The Influence of Price Anchoring on Scope Insensitivity and the Subjective Valuation of Market Goods.

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Abstract

The present study examines the influence of price anchoring on scope insensitivity and the subjective valuation of market and non-market goods. To study the underlying factors of scope insensitivity and subjective valuation, manipulations were performed on the basis of presentation of the stimuli, scope of the stimuli and position of default prices. A sample of 313 subjects participated in the online questionnaire. The results show that scope sensitivity was found for the subjective valuation of market goods. Participants would be willing to pay more money to obtain four similar products in comparison to one product. In accordance with contingent valuation (CV) method, scope insensitivity was found for the valuation of non-market goods. Participants indicated they would be willing to donate an equal amount of money for the rescue effort of either one or four pandas. Whether the stimuli were presented using an affect-rich presentation mode or an affect-poor presentation mode did not have an influence on subjective valuation. In contrast, presenting the stimuli with affective pictures did have an positive influence on the emotional evaluation of the non-market good. Finally, the position of the default price did not have an influence on subjective valuation and therefore did not serve as an price anchor. These findings may allow for a novel interpretation of how the profound differences between market and non-market goods could elucidate the underlying constructs of subjective valuation.

Keywords: scope insensitivity, valuation by calculation, valuation by feeling, nudging, defaults, economic value, market goods.

1. Introduction

1.1 Subjective valuation

Would a consumer find two pairs of shoes more attractive than one pair of shoes? If so, how much more attractive would these pair of shoes become when their magnitude increases? And how much more would a consumer be willing to pay to obtain an additional pair of shoes? The understanding of how changes in the magnitude of a stimulus influence how people subjectively valuate that stimulus illuminates the broader processes of decision making and social judgement (Hsee, Rottenstreich, & Xiao, 2005). Therefore, this relationship between magnitude and subjective value has been of great interest for researchers. Hsee and Rottenstreich (2004) examined this relationship and found that whether people are sensitive to the scope of a stimulus depends on the type of valuation that is being addressed. In their study, they distinguish two psychological processes people might use to determine the value of a stimulus: valuation by calculation and valuation by feeling.

First, Hsee and Rottenstreich (2004) state that when people determine the value of a stimulus based on calculation, they show a relatively constant sensitivity to the scope of a stimulus. The relationship is depicted in Figure 1 (dotted line). When the scope of a stimulus changes, this will directly have a positive influence on the calculated value of that stimulus. People consider the typical cost or worth of single product and then multiple this amount by the number of products. The corresponding value function is therefore relatively steep. Valuation by calculation is based on a deliberate and rule-based mode of thought and explicitly considers both the nature of the stimulus and its scope. Hence, it is expected that people would be willing to pay more for multiple similar products in comparison to one product.

Secondly, Hsee and Rottenstreich (2004) conclude that when people determine the value of a stimulus based on feeling, they are only sensitive to the presence or absence of that particular stimulus. However, when the scope of the stimulus increases people show an

insensitivity to scope. This relationship is depicted in Figure 1 (solid line). Sensitivity to the presence of a stimulus yields an initial rise in the value function. However, when the number of stimuli increases, the corresponding value function remains relatively flat and represents scope insensitivity. Valuation by feeling strongly considers the nature of the stimulus without considering its scope and is based on an associative and affect based mode of thought. In determining the value of a product, people rely on the feelings the product evokes and these feelings will be independent of the amount of products. Feelings could be evoked by someone's personal attitude towards the product. Moreover, valuation by feeling could be stimulated by the presentation mode of the stimulus. It is found that pictures of a stimulus evokes more emotions in comparison presenting no pictures of the stimulus (Hsee & Rottenstreich, 2004). Hence, it is expected that people would address a higher willingness to pay for a product that is presented in an affect-rich presentation mode (e.g., pictures) in comparison to when the same product is presented in an affect-poor presentation mode (e.g., no pictures).

1.2 Contingent valuation

Previous studies have investigated the relationship between magnitude and valuation using the contingent valuation (CV) method (Frederick & Fischhoff, 1998). This method is frequently used to examine the valuation of goods that are not traded directly in markets, also known as non-market goods such as public goods or environmental amenities (e.g., preservation of endangered species). However, measures of value elicited by this method sometimes appear insensitive to the scope of the good being offered for hypothetical sale.

For example, Desvousges and colleagues (1993) asked participants to decide how much money they would donate to save either 2,000, 20,000 or 200,000 migrating birds from drowning in oil ponds. It was found that when the magnitude of the endangered birds increased, participants were not substantially willing to donate more money (e.g., $80, $78, $88). Their

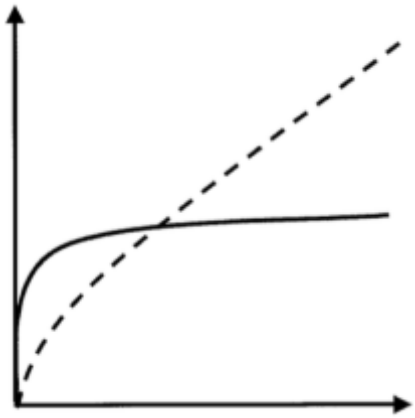

Figure 1. Value function based on feeling (solid line) and based on calculation (dotted line). The *x*-axis represents the scope of a stimulus and the *y*-axis the subjective value of a stimulus. Reprinted from "Music, pandas, and muggers: on the affective psychology of value," by C. K. Hsee, Y. Rottenstreich, 2013, *Journal of Experimental Psychology: General*, *133*(1), p. 23. Copyright 2004 by the American Psychological Association, Inc.

findings indicated scope insensitivity and it is argued that the idea of the endangered birds evoked affective reactions which formed the basis of the decision how much people would be willing to donate (Kahneman, Ritov, Schkade, Sherman, & Varian, 1999). In short, these affective reactions stimulated a valuation based on feelings and therefore caused insensitivity to scope.

The CV method is a contentious debate often centered around the issue of scope insensitivity. Opponents of CV have claimed that scope insensitivity questions the validity of the method (Frederick & Fischhoff, 1998). They argue that contingent valuation does not represent the economic value of a good, but rather reflects the willingness to pay for the moral satisfaction of contributing to public goods (Kahneman & Knetsch, 1992). On the contrary, proponents of CV have either argued that scope insensitivity is consistent with economic theory since this theory argues that for each additional unit of a good the marginal value of that good diminishes (Frederick & Fischhoff, 1998). Therefore, willingness to pay for a small number of goods might not be substantially different in comparison to the willingness to pay for a large number of goods. Baron and Greene (1996) have stated that findings of scope insensitivity do not necessarily indicate an invalid method, but rather that the method is not implemented

properly. Three findings will be discussed that could support this statement. First, it was concluded that respondents within CV studies are not familiar enough with the price of non-market goods to determine a willingness to pay (Frederick & Fischhoff, 1998). Second, CV studies do not always provide respondents with the efficient details about the features of the product as well as about the hypothetical market. Therefore, respondent might lack sufficient knowledge to properly imagine the contingent market and their willingness to pay (Frederick & Fischhoff, 1998). Based on previous mentioned findings, it could be argued that it is necessary to examine the relationship between scope insensitivity and subjective valuation in a context where respondents are more acquainted with objects and their economic value (e.g., market goods) and are therefore more able to determine their willingness to pay. This could shed new light on this ongoing debate.

Finally, a third suggestion could be made based on the statement that the method of CV is not always implemented appropriately. Namely, it could be argued that the information was deliberately presented in a manner to nudge the participants and influence their valuation process. Possibly, nudging might be an alternative explanation that could account for the found pattern of scope sensitivity in subjective valuation. For example, in the third study of Hsee and Rottenstreich (2004) participants were asked how much they would be willing to donate for a rescue effort to save either one or four endangered pandas (i.e., non-market good). Participants were either assigned to the affect-rich condition (i.e., presentation of cute panda pictures) which was used to activate valuation by feeling, or assigned to the affect-poor condition (i.e., presentation of black dots representing the pandas) which was used to activate valuation by calculation. Afterwards, participants were asked to determine how much money they would be willing to donate using a price scale (i.e., $0, $10, $20, $30, $40 and $50).

This scale was deliberately placed above the table with either the affect-rich stimuli or affect-poor stimuli. This was to ensure that the $10 option was above the first stimuli, the $20

option was above the second stimuli, and so forth. "*This placement was meant to make a "one panda merits $10" modulus salient*" (Hsee & Rottenstreich, 2004, p. 26). Considering the way the information was presented during the experiment, it could be argued that not only the presentation and scope of the stimuli had an influence on scope insensitivity, but rather that the specific arrangement of the presented information in relation to the response scale might have nudged the participants in making their decisions. Therefore, the current research will examine whether the participants were being nudged and if this might account for the findings on scope sensitivity.

1.3 Nudging

Nudging is defined as: "*any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives*" (Regulating, 2011, p. 263). The presentation of social and physical environments is deliberately altered to make certain behaviors more likely. The working of nudging is based on the dual process model, which states that human behavior is shaped by two systems of reasoning (Kahneman & Frederick, 2002). System 1 processes are described as an automatic system requiring little cognitive engagement and are driven by immediate feelings and triggered by the environment. System 2 processes are described as a reflective system that requires cognitive capacity. Nudges have shown to be effective, because they activate system 1 and make it possible to influence certain behaviors without conscious awareness (Regulating, 2011).

There are a variety of nudging approaches to make a certain decision more salient. One approach is social norm feedback, where information is provided about what others are doing to make a certain type of behavior more salient (Regulating, 2011). Persuasive normative messages could be used to increase the saliency of social norms and therefore make the desired

behavior more likely. Goldstein, Cialdini, and Griskevicius (2008) examined which type of messages would be most effective to encourage environmental friendly behavior. They found that using the persuasive normative message *"Join your fellow citizens in helping to save the environment"* (Goldstein, Cialdini, & Griskevicius, 2008, p. 476) was substantially more effective in encouraging the re-usage of towels in comparison to a standard environmental message. Furthermore, emphasizing that 75% of the guests who had stayed in the same room had reused their towels was even more successful.

Moreover, nudging is associated with choice architecture, which states that there are multiple possibilities to present a choice and that the choice a decision-maker eventually makes strongly depends upon the specific presentation of that choice (Johnson, 2012; Balz, Thaler, & Sunstein, 2014). It is possible that the architecture of the possible choices given in the study of Hsee and Rottenstreich (2004) to determine a donation amount had an influence on the decisions made by the participants. Therefore, the present study will investigate whether the concrete version of how choices were presented in the study of Hsee and Rottenstreich (2004) was responsible for the found pattern of results. Moreover, it will be investigated whether the implementation of an additional nudge might have a positive influence on the results and could therefore explain the found relationship between magnitude and presentation on subjective valuation.

