



Basic and Applied Social Psychology

Publication details, including instructions for authors and subscription information: <http://www.tandfonline.com/loi/hbas20>

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Published online: 07 Jun 2010.

To cite this article: Stephen Worchel (1992) Beyond a Commodity Theory Analysis of Censorship: When Abundance and Personalism Enhance Scarcity Effects, *Basic and Applied Social Psychology*, 13:1, 79-92, DOI: [10.1207/s15324834basp1301_7](http://dx.doi.org/10.1207/s15324834basp1301_7)

To link to this article: http://dx.doi.org/10.1207/s15324834basp1301_7

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Beyond a Commodity Theory Analysis of Censorship: When Abundance and Personalism Enhance Scarcity Effects

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The study of censorship offers fertile ground to test hypotheses derived from commodity theory. The aim of this research was to show the limits of commodity theory as it is presently constituted and to demonstrate how reactance and personalism may explain some supply-demand effects. In the first study, subjects were either explicitly given the freedom to have access to a communication or were not given this freedom. They learned either that subjects in previous sessions had heard the communication or that they had not heard the communication. They were then told that the communication had been censored and they would not have access to it. Subjects who had been given the explicit freedom to hear the tape and those who believed others had heard the tape increased their desire for the communication compared to a no-censor control condition. In the second study, the nature of the censor was varied. Subjects believed that either they, their university group, or all people were excluded from having access to a communication. The more personal the censorship, the more subjects wanted to hear the tape and changed their attitude toward the position to be advocated (compared to no-censor or accidental censor conditions). Results suggest that when individuals do not have access to a commodity, their desire for it increases positively in relation to the number of other people who have the commodity and the personalism involved in the threat to freedom. These data argue that the distribution of supply is an important factor in determining the supply-demand relationship.

If one were to observe everyday behavior in an effort to write a manual of folk psychology, one law that would demand consideration is that people

are attracted to the unavailable or unattainable. Advertisers attempt to arouse the slumbering consumer with messages announcing "limited time offers." Limited editions of nearly every commodity including automobiles, books, lithographs, and even breakfast cereals tantalize the public. And it is the rare parent who has not advised a son or daughter that one route to popularity is to "play hard to get."

There have been numerous efforts to give this folk law a scientific foundation. Economists were among the first social scientists to study the influence of scarcity (Becker, 1965; Hicks, 1959). The focus of economic theory was on the relationship between supply, price, and quality (Gabor & Granger, 1966). The research suggested that in the absence of information about a product, there is a positive relationship between price and quality (or perceptions of quality) and a negative and causative relationship between supply and price or quality. In other words, scarcity increases the value of an object and its perceived quality. Economic theories, however, offer little insight into the psychological processes that underlie the relationship between supply and value (demand). They imply that people develop a schema relating price, supply, and quality through experience.

Brock (1968) extended the economic theories in his commodity theory. He suggested that "any commodity will be valued to the extent that it is unavailable" (p. 246). Brock's major focus was on communication and persuasability. He hypothesized that a communication will be more persuasive to the extent that it is viewed as being of limited availability or requires *effort to obtain*. *For the most part, commodity theory focuses only on the availability of the commodity, and the degree of availability is directly related to value. There is little interest in conditions that might be responsible for the availability of the object. Situational or contextual variables become important only to the extent that they enhance the perceived unavailability of an object. Commodity theory, in its original formulation, offered a strong foundation for making predictions, but it did little to explain why the availability of an object would be related to value.*

In an effort to address this issue, Fromkin (1972) and Snyder and Fromkin (1980) argued that people have a need for uniqueness. Possessing rare objects makes the individual unique. Hence, scarce objects acquire value to the extent that their possession makes an individual unique.

There has been considerable empirical evidence for commodity theory since its introduction. Lynn (1991) identified 46 studies and a meta-analysis on the collective results supported both commodity theory and the uniqueness hypothesis. Lynn's analysis included studies that were explicitly designed to test commodity theory. Adopting this rule of inclusion may have limited the field in which support for commodity theory could be found. Although there are relatively few studies to date, research on the effects of censorship is an important area to examine. This research involves

the influence of communication on attitudes (the initial focus of Brock's commodity theory), and the results of the research support commodity theory. However, the censorship research is generally driven by reactance theory, which offers a different perspective on the relationship between availability and value.

