0.38, p = .684, \eta^2 = .00$). The mean scores of the interdependent items did not differ significantly between people of the individualism condition ($M_{IND} = 2.70, SD = 0.79$), collectivists ($M_{COL} = 2.66, SD = 0.72$) and the participants in the control group ($M_{CTRL} = 2.77, SD = 0.69; F(2,173) = 0.301, p = .741, \eta^2 = .00$). These results do not suggest any priming effects. With a closer look at the four items of the Self-Construal Scale a problem can be observed. While the two independent variables show a Cronbach's alpha of .59, for the interdependent items it was -.01. The results of a confirmatory factor analysis with a Varimax rotation of all four items yielded a two-factor solution with both independent items (.82; .80) and one interdependent item ("I often have the feeling that my relationships with others are more important than my own accomplishments") (.42) loading on one factor, and the second interdependent item ("I stay in a group if they need me, even when I am not happy with the group.") loading on the other one (.97). However, when testing for differences in the mean prices of each single item still no significant differences between the three groups were found.

¹ Throughout the analysis all scales and items that did not show a normal distribution were analysed with both, distribution dependent methods and alternative methods robust to distribution errors. As both methods did show the same results in all respects only the results of distribution dependent methods are presented in this section.

3.2. Endowment Effect

A two-factorial ANOVA revealed a significant overall endowment effect ($F(1,174) = 5.60, p = .019, \eta^2 = .03$) with mean selling prices being higher than buying prices ($M_{seller} = 5.08, SD = 2.75; M_{buyer} = 4.16, SD = 2.37$).

Next, the endowment effect was compared between the three manipulation groups. First of all, the expected main effect of the manipulation could not be observed ($F(2,170) = 0.74, p = .480, \eta^2 = .01$). Though, it can be observed that collectivists show lower buying and selling prices than individualists and participants in the control group, as expected. The mean selling and buying prices are illustrated in Figure 1.

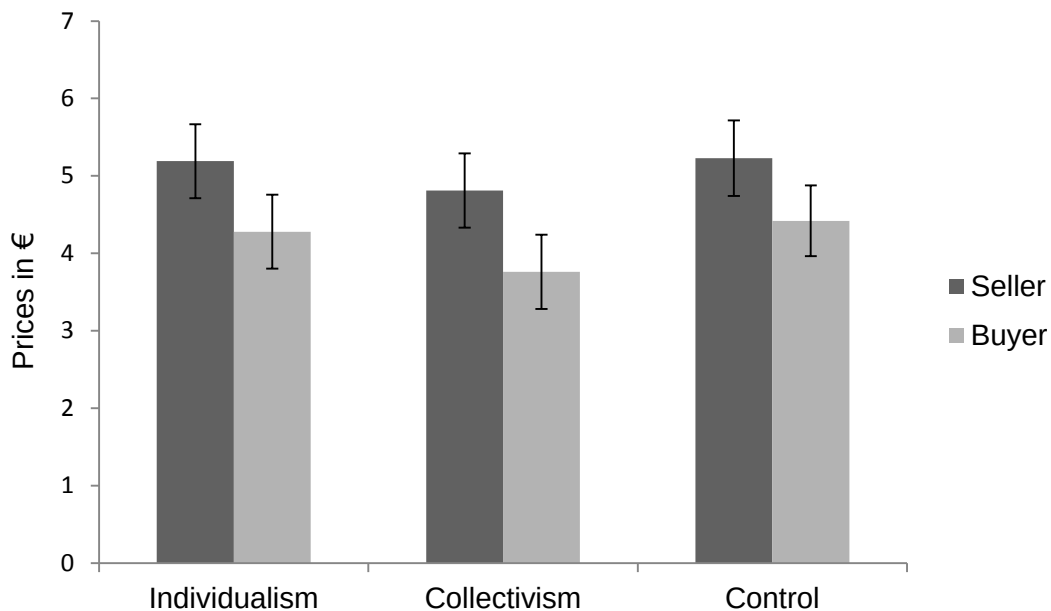


Figure 1. Comparison of mean buying and selling prices separated by manipulation group (individualism, collectivism, control) with standard errors.

Furthermore, no interaction effect between the transaction role (seller, buyer) and the manipulation (individualism, collectivism and control) was found ($F(2,170) = 0.03, p = .968, \eta^2 = .00$).

In the next step, the selling prices among the manipulation groups were examined by doing a one-way ANOVA separately for sellers. Within the seller group the prices did not differ significantly between the manipulation groups ($F(2, 83) = 0.20, p = .818, \eta^2 = .01$). Another one-way ANOVA including only buyers showed no main effect for the priming ($F(2, 87) = 0.64, p = .528, \eta^2 = .02$). For differences in the mean prices of both groups see Figure 2 and 3.

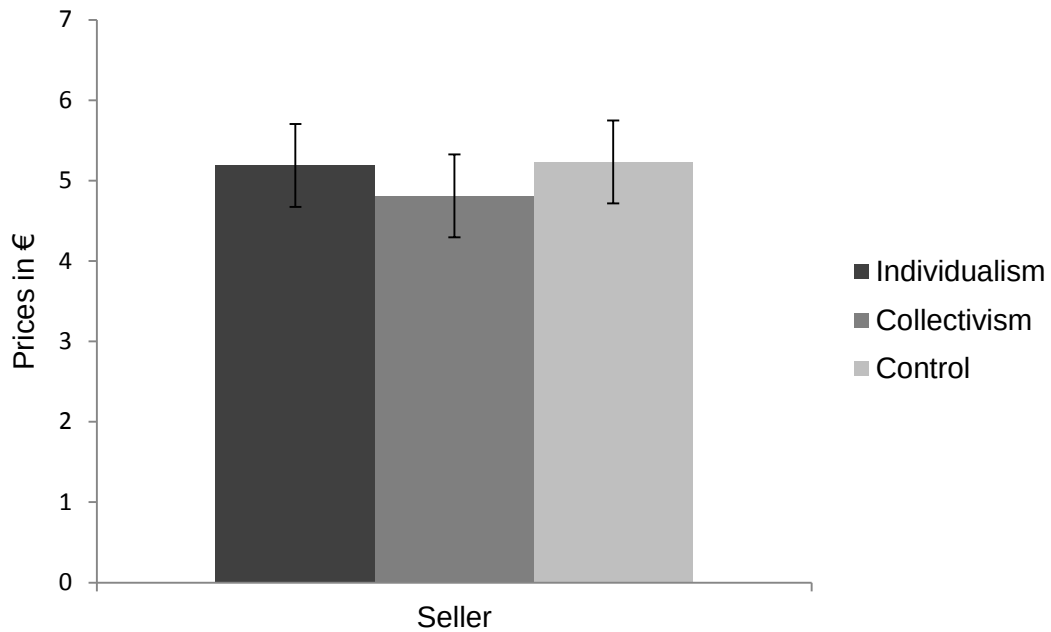


Figure 2. Comparison of mean selling prices separated by priming condition (individualism, collectivism, control) with standard errors.