1.4 Default choice and price anchoring

Another nudging approach to make a certain decision more salient is the implementation of default options. Defaults are the pre-set options consumers will receive unless they make an active choice to change the default and decide on an alternative (Park, Jun, & MacInnis, 2000; Brown & Krishna, 2004). They play a crucial role in the decision-making process irrespective of the type of product as well as of the characteristics of the consumers (Johnson, Bellman, &

Lohse, 2002). Substantial evidence has been found that defaults could increase the likelihood that a particular item is chosen (Johnson et al., 2002; Park et al., 2000).

For instance, defaults are commonly used for organ donation registration. Within this field, two types of defaults are used: action default and no-action defaults. The first one implies that people need to actively sign up when they want to be an organ donor. The second one indicates that people are automatically registered as organ donors unless they actively choose otherwise and sign out. Johnson and Goldstein (2003) found that implementing no-action defaults made a real difference by substantially increasing the amount of donors a year. Defaults are successful when people have a favorable attitude towards the default option. Moreover, they are effective since they could be interpreted as a recommendation by policy-makers and often correspond with the status quo where change usually involves trade-off and could be seen as a loss (Johnson & Goldstein, 2003). It has been shown that losses loom larger than the equivalent gains and people are therefore motivated to avoid losses and choose for default (loss aversion; Kahneman & Tversky, 1979). Two additional explanations for the influence of defaults are presented based on imposed perceptual biases: attention-based default effects and default effect due to processing distortion (Brown & Krishna, 2004).

Attention-Based Default Effects: Consumers may use defaults heuristically to reduce the cognitive effort required to reach a decision (Johnson et al., 2002). Accepting the default is an effortless process whereas changing the default requires physical and cognitive effort (Johnson & Goldstein, 2003). The default diverts attention towards the designated alternative and away from thorough consideration of the undesignated alternatives. However, the strength of the default varies depending on which alternative is given the default designation (Brown & Krishna, 2004).

Default Effects due to Processing Distortions: Park and colleagues (2000) suggest that consumers anchor on the default option and simply fail to adjust sufficiently away from the

anchor and towards their personal preference. This could be attributed to an anchoring and adjustment process. Consumers treat the default option as the focus of comparison and are therefore more drawn to the default option, which is evaluated more favorable in comparison to the alternative options (Dhar & Simonson, 1992).

Moreover, the influence of price defaults on the decision making process is investigated. Herrmann and colleagues (2011) asked to create their own racing bike using a fully simulated bike configurator. They found that defaults serve as an anchor by increasing the sale of levels in their proximity. For example, setting the default of a bike feature at the lowest price will serve as an reference point where people will hardly move away from. Moving the default of one feature (e.g., the wheels of a racing bike) from the lowest to the highest level resulted in an increase in sales due to the higher reference point.

Hence, it is important to examine whether scope sensitivity could be explained by subjective valuation or whether the specific arrangement of the information might serve as a nudge deliberately influencing scope sensitivity. Therefore, it will be investigated whether the implementation of default prices might have a direct influence on subjective valuation and could therefore explain the found pattern of scope sensitivity.

1.5 Overview of current research

The current research investigates subjective valuation and scope insensitivity in a more applied and realistic setting in comparison to existing literature. This setting is created by examining the subjective valuation of market goods. Participants will be more acquainted with the economic value of the market goods and are therefore more able to determine their willingness to pay for the products in comparison to non-market goods (Frederick & Fischhoff, 1998). Therefore, two market goods will be implemented in this study to examine subjective valuation and scope insensitivity. Furthermore, elements of the study design of Hsee and

Rottenstreich (2004) as well as the panda stimulus will be adopted in the present study to compare the findings of both studies. This non-market good will serve as a baseline to benchmark the results.

Firstly, the manipulation of scope will be included and it is expected that participants are willing to pay substantially more in a high scope condition (i.e., four products) in comparison to a low scope condition (i.e., one product) (Hsee & Rottenstreich, 2004). Secondly, the mode of presentation will be manipulated and it is expected that participants are willing to pay substantially more when pictures of the product are presented (i.e., affect-rich) in comparison to when dots represent the product (i.e., affect-poor). Furthermore, it is expected that participants will be insensitive to variations of scope in the affect rich condition, whereas participants will be sensitive to variations of scope in the affect poor condition (Desvousges et al., 1993; Hsee & Rottenstreich, 2004; Kahneman et al., 1999).

Not only will the present study refer to different contexts, but a new study design will also allow to investigate whether the found pattern of subjective valuation in the study of Hsee and Rottenstreich (2004) could be explained by the specific arrangement of the information. The aim of this study is to investigate whether the influence of a default choice might serve as an price anchor for subjective valuation and decision making. To examine this relationship, a default condition will be included with three price anchors (i.e., high default, low default, no default). It is expected that when the default is set at the highest price, this will serve as a reference point and people will be more likely to determine their willingness to pay in the proximity of the high default price (Herrmann et al., 2011).. In short, people will be willing to pay substantially more money in the high default condition in comparison to the low default condition.

1.6 Hypothesis

1. Participants are willing to pay substantially more in a high scope condition (4 products) in comparison to a low scope condition (1 product).
2. Participants are willing to pay substantially more in an affect-rich condition (pictures presented) in comparison to an affect-poor condition (dots presented).
3. Participants will be insensitive to variations of scope in the affect rich condition, whereas participants will be sensitive to variations of scope in the affect poor condition.
4. Participants will be willing to pay substantially more money in the high default condition in comparison to the low default condition.

A pre-test was performed to select market goods which resemble the emotional evaluation of the panda stimulus. The findings of the pre-test will be described and the chosen products will be presented. The method of the main study will be discussed followed by the findings of the study in the result section. Afterwards, the findings are discussed and the limitations of the study, recommendations for future research, and practical implications will be addressed.

2. Method

Pre-test

First, a pre-test was performed in order to investigate which market good was emotionally charged and desirable in the eyes of participants. This was examined by adopting the affect-rich condition of the study of Hsee and Rottenstreich (2004). Moreover, another requirement for the chosen products was that participants would be willing to pay more for multiples of the same product (scope 4) in comparison to one product (scope 1). This is an important pre-condition for studying scope sensitivity. Furthermore, the panda from the third study of Hsee and Rottenstreich (2004) was included as a control product.

2.1 Participants

In total, 40 participants were included in the pre-test study, and no participants were excluded. Participants were aged between 21 and 58 years (M = 29.03, SD = 10.58).

2.2 Design

The pre-test was a between subjects design in which participants were assigned to one of two conditions [scope 1, scope 4]. The scope variable concerned the number of products participants could obtain, which was either one or four products.

2.3 Procedure

In total, the pre-test consisted of 12 market goods and one non-market good. Participants were presented with a descriptions of the products as well as with either one of four pictures representing the product. Participants were asked to indicate their willingness to pay for each products, how much positive emotions the products elicits and how desirable the products were. For an comprehensive overview of the design of the pre-test study and the included goods, see *Appendix A*.

3. Results

The average score per scope condition for *willingness to pay* (WTP), *positive emotions* and *desirableness* are presented in Table 1. Two one-way repeated measures of variances (ANOVA) were conducted to (a) measure scope sensitivity and willingness to pay, and (b) to measure to what extend the products were emotionally charged.

Willingness to pay. The participants were willing to pay significantly more for some products in comparison to others[1], F (3.153, 456) = 112.45, p < .001, η^2 = .747.

Table 1

Summary of the Means and Standard Deviations on Willingness to Pay, Positive Emotions and Desirableness for the Scope Condition for each Product in the Pre-Test.

Product	**Scope**	**WTP**	**SD**	**Emotion**	**SD**	**Desire**	**SD**
Paris	1	153.75	68.304	7.53	1.019	6.40	1.924
	4	369.45	135.576	7.28	1.019	6.10	2.198
Diner	1	46.75	22.669	7.03	1.067	6.63	1.180
	4	129.5	88.821	7.15	0.933	6.43	1.887
Wine bottle	1	8.32	4.3120	6.55	1.905	5.40	2.458
	4	43.00	62.857	6.40	2.062	5.83	2.267
Sport	1	15.63	8.180	5.85	2.471	4.85	2.978
	4	66.75	42.528	6.23	1.977	5.35	2.390
Cinema	1	7.18	1.719	6.93	2.196	5.95	2.743
	4	27.50	9.225	7.23	0.952	6.90	1.334
Concert	1	42.30	16.384	7.68	1.608	6.88	2.449
	4	160.50	87.583	7.70	1.129	7.15	1.872
Lottery ticket	1	9.88	4.460	4.95	2.417	4.13	2.427
	4	30.25	25.725	5.95	1.986	5.15	2.134
Chocolate bar	1	2.29	1.121	5.60	2.437	4.35	2.346
	4	8.48	4.096	6.00	2.000	4.95	2.395
Teddy bear	1	4.83	4.253	4.67	2.660	2.40	1.847
	4	18.90	15.207	4.90	2.315	3.23	2.308
Theme park	1	18.83	6.773	6.43	1.995	5.50	2.212
	4	67.00	22.907	6.80	1.795	6.10	2.245
Stand-up comedy	1	13.50	5.071	7.60	1.474	7.13	1.820
	4	64.35	38.751	7.20	1.281	6.65	1.424
Massage	1	23.85	11.231	7.55	1.701	7.15	1.814
	4	86.25	44.600	7.80	1.005	7.53	1.371
Panda donation	1	11.10	10.929	6.05	1.798	4.88	2.339
	4	37.15	43.488	6.85	2.110	5.50	2.417

A series of pairwise comparisons revealed that participants would be willing to pay significantly the most for Paris (M = 261.60, SD = 16.97) followed by concert (M = 101.40, SD = 9.96), diner (M = 88.13, SD = 10.25), and massage (M = 55.05, SD = 5.14).

Consequently, the ANOVA results also indicated a significant interaction effect between *WTP* and condition, F (3.153, 456) = 19.50, $p < .001$, $\eta^2 = .339$, indicating that the

participants were sensitive to the scope of the products and would be willing to pay significantly more money for four similar products in comparison to one product.

Emotionally charged. The sum of the means of the dependent variables *positive emotions* and *desirableness* per product was computed to examine the emotional evaluation of the products. The participants significantly evaluated some products more emotionally charged in comparison to others[2], F (9.45, 359.07) = 15.53, $p < .001$, $\eta^2 = .29$.

A series of pairwise comparisons revealed that both the evaluation of massage (M = 7.51, *SD* = 1.40) as well as concert ticket (*M* = 7.35, *SD* = 1.71) were significantly higher than the evaluations of sport subscription (*M* = 5.57, *SD* = 2.34), lottery ticket (*M* = 5.04, *SD* = 2.20), chocolate bar (*M* = 5.23, *SD* = 2.18), teddy bear (*M* = 3.80, *SD* = 2.17) and panda donation (*M* = 5.82, *SD* = 2.00). Moreover, no significant differences were found between the emotional evaluation of massage and concert in comparison to the remaining products (i.e., Paris, diner voucher, wine bottle, cinema ticket, concert ticket and stand-up comedy night).