Ashmore, Ramchandra, and Jones (1971) found that censorship caused potential audiences to change their attitudes toward the position held by the censored communication. They used reactance theory (Brehm, 1966), not commodity theory, to explain their results. They argued that the censor eliminated subject's freedom to hear the message and threatened their freedom to adopt the advocated position. These threats aroused psychological reactance, which resulted in attitude change as a means of regaining freedom. Worchel and his colleagues offered additional support for the reactance position. In one study (Worchel & Arnold, 1973), subjects were led to believe that a communication to be used in the experiment had been censored (been made available) by an attractive, unattractive, or neutral censor. Regardless of the attractiveness of the censor, subjects expressed greater desire to hear the unavailable communication compared to the available communication, and they changed their attitude toward the position advocated by the message. A second study (Worchel, Arnold, & Baker, 1975) manipulated the attractiveness and expertise of the censor as well as subject's initial agreement with the position taken in the communication. Desire to hear the message and attitude change toward the position advocated increased in each of the censor conditions except one: when the censor was both attractive and an expert and subjects initially disagreed with the position. In both studies, the attractiveness of the censor decreased due to the actions of making the communication unavailable.

Both commodity theory and reactance theory can be used to explain the results from these studies on censorship. From the commodity standpoint, people may be motivated to possess the censored information because having that information makes them unique. Reactance theory, on the other hand, argues that when a freedom is threatened or eliminated, the individual experiences a psychological state—reactance—that motivates him or her to restore the threatened freedom. As a result, threatened or eliminated freedoms become more attractive. Scarcity threatens the freedom to have an object. The threat may be caused by the commodity simply being unavailable, being delayed, requiring the person to expend effort, or being very expensive. However, although the two theories make similar predictions under the conditions used in previous censorship research, there are other conditions for which their predictions diverge.

Reactance theory argues that reactance will only be aroused when the individual feels that a freedom he or she possesses is being threatened. If a person does not feel that having a particular commodity is one of his or her

freedoms, a limited supply of that commodity will not arouse reactance or increase desire for that object. A number of factors lead an individual to feel that he or she has the freedom to possess an object. The most direct way to secure a freedom is to explicitly give the person that freedom. A second way is to find out that other people who are similar to the individual have the freedom. This situation implies that the individual has the freedom in question (Ringold, 1991; Worchel & Brehm, 1971). This position leads to an interesting twist to the supply-demand relationship: Abundance leads to increased demand. This situation results when others have access to a commodity (abundant supply), thereby implying that the individual has the freedom to have the commodity. Yet that commodity is unavailable to the individual. The general point is that reactance theory argues that scarcity should lead to increased attraction only when it threatens a freedom that the individual possesses or believes he or she possesses. On the other hand, not having a commodity that others possess may be seen as making one unique or distinctive. If the single desire for uniqueness underlies the scarcity-value relationship, I argue that not having what others have may be a comfortable and desirable situation.

Before extending our discussion about the processes that underlie availability effects, let us examine two studies that deal with the context in which unavailability of a commodity occurs. The aim of both studies was to determine whether supply influences demand and attitudes only when the distribution of the commodity threatens freedoms that individuals feel they have. If this was proven to be the case, the results would have identified one of the limiting conditions for the scarcity-demand relationship. Both studies employed communications as the commodity in an effort to build on the past research on censorship and to remain more closely tied to Brock's (1968) commodity theory.

STUDY 1

The first study manipulated the clarity of freedom by leading subjects to believe either that they were to have heard a censored communication or that the censored communication was simply one of many used in the study. A second manipulation led subjects to believe either that other subjects had heard the tape before it was censored or that no one had heard the communication. Informing subjects that other subjects had heard the censored tape implied that the target subjects should have access to the tape. If believing that one has the freedom to have a commodity is important, subjects whose freedom was clearly stated and whose freedom of access was implied by the actions of similar others should be most disturbed by being denied access to the tape. They should manifest their desire to restore freedom by increasing their desire to have the unavailable commodity.

Subjects

Subjects were 41 female and 25 male students enrolled in introductory psychology classes at Texas A&M University. Subjects were randomly assigned to conditions, and analyses indicated no differences in responses due to gender.