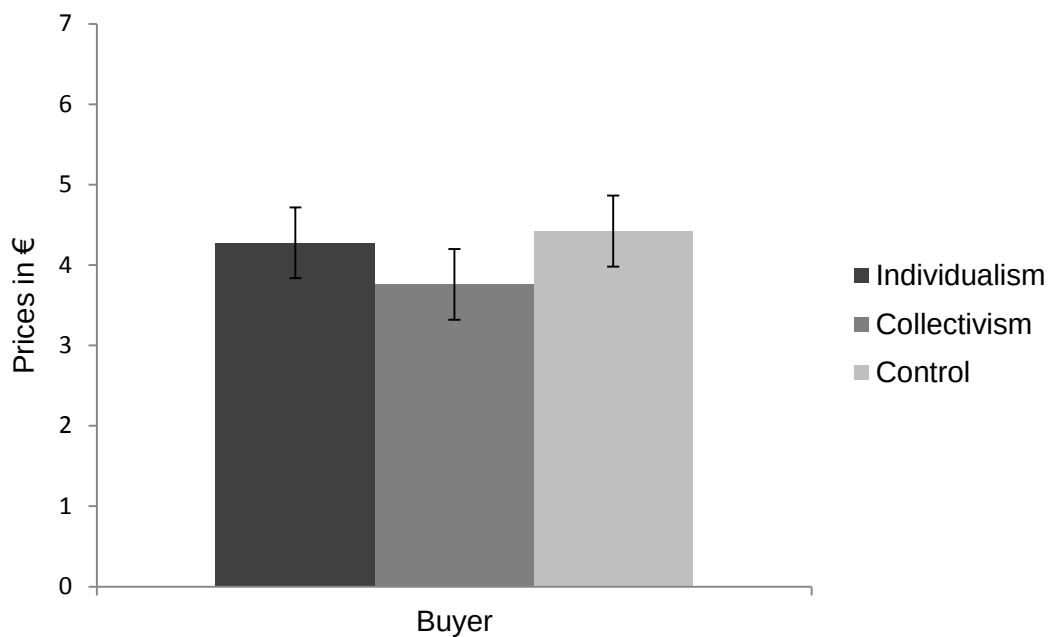


Figure 3. Comparison of mean buying prices separated by priming condition (individualism, collectivism, control) with standard errors.

As described above, the priming task did not work as intended when checked with the four items of the Self-Construal Scale. This problem was eliminated by categorizing people's score in the independent and interdependent scale as high or low with the help of a median split as these two scales may be a better indicator for one's personal degree of individualism and collectivism. This approach lead to four different groups: a

group of people with both, low individualism and low collectivism scores (lowIND/lowCOL), one group with a high individualism score and a low collectivism score (highIND/lowCOL), a group with both, high individualism and high collectivism scores (highIND/highCOL) and one group with a low individualism, but high collectivism score (lowIND/highCOL). The idea of an individualism and collectivism score being both either high or low fits the theory of individualism and collectivism being two different dimensions as postulated by Triandis and colleagues (e.g., Singelis et al., 1995; Triandis & Gelfand, 1998). Participants who exactly scored the respective median were excluded from further analysis what left a total of 94 valid data sets. Next, a two-factorial ANOVA was conducted which did not reveal any significant differences in the mean selling or buying prices between the four groups ($F(3, 86) = 0.33, p = .805, \eta^2 = .01$). Also the interaction effect of the transaction role and the individualism and collectivism score did not reveal a significant result ($F(3, 86) = 0.95, p = .420, \eta^2 = .03$). The mean selling and buying prices of the four score groups are shown in Figure 4.

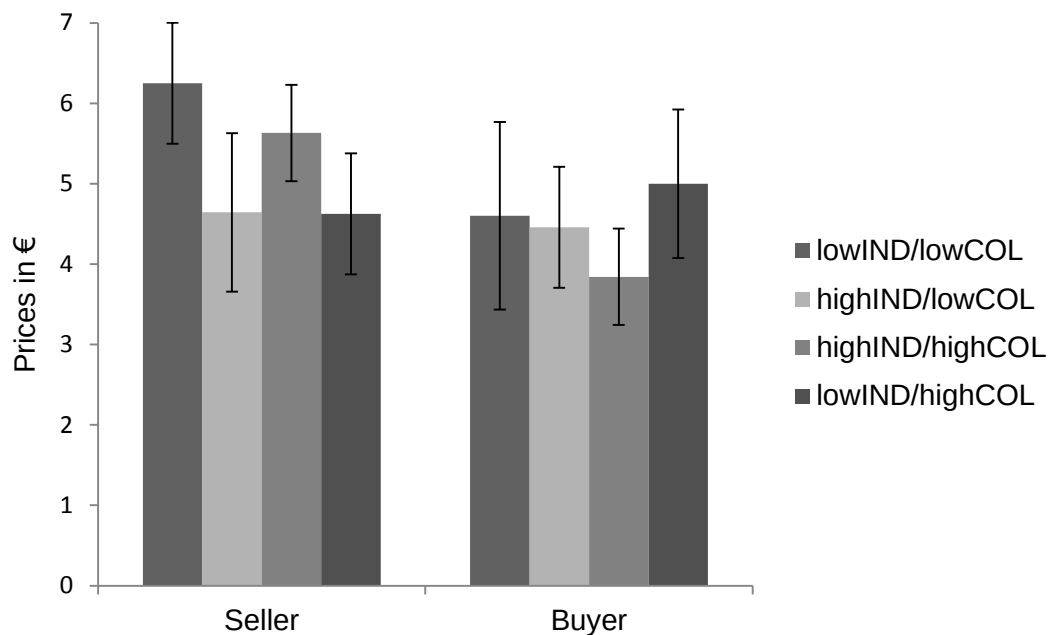


Figure 4. Comparison of mean buying and selling prices separated by score group (lowIND/lowCOL, highIND/lowCOL, highIND/highCOL, lowIND/highCOL) with standard errors.

When a one-way ANOVA was conducted separately for sellers and buyers, again the score groups did not show any difference in their indicated prices. These results do not support hypotheses (H1, H2) as individualism and collectivism do not seem to be related to the endowment effect.

3.3. Covariates

In the next section detailed analysis concerning the covariates are presented in order to validate the hypotheses. Religiosity, the structural reasoning of poverty and wealth as well as a low desire for equality between different groups are expected to weaken the endowment effect (H3, H4 and H5). Therefore, as a first step a correlation analysis was conducted as these hypotheses originate from the expected relatedness between religiosity, reasons for wealth and poverty² and equality opinions on the one hand and individualism and collectivism on the other hand. The results of this analysis are shown in Table 2.

Table 2. Intercorrelation of scales.

	<i>M (SD)</i>	1	2	3	4	5	6	7
1. Priming condition	-							
2. IND/COL score groups	-	.02						
3. Religiosity	2.16 (0.97)	-.02	.06					
4. Individual poverty	2.53 (0.77)	-.05	.07	.11				
5. Structural poverty	3.80 (0.79)	.10	.18	-.14	-.30***			
6. Individual wealth	3.86 (0.63)	.00	.08	-.08	-.17*	.51***		
7. Structural wealth	3.66 (0.85)	-.09	.09	.16*	.35***	-.17*	-.16*	
8. Equality opinions	4.66 (0.49)	.07	.08	-.14	-.21**	.16*	.05	-.08

M = mean, *SD* = standard deviation; * $p < .05$, ** $p < .01$, *** $p < .001$

3.3.1. Religiosity

The religiosity scale of this study consisted of seven items with the last one asking for the religious community the person belongs to. It was therefore excluded from the following factor and reliability analysis. The results of a factor analysis with a Varimax rotation of the other six items yielded a one-factor solution and was found to be highly reliable (Cronbach's $\alpha = .89$). Based on this result the six items were summarized in one scale for further analysis.