4. Discussion

The requirements for the products in the main study firstly entailed that the participants needed to be willing to pay significantly more for the product in the scope 4 condition in comparison to the scope 1 condition. All products met this first requirement. Based on willingness to pay, the city trip to Paris was chosen since the participants would be willing to pay significantly more for this product in comparison to all other products. Secondly, the product needed to be emotionally charged and therefore evaluated significantly higher in comparison to the other products. Based on the results, the products massage and concert were evaluated significantly high and are therefore proposed. Eventually, the product massage was chosen for the main study. Massage and Paris were evaluated similar on emotional level and it could be argued that Paris and massage are distinct products making it interesting to examine these products in the main study. First, both products have a significantly different willingness

to pay and therefore it could be argued that these products have a different price category. Second, the products could be regarded as two different types of products. Paris could be considered a travel product whereas massage could be considered a beauty product.

In total, three products were included in the main study, namely a city trip to Paris with overnight stay, massage voucher to use at a spa resort, and the control product (i.e., donation to rescue endangered pandas).

5. Method

Study 1

5.1 Participants

The study was distributed online using a link and participants were recruited through social media websites (i.e., Facebook and LinkedIn) and e-mail. In total, 378 participants participated in this study, and 65 participants were excluded from this study since they did not complete the questionnaire. The exclusion criteria was: not fulfilling the questions regarding the valuation and evaluation of at least one of the three products. In the final sample 313 participants were included. People between 18 and 75 years old participated in the study (M = 38.25, SD = 15.21) and 71.3% of the participants was female. Based on the G* power calculation, the proposed sample size of 288 participants for the ANOVA repeated measures between factors was calculated (α = .05, ß = .95, η^2 = .25). The final sample exceeded the proposed target sample.

5.2 Design

Participants were randomly assigned to one of twelve conditions. The study was a 2 (scope: 1 versus 4) x 2 (presentation: affect-rich versus affect-poor) x 3 (default: no default,

low default and high default) between subjects design. The scope variable concerned the number of products participants had to valuate, which was either one or four products. Participants were shown a table indicating the number of products.

Presentation was either affect-rich or affect-poor. In the affect-rich conditions, the table contained either one picture (scope 1) or four identical pictures of the product (scope 4). In the affect-poor condition, the table included either one (scope 1) or four dots (scope 4). The width of the images (i.e., pictures and dots) in the scope 1 condition were adjusted so that all images ended above the second lowest price option on the price scale. The width of the images (i.e., pictures and dots) in the scope 4 condition were adjusted so that the four images next to each other would end above the highest price option on the price scale in order to stimulate that 4 products merits the highest price on the price table.

The position of the default choice was implemented on the price scale and either set at the lowest price €0,- or at the highest price. Depending on the product, different price scales were presented (i.e., Paris €0 - €600; massage €0 – €200; and panda €0 - €100). The highest price of each scale was based on the indicated maximum amount of Euro's (€) participants were willing to pay for that product in the pre-test. Moreover, within the third condition no defaults were implemented. The no-default condition was implemented in order to keep the conditions of the present study equivalent to the study of Hsee and Rottenstreich (2004).

5.3 Procedure

The presentation order of the products was randomized to control for the presentation order of the survey. For an comprehensive overview of the survey design, see *Appendix B.* Here, a survey example of condition 9^3 is presented. For each product, the structure of the questions was equal. Firstly, participants were presented with a description of the product. Based on the assigned condition, the description of the product was adjusted to fit the scope of the product.

Below each description either one or four images were presented to represent the product. For an overview of the descriptions and images of the products, see *Appendix C*.

Moreover, for each product the participants answered three questions regarding the valuation and evaluation of the product. First, participants were asked to indicate how much they would be willing to pay to obtain the product on the price scale. In case of the panda, participants were asked how much they would be willing to donate to save the panda. Moreover, participants were asked to address how much positive emotions the presented product elicited and how desirable the product was to them. Afterwards, participants answered some general question about their attitude towards donations, the amount of money they donate to charity, the average amount of money they have at their disposal. This question was included to control for the influence of income on willingness to pay. Finally, participants answered some demographic questions regarding gender, age, and highest completed educational level. See *Appendix D* for a comprehensive overview of the general questions.

6. Results

For all twelve conditions, mean scores were computed per product for the three dependent variables *willingness to pay* (see Table 2), *positive emotions* (see Table 3) *and desirableness* (see Table 4). The Bonferroni correction was used as an adjustment for multiple comparisons. These results are discussed consecutively below.

A factorial between groups analysis of variance (ANOVA) was computed to examine the influence of the independent variables scope, presentation and default on the dependent variables *willingness to pay*, *positive emotions* and *desirableness* for the products Paris, massage and panda.

Table 2

Summary of Means and Standard Deviations for the scores on Willingness to Pay for the products Paris, Massage and Panda presented per condition.

Condition	Scope	Presentation	Default	Paris	SD	Massage	SD	Panda	SD
1	1	pictures	no	186.34	102.032	33.48	16.724	25.38	27.051
2			low	168.95	97.431	37.95	39.288	19.77	22.625
3			high	167.96	90.590	48.71	29.692	21.86	24.669
4		dots	no	150.65	56.794	36.00	25.513	26.91	33.291
5			low	174.60	55.455	40.75	28.347	27.50	20.366
6			high	182.10	98.054	38.03	23.855	21.93	20.969
7	4	pictures	no	286.54	127.261	71.58	46.058	21.96	17.319
8			low	258.34	143.360	59.00	39.560	24.10	25.117
9			high	254.22	162.338	72.15	48.524	19.59	19.786
10		dots	no	301.50	147.673	84.19	54.177	15.58	18.065
11			low	277.52	141.954	78.69	40.554	24.55	27.189
12			high	286.35	110.733	64.35	34.575	20.04	23.562

Table 3

Summary of Means and Standard Deviations for the scores on Positive Emotions for the products Paris, Massage and Panda presented per condition.

Condition	Scope	Presentation	Default	Paris	SD	Massage	SD	Panda	SD
1	1	pictures	no	7.07	1.889	6.1	2.076	5.59	2.292
2			low	6.77	1.974	5.73	2.511	6.27	2.292
3			high	7.14	1.297	7.25	1.777	6.14	2.189
4		dots	no	6.22	1.999	5.48	2.391	5.61	2.554
5			low	7.3	1.75	6.45	2.395	6.15	2.681
6			high	7.27	1.68	5.7	2.521	5.5	2.162
7	4	pictures	no	6.79	1.793	5.88	2.437	6.71	1.922
8			low	6.76	1.958	5.41	3.03	5.93	2.154
9			high	6.59	1.886	6.22	2.207	5.93	1.979
10		dots	no	6.88	2.179	6.58	2.043	5,00	2.771
11			low	7.17	1.071	6.72	2.034	5.28	2.359
12			high	7.23	1.773	5.96	2.457	4.81	2.514

Table 4

Summary of Means and Standard Deviations for the scores on Desirableness for the products Paris, Massage and Panda presented per condition.

Condition	Scope	Presentation	Default	Paris	SD	Massage	SD	Panda	SD
1	1	pictures	no	6.52	2.064	5.59	2.292	5.24	2.559
2			low	5.82	2.26	6.27	2.292	5.18	2.805
3			high	5.79	2.872	6.14	2.189	6.21	2.529
4		dots	no	5.87	2.029	5.61	2.554	5.17	2.622
5			low	6.4	2.01	6.15	2.681	5.8	2.707
6			high	6.37	1.732	5.5	2.162	4.87	2.543
7	4	pictures	no	6.17	2.408	6.71	1.922	5.17	2.632
8			low	6.38	2.397	5.93	2.154	4.93	3.161
9			high	6.11	2.118	5.93	1.979	6.11	2.342
10		dots	no	5.65	2.741	5,00	2.771	5.96	2.49
11			low	6.03	1.991	5.28	2.359	6.07	2.344
12			high	6.31	2.187	4.81	2.514	5.19	2.698

6.1 Willingness to pay

Paris. The main effect of scope was statistically significant[4], F (1, 301) = 62.10, p < .001, partial η^2 = .17. Participants were willing to pay significantly more for a city trip to Paris with four overnight stays (M = 276.80, SD = 139.04) in comparison to one overnight stay (M = 172.66, SD = 86.92).

The main effect of presentation was not significant, F (1, 301) = 0.39, p = .532, partial η^2 < .001, indicating that participants who were presented with pictures of Paris (M = 220.48, SD = 130.53) were not willing to pay more than participants who were presented with dots representing the city trip to Paris (M = 232.16, SD = 124.71).

The main effect of default was not significant, F (2, 301) = .256, p = .774, partial η^2 = .002, indicating that participants who were presented with the high default price (M = 220.50, SD = 126.39) were not willing to pay more for the city trip to Paris than participants who were presented with the low default price (M = 227.50, SD = 128.27), or with no default price (M = 231.23, SD = 129.34).

Furthermore, no interaction effects were found between scope and presentation, F (1, 301) = 1.04, p = .308, partial η^2 = .003; between scope and default, F (2, 301) = .548, p = .579, partial η^2 = .004; and between presentation and default respectively, F (2, 301) = .552, p = .576, partial η^2 = .004.

Massage. The main effect of scope was statistically significant[5], F (1, 301) = 59.31, p < .001, partial η^2 = .165. Participants were willing to pay significantly more for four identical massage vouchers (M = 71.56, SD = 44.35) in comparison to one massage voucher (M = 39.17, SD = 27.47).

The main effect of presentation was not significant, F (1, 301) = .571, p = .451, partial η^2 = .002, indicating that participants who were presented with pictures of the massage (M = 53.75, SD = 40.06) were not willing to pay more than participants who were presented with dots representing the massage (M = 57.97, SD = 40.88).

The main effect of default was not significant, F (2, 301) = .097, p = .907, partial η^2 = .001, indicating that participants who were presented with the high default price (M = 55.19, SD = 37.09) were not willing to pay more for the massage than participants who were presented with the low default price (M = 56.43, SD = 40.77), or with no default price (M = 55.94, SD = 43.91).

Additionally, no interaction effects were found between scope and presentation, F (1, 301) = 1.39, p = .239, partial η^2 = .005; between scope and default, F (2, 301) = 1.71, p = .183, partial η^2 = .011; and between presentation and default respectively, F (2, 301) = 2.30, p = .102, partial η^2 = .015.

Panda. The main effect of scope was not significant, F (1, 301) = 1.64, p = .281, partial η^2 = .004. Participants were not willing to donate more money for the rescue effort to save four pandas (M = 21.07, SD = 22.22) in comparison to the rescue effort to save one panda (M = 23.75, SD = 24.93).

