Scarcity and preference:

An experiment on unavailability and product evaluation[1]

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ABSTRACT

The experiment reported examined the effects of four conditions of product availability on consumers' preferences for recipe books, and the corresponding uniqueness judgments and cost evaluations for the same products. These conditions were unlimited availability, limited availability due to popularity, limited availability due to limited supply and accidental unavailability.

The results varied according to whether other people's choices depended on the participants' revealed preferences in the investigation. Without this social constraint, participants preferred a book of limited availability due to market conditions to books that were accidently unavailable or of unlimited availability. This effect was most pronounced for books that were of limited availability due to *both* popularity and limited supply. When a social constraint was present, no significant differences in preferences were observed.

Books of limited availability due to market circumstances were perceived as more costly and more unique than books that were accidentally unavailable or abundantly available. Emphasizing the presence of others led to a decrease in the uniqueness judgment for a good of limited availability, especially when the limited availability was due to popularity. Books of limited availability due to both popularity and limited supply were perceived as more costly regardless of the social situation.

Availability of goods influences consumers' preferences, and this effect is mediated through perceptions of uniqueness and cost evaluations.

1 INTRODUCTION1 INTRODUCTION

Scarcity affects individuals' reactions to commodities. Lynn's (1991) meta-analysis shows, following Brock's (1968) commodity theory, that scarcity "enhances the value of anything that can be possessed". The scarcer a commodity is, the more valued or desirable it becomes.

The psychological and marketing implications of this statement are straightforward. A commodity can be made more valuable or desirable by manipulating its perceived scarcity. Scarcity, or unavailability, may be determined by limited supply or a limited number of suppliers, costs of acquiring, keeping or providing a commodity, restrictions that limit the possession of a certain commodity and delays in providing a commodity (Brock 1968). Some commodities fulfill these requirements naturally: an antique French clock is limited in supply, costs a bundle to obtain and maintain, requires ample wall space, and is not delivered upon request. By adding such extrinsic product characteristics to an item that already possesses intrinsic value, it is easy to see why many people desire such a commodity.

For marketers and consumer psychologists the issue of scarcity becomes more relevant in day-to-day situations, e.g., when supplying consumer goods. For instance, the first bucket of new herring caught and delivered in The Netherlands sold for over US$ 33,000 on the traditional "Vlaggetjesdag" in 1993. This amount had been paid for an estimated 30 to 40 herring (personal communication, Ministry of Agriculture, Nature Management and Fisheries 1993). Although this specific example shows the symbolic value of this national snack, it also depicts the effect of scarcity nicely: as there is only one first bucket of fresh herring, it is expensive. The retail price of a single herring is about US$ 1.50; this enormous drop in price reflects the abundant availability of the commodity once the first catch has been sold.

Individual difference variables have their role to play in how consumers react to scarce goods (see, e.g., Szybilo 1975). However, in the present context, scarcity effects are especially of interest when the causes for scarcity are related to market circumstances. Given that scarcity enhances desirability for commodities, and that scarcity and prices are related in consumers' minds, Lynn (1992) argued that market scarcity would have a larger effect on desirability than nonmarket scarcity. Although Brock and Brannon (1992:142) contend that "There is no strong evidence for the hypothesis that market scarcity should produce larger effects than nonmarket scarcity", there is some empirical support for that thesis (Verhallen 1982).

1.1 Limited availability due to market circumstances1.1 Limited availability due to market circumstances

In commodity theory scarcity conveys unavailability. Both the number of co-recipients and the number of suppliers of a good influence the valuation of that good. Empirical evidence with regard to the effect of increased demand on the valuation of messages is provided by Brock (1968), Bozzolo and Brock (1992), and Worchel (1992). In a similar sense do consumers react to anticipated market shortages by hoarding specific items (McKinnon et al. 1985; Schlinger 1975). The valuation of an item may also increase when it is forbidden (Allen and Allen 1974). With respect to tangible goods both Worchel et al. (1975) and Verhallen (1982) demonstrated the effect of scarcity on the evaluation of tangible goods to be stronger when scarcity is due to an increased demand than when due to accidental circumstances.