² Please note that according to factor and reliability analysis of the Causes of Poverty and Wealth Scale three items were excluded from further analysis. Detailed results of factor and reliability analysis and the final classification of items are displayed in section "4.3.2. Wealth and Poverty".

First, although the correlation analysis did not find any relation ($r(174) = -.02$, $p = .760$) the mean religiosity scores were compared within the three priming groups by conducting a one-way ANOVA. The results do not show a difference in religiosity scores among the groups ($F(2, 173) = 0.53$, $p = .588$, $\eta^2 = .01$). This means that priming of collectivism did not increase people's score on the six items on the religiosity scale. Because no hypotheses concerning the causality of this relation were constructed, correlations between religiosity scores among high vs. low individualists and collectivists were checked, again using the four items of the Self-Construal Scale. As can be seen in Table 2, there is no significant correlation between these two factors ($r(92) = .06$, $p = .590$).

Furthermore, an ANOVA with the two factors transaction role (buyer, seller) and priming condition (individualism, collectivism, control) as well as religiosity as covariate was conducted. The results do not suggest religiosity to be an influencing factor on the endowment effect ($F(1, 169) = 0.91$, $p = .342$, $\eta^2 = .01$).

To investigate the influence of religiosity on the endowment effect in more detail the participants were divided in two groups (high vs. low) regarding their score in the religiosity scale. This median split exactly divided the sample in half with 88 participants having low and 88 participants showing high religiosity scores. With the help of a two-factorial ANOVA with transaction role (buyer, seller) and religiosity (high, low) being factors, no differences on the selling and buying prices depending on the degree of religiosity were found ($F(1, 172) = 1.82$, $p = .179$, $\eta^2 = .01$). Also the interaction of both factors did not show a significant effect ($F(1, 172) = 0.61$, $p = .435$, $\eta^2 = .00$). Although these results did not reach significance, selling prices can be observed to be higher when religiosity scores are high ($M_{highREL} = 5.48$, $SD = 2.91$; $M_{lowREL} = 4.65$, $SD = 2.55$). Concerning buying prices this gap is smaller ($M_{highREL} = 4.27$, $SD = 2.65$; $M_{lowREL} = 4.05$, $SD = 2.08$). This result is contrary to hypothesis (H3) because it speaks for religiosity to increase the endowment effect instead of decreasing it. However, also regarding the other results, the third hypothesis cannot be confirmed.

3.3.2. *Wealth and poverty*

In the original paper of Kreidl (2000) the Causes of Poverty and Wealth Scale consists of four items concerning individual reasons for wealth, three items that ask for structural reasons for wealth, four items that were meant to present individual reasons for poverty

and three items concerning structural reasons for poverty. Though, Kreidl found that some items did not fit this classification by doing a factor analysis. With the help of a factor and reliability analysis a disparity between people's assessments and the original classification of the items could be observed. Therefore, some items either had to be excluded or changed from an individual to a structural factor. These changes are presented in Table 3.

Table 3. Comparison of original and new classification of items with Cronbach's alphas of original and new scales.

	original factor	original Cronbach's alpha	new factor	new Cronbach's alpha
<i>Reasons for poverty</i>				
Lack of ability or talent	individual	.35	individual	.57
Lack of effort by the poor themselves	individual		individual	
People affected by poverty lack in morale	individual		exclusion	
Bad luck	individual		exclusion	
Prejudice and discrimination against certain groups leads to poverty among its members	structural	.67	structural	.67
Lack of equal opportunity	structural		structural	
Failure of the economic system	structural		structural	
<i>Reasons for wealth</i>				
Hard work	individual	.49	individual	.78
Ability or talent	individual		individual	
Luck	individual		exclusion	
Dishonesty of rich people	individual		structural	
Having the right connections	structural	.62	structural	.64
More opportunities to begin with	structural		structural	
The economic system which allows to take unfair advantage	structural		structural	

The analysis suggested four scales, namely the individual reasoning of poverty (indP), the structural reasoning of poverty (strP), the individual reasoning of wealth (indW) and the structural reasoning of wealth (strW). Although, no correlation was found between one of these groups and individualism or collectivism, with them as covariates a two-factorial ANOVA (factor 1: transaction role; factor 2: manipulation group) was conducted. None of these variables could be identified as a significant influence on buying and selling prices. Therefore, the participants were split into high and low score groups per dimension with respect to its median. Afterwards, the group's mean selling and buying prices were analysed with the help of a t-test (see Table 4).

Table 4. Comparison of mean selling and buying prices between high and low individual and structural reasoning of poverty and wealth.

	Mean selling price (SD)	Mean buying price (SD)	<i>p</i> -values
indP low	5.33 (2.95)	4.16 (2.38)	.077
indP high	4.65 (2.46)	4.47 (2.47)	.766
strP low	5.25 (2.73)	4.28 (2.27)	.072
strP high	4.89 (2.80)	4.03 (2.48)	.137
indW low	4.53 (2.54)	4.03 (2.42)	.371
indW high	5.16 (2.84)	4.43 (2.46)	.267
strW low	4.97 (2.88)	3.95 (2.14)	.048
strW high	4.89 (3.19)	4.50 (2.46)	.670

The results showed higher selling than buying prices in all groups. The only group that differed significantly in mean prices ($p = .048$) was low structural wealth. This means that the absence or a low tendency of explaining wealth through structural reasons (e.g., economic system) increases the endowment effect. Participants who do not tend to explain poverty with the help of structural reasons (strP low) were also found to differ marginally significantly in their mean prices ($p = .072$), speaking for an increase of the endowment effect. These findings are partially consistent with hypothesis (H4). Structural reasoning was expected to decrease the endowment effect. Though, the results do not exactly prove this, low structural reasoning could be found to increase the effect.

3.3.3. Equality

There are hints in the literature that conservatism is connected to collectivism (Cukur et al., 2004) and that gender equality, women's rights and racial equality tend to be higher in individualistic societies and individuals (Vandello & Cohen, 1999). Regarding these former findings three items were included in the survey, one asking for the personal desirable degree of gender equality in Austria (EquG), a second one for the degree of equality between natives and foreigners (EquNF) and the third one dealing with the degree of equality between homosexuals and heterosexuals (EquH; see Appendix XIV). A factor analysis revealed a one-factor solution with loadings between .67 and .79. The reliability analysis revealed an unsatisfactory Cronbach's

alpha of .53 which can be explained with the content-related distinctness of the three items. Therefore, all items were summarized in one scale for the next two analyses. No relation between this scale and individualism or collectivism could be found by doing a correlation analysis (see Table 2). When conducting an ANOVA with equality as a covariate, no influence on the endowment effect can be found ($F(1, 169) = 0.00$, $p = .996$, $\eta^2 = .00$). Because of this highly insignificant result the influence of each item as covariate was examined separately. Therefore, two ANOVAs were conducted, one for buyers and one solely for sellers. The detailed results of this analysis are presented in Table 5.

Table 5. Influence of covariates on buying and selling prices.