The main effect of presentation was not significant, F (1, 301) = .056, p = .813, partial η^2 < .001, indicating that participants who were presented with pictures of the panda (M = 22.25, SD = 22.94) were not willing to donate more than participants who were presented with dots representing the panda (M = 22.50, SD = 24.29).

The main effect of default was not significant, F (2, 301) = .449, p = .639, partial η^2 = .003, indicating that participants who were presented with the high default price (M = 20.90, SD = 22.03) were not willing to donate more for the rescue of the panda in comparison to participants who were presented with the low default price (M = 23.96, SD = 24.13), or no default price (M = 22.42, SD = 24.75).

Moreover, no interaction effects were found between scope and presentation, F (1, 301) = .832, p = .362, partial η^2 = .003; between scope and default, F (2, 301) = .743, p = .477, partial η^2 = .005; and between presentation and default respectively, F (2, 301) = .469, p = .626, partial η^2 = .003.

6.2 Positive emotions

Paris. The main effect of scope was not significant, F (1, 301) = .077, p = .782, partial η^2 < .001. Participants did not evaluate the city trip to Paris with four overnight stays (M = 6.91, SD = .141) more positively in comparison to one overnight stay (M = 6.98, SD = 1.77).

The main effect of presentation was not significant, F (1, 301) = .600, p = .439, partial η^2 = .002, indicating that participants who were presented with pictures of Paris (M = 6.86, SD = 1.79) did not evaluate the city trip to Paris more positively in comparison to participants who were presented with dots representing the city trip to Paris (M = 7.03, SD = 1.77).

The main effect of default was not significant, F (2, 301) = .931, p = .395, partial η^2 = .006, indicating that participants who were presented with the high default on the price scale (M = 7.06, SD = 1.67) did not evaluate the city trip to Paris more positively in comparison to

participants who were presented with the low default price (M = 6.99, SD = 1.70), or were presented with no default price (M = 6.76, SD = 1.97).

Furthermore, no interaction effects were found between scope and presentation, F (1, 301) = 1.22, p = .271, partial η^2 = .004; between scope and default, F (2, 301) = .495, p = .610, partial η^2 = .003; and between presentation and default respectively, F (2, 301) = 1.74, p = .178, partial η^2 = .011.

Massage. The main effect of scope was not significant, F (1, 301) = .002, p = .968, partial η^2 < .001. Participants did not evaluate four massage vouchers (M = 6.13, SD = 2.40) more positively in comparison to one massage voucher (M = 6.13, SD = 2.32).

The main effect of presentation was not significant, F (1, 301) = .035, p = .852, partial η^2 < .001, indicating that participants who were presented with pictures of the massage (M = 6.11, SD = 2.41) did not evaluate the massage more positively in comparison to participants who were presented with dots representing the massage (M = 6.15, SD = 2.32).

The main effect of default was not significant, F (2, 301) = .398, p = .672, partial η^2 = .003, indicating that participants who were presented with the high default price (M = 6.28, SD = 2.31) did not evaluate massage more positively in comparison to participants who were presented with the low default price (M = 6.07, SD = 2.55), or were presented with no default price (M = 6.03, SD = 2.23).

Furthermore, a statistically significant interaction was found between presentation and scope on the evaluation of *positive emotions*, F (1, 301) = 4.01, p = .046, partial η^2 = .013. Simple effects analyses were used to further examine the interaction between presentation and scope. However, these analysis no longer indicated a significant interaction between presentation and scope. Presentation had no influence on the evaluation of *positive emotions* when one product was presented, F (1, 301) = 2.25, p = *ns*. nor when four products were presented, F (1, 301) = 2.71 p = *ns*.

Moreover, a statistically significant interaction was found between presentation and default on that the evaluation of *positive emotions*, F (2, 301) = 4.37, p = .013, partial η^2 = .028. The nature of this interaction is illustrated in Figure 2. Simple effects analyses were used to further examine the interaction effect. These analysis indicated that when people were presented with dots representing the massage and a low default on the price scale, this positively influenced the evaluated *positive emotions* elicited by the massage, F (1, 301) = 5.16, p < .05. Moreover, when people were presented with pictures of the massage and a high default on the price scale, this positively influenced the evaluated *positive emotions* elicited by the massage, F (1, 301) = 4.33, p < .05. However, presentation did not influence the evaluation of *positive emotions* for *massage* when no default is set, F (1, 301) = .017, p = *ns.*

Finally, no interaction was found between scope and default, F (2, 301) = .809, p = .446, partial η^2 = .005.

Panda. The main effect of scope was not significant, F (1, 301) = 1.03, p = .311, partial η^2 = .003. Participants did not evaluate the rescue effort to save four pandas (M = 5.60, SD = 2.35) more positively in comparison to the rescue effort for one panda (M = 5.85, SD = 2.33).

The main effect of presentation was statistically significant[6], F (1, 301) = 7.08, p = .008, partial η^2 = .023, indicating that participants who were presented with pictures of the panda (M = 6.07, SD = 2.14) evaluated saving endangered pandas more positively in comparison to participants who were presented with dots representing the panda (M = 5.36, SD = 2.49).

The main effect of default was not significant, F (2, 301) = .472, p = .624, partial η^2 = .003, indicating that participants who were presented with the high default price (M = 5.60, SD = 2.24) did not evaluate the panda more positively in comparison to participants who were presented with the low default price (M = 5.86, SD = 2.35), or were presented with no default price (M = 5.71, SD = 2.45).

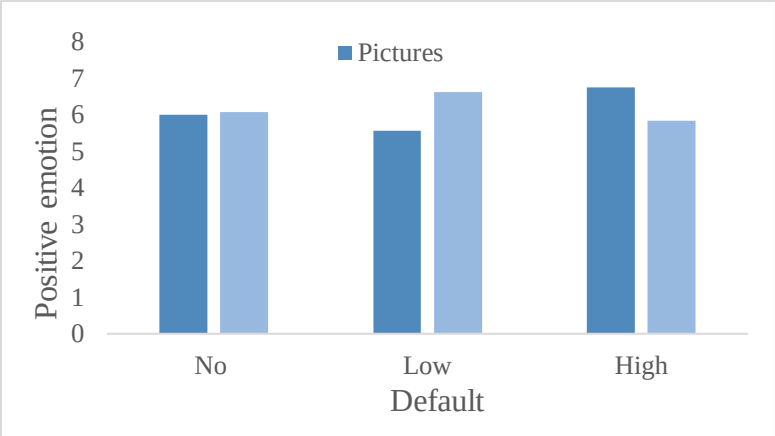

Figure 2. Interaction effect between presentation and default on the evaluated positive emotions elicited by the product massage. Type of presentation is divided in pictures and dots.

Furthermore, no interaction effects were found between scope and presentation, F (1, 301) = 2.96, p = .086, partial η^2 = .010; between scope and default, F (2, 301) = .995, p = .371, partial η^2 = .007; and between presentation and default respectively, F (2, 301) = .348, p = .706, partial η^2 = .002.

6.3 Desirableness

Paris. The main effect of scope was not significant, F (1, 301) = .005, p = .946, partial η^2 < 0.001. Participants did not evaluate the city trip to Paris with four overnight stays (M = 6.11, SD = 2.29) as more desirable in comparison one overnight stay (M = 6.14, SD = 2.18).

The main effect of presentation was not significant, F (1, 301) = .009, p = .925, partial η^2 < 0.001, indicating that participants who were presented with pictures of Paris (M = 6.14, SD = 2.35) did not evaluate the city trip to Paris more desirable in comparison to participants who were presented with dots representing Paris (M = 5.77, SD = 2.12).

The main effect of default was not significant, F (2, 301) = .065, p = .937, partial η^2 < 0.001, indicating that participants who were presented with the high default price (M = 6.14, SD = 2.24) did not evaluate the city trip to Paris more desirable in comparison to participants

who were presented with low default price (M = 6.16, SD = 2.16), or were presented with no default price (M = 6.07, SD = 2.32).

Furthermore, no interaction effects were found between scope and presentation, F (1, 301) = .582, p = .446, partial η^2 = .002; between scope and default, F (2, 301) = .269, p = .765, partial η^2 = .002; and between presentation and default respectively, F (2, 301) = 1.28, p = .280, partial η^2 = .008.

Massage. The main effect of scope was not significant, F (1, 301) = 0.28, p = .595, partial η^2 = .001. Participants did not evaluate four massage vouchers (M = 5.58, SD = 2.64) more desirable in comparison to one massage voucher (M = 5.40, SD = 2.62).

The main effect of presentation was not significant, F (1, 301) = 0.02, p = .904, partial $\eta^2 < 0.001$, indicating that participants who were presented with pictures of the massage (M = 5.48, SD = 2.69) did not evaluate the massage more desirable in comparison to participants who were presented with dots representing the massage (M = 5.50, SD = 2.56).

The main effect of default was not significant, F (2, 301) = .170, p = .844, partial η^2 = .001, indicating that participants who were presented with the high default price (M = 5.59, SD = 2.56) did not evaluate massage more desirable in comparison to participants who were presented with the low default price (M = 5.49, SD = 2.77), or were presented with no default price (M = 5.39, SD = 2.56).

Furthermore, a statistically significant interaction was found between presentation and default on the evaluation of the *desirableness* of massage, F (2, 301) = 4.186, p = .016, partial η^2 = .027. The nature of this interaction is illustrated in Figure 3. Simple effects analyses were used to further examine the interaction effect. These analyses indicated that when participants are presented with pictures of the massage and a high default price, this positively influenced the evaluated *desirableness* of massage, F (1, 301) = 5.29, $p < .05$.

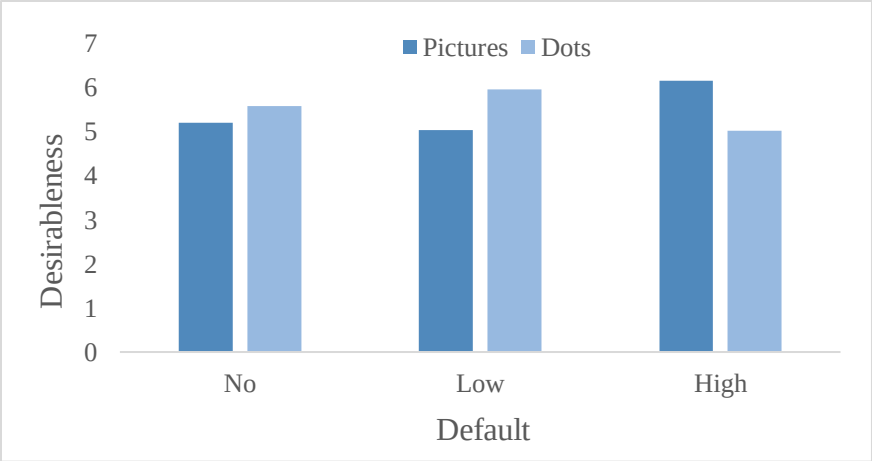

Figure 3. Interaction effect between presentation and default on the evaluated desirableness of the product massage. Type of presentation is divided by pictures and dots.

