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HYPOTHETICAL BIAS AND FRAMING EFFECT IN THE VALUATION OF PRIVATE CONSUMER GOODS

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Hypothetical bias and framing effect in the valuation of private consumer goods

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Abstract: In the laboratory experiment, I examine two behavioral effects: hypothetical bias and the framing effect. I elicited willingness to pay (WTP) for a cosmetic product, and manipulated framing conditions (positive vs. negative attribute framing) and incentives to reveal the actual valuation (hypothetical vs. real). In this case, I demonstrated that hypothetical bias has a significant impact on WTP values; however, the framing effect has no effect on valuation of the product. Similarly, I found no interaction between the two effects. This observation contributes to claims that hypothetical research methods lead to equally reliable data as those based on consequential choices.

Keywords: framing effect; hypothetical bias; laboratory experiment

JEL codes: D91, M31, C91

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1. Introduction

Understanding the mechanisms that influence consumers' decisions and their perception of the value of products and services is a subject of intense consideration in numerous fields of science, including economics, psychology, marketing, and management. Researchers and business practitioners are continuously trying to evaluate the determinants of the valuation of various goods by consumers and to find methods and models that help to appropriately establish prices.

In this paper, I examine the influence of selected psychological factors, called behavioral effects, on the valuation of private consumer goods. As such, I focus on two well-known phenomena: *hypothetical bias* − the overestimation of somebody's willingness to pay (WTP) in declarative situations, and the *framing effect* − differences in decisions made depending on how the information is presented. I investigate these effects in a laboratory experiment with private goods and thus verify their impact on participants' WTP. The interaction between the aforementioned phenomena will also be examined, which is a novel concept in the literature on the subject; considering how the interaction between the framing effect and hypothetical bias affects WTP values appears to be critical for both practical and theoretical reasons. The research methods using only hypothetical or declarative methods for eliciting consumers' willingness to pay are very popular. The literature noted that hypothetical WTP values exceed actual ones; however, as the size of the hypothetical bias is not constant, we cannot solve this problem by calibrating participants' responses. In this case, we can suppose that the quality of the hypothetical data is inferior to data from real purchasing situations. In this paper, I seek to verify this conjecture, scrutinising whether the tendency to follow certain premises contrary to the paradigm of rationality (such as the framing effect) is stronger when the reported WTP has no financial consequences for the participants. On the other hand, this paper may also contribute to the framing effect literature; an interaction between the studied effects would suggest that the framing effect may simply be a result of insufficient incentives to reveal the actual WTP.

The results of the study may have both theoretical and practical implications. First, this paper will supplement and broaden the existing knowledge of the determinants of the valuation of consumer goods, as well as improve current research methods for eliciting the market prices. As using the framing effect (especially the positive attribute framing) is remarkably common in advertising messages and slogans, the research will also facilitate recommendations within marketing sciences.

2. Literature review

The first behavioral effect relevant to my study is the hypothetical bias. Individuals overstate their valuation in declarative research in comparison to their actual WTP, as confirmed by meta-analyses such as Murphy and Stevens (2004). In the most recent meta-analyses, covering 77 studies, Foster and Burrows (2017) ascertained that the median hypothetical WTPs exceed values observed in situations with real transactions (or incentivised trials) by as much as 39%.

In the literature, many different research methods were used to obtain participants' WTP values. The methods used to elicit hypothetical values include choice experiments (Moser et al., 2014), direct elicitation (Doyon et al. 2015), and declarative Vickrey auctions (List 2001). To obtain the actual values, the authors largely used auctions (List, 2003) and the BDM (Becker, DeGroot, Marschak 1964) procedure (Boyce et al. 1989); however, some studies related to hypothetical bias only observed purchasing decisions instead of eliciting subjects' specific WTPs (Blumenschein et al. 1998). The general conclusion from the extant literature is that the type of valuation method can moderate the hypothetical bias; choice-based elicitation methods, in particular, may reduce it (Murphy et al. 2005).