The latter finding is consistent with Lynn's (1992) statement that market scarcity

should affect desirability more than would nonmarket scarcity, given individuals' implicit beliefs on the relationship between scarcity, price, and the desirability of a good. His meta-analysis of commodity theory effects however did not corroborate this view, and he attributes that to the fact that correlational analyses rather than experiments had been performed (Lynn 1991). Indeed, the effect of scarcity due to limited supply on the valuation of tangible goods has been hardly experimentally addressed. Verhallen (1982: 305-312) reported an effect of limited supply on choice behavior: goods of limited availability were choosen more often. Lynn (1992) and Verhallen (1982) have shown that accidentally scarce goods were not more highly valued than abundantly available goods. It is not the mere limited availability but consumers' perception of the cause of this limited availability that produces the preference increase. The few studies that investigated this topic only included general dependent variables such as overall liking (Fromkin 1971), attraction (Worchel et al. 1975) or choice (Verhallen 1982). We might hypothesize that these unavailability conditions or market cues are causing an impression of being harder to get, being more costly or giving the recipient a more unique commodity. The effect of limited availability due to market causes on preference is hypothesized to be mediated by both a cost and an uniqueness evaluation. The present investigation represents a more systematic effort to explore the effect of different types of limited availability and related situational characteristics on the valuation of goods.

Social motives such as altruism or prestige might mediate the value increasing effect of unavailability factors. In experimental research it is consistently found that pure physical availability or nonavailability cannot explain the value enhancing effects reported (e.g., Verhallen 1982). A good of limited availability will only be valued more than an unof limited availability alternative when the limitations on its availability are not due to accidental

circumstances. The causes for the limited availability will determine the attributions people will make. If group belongingness or other social restrictions are said to be determining the limited availability, the arousal of an uniqueness motive (Fromkin and Snyder 1980; Snyder and Fromkin 1980) or other social motives (e.g., gaining prestige by downward comparison, Wills 1981; status effects, Veblen 1899/1965) may rise and determine the value changes and choice effects. The present experiment therefore explores the effect of a social condition on individual choices and evaluations.

Micro economic theory poses that the financial budget restriction, based on intrinsic product characteristics, determines the alternative that maximizes utility, which is´given by the intersection between the budget line and an individual's indifference curve for a certain good or set of goods (see, e.g., Becker 1965). However, extrinsic product cues may influence consumers' perception of an alternative, and hence its attractiveness. Such extrinsic cues may especially be relevant in situations where others are present, in that those cues can convey messages about the owner or purchaser of that product. Hence, we believe that there is also a social constraint that influences the revealed preference for a good.

The reasoning set out above led to the formulation of the following hypotheses:

H_1: Limited availability and the perceived causes for limited availability will affect product evaluation and preference as revealed by choice; goods of limited availability will be preferred more, and market scarcity will produce a larger effect than nonmarket scarcity. Thus, a good of limited availability is superior to a good of unlimited availability in terms of perceived uniqueness, cost evaluation, and preference;

H_2: Limited availability due to both demand and supply factors will exert the strongest evaluative and preference effects. A book that is of limited availability due to market causes

(caused by demand, supply, or both) should be rated as more unique and more costly, and be chosen more often than an alternative of unlimited availability or a book that is of limited availability by accident. Accidentally available books would be similarly judged as books of unlimited availability. This specification of the first hypothesis is suggested by the results reported by Verhallen (1982); and

H_3: The presence of others will inhibit the choice for a good of limited availability. We expect the basically more attractive alternative, a book of limited availability due to market circumstances, to be chosen less often in a condition where the presence of others is emphasized, a *social* condition. Without a social constraint, participants will choose this attractive alternative more often than an alternative of limited availability due to accidental circumstances or an alternative of unlimited availability, as opposed to choice in the nonconstraining situation. If there is no social constraint, a book of limited availability due to both supply and demand will be rated as more unique and more costly and will be chosen more often than an alternative of limited availability due to either popularity or supply. If there *is* a social constraint, a book of limited availability due to both supply and demand will not be choosen as often as an alternative of limited availability due to either popularity or supply. The *valuation* of a book of limited availability due to both supply and demand may however remain more positive. Social constraint here acts as a moderator variable (see Baron & Kenny 1986; Brock & Brannon 1992).