	<i>F</i> -value	<i>p</i> -value	<i>Partial Eta Squared</i>
<i>Sellers</i>			
EquG	7.17	.009	.08
EquNF	0.00	.984	.00
EquH	2.22	.140	.03
<i>Buyers</i>			
EquG	0.52	.473	.01
EquNF	0.52	.471	.01
EquH	0.27	.606	.00

Interestingly, only the degree of individual desirable gender equality has a significant influence on the selling prices. To examine this influence at a more detailed level another correlation analysis had to be conducted. A median split was not possible as the median of all three items was 5.00, the highest score on the Likert scale. The result of the analysis was a significant negative correlation between the desire for gender equality and selling prices ($r(84) = -.26$, $p = .017$). In other words, when the desire for gender equality is high, selling prices are low and vice versa. No other significant correlation was found. When the selling price decreases with desire for gender equality and the buying price does not change at all, the gap between WTA and WTP is becoming smaller. Conversely to hypothesis (H5), this speaks for a lower endowment effect for people who long for gender equality in Austria.

3.4. Control Items

As mentioned above, at the end of the survey all participants had to rate the attractiveness of the USB flash drive. Although no hypotheses about the relation between selling and buying prices, the actual gained good (amount of money between €0.50 and €10.00 or the flash drive) and the attractiveness rating were constructed, a correlation analysis was carried out. The results revealed a strong significant correlation between the gained good and the degree of attractiveness ($r(167) = .28, p < .001$). Furthermore, a t-test revealed significant differences in the mean score of attractiveness between participants, who received money and participants, who were given the flash drive ($t(167) = -3.78, p < .001$), with higher attractiveness scores for gainers of the USB flash drive ($M = 3.14, SD = 1.03$) compared to participants who got an amount of money ($M = 2.49, SD = 1.18$). However, also the correlation between the personal value of the USB flash drive and the attractiveness rating was significant ($r(172) = .39, p < .001$).

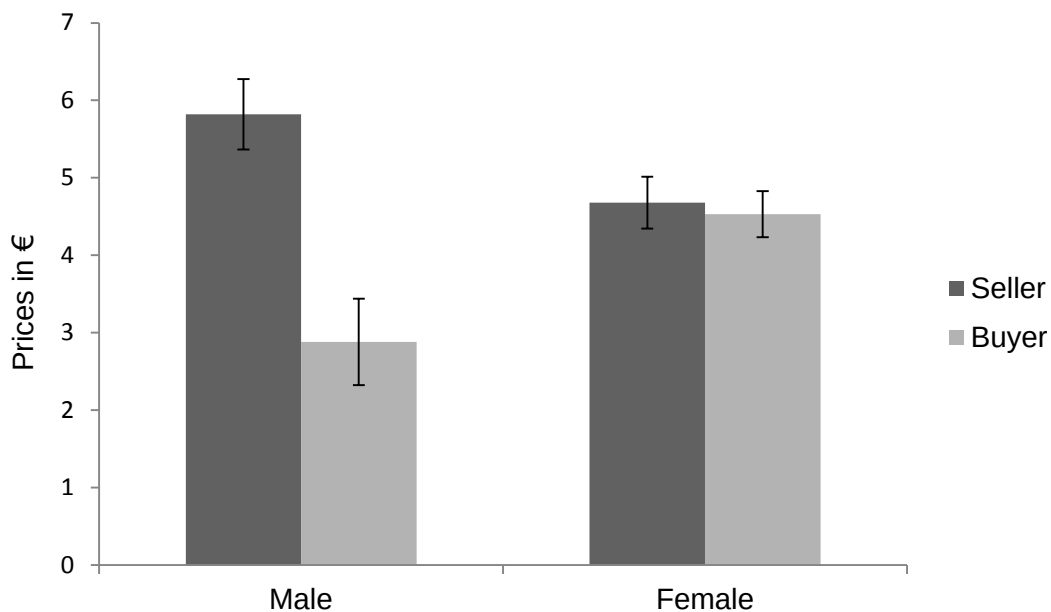


Figure 5. Comparison of mean selling and buying prices between men and women with standard errors.

Another interesting finding are gender differences regarding the endowment effect. An ANOVA with two independent variables (transaction role, gender) revealed a significant main effect for the transaction role ($F(1, 172) = 13.25, p < .001, \eta^2 = .07$). Also the interaction effect of both variables yielded a significant result ($F(1, 172) = 10.81, p = .001, \eta^2 = .06$). When analysing the data more precisely the difference is found to be mainly influenced by a very high endowment effect in men, while no

endowment effect appeared for women, what can be noticed by looking at the mean buying and selling prices of men and women (see Figure 5). This finding joins the ranks of earlier inconsistent findings of gender differences in the endowment effect. However, it is contrary to the findings of Dommer and Swaminathan (2013), who were able to observe an endowment effect for both, men and women. Possible explanations for these conflicting results are discussed in the last section.

4. DISCUSSION

The aim of the present study was to investigate the influence of individualism and collectivism on the endowment effect. Also, three covariates (religiosity, reasoning of poverty and wealth, opinions about equality) were expected to have an impact on this broad studied effect as all of them seem to be related to collectivism and individualism as well.

An overall endowment effect was found. Throughout the sample selling prices were significantly higher than buying prices. However, the priming of collectivism and individualism did not affect these prices. Also the four items of the manipulation check could not be adduced as a better indicator of the participants' level of collectivism and individualism.

High levels of religiosity were expected to weaken the endowment effect regarding their possible relatedness to collectivism. No evidence for this relationship could be found. As a covariate, religiosity did not influence the endowment effect. Though, further analyses suggest higher selling prices when the religiosity level is high too, speaking for an increased endowment effect. This finding is contrary to the assumption of a decreased endowment effect when religiosity levels are high.

The reasoning of poverty and wealth was not found to be related to collectivism or individualism neither and did not influence selling and buying prices as a covariate. Despite that, the gap between WTP and WTA was biggest for people who attribute wealth and poverty to structural factors only on a low level. This is partially consistent with the forth hypothesis; while high structural reasoning does not decrease the endowment effect, low structural reasoning increases it.

Finally, to be in favour of gender equality in Austria is related to a decrease of the selling price and therefore, to a lower endowment effect. This is contrary to the hypothesis of conservatism weakening the effect. Selling and buying prices were neither influenced by opinions about the equality based on sexual orientation nor between natives and foreigners. However, the level of desire for equality was not related to collectivism and individualism.

Besides that, participants who received the USB flash drive found it more attractive than gainers of money. But, there was also a significant positive correlation between attractiveness ratings and selling and buying prices. This leads to two possible directions of causality. On one hand, it is possible that right at the beginning of the

experiment some participants wanted the flash drive more than an amount of money, therefore gave it a higher value on the price elicitation scale and also referred to it as highly attractive at the end of the survey. On the other hand, gaining the flash drive even when an amount of money was preferred in the first place could lead to a higher attractiveness rating.

Additionally, the analysis revealed a very prominent difference between men and women. While men showed a strong endowment effect, women's selling and buying prices did not differ significantly. One explanation for this finding could be collectivism and individualism as men are referred to as more individualistic than women (e.g., Markus & Kitayama, 1991). This matches the expectation of an increased endowment effect when individualism is predominant. On the contrary the finding is inconsistent with the one of Schmidt and Traub (2002) who found more loss averse behaviour in women than in men. However, the validity of the finding is limited because more than twice as many women than men were tested (126 females, 50 males).