Several studies have also indicated that a number of specific tools are able to reduce hypothetical bias. These include both cheap talk (Doyon et al. 2015; List 2001) and real talk (Alfnes et al. 2010), as well as various calibration techniques. Some researchers have also found that the usage of students samples may contribute to the bias (Murphy et al. 2005) and that hypothetical bias is weaker in experiments with private goods compared to public goods (List and Gallet 2001).

The second of the selected behavioral effects analysed in the study is the framing effect (see Piñon and Gambara, 2005 for a review). This phenomenon refers to the dependence of the decision made on the formulation of the decision problem. This concept was introduced by Tversky and Kahneman (1981), who linked it to their prospect theory (perceiving the effects of decisions in terms of profits vs. losses). Levin et al. (1998) distinguished different types of framing effects: the risky choice framing effect, the attribute framing effect (associated with the presentation of the attributes of the good), and the goal framing effect (differentiating the decisions of the respondents depending on the way in which the effects of the action are presented).

From the viewpoint of the paper's subject, the results of previous research on the attribute framing effect are of paramount importance. Among them is the well-known study of Levin

and Gaeth (1988), in which the designation of beef with a *75% lean* label influenced a higher taste rating over the same beef described as *25% fat*; similar results were provided by other studies related to the presentation of product features. Levin et al. (1998) proposed an explanation of this phenomenon: "The positive labeling of an attribute leads to an encoding of the information that tends to evoke favorable associations in memory, whereas the negative labeling of the same attribute is likely to cause an encoding that evokes unfavorable associations" (p. 164).

Several studies have also indicated that a number of respondent characteristics may affect the power of the framing effect; for example, Braun et al. (1997) demonstrated that women are more sensitive to attribute framing than men when the chosen attribute is the percentage of fat in chocolate (*20% fat* or *80% fat free*). Hardisty et al. (2010) showed that attribute framing of a carbon fee as either a tax (negative framing) or as a cost offset (positive framing) affected Independents and Republicans, but had a lesser impact on Democrats. In light of these results, another important factor to examine is the influence of respondents' socio-demographic characteristics on the operation of the framing effect in the valuation context.

Only a small fraction of the framing literature is directly related to eliciting WTP. Most studies concern either judgements or assessments. Moreover, it should be highlighted that they typically involve solely hypothetical choices.

There is some research on the framing effect comparing real outcomes with hypothetical ones; however, what should be stressed is that none of them are related to private consumer goods and their valuation. Typically, they concern gambling (Wiseman and Levin 1996; Levin et al. 1988; Kuhberger et al. 1992) or time allocation decisions (Wiseman and Levin 1996; Paese 1995); moreover, no studies have found any significant differences in participants' choices.

3. Research hypotheses

I formulated the following research hypotheses:

H1: Hypothetical bias influences the valuation of the product.

This hypothesis is based on a broad literature. I expect that participants, who make hypothetical, declarative decisions, indicate higher WTP for a given product than those making decisions with actual financial consequences.

H2: The framing effect influences the valuation of the product.

In order to verify this hypothesis, I will use one of the types of framing, which consists of differentiating the ways of presenting the product's attributes. I expect that those participants who have been exposed to positive attribute framing have a higher WTP than subjects who have been exposed to negative framing.

H3: Interactions between hypothetical bias and the framing effect.

I assume that the framing effect will be stronger in the case of hypothetical decisions than in actual purchasing decisions. In other words, I expect that negative attribute framing will reduce hypothetical bias compared to positive framing.

4. Design and procedures

To verify the hypotheses, I conducted a laboratory experiment. The participants were asked to reveal their WTP for a tube of mascara. I chose this good because it is a well-known everyday product that is diversified by price, model, and brand. The price for mascara in Poland ranges from 10 PLN to over 200 PLN. I selected the Cover Girl Lash Blast Clump Crusher mascara because it is inaccessible in cosmetic shops in Poland (and is rarely found online), so I expected that participants would not know the market price (57.40 PLN or approximately 13.37 EUR in an online shop in November 2016). Post-experiment questionnaires confirmed my assumptions: only a very small number of participants were acquainted with the brand or with the model.