2 METHOD2 METHOD

Design

The experiment was presented to the participants as a product test situation. Participants had to evaluate three recipe books and subsequently choose one from these. Information about the contents of the books was given, as well as information about the availability of the three books in the choice situation. One of the three books was said to be of limited availability; the other two books were described as being abundantly available. Limited availability was varied across the three books. Half the participants were told they could freely choose among the books; for the other half of the participants a social constraint was induced by stressing the presence of others.

Participants

Participants were 120 women from the Tilburg area, selected randomly from the telephone directory. Student participants could not be used as the cover story for the experiment (product tests) caused suspicion among them in a pilot study. Some of the student participants did not consider this kind of research to be `scientific' enough to be performed at a psychological laboratory. Worchel et al. (1975) reported that participants aware of the experimental availability manipulation would react in contrast to what they considered to be the experimenters' expectation. To prevent this awareness effect, female homemakers participated in this study.

Procedure

Participants entered the experiment in groups of 3 to 5. In the advance information they received by mail, participants were told that the investigation was a research project on how to perform product tests, and that they would be able to keep the products they chose in the study. Product tests of this kind were said to be held on a regular basis, and the participants were therefore asked to indicate their interest in 18 different kinds of products if they were asked to cooperate in future product tests. These interest ratings were not subjected to any analyses, as they were only collected to strengthen the cover story.

The participants were then led into a personal cubicle in the laboratory. This procedure allegedly kept them from being disturbed when making their choices among the products. Participants received prerecorded standard instructions through earphones and TV-screens in front of each cubicle. They were to choose among 18 recipe books displayed before them on a table. All books were from the same editorial series.

This particular product test consisted of three parts. In each part participants had to evaluate three books and choose among them, using a special form for each of them. These three books were picked at random from the 18 available ones. At the end of the investigation, one of the three choice forms the participants had filled out was chosen at random. Each participant would receive the book given the first choice on that form after the study, by mail. It was emphasized that they should not see each other as competing, as they would each receive different choice forms.

The *social constraint* condition stated that this group of participants was the very first in this particular product test on recipe books. Participants were asked to consider that more participants would enter into the investigation afterwards. In contrast, in the *socially*

nonconstraining condition participants were told that they formed the very last group of participants for this particular product test. This was explained to indicate that they could choose whatever book they wanted, as their choices would not influence other people's choices. They were then given the first choice form on which three books were described.

The information presented on that form was taken from the back cover of the book, discarding information referring to popularity, uniqueness et cetera. Next to this `factual' information, participants received information about evaluations and choices by other participants in previous product tests. They were told that this was to provide them with some more `real world' information they would typically receive in bookshops or from friends.

The first choice situation participants faced was identical for all. The information given consisted of the contents of the books, the popularity of the books in a previous product test (they were about equally popular), the number of copies available at the beginning of the experiment (abundant availability, about 30 copies for a group of four participants on average) and the real world availability of the books; they were available in the average bookshop. The social constraint condition (`first group' instruction) did not refer to previous popularity of the books.

In the second choice situation, the experimental one, information about availability within the experiment was varied among the three books. The number of copies available was said to be large enough for two of the books, but that `just a few' copies remained of the third book. It was stressed that there were barely sufficient copies available for the participants present at the moment. In the socially nonconstraining condition it was said that if other participants would have followed the present group, there would not have been enough copies available. The social constraint condition stated that this group of participants was the

very first in a new series of product tests. The first product to be tested, the recipe books, was already tested by earlier groups in the old series of product tests. (The experimental situation in fact represented a social situation itself; the emphasis in the present study, however, was on the effects subsequent others might have on the reactions displayed by the participants.)