Another limitation concerning the sample is that the majority of participants were full-time students. Although most research in psychological science is done with the help of voluntary participation of students, an overrepresentation of students could reduce the generalizability of the results (see Oyserman et al., 2002). Besides that, social desirability is another factor that could have had an influence on the results. For example, some people were tested in groups rather than in individual settings. This could have shifted the cognitive focus onto the feeling of being a member of a community and may influence the answers to the survey questions. Although participants were not able to look at each other's answers the cognitive frame may have a powerful effect. The other question that appears is if group settings led to a more collectivistic focus itself and how priming and the cognitive focus interacted. This could be a possible reason why the priming did not work as intended. It can be assumed that social desirability played a key role in the high ratings of the equality scale. Although it is possible that many people have a rather liberal view of equality in Austria the means were not expected to be that high.

A sensitive part of every study is the order in which the different survey parts are presented. Starting with the manipulation followed by testing the endowment effect with the help of the price elicitation scale was to make sure that these parts do not get influenced by questions about religiosity, poverty, wealth and equality. But in turn, by casting the die directly after the participants made their decision about selling and

buying prices and gifting them with an amount of money or the USB flash drive before they answered the survey questions, could have led to bias. For example, if someone only got a small amount of money and was disappointed, this mood could have had an influence on the cognitive frame the rest of the survey was answered with. Especially the four items of the manipulation check may have been affected in this way.

The price elicitation scale is often used in research concerning the endowment effect. However, one could criticize that it does not perfectly represent actual processes in the real world. This is especially true for participants in the role of a buyer. In a real market situation, buying is both, gaining a new object as well as losing an object (e.g., a certain amount of money). In the present simulated market situation the buyers could not lose anything in their possession, they just had to imagine what amount of money they are willing to lose in order to buy the flash drive. The price elicitation scale is more realistic for sellers, who can really trade a possessed object.

The use of an USB flash drive instead of more common objects like mugs and chocolate bars poses some points for discussion. On one hand, the USB flash drive is a useful modern alternative to the other objects. On the other hand, the interest in owning another flash drive is often very low as many people already have one or more due to its dissemination as a give-away. But this circumstance also means that participants do not know the shop prices of a flash drive and were not influenced by them.

Despite these points of criticism, the present study offers new insights concerning the endowment effect. Many psychological effects that were generally accepted as robust in Western societies were detected to vary among cultures, societies and countries (Maddux et al., 2010). Although, the endowment effect is expected to differ depending on the heritage of the sample, the influence of individualism and collectivism may be overestimated like Oyserman and colleagues (2002) concluded. There could be other underlying factors that have an impact on psychological phenomena which sometimes express themselves in collectivism and individualism scores. However, this study was one of the first to directly investigate if collectivism and individualism change the extent of the endowment effect and if other variables like religiosity have an impact on this relationship.

While in this study, the participants' focus was influenced through priming, most researchers control individualism and collectivism with the help of one of the following ways. One possibility is to assess a person's worldview with the help of a survey, the other one is to do a study in two different countries that are known to differ in their

citizens' degree of individualism and collectivism. Future researchers should not only concentrate on one method, but combine them. The investigation of the endowment effect in different countries as well as the assessment of individualism and collectivism scores may provide a more holistic picture of the impact.

Nevertheless, other possible variables that could influence both, the endowment effect as well as individualism and collectivism should be ascertained. Religiosity and liberalism or conservatism can be assumed as basic factors when cultural differences in the endowment effect are analysed. Also variables concerning the financial well-being of a society or opinions about poverty and wealth as well as opinions about the financial system of a country should be adduced and included in the matter of this topic.

Finally, more attention should be given to gender differences in the endowment effect. Research on this topic is very rare and the few current findings only draw an inconsistent picture of gender effects. Hopefully future research will be able to uncover the influence of gender on the endowment effect.

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APPENDIX

A. Deutsche Fragebogenversion

I. Einleitung - buyer

Liebe Teilnehmerin,

Lieber Teilnehmer,

vielen Dank, dass Sie sich bereit erklärt haben einen wichtigen Beitrag zur Forschung an der Universität Wien zu leisten und mich bei meiner Masterarbeit zu unterstützen. Die in diesem Projekt verwendeten Materialien und Gelder werden durch ein Förderungsstipendium finanziert.

Die folgende Studie besteht aus drei unabhängigen Teilen. Im ersten bitte ich Sie darum einen kurzen Text zu schreiben. Im zweiten Teil werden Sie gebeten, Entscheidungen in einer bestimmten ökonomischen Situation zu treffen. Im letzten Teil geht es darum, Aussagen zu bewerten. Die Bearbeitungszeit liegt bei ca. 10 Minuten.

Bitte versuchen Sie sämtliche Instruktionen aufmerksam zu lesen, sowie ehrlich und spontan zu antworten. Alle Ihre Angaben werden anonym und vertraulich behandelt und lassen keine Rückschlüsse auf Ihre Person zu. Sie können die Untersuchung jederzeit ohne Angabe von Gründen abbrechen. Sollten Fragen auftauchen, können Sie sich selbstverständlich jederzeit an mich wenden.

Ihnen wird nun ein USB-Stick (2 GB) präsentiert. Sie werden im weiteren Verlauf der Studie die Möglichkeit haben entweder diesen USB-Stick oder einen Geldbetrag von bis zu 10€ zu erhalten.

II. Einleitung - seller

Liebe Teilnehmerin,

Lieber Teilnehmer,

vielen Dank, dass Sie sich bereit erklärt haben einen wichtigen Beitrag zur Forschung an der Universität Wien zu leisten und mich bei meiner Masterarbeit zu unterstützen. Die in diesem Projekt verwendeten Materialien und Gelder werden durch ein Förderungsstipendium finanziert.

Die folgende Studie besteht aus drei unabhängigen Teilen. Im ersten bitte ich Sie darum einen kurzen Text zu schreiben. Im zweiten Teil werden Sie gebeten, Entscheidungen in einer bestimmten ökonomischen Situation zu treffen. Im letzten Teil geht es darum, Aussagen zu bewerten. Die Bearbeitungszeit liegt bei ca. 10 Minuten.

Bitte versuchen Sie sämtliche Instruktionen aufmerksam zu lesen, sowie ehrlich und spontan zu antworten. Alle Ihre Angaben werden anonym und vertraulich behandelt und lassen keine Rückschlüsse auf Ihre Person zu. Sie können die Untersuchung jederzeit ohne Angabe von Gründen abbrechen. Sollten Fragen auftauchen, können Sie sich selbstverständlich jederzeit an mich wenden.

Sie erhalten nun einen USB-Stick (2GB) für die Teilnahme an der Studie. Dieser gehört jetzt Ihnen. Sie werden im weiteren Verlauf der Studie die Möglichkeit haben ihn gegen einen Geldbetrag von bis zu 10€ wieder einzutauschen.

III. Manipulation - Kollektivismus

Schreiben Sie in den nächsten zwei Minuten bitte auf, was Sie mit anderen (z.B. mit Freunden, mit Ihrer Familie usw.) gemeinsam haben.

[illegible]

IV. Manipulation - Individualismus

Schreiben Sie in den nächsten zwei Minuten bitte auf, was Sie von anderen (z.B. von Freunden, von der Familie usw.) unterscheidet.

V. Manipulation - Kontrollgruppe

Beschreiben Sie in den nächsten zwei Minuten bitte Ihren Weg zur Arbeit bzw. zur Universität.