My experiment was paper-and-pencil. Four different treatments were used in this experiment in a 2x2 design: RealN (real transactions, negative attribute framing), RealP (real transactions, positive attribute framing), HypoN (hypothetical valuation, negative attribute framing), and HypoP (hypothetical valuation, positive attribute framing). Participants were randomly assigned to either a Real or Hypo condition at session level, whereas Negative or Positive attribute framing was randomly assigned to each subject within a session.

In treatments with real transactions, at the beginning I informed participants of the rules of the experiment. Next, they took part in a BDM procedure; this method is regarded to be correct in terms of incentive compatibility (Kagel 1995). In this procedure, I asked participants to give the maximum price (s) they would be willing to pay for the presented product. Thereafter, we draw the transaction price (p) from a pre-specified distribution. Participants were not informed of the range of the distribution to avoid anchoring (Bohm et al. 1997). If the participant's offer was higher than or equal to the selected price, the participant was required to buy the product at price p. If the offer was lower than the selected price, the transaction would

not be executed. The weakly dominant strategy in this procedure is to state the true WTP (Wertenbroch and Skiera 2002).

Participants were carefully informed of the principles of the procedure used, both orally and in writing. I subsequently showed them the mascara and presented the additional information about the product and framing sentence. Afterwards, I distributed the valuation questionnaires with the following request: *Give the maximum price that you are willing to pay for CoverGirl LashBlast Clump Crusher Mascara (Please enter a specific amount in PLN).* I then randomly chose the transaction price and the participants who had the opportunity to buy the product. In the end, a number of actual transactions were executed.

In treatments with a hypothetical valuation (HypoLow and HypoHi), the scheme was similar, but I used the direct declarative method of eliciting participants WTP for the product instead of the BDM procedure. We informed the subjects that their valuation was purely declarative. In valuation questionnaires, participants were asked: *Give the maximum price that you would be willing to pay for CoverGirl LashBlast Clump Crusher Mascara. (Please enter a specific amount in PLN).*

In order to test the framing effect, I compared the positive and negative framing. In the HypoP and RealP treatments, the positive framing was formulated as follows: "As many as 71% of users would buy this product again (information from the makeupalley.com)." Instead, the negative framing in the HypoN and RealN treatments was: "Only 29% of users would not buy this product again (information from the makeupalley.com)."

In the end, in all treatments, the participants were asked to complete the post-experimental questionnaire concerning their shopping habits and consumer preferences regarding cosmetics, as well as their sociodemographic characteristics.

It took about fifteen minutes for each session to be conducted. Participants were given both oral and written instructions. The experiment was conducted at the Faculty of Economic Sciences of the University of Warsaw. In total, 167 female students took part in my experiment; their mean age was 20 years. A typical participant was an unemployed student in a good financial situation.

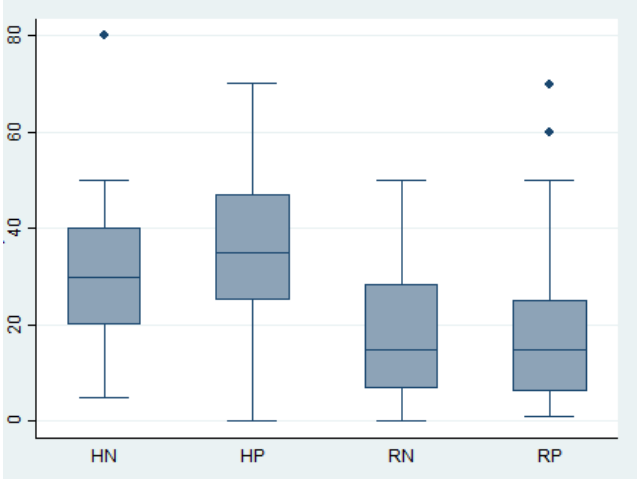
5. Results

The mean WTP for the product in the overall sample was equal to 25.47 PLN, the median was 25 PLN, and the standard deviation was 16.46 PLN. We began our analysis by comparing the WTP values in each treatment. Table 1 and Figure 1 show the values of WTP by treatment.