However, presentation did not have an influence on *desirableness* when a low default price was set F (1, 301) = 3.072, p = *ns.*, nor when no default was present, F (1, 301) = .546, p = *ns*. However, no interaction effect was found between scope and presentation, F (1, 301) = 1.02, p = .313, partial η^2 = .003; nor between scope and default, F (2, 301) = .116, p = .891, partial η^2 = .001.

Panda. The main effect of scope was not significant, F (1, 301) = .081, p = .776, partial η^2 < .001. Participants did not evaluate the rescue effort to save four pandas (M = 4.84, SD = 2.54) more desirable in comparison the rescue effort to save one panda (M = 4.72, SD = 2.56).

The main effect of presentation was statistically significant[7], F (1, 301) = 8.18, p = .005, partial η^2 = .026, indicating that participants who were presented with pictures of the panda (M = 5.19, SD = 2.39) evaluated the panda more desirable in comparison to participants who were presented with dots representing the panda (M = 4.35, SD = 2.64).

The main effect of default was not significant, F (2, 301) = 1.14, p = .320, partial η^2 = .008, indicating that participants who were presented with the high default price (M = 4.61, SD = 2.39) did not evaluate the panda more desirable in comparison to participants who were

presented with the low default price (*M* = 5.12, *SD* = 2.52), or were presented with no default price (*M* = 4.63, *SD* = 2.73).

Furthermore, a statistically significant interaction was found between presentation and scope on the evaluation of *desirableness* of panda, F (1, 301) = 7.92, p = .005, partial η^2 = .026. The nature of this interaction is illustrated in Figure 4. Simple effects analyses were used to further examine the interaction effect. These analyses indicated that when participants are presented with four pictures of the panda, this has a positive influence on the evaluated *desirableness* of the panda, F (1, 301) = 16.29, $p < .01$. However, presentation did not have an influence on *desirableness* when only one product was presented, F (1, 301) = .023, p = *ns.*

However, no interactions were found between scope and default, F (2, 301) = .127, p = .880, partial η^2 = .001; nor between presentation and default respectively, F (2, 301) = .254, p = .776, partial η^2 = .002.

6.4 Products

A multivariate analysis of variance (MANOVA) was used to compare how Paris, massage and panda were rated independently from the manipulations of scope, presentation and default price. Although not all the underlying assumptions were supported by the data, a MANOVA was conducted[8]. Findings showed that there was a significant effect of the product variable (paris, massage and panda) on the dependent variables, F (6, 1870) = 125.94, $p < .001$, partial η^2 = .288.

Analysis of the dependent variables individually showed that *willingness to pay* was statistically significant at a Bonferroni adjusted alpha level of .017, F (2, 936) = 607.24, $p <$ .001, partial η^2 = .565. Participants were willing to pay significantly more for the Paris (*M* = 226.23) in comparison to massage (*M* = 55.83) and panda (*M* = 22.37).

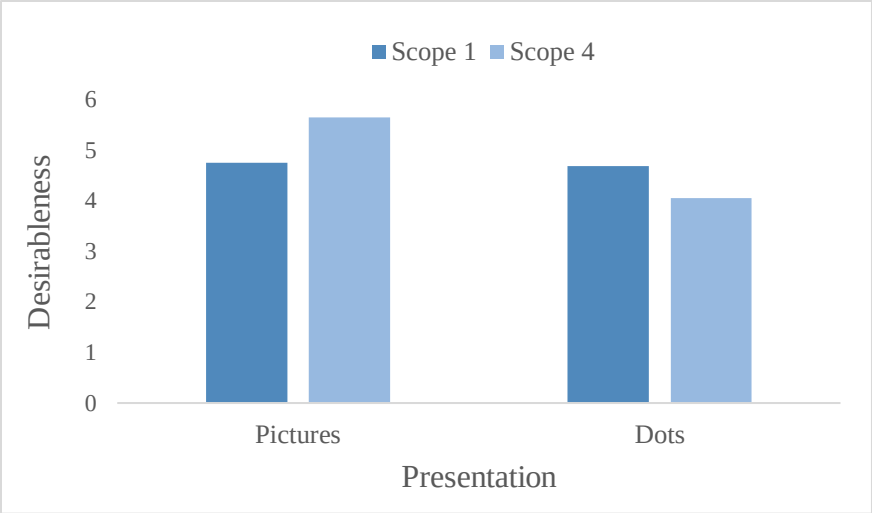

Figure 4. Interaction effect between scope and presentation on the evaluated desirableness of the product Panda. The scope is divided in either one panda (dark blue) or four similar pandas (light blue).

Participants were also willing to pay significantly more for the massage (M = 55.83) in comparison to the panda (M = 22.37).

Moreover, *positive emotions* was statistically significant at a Bonferroni adjusted alpha level of .017, F (2, 936) = 25.61, p < .001, partial η^2 = .052. Participants reported significantly higher (i.e., more positive) emotions towards Paris (M = 6.94) in comparison to massage (M = 6.13) and panda (M = 5.72).

Finally, *desirableness* was statistically significant at a Bonferroni adjusted alpha level of .017, F (2, 936) = 23.18, p < .001, partial η^2 = .047. Participants evaluated Paris (M = 6.13) more desirable in contrast to massage (M = 5.49) and panda (M = 4.78). Participants also evaluated the massage (M = 5.49) significantly more desirable in comparison to the panda (M = 4.78).

6.5 Regression

Linear regression models were conducted to test the hypotheses that the type of products as well as socio-demographic variables could be a significant predictor of *willingness to pay*, *positive emotions* and *desirableness*. Paris, massage and panda were merged to the new dummy

variable *type of product*, since previous conducted MANOVA indicated the significant differences between the products on the dependent variables.

Before interpreting the results of the linear regression models, a number of assumptions were tested. In general, the data met the requirements for the linear regression models[9].

Linear regression models were conducted separately for *willingness to pay*, *positive emotions* and *desirableness*. In model 1 of the linear regression models per dependent variable, the socio-demographic variables attitude towards donating, amount of donating, money at disposal, gender, age and educational level were included. In model 2 of the linear regression models, the socio-demographic variables as well as the *type of product* was included.

Willingness to Pay. Two linear regression models were estimated to test the hypothesis that the type of product as well as socio-demographic variables could be a significant predictor of *willingness to pay*. In model 1, the social-demographic variables attitude towards donating and amount of money at disposal were identified as significant predictors of *willingness to pay*, $R^2 = .019$ F (6, 923) = 2.90, $p = .008$. This indicted that participants would be willing to pay more money to obtain a product when they had a more favorable attitude towards donating and when they had a higher amount of money at their disposal when fixed costed were subtracted.

In model 2, when *type of product* was included, the social-demographic variables attitude towards donating and amount of money at disposal as well as type of product were significant, $R^2 = .510$, F (7, 922) = 137.08, $p < 0.001$. These results suggested that attitude towards donating and amount of money at disposal had a small influence on *willingness to pay* since *type of product* seemed to drive the effect and indicated that participants were willing to pay substantially more for the city trip to Paris.

By Cohen's (1988) conventions, a combined effect of this magnitude can be considered "large" ($f^2 = 1.04$). Unstandardized (B) and standardized (ß) regression coefficients for each predictor on two linear regression models of *willingness to pay* are reported in Table 5.

Table 5

Summary of Hierarchical Multiple Regression Analysis with the Socio-Demographics and Type of Product as Independent Variables and Willingness to Pay as Dependent Variable (N = 930)

Comparative groups	Model 1			Model 2		
	B	SE (B)	ß	B	SE (B)	ß
Attitude donating	4.467	2.167	.069*	4.467	1.532	.069**
Amount of donating	1.529	1.426	.035	1.529	1.008	.035
Money at disposal	7.067	2.809	.094*	7.067	1.986	.094***
Gender	–3.718	8.655	–.014	–3.718	6.119	–.014
Age	0.157	0.281	.02	0.157	0.199	.02
Educational level	–1.74	3.092	–.019	–1.74	2.186	–.019
Product				101.287	3.331	.701***

Note. R^2 = .019 for model 1; R^2 = .510 for model 2. The variable attitude towards donating was coded with 1 = extremely negative to 10 = extremely positive; amount of donating was coded with 1 = €0, 2 = €1 - €19, 3 = €20 - €49, 4 = €50 - €99, 5 = €100 - €199, 6 = €200 or more; average amount of money at disposal was coded with 1 = €0 - €999, 2= €1.000 - €1.999, 3 = €2.000 - €2.999, 4 = €3.000 - €3.999, 5 = €4.000 - €4.999, 6 = €5000 or more; gender was coded with 1 = male and 2 = female; education was coded with 1 = high school, 2 = MBO, 3 = HBO, 4 = WO Bachelor, 5 = WO Master and 6 = Doctoral degree; and product was coded with 0 = panda, 1 = massage, 2 = paris.
* $p < .05$; ** $p < .01$; *** $p < .001$

Positive Emotions. Two linear regression models were estimated to test whether the socio-demographic variables as well as the *type of product* were a significant predictor of *positive emotions*. In model 1, the socio-demographic variables attitude towards donating, gender and age were identified as significant predictors of *positive emotions*, $R^2 = .054$ F (6, 923) = 14.06, $p < .001$. These findings indicated that participants evaluated the products with higher positive emotions when participants had a favorable attitude towards donating, were female and were younger in age.

In model 2, when *type of product* was included, the socio-demographic variables attitude towards donating, gender and age as well as *type of product* were identified as significant predictors of *positive emotions*, $R^2 = .102$, F (7, 922) = 20.45, $p < .001$ These results suggested that attitude towards donating, gender and age had a small influence on the evaluation of

positive emotions since the *type of product* seemed to drive the effect and showed that participants evaluated that Paris evoked more positive emotions.

By Cohen's (1988) conventions, a combined effect of this magnitude can be considered "small" ($f^2 = .11$). Unstandardized (*B*) and standardized (ß) regression coefficients for each predictor on two linear regression models of *positive emotions* are reported in Table 6.

Desirableness. Two linear regression models were estimated to test whether the socio-demographic variables as well as the *type of product* were a significant predictor of *desirableness*. In model 1, the socio-demographic variables attitude towards donating, gender and age were identified as significant predictors of *desirableness*, $R^2 = .084$ F (6, 923) = 8.85, $p < .001$. Participants evaluated the products as more desirable when they had a favorable attitude towards donating, were female and were younger in age.

In model 2, when *type of product* was included, the socio-demographic variables attitude towards donating, gender and age and type of product were significant, $R^2 = .134$, F (7, 922) = 14.99, $p < .001$. These results suggested that attitude towards donating, gender and age had a small influence on the evaluation of *desirableness* since the *type of product* seemed to steer the effect and indicated that participants evaluated the city trip to Paris as more desirable.