Procedures and Method

When the subject arrived at the experimental room he or she was met by the experimenter who explained that the purpose of the research was to examine the audience's perceptions of communicators who delivered verbal messages, such as radio commentators. Subjects listened to a number of taped communications on different topics and gave their impressions of the communicator after each message. The subject was then handed a list of titles of communications and the position on the issue taken in each communication. The lists were the same for all subjects and included six communications whose topics were the legalization of abortion, paying college athletes, random drug testing for college students, placing college tuition on a sliding fee scale based on the ability to pay, eliminating the annual Texas A&M bonfire, and prohibiting freshmen from having automobiles on campus. The tape of interest was entitled "Toward a Drug-Free Campus" and was accompanied by the statement, "The communication takes the position that random drug testing of students on college campuses should be instituted in order to reduce the use of drugs and make campuses a safer environment for students." Pretesting revealed that students were moderately opposed to this position.

In the explicit freedom condition, subjects were told that they were to have heard each of the messages on the list. In the no explicit freedom condition, they learned that the list represented all the tapes that were to be used in the study, but that they were to have heard only some of the messages. The second factor was manipulated when the experimenter stated that there had to be one change in the study. In the previously available condition, subjects learned that in earlier sessions of the study all of the tapes had been available to subjects, "but yesterday, the University Institutional Review Board (IRB) told us to stop using the 'Toward a Drug-Free Campus' tape until they had reviewed it. Because this was the last tape made, the IRB had not heard the tape. So, this tape will not be available to us." In the previously unavailable condition, subjects were told that no one had been able to hear the critical tape in earlier sessions because the IRB had not yet had the opportunity to review it.

Two control conditions were included in which subjects were not told that any of the tapes had been censored. In one condition, subjects were led to

believe they would hear all the tapes (explicit freedom), whereas in a second condition, they were told that they would hear only some of the communications (no explicit freedom).

The experimenter then informed subjects that before they heard the tapes she needed to collect some information that would be used to determine the state that they were in before listening to the tapes. Subjects were told, "This information may help us make a more complete evaluation of your responses." They were then given a questionnaire on which they were asked to indicate their mood (angry-not angry, tense-calm, happy-sad, tired-alert), how many minutes they listened to the radio each day, whether they had heard communications on any of the topics within the past 24 hr, and how much they desired to hear each of the communications (which was rated on a 7-point scale ranging from *do not desire to hear the tape* [1] to *very strongly desire to hear the tape* [7]).

After completing the questionnaire, subjects were probed for suspicion and debriefed.

Results of Study 1

The main dependent measure was subject's desire to hear the "Toward a Drug-Free Campus" message. As can be seen in Table 1, an overall analysis of variance (ANOVA) yielded significant main effects for both the explicit freedom, $F(1, 60) = 21.837, p < .01$, and availability, $F(2, 60) = 42.54, p < .001$, manipulations and a significant Explicit Freedom \times Availability interaction, $F(2, 60) = 3.18, p < .05$. Overall, censorship increased subjects desire to hear the communication, $F(1, 60) = 73.49, p < .001$. More important, subjects wanted to hear the censored tape more when they believed that they were originally supposed to have heard the tape than when it was unclear whether they would have heard the tape if it had not been censored, $F(1, 60) = 27.28, p < .01$. In addition, subjects were more desirous of hearing a censored communication that others had heard than

TABLE 1
Desire to Hear Censored Communication

	<i>Censorship/ Previous Subjects Heard Tape</i>	<i>Censorship/ No One Previously Heard Tape</i>	<i>No Censorship</i>
Explicit freedom (hear all tapes)	5.45 ^{a,b}	4.55	2.18
No explicit freedom (hear some tapes)	4.00	2.91	1.91

^a"How much do you want to hear the communication?" Responses ranged from *not at all* (1) to *very much* (7). ^b $n = 11$ subjects per cell.

of hearing one that had not been available to others, $F(1, 60) = 11.31, p < .01$. There was no significant difference between the two control conditions and the no-censor condition.

Only one of the mood questions produced significant results. As can be seen from Table 2 the ratings of angry-not angry closely paralleled the "desire to hear" ratings. Two significant main effects emerged, explicit freedom: $F(1, 60) = 6.48, p < .05$; and previous availability: $F(2, 60) = 16.66, p < .01$. Again, there were no differences between the two control (no-censor) conditions. However, subjects were more angry when the communication was withheld in the explicit freedom condition than in the no explicit freedom condition, $F(1, 60) = 7.83, p < .01$, and were more angry when they believed others had heard the withheld tape than when nobody had heard the communication, $F(1, 60) = 5.13, p < .05$. Anger was greater in the censorship conditions than in the no-censor and control conditions, $F(1, 60) = 28.18, p < .01$.