The reasons given for the difference in availability of the books were varied between participants; there were four conditions: (1) *limited availability as due to accidental circumstances* (LA): participants were told that by accident, the publisher had sent a smaller number of one of the three books; (2) *limited availability as due to popularity* (LP): the books had purportedly been used in a previous product test which started with equal numbers but that one book was chosen so often that only a few copies of that book remained. The other books had been less popular, so that more copies of these remained for this product test; (3) *limited availability as due to limited supply* (LS): the different numbers of copies available were attributed to the size of the edition. One book had a very limited edition so that the publisher could spare only a few copies. The other books had a large edition so sufficient numbers were available for this test; and finally, (4) *limited availability as due to popularity and limited supply* (LP+S): participants were provided with the information from conditions 2 and 3 combined. Thus, both limited supply *and* popularity were said to cause the limited availability of the books.

Summarizing, the design can be characterized by a nested (3*2)*4*2 factorial design, and included three recipe books, with different availability, four causes for limited availability and two different social situations, either with or without social constraint.

Participants were assigned randomly to the conditions. After having received the information on the three books, participants evaluated the three books in terms of the

uniqueness of the recipes it contained; on a 5-point scale, the value '1' indicated that the book was seen as 'very unique' and a '5' that it was seen as 'very common'. (In Dutch, the word 'common' does not carry the negative connotations it does in the English language.) This projective method, namely the rating of recipes rather than books, was chosen to avoid the participants' reaction that this sort of book is never unique. They also rated the relative price of the books on a 3-point scale with a '1' indicating the book was perceived as 'most expensive' and a '3' that it was judged as 'least expensive'. This ranking task was chosen again to avoid the participants scaling all the three books in the middle, as equally expensive. Equal rankorders were not excluded. Then participants rankordered the books according to their preference on a 3-point scale with a '1' indicating their 'first choice' and a '3' as their 'last choice'. In the debriefing part of the investigation, participants filled out a short questionnaire concerning (1) their possession of the books used in the investigation, (2) their understanding of the procedure and instructions, and (3) a question about the accuracy of the availability information. Analysis of this information indicated that four participants showed suspicion (one of them already possessed one of the recipe books); they were excluded from the analysis. Two other participants skipped some evaluative questions and their responses were therefore excluded from the analyses.

At the end of the debriefing the true intentions of the researchers were revealed to the participants: not the preference for recipe books but their reactions to the scarcity and social constraint formed the aim of the study. The typical reaction of the participants was threefold: (a) they agreed that the study could only be done by not telling them this real purpose before, (b) some participants, typically from the social constraint condition within the 'popularity and limited supply'-scarcity manipulation, wanted to alter their choice. Of course, this was

allowed, and this altered preference also indicated the succes of the manipulations, and (c) the participants often expressed they liked it even more to be part of such a scientific experiment then to participate in a product-test as they were told before.

3 Results and Discussion3 Results and Discussion

To provide a general overview of the results, the mean scores for uniqueness, cost evaluation and choice within the different experimental treatments have been graphically depicted in Figures 1a and 1b. These figures represent the results for the nonconstraining and the constraining conditions, respectively. The hypotheses have been tested by using analyses of variance for the uniqueness data and conjoint analyses on the cost evaluation and choice rankorder data.[2] We will first present the results on the choice data, and subsequently those for the uniqueness and cost evaluation data.

Insert Figures 1a and 1b about here

Choice data. The average rankorder for the book of limited availability due to market causes (LMC) is lower than the average rankorder for the the book of unlimited availability (UA), namely 1.74 versus 2.09, indicating that the first is preferred to the second (see Table 1). The choice rankorder data were analyzed using a 3 x 3 design with *product* (three levels) and *availability* (three levels) as independent variables. Table 1 contains the results of this analysis.

Insert Table 1 about here

The part-worths in Table 1 represent the score of a factor level relative to the other factor levels partialling out the effect of other factors in the experimental design. They show a significant effect of the factor *product* on the choice rankorder data: P2 and P1 are preferred to P3 (the utility or part-worth of P3 was arbitrarily set to zero). The LMC alternative obtained a significantly higher part-worth than the LA or UA alternatives (.51 versus -.10 and 0 respectively; $p < .01$). The average rankorders for the LA and UA alternatives (2.07 and 2.09 with part-worths -.10 and 0 respectively) do not differ significantly; *only* if the limitations in availability are attributable to market causes, that alternative is choosen more often.