Table 1: Descriptive statistics (monetary values in PLN)

	HN	HP	RN	RP
N	42	38	44	43
Mean	31.19	35.11	17.30	19.56
Median	30	35	15	15
Standard deviation	13.95	15.47	13.44	15.77

Figure 1: Experiment: WTPs by treatment (in PLN)



Notes: The blue rectangle represents the middle 50% of the data (from the first quartile to the third quartile); the line inside the box shows the median (the second quartile); the whiskers represent the top and the bottom 25% values, excluding outliers, which are represented by dots.

When analysing Figure 1, we are able to notice that the mean WTP is considerably lower in the Real treatments than in the Hypothetical ones, while the anchor made little difference. To verify these observations, I used non-parametric Mann-Whitney's tests; first, we compared treatments with hypothetical valuations and with real transactions (separately for the positive and negative attribute framing) to verify the hypothetical bias. Differences between the WTP values in HypoN and RealN treatments are statistically significant ($p = 0.0000$), as well as in HypoP and RealP ($p = 0.0000$); therefore, we can confirm the hypothetical bias. Next, I compared treatments with positive and negative framing (separately for the groups with hypothetical valuations and real transactions). In the first pair of treatments – HypoN and

HypoP – differences between WTPs were not statistically significant (p = 0.2430). Similarly, in RealN and RealP treatments we did not observe statistically significant differences (p = 0.5567). In light of these results, we can conclude that the framing effect had no impact on the valuation of the presented mascara.

In the next step, I estimated a simple Ordinary Least Squares (OLS) regression model to identify factors that impacted the valuation of the mascara. The dependent variable in this model is the participant's WTP value. Most of the independent variables are extracted from the post-experimental questionnaire, and two of them represent experimental conditions (*hypothetical* and *framing_pos).* In Table 2, four specifications of the model are presented; Model M4 is the final form of the OLS.

Table 2: Regression table: WTP values

	M1	M2	M3	M4
	b/z	b/z	b/z	b/z
hypothetical	11.197***	11.923***	13.547***	12.341***
	(4.970)	(4.033)	(4.906)	(6.022)
framing_pos	2.594	3.320	2.857	
	(1.189)	(1.144)	(1.033)	
information_e	11.539***	11.649***	9.653***	9.462***
	(5.254)	(5.243)	(4.447)	(4.422)
needs_e	2.423	2.412		
	(1.044)	(1.036)		
finance_e	3.480	3.463		
	(1.411)	(1.399)		
using_mascara	4.395	4.299		
	(1.283)	(1.248)		
price_30-50	6.167**	6.171**	5.792**	5.826**
	(2.529)	(2.523)	(2.546)	(2.569)
price>50	9.371***	9.450***	8.426***	8.851***
	(2.797)	(2.807)	(2.752)	(2.944)
cosm_expenses	5.714**	5.662**	5.705**	5.569**
	(2.309)	(2.278)	(2.431)	(2.388)
the_same_masc	-3.358	-3.469		
	(-1.401)	(-1.432)		
self_assessment	-2.304	-2.242		
	(-0.941)	(-0.911)		
relationship	4.397**	4.282*		
	(2.007)	(1.931)		
financial_syt	-0.793	-0.871		
	(-0.359)	(-0.391)		
age	-1.083	-1.080		
	(-0.869)	(-0.863)		
hypoXfram_pos		-1.650	-2.481	
		(-0.381)	(-0.608)	
design_e			-5.826**	-5.902**
			(-2.390)	(-2.434)
constant	24.056	23.760	8.486***	9.951***
	(0.924)	(0.909)	(3.329)	(4.732)
N	154	154	160	160