This image shows a single page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

VI. Instruktion zur Preisliste - buyer

Zu Beginn der Studie wurde Ihnen ein USB-Stick (2GB) präsentiert. Sie haben nun die Möglichkeit, diesen USB-Stick zu kaufen. Geben Sie dazu bitte in der nachfolgenden Tabelle den Preis an, zu dem Sie den USB-Stick kaufen wollen. Bitte kreuzen Sie bis zu dem Preis, zu dem Sie den USB-Stick gerade noch kaufen wollen, **JA** an, bei den nachfolgenden Preisen bitte **NEIN**.

HINWEIS: Um nun herauszufinden zu welchem Preis Sie den USB-Stick kaufen, wird mit einem 20-seitigen Würfel 1x gewürfelt. Jede Zahl auf dem Würfel entspricht einem Preis auf der Skala (1-20). Das Ergebnis des Würfeln wird anschließend mit Ihren Angaben (**JA** oder **NEIN**) bei dem jeweiligen Preis verglichen. Haben Sie zu dem erwürfelten Preis den USB-Stick gekauft und somit **JA** angekreuzt, so erhalten Sie den USB-Stick. Haben Sie allerdings zu dem erwürfelten Preis den USB-Stick nicht gekauft und somit **NEIN** angekreuzt, so bekommen Sie den erwürfelten Betrag. Bitte beachten Sie, dass es Sinn macht, sich genau zu überlegen, wie viel Ihnen der USB-Stick persönlich wert ist und zu welchem Preis Sie ihn daher kaufen wollen.

Sollten Sie zu diesem Ablauf noch Fragen haben, wenden Sie sich bitte an mich.

VII. Instruktion zur Preisliste - seller

Zu Beginn der Studie haben Sie für Ihre Teilnahme einen USB-Stick (2GB) erhalten. Sie haben nun die Möglichkeit, diesen USB-Stick wieder zu verkaufen. Geben Sie dazu bitte in der nachfolgenden Tabelle den Preis an, zu dem Sie den USB-Stick verkaufen wollen. Bitte kreuzen Sie bis zu dem Preis, zu dem Sie den USB-Stick gerade noch verkaufen wollen, **JA** an, bei den nachfolgenden Preisen bitte **NEIN**.

HINWEIS: Um nun herauszufinden zu welchem Preis Sie den USB-Stick verkaufen, wird mit einem 20-seitigen Würfel 1x gewürfelt. Jede Zahl auf dem Würfel entspricht einem Preis auf der Skala (1-20). Das Ergebnis des Würfeln wird anschließend mit Ihren Angaben (**JA** oder **NEIN**) bei dem jeweiligen Preis verglichen. Haben Sie zu dem erwürfelten Preis den USB-Stick verkauft und somit **JA** angekreuzt, so bekommen Sie den erwürfelten Betrag ausgezahlt. Haben Sie allerdings zu dem erwürfelten Preis den USB-Stick nicht verkauft und somit **NEIN** angekreuzt, so behalten Sie den USB-Stick. Bitte beachten Sie, dass es Sinn macht, sich genau zu überlegen, wie viel Ihnen der USB-Stick persönlich wert ist und zu welchem Preis Sie ihn daher verkaufen wollen.

Sollten Sie zu diesem Ablauf noch Fragen haben, wenden Sie sich bitte an mich.

VIII. Price elicitation scale - buyer

Bitte kreuzen Sie nun für jeden Preis an, ob Sie den USB-Stick kaufen wollen (**JA**) oder nicht (**NEIN**).

Ich würde den USB-Stick kaufen um...	JA	NEIN
(1) € 0.50	☐	☐
(2) € 1.00	☐	☐
(3) € 1.50	☐	☐
(4) € 2.00	☐	☐
(5) € 2.50	☐	☐
(6) € 3.00	☐	☐
(7) € 3.50	☐	☐
(8) € 4.00	☐	☐
(9) € 4.50	☐	☐
(10) € 5.00	☐	☐
(11) € 5.50	☐	☐
(12) € 6.00	☐	☐
(13) € 6.50	☐	☐
(14) € 7.00	☐	☐
(15) € 7.50	☐	☐
(16) € 8.00	☐	☐
(17) € 8.50	☐	☐
(18) € 9.00	☐	☐
(19) € 9.50	☐	☐
(20) € 10.00	☐	☐

IX. Price elicitation scale - seller

Bitte kreuzen Sie nun für jeden Preis an, ob Sie den USB-Stick verkaufen wollen (**JA**) oder nicht (**NEIN**).

Ich würde den USB-Stick verkaufen um...	JA	NEIN
(1) € 10.00	☐	☐
(2) € 9.50	☐	☐
(3) € 9.00	☐	☐
(4) € 8.50	☐	☐
(5) € 8.00	☐	☐
(6) € 7.50	☐	☐
(7) € 7.00	☐	☐
(8) € 6.50	☐	☐
(9) € 6.00	☐	☐
(10) € 5.50	☐	☐
(11) € 5.00	☐	☐
(12) € 4.50	☐	☐
(13) € 4.00	☐	☐
(14) € 3.50	☐	☐
(15) € 3.00	☐	☐
(16) € 2.50	☐	☐
(17) € 2.00	☐	☐
(18) € 1.50	☐	☐
(19) € 1.00	☐	☐
(20) € 0.50	☐	☐

X. Manipulation check

Bitte beurteilen Sie die folgenden Fragen und Aussagen anhand der vorgegebenen Antwortalternativen. Kreuzen Sie dazu für jede Frage die Antwort an, die am ehesten auf Sie zutrifft. Dabei ist es wichtig, dass Sie alle Fragen beantworten, da der Fragebogen nur ausgewertet werden kann, wenn er vollständig beantwortet wurde.

	über- haupt nicht				voll- kommen
Ich habe oftmals das Gefühl, dass meine Beziehungen mit anderen im Berufsleben wichtiger sind, als meine eigenen Leistungen.	1	2	3	4	5
Meine persönliche Identität, unabhängig von anderen, ist sehr wichtig für mich.	1	2	3	4	5
Ich genieße es einzigartig und anders als andere zu sein.	1	2	3	4	5
Ich bleibe in einer Gruppe, wenn sie mich braucht, auch wenn ich mit der Gruppe nicht glücklich bin.	1	2	3	4	5

XI. Religiosität

	über- haupt nicht				sehr
Wie religiös sind Sie?	1	2	3	4	5
Wie spirituell sind Sie?	1	2	3	4	5
Wie sehr glauben Sie an die Lehre Ihrer Religion?	1	2	3	4	5
Wie sehr praktizieren Sie die Forderungen Ihrer Religion?	1	2	3	4	5
Wie wichtig ist Ihnen Ihre Religion oder Ihr Glaube als Teil Ihrer Identität?	1	2	3	4	5
Wenn jemand verstehen möchte, wer Sie als Person sind, wie wichtig wäre dafür Ihre Religion oder Ihr Glaube?	1	2	3	4	5
Welcher Religion gehören Sie an?	☐ Christentum ☐ Islam ☐ Judentum ☐ Buddhismus ☐ Hinduismus ☐ Sonstige, nämlich: _____ ☐ Ich gehöre keiner Religionsgemeinschaft an.				