Discussion of Study 1

At first glance, the results of this study seem to support both a simple supply-demand position and the interpretation based on reactance theory. The support for the basic commodity theory comes from finding that censorship led to increased desire for the product and anger (compared to the no-censor condition). On the reactance side, one supporting result was the increased desire for a commodity that had been available to others compared to the commodity that had not been available to anyone. This finding supports reactance theory because the manipulation may have led subjects to expect that they should have the freedom to hear the communication because others had the freedom. This is an interesting result, because it refutes the simple scarcity-attraction relationship. Overall, the communication was most scarce when no one had been allowed to hear it; indeed, it was more available when other subjects in previous sessions had access to the tape. However, it was the latter condition (previous subjects heard tape), not the former one (no one heard tape), in which subjects were

TABLE 2
Anger Initiated by Censorship of Communication

	<i>Censorship/ Previous Subjects Heard Tape</i>	<i>Censorship/ No One Previously Heard Tape</i>	<i>No Censorship</i>
Explicit freedom	4.64 ^{a,b}	3.82	2.27
No explicit freedom	3.64	2.91	2.10

^aResponses ranged from *not angry* (1) to *very angry* (7). ^b $n = 11$ subjects per cell.

most desirous of hearing the communication and most angry when it was withheld. Simple rarity of the commodity did not determine the subject's behavior. This finding is similar to one reported by Worchel, Lee, and Adewole (1975). They found that a commodity (a cookie) increased in value more when subjects saw it available first in an abundant supply which diminished than when the cookies were always in short supply. This suggests that a reduction in supply may be as important as the absolute supply of a commodity (see also Ringold, 1991). This issue is examined further in the final discussion.

A second finding was that subjects rated an unavailable object more desirable when they believed that they were to have had that object than when it was unclear whether that object was to have been available to them. There are a number of possible explanations for this effect. Believing that they were to have had the commodity may have caused subjects to increase its attractiveness prior to the censorship manipulation. Balance theory (Heider, 1958) suggests that a positive unit relationship could result between subjects and the communication under these conditions. Verhallen (1982) reported that scarcity increased the desire for objects that subjects originally valued but did not affect ratings if subjects originally rated the object as unattractive. However, the results in the two control conditions did not show that simply believing that one would hear the tape increased its attractiveness. A second possibility involves the notion of explicit freedom. Brehm (1966) stated that a threat or elimination of an existing freedom is *necessary for people to experience reactance*. Individuals must believe they have a freedom before reactance can be aroused. Leading subjects to believe that they were to have heard a specific tape as opposed to having them believe that they might hear a specific tape may have affected their perceptions of the freedom to have access to the tape in question. A third explanation is that subjects may have perceived the censorship as more personal when it clearly involved a commodity that should have been available to them. In this case, the censorship not only eliminated access to a commodity, but it threatened their self-esteem because of its personal nature.

This latter explanation raises the issue of how subjects react to scarcity that is clearly aimed at the individual rather than at the commodity itself. Previous research has shown that the reasons for scarcity do affect people's reaction to scarcity. Worchel et al. (1975) and Verhallen (1982) found that scarcity resulting from an accidental interruption of supply had less of an impact than scarcity resulting from market demand. We may now ask whether a diminished supply that is personally motivated is reacted to more strongly than scarcity based on a less personal reason. The second experiment addressed this issue.

STUDY 2

In the second experiment, subjects learned that a communication was unavailable to only them because of their characteristics (attitudes and classification), to a group of people to which they belonged, or to all people. In order to examine whether it is the active withholding of a commodity or its simple unavailability, a condition was included in which an accident rather than an act of censorship made a commodity unavailable. Because commodity theory deals with the effect of scarcity on attitudes, the second experiment also examined how subjects' attitudes changed as a result of not being able to hear a communication. Based on previous research on censorship and commodity theory, it was expected that subjects would change their attitudes in the direction of the position to be taken in the unavailable communication. The design also allowed us to determine whether the reason for the scarcity affected attitudes; that is, will censorship, as opposed to accidental scarcity, have differential effects?

Subjects

Subjects were 50 (31 female and 19 male) students enrolled in introductory psychology courses. Subjects received course credit for participating in the study. Analyses showed no gender differences; therefore, results for males and females were combined for all analyses.