R-sqr	0.4604	0.4610	0.4401	0.4361
F	8.47	7.87	14.83	19.72
Prob>F	0.0000	0.0000	0.0000	0.0000

In the final form of the OLS model, we obtained six statistically significant variables:

- hypothetical (1 – for declarative (hypothetical) valuation, 0 – for BDM procedure),
- design_e (1– if the participant took the design of the product into consideration during the valuation process, 0 – in all other cases),
- information_e (1 – if the participant took the enclosed information about the product into consideration in the valuation process, 0 – in all other cases),
- price_30– 50 (1 – if the participant usually buys mascara priced between 30-50 PLN , 0 – if the participant usually buys mascara priced lower than 30 PLN).
- price>50 (1 – if the participant usually buys mascara priced above 50 PLN…. , 0 – if the participant usually buys mascara priced below 50 PLN).
- cosm_expenses (1 – if the participant spends more than 50 PLN a month on cosmetics, 0 – in all other cases).

It is worth mentioning that the interaction between the two most important variables, *framing_pos* (1 – for positive framing, 0 – for negative framing) and h*ypothetical* (1 for declarative (hypothetical) valuation, 0 – for real transactions) was not statistically significant.

The RESET test showed that the functional form of the model was correct ($F(3, 150)=2.22$; $p=0.0878$). The results are consistent with those of non-parametric tests reported previously; indeed, the hypothetical bias influences the valuation of the product – in a hypothetical valuation, WTP is higher than a BDM valuation; however, the framing has no statistically significant effect.

To summarise, the results of the current study demonstrated that hypothetical bias influences the valuation of goods. Participants who valued mascara hypothetically had a higher WTP than the others by 12.34 PLN; however, we cannot observe the impact of the framing effect on WTP for the mascara, nor the interaction between hypothetical bias and the framing effect.

6. Conclusion

I confirmed Hypothesis 1, that hypothetical bias influences the valuation of the product. The study demonstrated that the hypothetical bias determines the perception of goods and influences their valuation. Participants overstated their actual WTPs in hypothetical situations. However, when using declarative methods we are not able to discern participants' actual preferences, only their hypothetical ones; thus functioning primarily in the symbolic sphere. The experimenter demand effect or social desirability bias may also be the source of the inflated WTP values.

I did not confirm Hypothesis 2, that the framing effect influences the valuation of the product. Similarly, I rejected Hypothesis 3, that hypothetical bias and the framing effect interact. Of course, the reason for the latter may be that the framing per se was too weak and so did not affect the valuation; this outcome may be a random incident because of the relatively small sample. The usage of a mild frame or a mismatch between the type/formulation of the framing information and the sample may also play a role.

Nevertheless, in light of these findings we cannot conclude that hypothetical data is of lower quality than actual data. Hypothetical results are shifted towards higher values but remain internally consistent. In this sense, there is no reason to question the validity of declarative research methods. It is worth remembering, however, that I investigated only one manifestation of supposed low quality of hypothetical data, so further research should be pursued.

References

Alfnes, F., Chengyan, Y., Jensen, H.H. 2010. Cognitive dissonance as a means of reducing hypothetical bias. European Review of Agricultural Economics 37 (2), 147–163.

Becker, G.M., DeGroot, M.H., Marschak, J. 1964. Measuring utility by a single-response sequential method. Behavioral Science 9 (3), 226−232.

Blumenschein, K., Johannesson, M., Blomquist, G.C., Liljas, B., O'Conor R.M. 1998. Experimental results on expressed certainty and hypothetical bias in contingent valuation. Southern Economic Journal 65 (1), 169–77.