The strength of the constraint to choose the alternative of limited availability depends on the cause for the limited availability as is shown in Table 2. Between the socially constraining and the socially nonconstraining conditions there is no difference in preference for the LP and LS alternatives. Both remain to be chosen significantly ($p < .05$) more often than the UA alternative. However, when the limitations on availability are emphasized, as is the case for the LMC alternative, the presence of others reversed the revealed preferences. The part-worths for this alternative changed significantly (1.08 versus -.51, $p < .001$).

Insert Table 2 about here

The data needed to test the third hypothesis are presented in Table 3.

Insert Table 3 about here

Table 3 indicates that, if there are no social constraints, LMC is preferred to both LA and UL (χ^2 = 9.39 and 9.66 respectively, $df = 1$, $p < .01$). However, under social constraints these preferences disappear: no significant relationship is observed. Emphasizing the presence of others in the choice situation inhibits the choice of otherwise preferred alternatives.

Summarizing, the results provided support for all hypotheses with regard to the choice criterion: LMC is chosen more often than LA and UL; the presence of others inhibited this effect. An additional analysis was performed guided by Verhallen's (1982) finding that participants who were not interested in the product category did not choose the alternative that was preferred most by interested participants. The debriefing phase of that experiment indicated that these participants did not choose the alternative of limited availability in order to leave it to other more interested participants. The arousal of an altruism motive was mentioned as a possible explanation for this phenomenon. Following this reasoning, the interest in the product category, recipe books, was assessed on a 7-point scale at the outset of the present experiment. For both conditions separately, the difference in LMC choices between interested and not-interested participants was tested. None of the differences were significant, which indicates that not interest in the product category as such, but the sensitivity to social pressure moderates the effect of limited availability on overt choice.

Uniqueness and cost evaluation. The results with respect to uniqueness and cost evaluation were in general agreement with the choice-findings and supported the first hypothesis (see

the right-hand parts of Figures 1a and 1b). LMC was evaluated as more unique ($z = 2.3$; $p < .05$) and more costly ($\chi^2 = 1.44$, $df = 1$, $p < .001$) than UL and LA (uniqueness $z = 2.6$, $p < .01$; cost evaluation $\chi^2 = 16.9$, $df = 2$; $p < .01$). An LA alternative was considered equally unique as an UL alternative, and only marginally more costly ($\chi^2 = 3.18$, $p < .10$).

With respect to the second hypothesis, on the effect of the social condition on the uniqueness and cost evaluation, Figures 1a and 1b show the books of limited availability to be evaluated as more unique in the nonconstraining condition than in the constraining condition (LMC = 2.15 versus 2.49, $p < .01$). In the nonconstraining condition differences between LMC, LA and UL with respect to the uniqueness evaluation and the cost evaluation were similar to but somewhat more pronounced than for the total group. In the constraining condition these differences in uniqueness evaluation were smaller. The uniqueness scores for LMC, LA and UL were 2.49, 3.00 and 2.76 respectively, which were only marginally different ($p < .10$). Cost evaluation, however, was not affected by social constraints: the scores of LMC, LA and UL remained about equal (1.72, 1.85 and 2.12 respectively in the constraining condition versus 1.71, 1.88 and 2.12 in the nonconstraining condition). So LMC in the constraint condition was evaluated as more costly than LA and UL.

The right-hand sides of Figures 1a and 1b contain the uniqueness and costs scores of goods of limited availability due to different market causes for both social conditions. As remarked earlier, stressing the presence of others led to a decrease in uniqueness valuation for a good of limited availability. This effect was most notable for LP. The uniqueness difference, 2.08 vs. 2.65 was significant ($p < .05$). For the other books of limited availability, LS and LP+S, the difference was in the same direction but not statistically significant. LP+S was viewed by the participants as more costly than UL (for the constraint condition $p < .05$; for

the unconstrained condition $p < .01$). The changes in cost evaluation due to the social condition were nonsignificant.