Procedures and Method

The instructions and stimulus materials were the same as in Study 1. Subjects were led to believe they were to have heard all the communications listed. After presenting the material, all subjects (except those in the no-censor condition) were told they would not be able to hear the communication entitled "Toward a Drug-Free Campus." In the personal condition, subjects were told that the IRB had expressed concerns about the particular communication: "After lengthy discussions with the Board, they allowed us to use the tape only if we would withhold it from freshmen students who showed a particular pattern of attitudes on the general mass testing questionnaire. We agreed to this condition. You fall into this category and, therefore, you will not be able to hear the tape. But there are plenty of other communications, so there is no need to interrupt the study." Two subjects asked the reason behind the ruling, and the experimenter replied that she was not told the specific reason, but that the IRB, in general, attempted to protect subjects in psychology experiments. In the Own Group condition, subjects were told that the IRB had told the

experimenter not to use the stimulus tape in experiments involving Texas A&M students. In the all people condition, the experimenter stated that the IRB had determined that the stimulus tape should not be used in any research project. In the accidental condition, the experimenter stated that recording difficulties had prevented getting the tape ready for this study. In the no-censor condition, subjects believed they would hear all the tapes, including the drug-free campus tape, and no mention was made about the unavailability of any tape.

As in the first study, subjects were asked to complete a questionnaire before listening to the tapes. The questionnaire included the same questions used in the first study with the addition of 12 attitude items. The critical attitude item asked subjects to indicate their agreement with the statement, "Students on college campuses should be subjected to random drug tests," on a 7-point scale ranging from *strong agree* (1) to *strong disagree* (7). After subjects completed the questionnaire, they were probed for suspicion and debriefed. One subject in the personal condition expressed doubt about the manipulation; therefore, her data were not included in the analysis.

Results of Study 2

As in the first study, one item of interest was desire to hear the communication. The data were submitted to a one-way ANOVA which yielded a significant effect, $F(4, 45) = 16.06, p < .001$. As shown in Table 3, the accidental unavailability of the communication did not affect subjects' desire for it. However, when subjects believed that the communication was willfully withheld, their desire for it increased significantly, censor conditions versus no-censor condition, $F(1, 45) = 33.39, p < .001$. The greatest desire for the communication occurred when subjects felt that the censor-

TABLE 3
Desire to Hear Communication and Attitude Resulting From Personalized Censorship

	<i>Censorship of</i>				
	<i>Censorship of Individual</i>	<i>Individual's Group (A&M Students)</i>	<i>Censorship of All People</i>	<i>Accidental Unavailability</i>	<i>No Censorship</i>
Desire to hear ^a	6.2 ^b	5.5	4.3	2.9	2.8
Attitude ^c	2.5	3.4	4.4	4.5	4.7

^aMean responses to the question "How much do you want to hear the communication?" ranged from *not at all* (1) to *very much* (7). ^b $n = 11$ subjects per condition. ^cMean responses to the question "Students on college campuses should be subjected to random drug tests" ranged from *strongly agree* (1) to *strongly disagree* (7).

ship was aimed specifically at them; although this condition was not significantly different from the case of censorship aimed at the group, $F(1, 45) = 1.69$, $p = \text{ns}$, it was significantly different from the case of censorship aimed at everyone, $F(1, 45) = 12.45$, $p < .001$.

A similar pattern of results was found on the attitude item. A significant main effect was found, $F(4, 45) = 5.77$, $p < .01$ (see Table 3). This effect resulted because subjects in the personal condition, $F(1, 55) = 16.13$, $p < .01$, and the own group condition, $F(1, 45) = 5.63$, $p < .05$, changed their attitudes toward the position held by the censored communication condition compared with the no-censor condition). Subjects in the other two conditions did not show different attitudes when compared to the control group.

Two other results reached significance. Subjects reported being more angry and tense in personal condition than in the no-censor condition, angry: $F(4, 45) = 24.26$, $p < .001$; and Tense: $F(4, 45) = 4.14$, $p < .01$. The other censorship conditions were not significantly different from the control condition on any of the mood measures.

DISCUSSION OF STUDY 1 AND STUDY 2

The results of the two studies along with previous research on censorship and commodity theory begin to show the boundaries of the relationship between supply and demand. Overall, the data do not support the position that scarcity always leads to an increased desire for the object. The results of Study 2 showed that a communication that is unavailable due to accidental circumstances did not increase in attractiveness and its unavailability did not enhance its persuasiveness. Complementing these results, Verhallen (1982) found that accidental delivery problems that resulted in product scarcity did not lead subjects to place added value on a cookbook. And Worchel et al. (1975) found that product scarcity resulting from miscommunication among experimenters led to only a slight increase in the desire for the commodity (cookies).