By Cohen's (1988) conventions, a combined effect of this magnitude can be considered "medium" ($f^2 = .15$). Unstandardized (*B*) and standardized (ß) regression coefficients for each predictor on two linear regression models of *desirableness* are reported in Table 7.

Table 6

Summary of Hierarchical Multiple Regression Analysis with the Socio-Demographics and Type of Product as Independent Variables and Positive Emotion as Dependent Variable (N = 930)

Comparative groups	Model 1			Model 2		
	B	SE (B)	ß	B	SE (B)	ß
Attitude donating	0.17	0.039	.139***	0.17	0.038	.139***
Amount of donating	0.024	0.026	.03	0.024	0.025	.03
Money at disposal	0.079	0.051	.056	0.079	0.05	.056
Gender	0.711	0.158	.145***	0.711	0.153	.145***
Age	–0.03	0.005	–.205***	–0.03	0.005	–.205***
Educational level	–0.055	0.056	–.032	–0.055	0.055	–.032
Product				0.613	0.083	.225***

Note. R^2 = .054 for model 1; R^2 = .102 for model 2. The variable attitude towards donating was coded with 1 = extremely negative to 10 = extremely positive; amount of donating was coded with 1 = €0, 2 = €1 - €19, 3 = €20 - €49, 4 = €50 - €99, 5 = €100 - €199, 6 = €200 or more; average amount of money at disposal was coded with 1 = €0 - €999, 2= €1.000 - €1.999, 3 = €2.000 - €2.999, 4 = €3.000 - €3.999, 5 = €4.000 - €4.999, 6 = €5000 or more; gender was coded with 1 = male and 2 = female; education was coded with 1 = high school, 2 = MBO, 3 = HBO, 4 = WO Bachelor, 5 = WO Master and 6 = Doctoral degree; and product was coded with 0 = panda, 1 = massage, 2 = Paris.
* $p < .05$; ** $p < .01$; *** $p < .001$

Table 7

Summary of Hierarchical Multiple Regression Analysis with the Socio-Demographics and Type of Product as Independent Variables and Desirableness as Dependent Variable (N = 930)

Comparative groups	Model 1			Model 2		
	B	SE (B)	ß	B	SE (B)	ß
Attitude donating	0.112	0.046	.081*	0.112	0.044	.081*
Amount of donating	0.017	0.03	.019	0.017	0.029	.019
Money at disposal	0.063	0.059	.039	0.063	0.058	.039
Gender	0.672	0.182	.12***	0.672	0.178	.12***
Age	–0.031	0.006	–.184***	–0.031	0.006	–.184***
Educational level	–0.034	0.065	–.017	–0.034	0.063	–.017
Product				0.677	0.097	.219***

Note. R^2 = .084 for model 1; R^2 = .134 for model 2. The variable attitude towards donating was coded with 1 = extremely negative to 10 = extremely positive; amount of donating was coded with 1 = €0, 2 = €1 - €19, 3 = €20 - €49, 4 = €50 - €99, 5 = €100 - €199, 6 = €200 or more; average amount of money at disposal was coded with 1 = €0 - €999, 2= €1.000 - €1.999, 3 = €2.000 - €2.999, 4 = €3.000 - €3.999, 5 = €4.000 - €4.999, 6 = €5000 or more; gender was coded with 1 = male and 2 = female; education was coded with 1 = high school, 2 = MBO, 3 = HBO, 4 = WO Bachelor, 5 = WO Master and 6 = Doctoral degree; and product was coded with 0 = panda, 1 = massage, 2 = Paris.
* $p < .05$; ** $p < .01$; *** $p < .001$

7. Discussion

The understanding of how changes in the magnitude of a stimulus influence how people subjectively valuate that stimulus illuminates the broader processes of decision making and social judgement. However, approaches of previous research to study subjective valuation and scope insensitivity have resulted in a contentious debate about the validity of the method and the explanatory constructs. Therefore, this study attempted to approach subjective valuation in a novel way by studying possible underlying factors that could explain for the found pattern of scope insensitivity. The aim of the present study was to examine whether the specific arrangement of the presented information could influence subjective valuation. In particular, the present study examined whether the implementation of default prices could serve as an price anchor influencing the valuation process of products. Moreover, underlying factors of subjective evaluation of products were also examined, namely positive emotions and desirableness.

Scope sensitivity was found for the subjective valuation of market-goods. However, the number of presented products did not influence the subjective valuation of non-market goods, reflecting insensitivity to scope. Furthermore, it was found that the presentation of the products did not influence subjective valuation. Whether products were presented by affect-rich or affect-poor stimuli did not have an influence on willingness to pay. However, the type of presentation did have an positive influence on the evaluation of the non-market good. The panda was evaluated more emotionally charged and more desirable when the panda was presented using pictures in comparison to dots. The present study did not succeed in finding a relationship between presentation and scope of the products on the subjective valuation of products and could therefore not confirm that affect-rich stimuli would cause scope insensitivity whereas affect-poor stimuli would cause scope sensitivity. The results also did not support that the specific arrangement of the information by implementing a default price had an influence on

the subjective valuation of products. Hereafter, possible explanations will be proposed that might support the findings of the current research.

7.1 Scope sensitivity

The presence of scope sensitivity was in line with the results of Hsee and Rottenstreich (2004). They found that when people determine the value of a stimulus based on calculation, they show a relatively constant sensitivity to the scope of a stimulus. People might consider the typical worth of a single product and then multiple this amount by the scope of the product. However, the findings of the present study could not support scope sensitivity for the valuation of non-market goods (e.g., panda). Strikingly, these results are not in line with the results of the pre-test were scope sensitivity was supported for the donation to save either one or four pandas. These differences might lay in the different response options. During the pre-test, people were asked to write down the amount of Euros they would be willing to donate to save the panda. In the main study this type of response was substituted by a price scale where participants could address their willingness to donate by selecting a point on the scale. However, the highest price on the response scales was derived from the maximum amount people would be willing to pay for a stimulus during the pre-test.

Moreover, the findings are in contrast to Hsee and Rottenstreich (2004). These results are notable, since the present study performed a study designs equivalent to the study design of Hsee and Rottenstreich (2004). It could be suggested that this might be explained by the small differences between the study designs. Hsee and Rottenstreich (2004) used two separate groups of participants, one group was solely asked to subjectively valuate the panda whereas a new and second group was asked to only evaluate the panda on emotional level. This second group served as a manipulation check whether the panda was emotionally charged and whether the manipulation of the presentation was effective. In the present study, no separate groups were

computed and all participants answered the questions regarding valuation as well as evaluation. It might be suggested that the evaluation questions about the panda could have stimulated valuation by feeling and therefore caused scope insensitivity.

Apart from the differences between the study designs and solely based on the present findings, it could be argued that the valuation of market-goods elicits scope sensitivity whereas the valuation of non-market goods evokes scope insensitivity. These findings are in accordance with Frederick and Fischhoff (1998). They argued people are sensitive to the scope of market-goods because they are capable of determining the economic value for a market-good based on their knowledge of, and familiarity with the economic market. In contrast, they stated that the valuation of non-market goods could appear insensitive to scope. People would neither be capable of, nor be familiar with determining willingness to pay for a non-market good that lacks the existence of an economic value. Desvousges and colleagues (1993) supported these findings and found scope neglect for non-market goods. It was found that when the magnitude of the non-market good (i.e., endangered birds) increased, participants were not substantially willing to donate more money to save the endangered birds. Kahneman and colleagues (1999) argued this scope insensitivity could be explained by valuation by feeling because the stimuli evoked affective reactions in participants. In contrast, based on the present results it might be argued that the existence of an economic value is a requirement for the usage of valuation by calculation. It could be proposed that when people are aware of the economic value of a market-good they will be able to consider the valuation of similar multiple products based on calculation. Since non-market goods do not have economic values, it could be plausible that valuation for these goods is based on feeling and derived from the emotional value the product elicits. In addition, scope insensitivity will occur.

Consequently, an additional distinction between market and non-market goods could be addressed based on the prospect theory that might explain the findings of scope insensitivity. It

might be argued that paying to obtain market goods could be considered a potential gain since money is exchanged for products. In contrast, donating money for the contribution to a non-market good could be considered a potential loss since there is no direct exchange and people lose a sum of money. It is stated that the aggravation that one experiences in losing a sum of money appears to be greater than the pleasure associated with gaining the same amount. In short, losses loom larger than gains (loss aversion; Kahneman & Tversky, 1979). Therefore the increased magnitude of a non-market good will aggravate the experienced loss. Scope insensitivity for the valuation of non-market goods might therefore be explained by the avoidance of losses and could be attributed to loss aversion. Scope sensitivity could be attributed to the motivation to enhance the pleasure of additional gains.

7.2 Mode of presentation

With regard to presentation (format of presentation or presentation stimulus), the findings of the present study are not in line with the results of Hsee and Rottenstreich (2004).

The observed results suggest that the presentation of the products did not influence the valuation of the products. In contrast, Hsee and Rottenstreich (2004) found that people evaluated affective stimuli more valuable opposed to non-affective stimuli. They concluded that when stimuli are presented affectively, people will determine the value of that stimulus based on their feelings evoked by the stimulus. Moreover, it is stated that by increasing the emotional level of a stimulus, for example by presenting a picture of the stimulus, this will have a positive influence on the determined value of that product. However, these results are in contrast to the findings of the current research. Three alternative explanations are proposed that might account for these opposed findings. First, it might once more be suggested that whether a product has an economic value this will strongly influence the valuation process. Having knowledge of the economic value of a product might serve as an anchor for valuation which

overrules the possible influence of the specific presentation of the product. However, it could be argued that there was no existing economic value for the panda and therefore it would have been plausible that the presentation of the panda stimulated valuation by feeling and positively influenced valuation. Second, it could then be suggested that whether a stimulus is affective strongly depends on the existing attitude towards that stimulus. When an affect-rich stimulus is presented in a affect-poor manner, this might not per definition make the stimulus less affective since the mental attitude towards the stimulus could remain equal. In accordance with Kahneman and colleagues (1999) it could be suggested that in general the request for a donation to save endangered species is emotionally charged and therefore activates valuation by feeling, regardless of presentation. Participants could have decided how much to donate on the basis of their attitude towards donating and their affective reactions towards the donation request.

Finally, based on the findings of current research the influence of presentation on valuation is disregarded and a novel interpretation is proposed for emotional level. Whether a stimulus is considered emotional might not depend on the specific presentation of that stimulus but rather on how the stimulus could be defined by the prospect theory. Since losses loom larger than equal gains, it might be considered that potential losses evoke more emotions in comparison to potential gains. Therefore, it might be expected that when a stimulus is considered a potential loss (e.g., non-market good), this will evoke more emotional reaction. The willingness to avoid these losses will then have a negative influence on valuation. On the contrary, when a stimulus is considered a potential gain (e.g., market good), this will cause a less emotional reaction in comparison to potential losses. The pleasure associated with potential gains might have a positive influence on valuation.