Overall, the first and second hypotheses received support with regard to the uniqueness and cost evaluation data. A book of limited availability due to a market cause was evaluated as more costly and more unique than an alternative of unlimited availability. When the presence of others was stressed, in social situations, cost evaluations did not change; however, the books of limited availability were judged differently with regard to their uniqueness, especially when the reason for limited availability was the popularity of the book on previous occasions. This latter finding suggest that the uniqueness and cost evaluations of the participants were sensitive to changes in the specific cause for limited availability of goods.

4 Conclusions4 Conclusions

The present research elaborated on the relationship between availability and preference. Experiments on the effects of different kinds of limited availability on the preference for goods may shed new light on longstanding exceptions within demand theory such as Veblen- and snobeffects (xxTV provides referencesxx). The experiment reported studied the effects of limited availability due to different market causes on the uniqueness and cost evaluation and the preference for tangible goods. The results show that both a uniqueness and a cost assessment is being made by the participants, and that these assessments depend on the specific reason for limited availability. It is also shown that revealed preferences are not only

a function of the product utility assessment by the participant, but also a function of social constraints.

More attention for costs and type of costs and preference is warranted. The implicit model in our research states that scarcity influences the revealed preferences of consumers through perceived uniqueness and a costs assessment (Verhallen and Pieters 1984; Pieters 1989). The levels of perceived uniqueness and costs are inferred from specific cues. However, there are constraints that may impair the occurrence of the consumers' preferences. Social circumstances may arouse certain mechanisms that inhibit more positive evaluated alternatives from being chosen. This provides an empirical basis for the notion that not only financial budget restrictions, but also external social restrictions may determine consumer choice (see, e.g., Lindberg 1983). In conclusion we state that the boundedness of consumer choice is not only of a financial and temporal nature (Becker 1965), but also includes cognitive or rational (Simon 1955), physical or availability and social or norm factors (Lesourne 1979: 33). The hypothesis that has been posed and partially tested in the experiment is that the evaluation of costs mediates the effect of market circumstances on the valuation of goods.

The analogy with the price-quality relationship has been made. Price is often found to be used as an indicator for quality especially when other intrinsic product information is lacking in choice situations (Olson 1974; Monroe and Pretroshius 1981). Steenkamp (1989) and Tellis and Wernerfelt (1987) agreed on a weak but positive relationship between price and quality for the studies they reviewed. It has been hypothesized that the aforementioned availability conditions delay, effort and market circumstances will affect the valuation of goods as they arouse a cost assessment by the choosing individual.

The present hypothesis generalizes the price-quality relationship (e.g., Gabor and Granger 1966; Olson 1974) by including other than purely financial prices and specifying the condition that only if a (behavioral, financial, social) price increase leads to a perceived cost increase, a value increase will occur. Factors influencing the price-cost relationship are the individual's (behavioral, financial, social) budget (Verhallen and Pieters 1984) and perception factors that may inhibit or facilitate a price difference or change to be taken as, or attributed to, a real cost change. When alternatives have to be evaluated, factors such as prior experience and reference prices (see, e.g., Monroe and Pretroshius 1981) will influence evaluations and choice behavior.

Limited availability, if attributable to a market cause, effects both the uniqueness and the costs evaluation. The uniqueness evaluation has been discussed by others (Fromkin and Snyder 1980; Snyder and Fromkin 1980), the relationship between cost evaluation and preference might be seen as a generalization of the price-quality relationship (Gabor and Granger 1966; Olson 1974). How and when a cost evaluation leads to a preference change as well as what the effect of type of costs, financial or behavioral costs (see e.g. Robben and Verhallen 1991; Verhallen and Pieters 1984) is on preference change, might be illuminated by future research.

NOTES

1. The authors wish to thank Dr M. Croon, Tilburg University, for developing the TRIRANK computer program to test the effect of treatments in a full rank design on rank data; a program listing is available upon request. The helpful comments made by the Editor and two anonymous reviewers are greatly appreciated.