Having made this point, the results of my research do indicate that, under some circumstances, unavailability (censorship) will lead to rising value and desire. One of the critical variables that determines this effect is the number of other people who have access to the commodity. Several studies (Archer & Cook, 1986; Derlega & Grzelak, 1979; Petty & Mirels, 1981) found that people valued intimate disclosures when they knew that others were not privileged to this information. This suggests that we value those things that are available to us but unavailable to others; indeed, people seek to possess the rare commodity. My studies show the other side of the coin; people will value and desire commodities that are unavailable to them and are

possessed by others. We not only want to have what others do not have, but we want to ensure that we are not the only ones who do not possess what others have or have had. As pointed out earlier, this position goes beyond the common conception of supply and demand. Abundant items gain value for us when they are unavailable to us. This suggests that people are not only concerned with the supply of a product, but they are also affected by the distribution of the supply.

Unfortunately, the design of this research did not allow probes to *determine the psychological processes underlying these effects*. However, let us explore two interesting possibilities that are relevant to commodity theory. The first is that the scarcity-value relationship occurs only for commodities to which people believe they should have access, that is, only when they feel they have the freedom in question. The fact that an oil painting is very rare, may increase its value in the eyes of a millionaire, but it will do nothing to the value placed by a pauper. Knowledge about who has (or had) a commodity is important because it helps define who should have access to the commodity. In a reactance framework, knowledge of distribution helps define the freedom of a particular individual and determines whether or not reactance will be aroused if the object is withheld. This line of reason leads one to ask whether a commodity will be valued more if one is the only person to have that commodity or if one is the only person not to have that commodity.

A second explanation for these findings may be that threats (or scarcity) that seem to be aimed at the individual rather than the product are more disturbing. The results from the second study support this position. Subjects desired a communication and were most angry when they believed that the censorship was aimed specifically at them. It is also possible that subjects in the first study felt that the censorship was more personally motivated when it involved a communication that they were to have heard and one that other people similar to them had heard. Once the censorship is personalized, it has implications well beyond the present commodity. There is the possibility that the censor may threaten other freedoms in the future. The individual may also feel that the threat is to one's self-esteem in addition to the commodity in question.

The aim of this discussion is to suggest that individuals may not automatically place added value on scarce commodities (see also Clee & Wicklund, 1980). Rather, the lack of availability may lead them to examine the conditions associated with the scarcity. This examination may include determining the basic personal freedoms that are relevant, the reason for the scarcity, and who has access to the commodity in question. The answers that the individual supplies to these and similar questions will determine their reaction to the scarce commodity. Any change in the availability of a commodity will lead to this questioning process and to changes in the value

of the commodity in question. This reasoning suggests that there is little in the condition of scarcity by itself that will enhance desire or value. However, under some conditions, scarcity will set into motion psychological processes that will influence desire and value. Future research should be aimed at identifying the underlying processes in order to develop a better theory of supply and demand. These data suggest that neither uniqueness theory nor reactance theory can adequately explain all supply and demand effects. Uniqueness theory has difficulty explaining the results of Study 1, and reactance theory would not have anticipated the personalism results in Study 2.

Although my data may be discouraging for commodity theory, they also extend and support many of its basic positions. One extension comes from linking commodity theory to research on censorship. Research in this area failed to incorporate commodity theory. However, the fit with commodity theory is an easy one if a censored communication is viewed as a commodity. An interesting point is that research on censorship shows that people not only desire the censored communication, but they change their attitude in the direction of the communication, even without having access to the communication. This suggests that many of the effects predicted by commodity theory may occur even without the person having access to the commodity.

Because the article began with a reference to advertising, it seems appropriate to close by focusing on the implications of this discussion in this applied arena. The data suggest a three-step approach to a successful advertisement. First, the consumer should be led to believe that he or she should have or deserves to have the commodity in question. Second, the consumer should be shown that many other people similar to him or her have the commodity. Third, the advertisement needs to point out that the commodity is becoming scarce and may soon be unavailable to the consumer. The more personal the stated reason for the scarcity, the more impact the advertisement should have.

ACKNOWLEDGMENTS

Research for this article was supported in part by a Texas Advanced Research Projects grant from the Texas Coordinating Board of Higher Education.

I thank Judy Ouellette, Van Pham, Donna McKeown, Laurie Coonan, Don Kopf, and Stacey Jackson for serving as experimenters and/or giving helpful comments on the study and manuscript. I also express my appreciation to the three reviewers for their insightful suggestions. Parts of this article were presented at the American Psychological Association meeting in Boston in August 1990.

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