In contrast, it was found that presenting the panda with pictures positively influenced the evaluation of the panda. This could be attributed to the possibility that valuation by feeling not only had an influence on valuation but also on the evaluation of the panda. In accordance

with Kahneman and colleagues (1999) it could be suggested that the emotional donation request to save endangered panda activated valuation by feeling. In addition, this type of valuation might have activated system 1 processes of reasoning. This is an automatic system requiring little cognitive engagement and is driven by immediate feelings and triggered by the environment (Kahneman & Frederick, 2002). The feelings evoked by the pictures of the panda could have stimulated system 1 processes and therefore positively influenced the evaluation of the panda.

7.3 Relationship between scope and presentation

The present study did not succeed in finding a relationship between presentation and scope on valuation. These findings are not in line with the expectations nor with the findings of Hsee and Rottenstreich (2004). They performed a study were market-goods and non-market goods were studied and found scope insensitivity when valuation by feeling was stimulated with affect-rich stimuli and scope sensitivity when valuation by calculation was stimulated with affect-poor stimuli. These findings could not be confirmed by the results of the present study and therefore it might be argued that for the present study the presentation of the stimuli was negligible for subjective valuation. Therefore, the current research proposes a new relationship between loss aversion and scope on subjective valuation, explaining the found pattern of scope insensitivity. It might be argued that scope sensitivity will be found when a stimulus is considered a potential gain. People want to expand this gain and enhance the pleasure derived from gaining. Therefore valuation based on calculation will be addressed to increase potential gains. In contrast, when a stimulus is considered a potential loss, valuation by feeling will be stimulated. People would want to avoid the aggravation of losses and will therefore be insensitive to scope.

7.4 Position of default prices

Finally, it could not be confirmed that the specific arrangement of the information by implementing a default price had an influence on the valuation of the product. This was not in line with the expectation. Research of Herrmann and colleagues (2011) concluded that defaults serve as an anchor by increasing the frequency of chosen products in the proximity of the default. Setting the default at the product with the lowest price served as a reference point where people hardly move away from whereas setting the default at the product with the highest price resulted in an increase in sales due to the higher reference point. These findings were not supported by the present study and two possible explanations are proposed. First, the dual process model might explain why the default prices did not have an influence on the valuation process. In general, defaults are implemented on a specific product or option, such as racing bike features (Herrmann et al., 2011) and organ donation registration (Johnson & Goldstein, 2003). Here, the default activated system 1 processes and caused perceptual biases due to the heuristically use of defaults to reduce or exclude the cognitive effort required to reach a decision (Johnson et al., 2002) or due to the anchoring and adjustment process (Park et al., 2000). In contrast, the determination of subjective valuation could be considered deviant. It might be argued that deliberate reasoning is needed which activates system 2 processes. This is a reflective system that requires cognitive capacity (Kahneman & Frederick, 2002). Therefore, the activation of system 2 processes might have overruled the influence of the default price.

Second, it might be plausible that the specific arrangement of the product images in combination with their scope served as a stronger nudge and outperformed the influence of the default position on the price scale. Possibly, the presented scope of the stimuli in relation to the position of the price scale influenced the determination of willingness to pay. This would cause sensitivity to scope since one product was presented above the beginning of the price scale and four products were aligned with the total price scale and merited the highest price. This

explanation is in accordance with Johnson (2012) stating that the deliberate architecture of choices could nudge people to make specific decisions. Although this second line of reasoning could not account for the found pattern of scope insensitivity of the non-market good, this might once more be explained by the proposed influence of potential losses on scope insensitivity.

7.5 Limitations of the current research

In general, several expectations were not confirmed in the present study. Apart from the theoretical issues discussed above, limitations of the present study could be attributed to its methodological approach. First, during the study people were not made aware of the presence and position of the default price. By deliberately making people aware of the presence of the default and its position, it could be ensured that all participants were consciously aware of the default. Currently, it is unknown whether all participants noticed and processed the default. Secondly, no manipulation check was included in the study to examine whether participants believed that the specific presentation of the information influenced their responses during the study. For future research it is recommended to make the presence and position of the default salient at the beginning of the study and implement a manipulation check at the end of the study. Thirdly, different price scales were used for the different products which made it not possible to compare the products completely. For future research, it is recommended to use price scales with an equal start and ending point in order to make it possible to compare the subjective valuation of different products.

7.6 Recommendations for future research

More extensive research is needed to examine the underlying factors of scope insensitivity and the subjective valuation of market and non-market goods. Based on the present study, it could be concluded that scope sensitivity is found in market-goods whereas scope

insensitivity was found for non-market goods. Future research should elucidate which underlying factors could explain these differences. The present study suggests that the differences in scope sensitivity might lie in the distinction between the market and non-market goods and proposes several recommendation for future research. First, an interesting approach would be to investigate whether the distinction between market and non-market goods could be explained by the presence or absence of economic value. Profound research is needed to conclude whether economic value plays an decisive role in subjective valuation. Second, implementing the prospect theory and the principle of loss aversion might illuminate whether the differences in scope sensitivity could be explained by the assignment of potential losses and gains. Third, it is suggested to examine whether the dual process model could be the foundation for subjective valuation, where valuation by feeling is activated by system 1 processes whereas valuation by calculation is activated by system 2 processes. Finally, an interesting approach for future research would be to focus more profoundly on the possible influence of the specific manner in which the information was presented using the scope of the images and whether the specific architecture of choices served as an nudge to influence the valuation process.

7.7 Practical implications

The implications of the current findings could be practically applied in the field of marketing. Regarding to the marketing of market goods, it is suggested to frame to proposition of the product as a potential gain. For example, by specifically addressing what the consumer would gain due to the purchase of the product. Moreover, consumers will be sensitive to the scope of the product and therefore the implementation of package deals is proposed. Either multiple similar products could be promoted as well as the possibility to purchase all-in-one packages with complementing products. By increasing the magnitude of the products the experienced pleasure of gaining will be enhanced. Another proposed strategy is to emphasize

on discounts. The execution of discounts would diminish the magnitude of losses in comparison to the received gains and would therefore increase the ratio between losses and gains. This could enhance the attractiveness of the product. Finally, it is advised to deliberately communicate loss aversion by framing what will be lost when the consumer does not buy the product. This could be accomplished by addressing the scarcity of the product, for example by emphasizing on limited stock or on the limited time. This latter example could be applied with promotions that are only valid for a certain amount of time (e.g., hours, days, weeks).

With reference to the practical implications for the marketing of non-market goods and in particular regarding donations, it is also suggested to frame that the contribution to charity or to public goods is equivalent to a physical gain. For example, presenting the donors with a gift when they sign-up will increase the potential gain and the equivalent pleasure of gaining. Moreover, it is recommended to communicate the non-market goods within a single magnitude. For example, address that the monetary donations will be used to build one school or to provide one village with water.

8. References

Baron, J., & Greene, J. (1996). Determinants of insensitivity to quantity in valuation of public goods: Contribution, warm glow, budget constraints, availability, and prominence. *Journal of Experimental Psychology: Applied*, *2*(2), 107.

Brown, C. L., & Krishna, A. (2004). The skeptical shopper: A metacognitive account for the effects of default options on choice. *Journal of Consumer Research*, *31*(3), 529-539.

Desvousges, W. H., Johnson, F. R., Dunford, R. W., Boyle, K. J., Hudson, S. P., & Wilson, K. N. (1993). Measuring natural resource damages with contingent valuation: tests of validity and reliability. *Contingent valuation: A critical assessment*, *91*, 91-93.

Dhar, Ravi and Itamar Simonson (1992), "The Effects of the Focus of Comparison on Consumer Preferences," *Journal of Marketing Research*, 29 (November), 430–40.

Frederick, S., & Fischhoff, B. (1998). Scope (in)sensitivity in elicited valuations. *Risk Decision and Policy*, *3*(2), 109-123.

Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of consumer Research*, *35*(3), 472-482.

Johnson, E. J., Bellman, S., & Lohse, G. L. (2002). Defaults, framing and privacy: Why opting in-opting out. *Marketing Letters*, *13*(1), 5-15.

Johnson, E. J., & Goldstein, D. (2003). Do defaults save lives?. *Science*, *302*(5649), 1338-1339.

Johnson, E. J., Shu, S. B., Dellaert, B. G., Fox, C., Goldstein, D. G., Häubl, G., ... & Wansink, B. (2012). Beyond nudges: Tools of a choice architecture. *Marketing Letters*, *23*(2), 487-504.

Hsee, C. K., & Rottenstreich, Y. (2004). Music, pandas, and muggers: on the affective psychology of value. *Journal of Experimental Psychology: General*, *133*(1), 23.

Hsee, C. K., Rottenstreich, Y., & Xiao, Z. (2005). When is more better? On the relationship between magnitude and subjective value. *Current Directions in Psychological Science*, *14*(5), 234-237.

Herrmann, A., Goldstein, D. G., Stadler, R., Landwehr, J. R., Heitmann, M., Hofstetter, R., & Huber, F. (2011). The effect of default options on choice—Evidence from online product configurators. *Journal of Retailing and Consumer Services*, *18*(6), 483-491.

Kahneman, D., & Frederick, S. (2002). Representativeness revisited: Attribute substitution in intuitive judgment. *Heuristics and biases: The psychology of intuitive judgment*, *49*.

Kahneman, D., & Knetsch, J. L. (1992). Valuing public goods: the purchase of moral satisfaction. *Journal of environmental economics and management*, *22*(1), 57-70.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the econometric society*, 263-291.

Kahneman, D., Ritov, I., Schkade, D., Sherman, S. J., & Varian, H. R. (1999). Economic preferences or attitude expressions?: An analysis of dollar responses to public issues. In *Elicitation of Preferences* (pp. 203-242). Springer Netherlands.

Park, C. W., Jun, S. Y., & MacInnis, D. J. (2000). Choosing what I want versus rejecting what I do not want: An application of decision framing to product option choice decisions. *Journal of Marketing Research*, *37*(2), 187-202.

Regulating, N. (2011). Judging nudging: can nudging improve population health?. *Bmj*, *342*, 263.

Rottenstreich, Y., & Shu, S. (2004). The connections between affect and decision making: Nine resulting phenomena. *Blackwell handbook of judgment and decision making*, 444-463.

Balz, J. P., Thaler, R. H., & Sunstein, C. R. (2014). Choice architecture. *E. Shafir, The behavioral foundations of public policy*, 428-439.

Wright, P. (2002). Marketplace metacognition and social intelligence. *Journal of Consumer Research*, *28*(4), 677-682.

Footnotes

[1] Shapiro-Wilk statistics indicated that the assumption of normality was violated; Mauchly's test indicated that the assumption of sphericity was violated. Consequently, the Huynh-Feldt correction was employed.