2. The rankorder data of the booklets, the dependent variable in the study, are decomposed into part-worths of the different experimental treatments. As the TRIRANK analysis, based on Luce's choice theorema, uses maximum likelyhood estimators, the second derivate of the part-worths is an unbiased estimate of their variance. Using these variances differences between factor levels (part-worths) in the experimental design can be tested. The analysis procedure closely resembles a traditional analysis of variance: the part-worths expressing differences between factor levels are determined by within-subject differences between observed and expected rankorders. These were tested with a Walt-test, a member of the χ^2-family. For between-subject differences, a z-test was employed. The results of the analyses have been cross-validated by performing χ^2-tests on the direct rank order data, F-tests on differences in variance as well as conjoint analyses. As no substantial differences between test procedures were found, the results reported are from the more appropriate conjoint measurement analyses.

One reviewer appropriately remarked that in testing multiple contrasts for the three conditions of limited availability, multiple contrast coefficients like Scheffé S should be used to avoid finding significant differences that could be due to chance. Calculation of the individual contrasts using a χ^2-measure, which basically parallels the Scheffé procedure, did not alter the results reported.

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Table 1 The overall effect of availability on preference (*N* = 114); entries are part-worth estimates obtained in conjoint analysis

Factor	Factor level	R	Part-worths	χ^2 *df* = 2	Significance *p* <
Product	P1		.25	7.29	.01
	P2		.50		
	P3		.00		
Availability	LMC	1.74	.51	8.13[1]	.01
	LA	2.07	-.10	8.23[2]	
	UL	2.09	.00		

Notes: P1, P2, P3 = the three different books; LMC = book of limited availability due to market causes; LA = book of limited availability due to accidental circumstances; UL = book of unlimited availability; R = average rankscores (1 = first choice, 3 = last choice); [1]: χ^2 when testing L_{mc} versus UL; [2]: χ^2 when testing L_{mc} versus L_{ac}.

Table 2 The effect of social constraint and causes for limited availability on the preference for goods; entries are part-worths determined in conjoint analysis

Factor	Factor level	No social constraint	Social constraint
Product	P1	.24	.25
	P2	.81	.30
	P3	0	0
Limited availability	LP	.74	.44
	LS	.80	.80
	LP+S	1.08	-.51
	LA	-.03	.39
	UL	0	0

Notes: P1, P2, P3 = the three different books; LP = book of limited availability due to popularity; LS = book of limited availability due to limited supply; LPS = book of limited availability due to both popularity and limited supply; LA = book of limited availability due to accidental circumstances; UL = book unlimited available.

Table 3 Social conditions and the choice of of limited availability books

availability condition	no social constraint		social constraint	
	R	U	R	U
LMC	1.60	.89	.85	.28
LA	2.31	-.22	.88	.38
UL	2.11	0	2.07	0

Notes: R = average rankscores (1 = first choice, 3 = last choice); U = part-worths (utilities) from conjoint analysis; LMC = book of limited availability due to market causes; LA = book of limited availability due to accidental circumstances; UL = book unof limited availability.

Figure 1a: Uniqueness, costs and choice scores per experimental treatment in the condition without social constraint

UA = Unlimited Availability (N = 51)

LA = Limited Availability due to Accidental Circumstances (N = 13)

LMC = Limited Availability due to Market Cause (N = 38)

LP = Limited Availability due to Popularity (N = 12)

LS = Limited Availability due to Limited Supply (N = 11)

LP+S = Limited Availability due to Popularity plus Limited Supply (N = 15)