Bohm, P., Linden J., Sonnegard, J. 1997. Eliciting reservation prices: Becker-DeGroot-Marschak mechanisms vs. markets. Economic Journal 107 (443), 1079−1089.

Boyce, R.R., Brown, T.C., McClelland, G.H., Peterson, G.L., Schulze, W.D. 1989. Experimental evidence of existence values in payment and compensation contexts.

Proceedings of the Joint Meetings of the Western Committee on Benefits and Costs of Natural Resource Planning (W-133), 305–36.

Braun, K.A., Gaeth, G.J., Levin, I.P. 1997. Framing effects with differential impact: The role of attribute salience. Advances in Consumer Research 24, 405−411.

Doyon, M., Saulais, L., Ruffieux, B., Bweli, D. 2015. Hypothetical bias for private goods: Does cheap talk make a difference? Theoretical Economics Letters 5 (6), 749–756.

Foster, H., Burrows J. 2017. Hypothetical bias: A new meta-analysis, in: McFadden, D., Train, K. (ed.), Contingent Valuation of Environmental Goods: A Comprehensive Critique., Edward Elgar, Chelthenham, pp. 270–291.

Hardisty, D.J., Johnson, E.J., Weber, E.U. 2010. A dirty word or a dirty world? Attribute framing, political affiliation, and query theory. Psychological Science 21 (1), 86−92.

Kagel, J. 1995. Auctions: A Survey of Experimental Research, in: Kagel, J., Roth, A.E. (eds.), Handbook of Experimental Economics. Princeton University Press, Princeton, pp. 501–585.

Kuhberger, A., Schulte-Mecklenbeck, M., Perner, J. 1999. The effects of framing, reflection, probability, and payoff on risk preference in choice tasks. Organizational Behavior and Human Decision Processes 78, 204–231.

Levin, I.P., Chapman, D.P., Johnson, R.D. 1988. Confidence in judgments based on incomplete information: An investigation using both hypothetical and real gambles. Journal of Behavioral Decision Making 1, 29–41.

Levin, I.P., Schneider, S.L., Gaeth, G.J. 1998. All frames are not created equal: A typology and critical analysis of framing effects. Organizational Behavior and Human Decision Processes 76, 149−188.

List, J.A. 2001. Do explicit warnings eliminate the hypothetical bias in elicitation procedures? Evidence from field auctions for sportscards. American Economic Review 91 (5), 1498–1507.

List, J.A. 2003. Using random nth price auctions to value non-market goods and services. Journal of Regulatory Economics 23, 193–205.

List, J. A., Gallet, C.A. 2001. What experimental protocols influence disparities between actual and hypothetical stated values? Environmental and Resource Economics 20 (3), 241–254.

Moser, R., Raffaelli, R., Notaro, S. 2014. Testing hypothetical bias with a real choice experiment using respondents' own money. European Review of Agricultural Economics 41 (1), 25–46.

Murphy, J.J., Stevens, T.H. 2004. Contingent Valuation, Hypothetical Bias, and Experimental Economics. Agricultural and Resource Economics Review 33 (2), 182–192.

Murphy, J.J., Allen, P.G., Stevens, T.H., Weatherhead D. 2005. A meta-analysis of hypothetical bias in stated preference valuation. Environmental and Resource Economics (30) 3, 313–225.

Paese, P.W. 1995. Effect of framing on actual time allocation decisions. Organizational Behavior and Human Decision Processes 61, 67–76.

Piñon, A., Gambara, H. 2005. A meta-analytic review of framing effect: Risky, attribute, and goal framing. Psicothema 17, 325−331.

Tversky, A., Kahneman, D. 1981. The framing of decisions and the psychology of choice. Science, 211 (4481), 453−458

Wertenbroch, K., Skiera B. 2002. Measuring consumer willingness to pay at the point of purchase. Journal of Marketing Research 39, 228−241.