XII. Gründe für Armut

Wie häufig ist jeder der folgenden Faktoren aus Ihrer Sicht eine Ursache, warum es derzeit arme Menschen in Österreich gibt?

	nie				sehr oft
Mangel an Fähigkeit oder Talent	1	2	3	4	5
Pech	1	2	3	4	5
Mangel an Anstrengungen durch die arme Person selbst	1	2	3	4	5
von Armut Betroffenen fehlt es an Moral	1	2	3	4	5
Vorurteile und Diskriminierung gegen bestimmte Gruppen führen bei deren Mitgliedern zu Armut	1	2	3	4	5
Chancenungleichheit	1	2	3	4	5
Versagen des Wirtschaftssystems	1	2	3	4	5

XIII. Gründe für Reichtum

Wie häufig ist jeder der folgenden Faktoren aus Ihrer Sicht eine Ursache, warum es derzeit reiche Menschen in Österreich gibt?

	nie				sehr oft
die richtigen Beziehungen haben	1	2	3	4	5
Unehrlichkeit von reichen Personen	1	2	3	4	5
Glück	1	2	3	4	5
harte Arbeit	1	2	3	4	5
Fähigkeit oder Talent	1	2	3	4	5
bessere Chancen von Beginn an	1	2	3	4	5
das Wirtschaftssystem, das unfaire Vorteile erlaubt	1	2	3	4	5

XIV. Gleichberechtigung

	über- haupt nicht				in allen Belangen
Sollten Ihrer Meinung nach Frauen und Männer in Österreich gleichberechtigt sein?	1	2	3	4	5
Sollten Ihrer Meinung nach Inländer und Ausländer in Österreich gleichberechtigt sein?	1	2	3	4	5
Sollten Ihrer Meinung nach homosexuelle und heterosexuelle Menschen und Paare in Österreich gleichberechtigt sein?	1	2	3	4	5

XV. Demografische Daten

Abschließend bitte ich Sie noch um folgende demografische Informationen:

Geschlecht	☐ weiblich ☐ männlich
Alter	_____ Jahre
höchste abgeschlossene Ausbildung	☐ kein Schulabschluss ☐ Pflichtschulabschluss ☐ Lehrabschluss ☐ berufsbildende höhere Schule ohne Matura/Abitur ☐ Matura/Abitur ☐ Bachelor oder äquivalent (z.B. Bakkelauriat) ☐ Master oder äquivalent (z.B. Magister, Diplom) ☐ Doktorat oder PhD ☐ Sonstiges, nämlich _____
aktueller Arbeitsstatus	☐ SchülerIn ☐ StudentIn ☐ angestellt ☐ selbstständig ☐ arbeitslos ☐ in Pension/Rente ☐ in Karenz ☐ Hausfrau/-mann
Wenn Sie StudentIn sind, was studieren Sie?	_____
Wie hoch sind Ihr gesamtes monatliches Nettoeinkommen (inkl. Gehalt, Beihilfen, Unterhaltszahlungen, Stipendien usw.)?	_____ €

XVI. Kontrollitems

Haben Sie schon einmal vom Endowment-Effekt gehört?	☐ ja ☐ nein
Wenn Sie schon vom Endowment-Effekt gehört haben, bitte beschreiben Sie ihn kurz. Ansonsten gehen Sie bitte weiter zur nächsten Frage.	
Bitte schätzen Sie ein, wie viel ein vergleichbarer USB-Stick (2GB) durchschnittlich im Geschäft kostet.	_____ €

	gar nicht attraktiv				sehr attraktiv
Wie attraktiv war der verwendete USB-Stick (2GB) für Sie?	1	2	3	4	5

Vielen Dank für Ihre Teilnahme!

B. English Survey Version

I. Introduction - buyer

Dear Participants,

Thank you for supporting the research at the University of Vienna and my master thesis. The materials and money used in this project are financed by a scholarship.

The following study consists of three independent parts. In the first one I ask you to write a short text. Next, you will be asked to make decisions in a specific economic situation. The last part is about valuing statements. The processing time is about 10 minutes.

Please try to read all instructions carefully and be honest and spontaneous when answering questions. All your data will be handled confidentially and anonymously and will not allow conclusions about who you are. You are allowed to terminate the study at any point without further explanation. If questions occur do not hesitate to ask me.

You are now presented an USB flash drive (2 GB). Throughout the study you will have the possibility to either receive this USB flash drive or an amount of money up to 10 Euros.

II. Introduction - seller

Dear Participants,

Thank you for supporting the research at the University of Vienna and my master thesis. The materials and money used in this project are financed by a scholarship.

The following study consists of three independent parts. In the first one I ask you to write a short text. Next, you will be asked to make decisions in a specific economic situation. The last part is about valuing statements. The processing time is about 10 minutes.

Please try to read all instructions carefully and be honest and spontaneous when answering questions. All your data will be handled confidentially and anonymously and will not allow conclusions about who you are. You are allowed to terminate the study at any point without further explanation. If questions occur do not hesitate to apply to me.

You are now receiving an USB flash drive (2 GB) for participating in this study. It is yours now. Throughout the study you will have the possibility to trade it for an amount of money up to 10 Euros.

III. Manipulation - collectivism

During the next two minutes, please write down what you have in common with other people (e.g., with friends, family etc.)

[illegible]

IV. Manipulation - individualism

During the next two minutes, please write down what makes you different from other people (e.g., from friends, family etc.)

V. Manipulation - control group

During the next two minutes, please describe your way to work or to university

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

VI. Instruction for pricing - buyer

At the beginning of the study, you were presented an USB flash drive (2GB). Now you have the possibility to buy this flash drive. Therefore, I ask you to indicate which price you are willing to pay for the flash drive. Please look at the scale on the next page and mark all prices with **YES** sequentially until you reach the first price, for which you do not want to buy the flash drive for and mark this and the following prices with **NO**.

HINT: To find out at which price you will buy the USB flash drive, a 20-sided die will be casted once. Each side of the die corresponds to one price on the scale (1-20). The result of the toss will be compared to your indication (**YES** or **NO**) at the particular price. If you have marked the casted price with **YES** you will receive the USB flash drive. If you have marked the casted price with **NO** you will receive the casted price. Please consider how much the flash drive is personally worth to you and at which price you want to buy it.

If you still have any questions according to this procedure, do not hesitate to ask me.

VII. Instruction for pricing - seller

At the beginning of the study, you were given an USB flash drive (2GB). Now you have the possibility to sell this flash drive. Therefore, I ask you to indicate which price you demand for the flash drive. Please look at the scale on the next page and mark all prices with **YES** sequentially until you reach the first price, for which you do not want to sell the flash drive for and mark this and the following prices with **NO**.

HINT: To find out at which price you will sell the USB flash drive, a 20-sided die will be casted once. Each side of the die corresponds to one price on the scale (1-20). The result of the toss will be compared to your indication (**YES** or **NO**) at the particular price. If you have marked the casted price with **YES** you will receive the casted price. If you have marked the casted price with **NO** you will keep the flash drive. Please consider how much the flash drive is personally worth to you and at which price you want to sell it.

If you still have any questions according to this procedure, do not hesitate to ask me.

VIII. Price elicitation scale - buyer

Please mark for each price whether you want to buy the USB flash drive (**YES**) or not (**NO**).

I would buy the USB flash drive for...	YES	NO
(1) € 0.50	☐	☐
(2) € 1.00	☐	☐
(3) € 1.50	☐	☐
(4) € 2.00	☐	☐
(5) € 2.50	☐	☐
(6) € 3.00	☐	☐
(7) € 3.50	☐	☐
(8) € 4.00	☐	☐
(9) € 4.50	☐	☐
(10) € 5.00	☐	☐
(11) € 5.50	☐	☐
(12) € 6.00	☐	☐
(13) € 6.50	☐	☐
(14) € 7.00	☐	☐
(15) € 7.50	☐	☐
(16) € 8.00	☐	☐
(17) € 8.50	☐	☐
(18) € 9.00	☐	☐
(19) € 9.50	☐	☐
(20) € 10.00	☐	☐

IX. Price elicitation scale - seller

Please mark for each price whether you want to sell the USB flash drive (**YES**) or not (**NO**).