[2] Shapiro-Wilk statistics indicated that the assumption of normality was violated and the Mauchly's test indicated that the assumption of sphericity was violated. Consequently, the Huynh-Feldt correction was employed.

[3] Condition 9 = scope 4, pictures and high default.

[4] Shapiro-Wilk and Levene's test were used to evaluate the assumptions of normality and homogeneity of variance respectively. Both were violated. Consequently, a Kruskal-Wallis ANOVA confirmed there were statistically significant differences between the willingness to pay for paris in the scope 1 condition (*Mean Rank* = 119.42) and the scope 4 condition (*Mean Rank* = 192.48), *H* (corrected for ties) = 50.97, *df* = 1, *N* = 313, $p < 0.001$, $\eta^2 = .163$.

[5] Shapiro-Wilk and Levene's test were used to evaluate the assumptions of normality and homogeneity of variance respectively. Both were violated. Consequently, a Kruskal-Wallis ANOVA confirmed that there were statistically significant differences between the willingness to pay for Massage in the scope 1 condition (*Mean Rank* = 118.86) and the scope 4 condition (*Mean Rank* = 193.01), *H* (corrected for ties) = 52.590, *df* = 1, *N* = 313, $p < 0.001$, $\eta^2 = .169$.

[6] Shapiro-Wilk and Levene's test were used to evaluate the assumptions of normality and homogeneity of variance respectively. The assumptions of normality were violated, whereas the assumptions of homogeneity of variance were supported. Consequently, a Kruskal-Wallis ANOVA confirmed that there were statistically significant differences between evaluated Positive Emotions for Panda in the picture condition (*Mean Rank* =

169.03) and the dot condition (*Mean Rank* = 144.58), *H* (corrected for ties) = 5.856, *df* = 1, *N* = 313, *p* = .016, η^2 = .019.

[7] Shapiro-Wilk and Levene's test were used to evaluate the assumptions of normality and homogeneity of variance respectively. The assumptions of normality were violated, whereas the assumptions of homogeneity of variance were supported. Consequently, a Kruskal-Wallis ANOVA confirmed that there were statistically significant differences between evaluated Desirableness of Panda in the picture condition (*Mean Rank* = 171.21) and the dot condition (*Mean Rank* = 142.33), *H* (corrected for ties) = 8.091, *df* = 1, *N* = 313, *p* = .004, η^2 = .026.

[8] Univariate normality was assessed with Shapiro-Wilk tests and boxplots, and could not be assumed. Additionally, multivariate outliers were found in the data, but were ignored in order to support the assumption of multivariate normality. Correlations between the dependent variables were not excessive, indicating that multicollinearity was not of concern. Furthermore, the relationships that did exist between the dependent variables were roughly linear. Finally, Box's *M* was significant, indicating that homogeneity of variance-covariance matrices could not be assumed.

[9] Stem-and-leaf plots and boxplots indicated attitude towards donating, age and educational level were normally distributed. An inspection of normal probability plot of standardized residuals and the scatterplot of standardized residuals against standardized predicted values indicated that assumptions of normality, linearity and homoscedasticity of residuals were not met. Mahalanobis distance did not exceed the critical x^2 for *df* = 10 (at α = 0.01) of 27.88 for any cases in the data file, indicating that multivariate outliers were not of concern. Relatively high tolerances for the predictors indicated that multicollinearity would not interfere with the ability to interpret the outcome of the linear regression models.

Appendix A

Pre-test questionnaire scope 1

A new company equivalent to Groupon is setting up their website. Like Groupon they want to sell different type of products on their website for a very good price. In order to set the price right and to keep their customers satisfied, they are interested in how much money their customers are willing to pay to obtain different type of products. This questionnaire is constructed in order for this company to obtain the knowledge of how to put their prices on their website for different type of products.

This questionnaire will show you 13 different type of products using a picture and a brief description of each product. After viewing the picture and reading the description, you will be asked to evaluate each product individually. For each product you will be asked to evaluate the product using three questions. These questions will be the same for each product and will therefore be repeated for each product. The questions will be regarding the price you are willing to pay for the product, the emotional content of the product and the desirableness of the product. When you have read this information carefully and understand the intention of the study, then you could go to the next page and start with the study.

Product 1

A city trip to Paris with a hotel stay for 1 night. The luxe hotel will be located in the heart of Paris with the Louvre museum at walking distance. Included in the price will be the Thalys train from the Netherlands to Paris and from Paris back to the Netherlands.

Please answer the following questions:

How much are you willing to pay to obtain this product?

(*write down the amount of euro's on the line)*

€_____

How much positive emotion does the product elicits?

(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?

(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 2

A restaurant voucher to use for 1 diner at a restaurant of your choice. We selected top restaurants from all over the Netherlands for this restaurant voucher. With this voucher, you can enjoy a fully served meal with drinks and dessert included.

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 3

1 bottle of wine. You could choose one bottle of wine from several different type of top quality wines that are selected from excellent vineyards around the world. Choose the bottle of wine that you prefer; red or white wine, sweet or dry wine, fruity or woody wine.

Please answer the following questions:

How much are you willing to pay to obtain this product?

(*write down the amount of euro's on the line)*

€_____

How much positive emotion does the product elicits?

(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?

(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 4

A sport abonnement for 1 month to try out the fitness center of your choice. We have selected several top fitness centers all over the Netherlands for this try-out packet. During this abonnement you can make use of all the fitness machines and you are welcome to join all the fitness lessons, from Yoga and Pilates to Body Pump and Kick Fun. Besides you can use the dressing room, lockers, shower and of course the relaxing sauna.

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 5

A cinema voucher for 1 movie of your preference. Whether you like action movies or romantic comedies, everything is possible with this voucher. With this voucher you can watch any movie that is available in the national cinemas of the Netherlands.

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 6

A concert voucher for 1 concert of your choice. This voucher is valid for all concerts given in the Netherlands. Is your favorite artist performing in the Netherlands and have you always wanted to go to their concert? This concert voucher gives you the opportunity to enjoy a live concert.

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 7

1 lottery ticket for the state lottery of the Netherlands. The lottery is set at €1.000.000,-. Are you saving for a new car, holiday or apartment? Then this ticket might make you lucky, you never know unless you try.

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 8

1 delicious fair-trade chocolate bar. The chocolate of this bar is exclusively selected from fair-trade cacao plantations in third world countries. The chocolate bar is available is several different flavors and you could choose the flavor you like the most!

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 9

1 teddy bear. This teddy bear has a regular size, looks cute and has a very soft fur. This makes the teddy bear perfect for cuddling. It will be a good gift for yourself or for your friends and family.

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 10

A voucher for 1 theme park ticket at a park of your choice in the Netherlands. All theme parks in the Netherlands are collaborating with this voucher. Use this voucher to go back to your favorite theme park or use it to experience a whole new park.

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 11

A voucher for 1 stand-up comedy ticket. Use this voucher to go to your favorite comedian, laugh out loud and have a hilarious night out! Several theatres all around the Netherlands accept this voucher.

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 12

A voucher for 1 massage at a spa resort of your choice in the Netherlands. This voucher enables you to choose the massage that you want. For example: back, foot, facial massage and many more. Afterwards you could enjoy the relaxing saunas and showers at the spa.

Please answer the following questions:

How much are you willing to pay to obtain this product?
(*write down the amount of euro's on the line)*
€_____

How much positive emotion does the product elicits?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?
(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

Product 13

Saving 1 endangered panda. A zoology team has discovered a number of pandas in a remote Asian region. The team intend to save these endangered animals and is soliciting donations for the rescue effort of 1 panda.

Please answer the following questions:

How much are you willing to pay to obtain this product?

(*write down the amount of euro's on the line)*

€_____

How much positive emotion does the product elicits?

(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not positive) 10 (extremely positive)

How desirable is the product for you?

(*fill in your answer by selecting a position on the line between 0 and 10)*

0 (not desirable) 10 (extremely desirable)

What is your gender? (*circle the correct answer)*

MAN FEMALE

How old are you?

_____ years

Could you write down one product that has emotional value for you?

_____

Appendix B

Overview of the study design (scope 4, pictures, high default)

A city trip to Paris with a hotel stay for 4 nights. The luxe hotel will be located in the heart of Paris with the Louvre museum at walking distance. Included in the price will be the Thalys train from the Netherlands to Paris and from Paris back to the Netherlands.

How much would you be willing to pay to obtain this product?

0 60 120 180 240 300 360 420 480 540 600

Price in Euros (€)

How much positive emotion does this product elicit?

Not positive at all — Extremely positive

0 1 2 3 4 5 6 7 8 9 10

How desirable is this product for you?

Not desirable at all — Extremely desirable

0 1 2 3 4 5 6 7 8 9 10

Appendix C

Description and images (scope 1)

Paris: "*A city trip to Paris with a hotel stay for 1 night. The luxe hotel will be located in the heart of Paris with the Louvre museum at walking distance. Included in the price will be the Thalys train from the Netherlands to Paris and from Paris back to the Netherlands.*"

For an example of the picture of Paris, see Figure 5.

Figure 5. Affect-rich image of the product Paris in the scope 1 condition

Massage: "*A voucher for 1 massage at a spa resort of your choice in the Netherlands. This voucher enables you to choose the massage that you want. For example: back, foot, facial massage and many more. Afterwards you could enjoy the relaxing saunas and showers at the spa*."

For an example of the picture of massage, see Figure 6.

Figure 6. Affect-rich image of the product Massage in the scope 1 condition

Panda: "*Save 1 endangered panda. A zoology team has discovered a number of pandas in a remote Asian region. The team intends to save these endangered animals and is soliciting donations for the rescue effort of 1 panda*."

For an example of the picture of panda, see Figure 7. And for an example of the image of the dot representing the products in an affect-poor manner, see Figure 8.

Figure 7. Affect-rich image of the Panda in the scope 1 condition

Figure 8. Affect-poor image of a product in the scope 1 condition

Appendix D

General questions

"What is your attitude towards donating money for charity?" on a 10 point scale (1 = extremely negative; 10 = extremely positive)

"How much money do you on average donate to charity each month?" on a 6-point scale (€0; €1 - €19; €20 - €49; €50 - €99; €100 - €199; €200 or more).

"*How much money do you have at your disposal each month after subtracting your fixed costs?*" on a 6-point scale (€0 - €999; €1.000 - €1.999; €2.000 - €2.999; €3.000 - €3.999; €4.000 - €4.999; €5000 or more).

"*What is your gender?"* on a 2-point scale (male; female)

"*What is your current age?"* was asked as an open question where participants could fill in their age.

"*What is the highest level of education you have completed?*" on a 6-point scale (high school; MBO (Intermediate vocational education); HBO (University of Professional Education); WO Bachelor of Science (University); WO Master of Science (University); Doctoral degree)