Wiseman, D., Levin, I. 1996. Comparing risky decision making under conditions of real and hypothetical consequences. Organizational Behavior and Human Decision Processes 66, 241–250.

Appendix

Transcript of instructions

Part 1: Introduction [all treatments, presented orally]

Welcome!

Thank you for taking part in our experiment! One randomly selected participant will receive a 50 PLN Sephora voucher today.

Please turn off your mobile phones, remain silent, and do not communicate with one another.

If you have any questions during the experiment, raise your hand and wait for the experimenter to come to you. (Do not ask your question aloud!)

People who do not comply with these rules will be excluded from the experiment and lose the chance of winning the prize.

We would like to inform you that the study is anonymous and all data collected will be used solely for scientific purposes. Along with the next set of instructions, you will receive an individual respondent code that you will need until the end of the experiment. Place it in a prominent spot on the bench/desktop in front of you.

Part 2: Rules [HypoP, HypoN]

In a moment, you will receive a questionnaire in which you will be asked to value a cosmetic product. In the questionnaire, you will have to specify the maximum price you would be willing to pay for this product. Your reply will be purely declarative and no real transactions will be made on this basis. The amount you give will not be disclosed to anyone.

If you have any questions, raise your hand and wait for the experimenter to approach you.

Part 3: Information about product and valuation questionnaire [HypoP, HypoN]

Mascara CoverGirl LashBlast Clump Crusher – black.

An innovative brush evenly separates lashes, distributing the optimal amount of mascara on each one. Delivers 200% more volume and zero clumps.

Made in USA. 13.1 ml.

[RealP] **As many as 71% of users would buy this product again ***

*****information from the makeupalley.com.

[Real N] **Only 29% of users wouldn't buy this product again ***

*****information from the makeupalley.com.

….....

Give the maximum price that you would be willing to pay for CoverGirl LashBlast Clump Crusher Mascara. (Please enter a specific amount in PLN.)

…….

Part 2: Rules: [RealP, RealN]

In a moment, you will have the opportunity to buy some cosmetic products. You will receive a questionnaire in which you will be asked to specify the maximum price you would be willing to pay for this product. The amount you give will not be disclosed to anyone.

Your reply will be binding, and will depend on whether you are able to buy the product. After everyone gives their amounts, two participants will be drawn. If you are one of them, a transaction price will be drawn for you. If it is lower than or equal to the amount you specified, you will be required to buy the product at the drawn price; however, if the drawn transaction price is higher than the amount you provided, no transaction will take place.

The best thing you can do in this situation is to give your actual valuation, which is the maximum price you are willing to pay for the presented product. If you give an amount higher than your actual valuation, you may have to pay more than you are willing to. If, on the other hand, you give a lower valuation than your actual one, you may be disappointed with your inability to purchase the product at your actual price.

Example: The participant declares that the maximum price she is willing to pay for the product is 1500 PLN; a price of 1200 PLN is drawn. The participant buys the product for 1200 PLN; however, if she declared only 1,100 PLN, she is not able to buy the product. Of course, this is just an example; the amounts involved in the experiment will be significantly lower.

If you are required to make a purchase and you do not have enough money with you, you will be able to pay up to a week after the experiment; thus even if you do not have cash on you, you can still participate in the experiment.

If you have any questions, raise your hand and wait for the experimenter to approach you.

Part 3: Information about the product and valuation questionnaire [RealLow, RealHi]

Mascara CoverGirl LashBlast Clump Crusher – black.

An innovative brush evenly separates lashes, distributing the optimal amount of mascara on each one. Delivers 200% more volume and zero clumps.

Made in USA. 13.1 ml.

[RealP] **As many as 71% of users would buy this product again ***

*****information from the makeupalley.com.

[Real N] **Only 29% of users wouldn't buy this product again ***

*****information from the makeupalley.com.

….....

Give the maximum price that you are willing to pay for the CoverGirl LashBlast Clump Crusher mascara. (Please enter a specific amount in PLN.)

…….

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