I would sell the USB flash drive for...	YES	NO
(1) € 10.00	☐	☐
(2) € 9.50	☐	☐
(3) € 9.00	☐	☐
(4) € 8.50	☐	☐
(5) € 8.00	☐	☐
(6) € 7.50	☐	☐
(7) € 7.00	☐	☐
(8) € 6.50	☐	☐
(9) € 6.00	☐	☐
(10) € 5.50	☐	☐
(11) € 5.00	☐	☐
(12) € 4.50	☐	☐
(13) € 4.00	☐	☐
(14) € 3.50	☐	☐
(15) € 3.00	☐	☐
(16) € 2.50	☐	☐
(17) € 2.00	☐	☐
(18) € 1.50	☐	☐
(19) € 1.00	☐	☐
(20) € 0.50	☐	☐

X. Manipulation check

Please value the following questions and statements based on the given scale. For each question, mark the number that describes your opinion best. Please answer every single question, otherwise the survey cannot be evaluated.

	not at all				absolutley
I often have the feeling that my relationships with others are more important than my own accomplishments.	1	2	3	4	5
My personal identity independent of others, is very important to me.	1	2	3	4	5
I enjoy being unique and different from others.	1	2	3	4	5
I stay in a group if they need me, even when I am not happy with the group.	1	2	3	4	5

XI. Religiosity

	not at all				highly
How religious are you?	1	2	3	4	5
How spiritual are you?	1	2	3	4	5
How much do you believe in the teachings of your religion?	1	2	3	4	5
How much do you practice the requirements of your religion?	1	2	3	4	5
How important as part of your identity is your religion or faith to you?	1	2	3	4	5
If someone wanted to understand who you are as a person, how important would your religion or faith be in that?	1	2	3	4	5
Which religion do you belong to?	☐ Christianity ☐ Islam ☐ Judaism ☐ Buddhism ☐ Hinduism ☐ Others, namely: _____ ☐ I do not belong to a religious community.				

XII. Reasons for poverty

In your view, how often is each of the following factors a reason why there are poor people in Austria today?

	never				very often
Lack of ability or talent	1	2	3	4	5
Bad luck	1	2	3	4	5
Lack of effort by the poor themselves	1	2	3	4	5
People affected by poverty lack in morale	1	2	3	4	5
Prejudice and discrimination against certain groups leads to poverty among its members.	1	2	3	4	5
Lack of equal opportunity	1	2	3	4	5
Failure of the economic system	1	2	3	4	5

XIII. Reasons for wealth

In your view, how often is each of the following factors a reason why there are rich people in Austria today?

	never				very often
Having the right connections	1	2	3	4	5
Dishonesty of rich people	1	2	3	4	5
Luck	1	2	3	4	5
Hard work	1	2	3	4	5
Ability or talent	1	2	3	4	5
More opportunities to begin with	1	2	3	4	5
The economic system which allows to take unfair advantage	1	2	3	4	5

XIV. Equality

	not at all				in all aspects
In your view, should men and women have equal rights in Austria?	1	2	3	4	5
In your view, should natives and foreigners have equal rights in Austria?	1	2	3	4	5
In your view, should homosexual and heterosexual people have equal rights in Austria?	1	2	3	4	5

XV. Demographics

Finally, I would like to ask you for the following demographic information:

Gender	☐ female ☐ male
Age	_____ years
highest educational attainment	☐ No graduation ☐ Compulsory education ☐ Apprenticeship certificate ☐ Higher school without qualification for university entrance ☐ Higher school with qualification for university entrance ☐ Bachelor ☐ Master ☐ Doctorate or PhD ☐ Other, namely _____
current working status	☐ Pupil ☐ Student ☐ Employed ☐ Self-employed ☐ Unemployed ☐ Retired ☐ Maternity/paternity leave ☐ Housewife/Househusband
If you are a student, what is your major?	_____
What is your monthly net income? (incl. salary, aids, scholarships etc.)	_____ €

XVI. Control items

Have you ever heard about the Endowment effect?	☐ yes ☐ no
If you have, please describe it. Otherwise please skip to the next question.	
Please guess how much a comparable USB flash drive (2 GB) would be in a store.	_____ €

	not attractive				very attractive
Please rate the USB flash drive on attractiveness.	1	2	3	4	5

Thank you for your participation!

EIDESSTATTLICHE ERKLÄRUNG

Ich versichere, dass ich die Diplomarbeit ohne fremde Hilfe und ohne Benutzung anderer als der angegebenen Quellen angefertigt habe, und dass die Arbeit in gleicher oder ähnlicher Form noch keiner anderen Prüfungsbehörde vorgelegen hat. Alle Ausführungen der Arbeit, die wörtlich oder sinngemäß übernommen wurden, sind als solche gekennzeichnet.

Wien, am _____

Unterschrift _____

CURRICULUM VITAE

Persönliche Daten

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Ausbildung

seit 10/2013 **Masterstudium Psychologie, Universität Wien**
Angewandte Psychologie: Arbeits-, Organisations- und Wirtschaftspsychologie

10/2009 - 06/2013 **Bachelorstudium Psychologie, Universität Wien**

2001 - 2009 **Bundesgymnasium und Bundesrealgymnasium Mattersburg**

Außeruniversitäre Weiterbildung

2014 **Absolvierung European Business Competence Licence (EBC*L),
Level A**

Bisherige Berufserfahrung

seit 09/2013 **VCG Vienna Consulting Group GmbH (Angestellte)**
Organisations- und Veranstaltungsmanagement sämtlicher Seminare und Workshops, Buchhaltung, Kundenkommunikation

seit 12/2012 **Project Management Liegenschaftsverwaltung GmbH (Angestellte)**
Bürotätigkeit

10/2015 - 01/2016 **Institut für Angewandte Psychologie: Arbeit, Bildung, Universität Wien (wissenschaftliche Projektmitarbeiterin)**
Vorbereitung einer Meta-Analyse, Durchführung von Mediationsanalysen, Mithilfe bei Laborexperimenten

- 07/2015 - 09/2015 **Institut für Angewandte Psychologie: Arbeit, Bildung, Universität Wien (Praktikantin)**
Auswertung quantitativer und qualitativer Daten, Mithilfe bei Datenerhebung, Literaturrecherche und Textbearbeitung
- 10/2014 - 01/2015 **Institut für Angewandte Psychologie: Arbeit, Bildung, Universität Wien (Volontärin)**
Unterstützung bei Datenerhebungen, statistische Auswertungen
- 05/2012 - 08/2012 **IFES - Institut für empirische Sozialforschung GmbH (Angestellte)**
quantitative Datenerhebung zu diversen Projekten
- 09/2010 - 03/2011 **BIPA Parfümerien GmbH (Angestellte)**
Kassen- und Regalbetreuung

Kenntnisse

Sprachen	Deutsch:	Muttersprache
	Englisch:	C1
	Französisch:	A2
EDV	Organisation:	Microsoft Office
	Statistik & Forschung:	Unipark, SPSS, SPSS Amos, PROCESS, NVivo