Uniqueness scale: 1 = very unique, 5 = very common

Costs scale: 1 = most expensive, 3 = least expensive

Choice scale: 1 = first choice, 3 = last choice

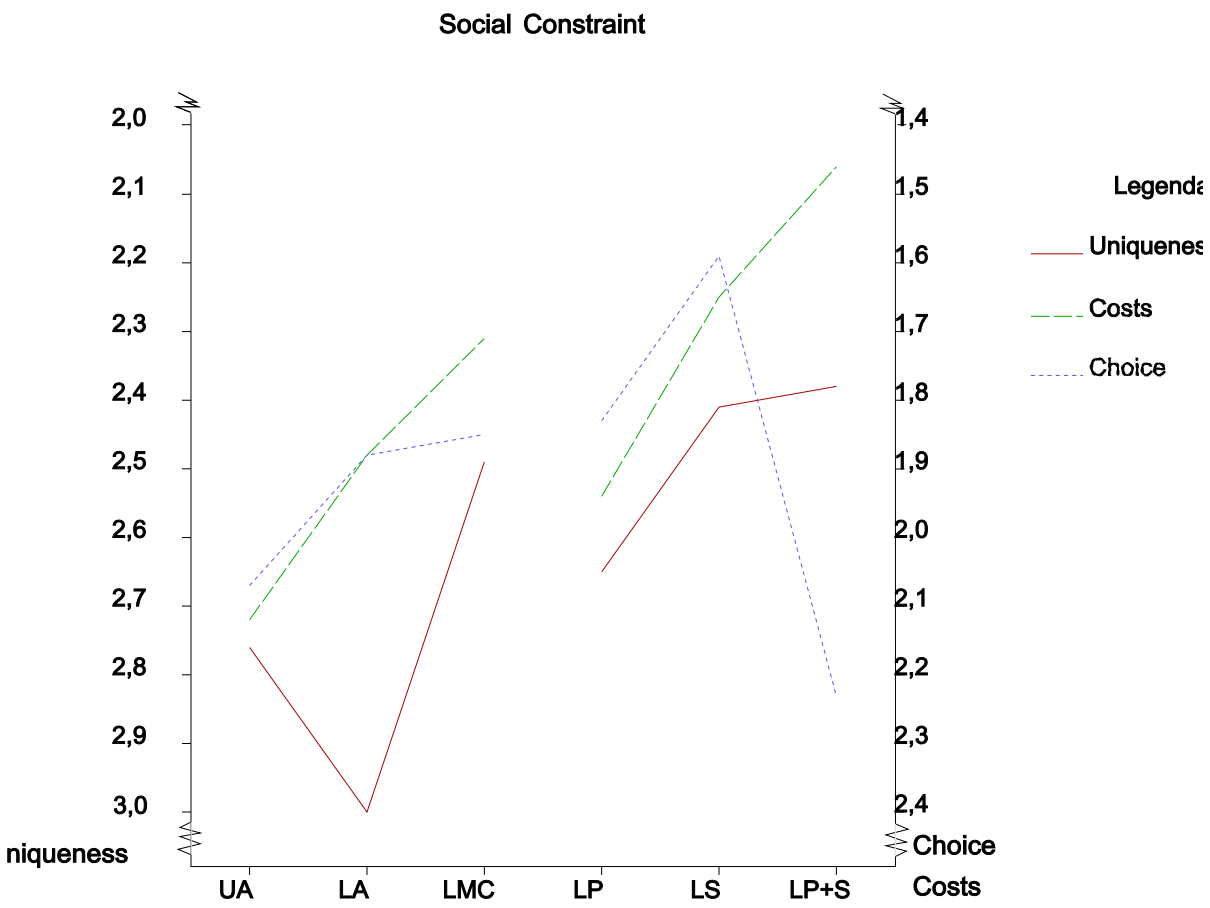

Figure 1b: Uniqueness, costs and choice scores per experimental treatment in the social constraint condition

UA = Unlimited Availability (N = 47)

LA = Limited Availability due to Accidental Circumstances (N = 16)

LMC = Limited Availability due to Market Cause (N = 47)

LP = Limited Availability due to Popularity (N = 17)

LS = Limited Availability due to Limited Supply (N = 17)

LP+S = Limited Availability due to Popularity plus Limited Supply (N = 13)

Uniqueness scale: 1 = very unique, 5 = very common

Costs scale: 1 = most expensive, 3 = least expensive

Choice scale: 1 = first choice, 3 = last choice