

# Exploring Antecedents and Consequences of Consumer Creativity in a Problem-Solving Context

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Creativity is an underresearched topic in consumer behavior, yet integral in many instances of consumer problem solving. Two experiments were conducted to investigate antecedents and consequences of creativity in a consumption context. The results indicate that both situational factors (i.e., time constraints, situational involvement) and person factors (i.e., locus of control, metaphoric thinking ability) affect creative consumption and that some of these variables have interactive influences. The results also show that acting creatively enhances positive affect.

There is little scholarship on creativity in daily life (Lubart 1994). Preoccupation with monumental creative achievements (e.g., those of Einstein, Beethoven, etc.) has averted focus from creativity in the myriad of smaller acts taking place everyday at home, work, or leisure. Consider, for example, what did you do the last time you were missing a key ingredient, tool, or accessory? Creativity is essential to solving many common problems and meeting basic human needs. Moreover, it is difficult to imagine a more widespread and more appropriate context than consumer behavior for studying day-to-day creativity.

Nonetheless, creativity has remained a rare topic in consumer research. This is surprising since the undisputed success of many products—from Kleenex to mountain bikes—can be attributed to consumer creativity (von Hippel 1986). While marketers have been quick to apply consumer creativity in developing new products, consumer researchers have hardly ventured into this aspect of consumption. Perhaps the lack of interest stems from dominant models in our

field that tacitly assume that products arrive in the marketplace with their benefits, meanings, and uses fully determined. As a result, we have limited understanding of when, why, or how consumers act creatively, or how they feel about the experience. Our purpose here is to foster new learning and spur additional research on these issues. Two experiments are conducted on consumer creativity in problem solving; the first focused on antecedents, and the second on consequences.

## LITERATURE REVIEW

### Research on Creativity in Psychology

Creativity research has gone through a number of methodological and explanatory phases (Runco and Sakamoto 1999). One contemporary approach stems from the problem-solving tradition in psychology (Finke, Ward, and Smith 1992; Jay and Perkins 1997; Treffinger, Isaksen, and Dorval 1994). This research emphasizes experiments and simulations to examine individual mental processes and abilities that direct creative solutions to problems. A problem is said to be any obstacle that prevents someone from achieving a desired goal. Creative problem solving occurs when an individual or group devises a new way of circumventing the obstacle (Hunt 1994). According to two renowned problem-solving theorists, a person's ability to form internal symbolic representations of external settings affords the opportunity to mentally manipulate and test potential solutions to a problem without having to physically enact all of them (Newall and Simon 1972). This emphasis on mental transformation is one reason why analogical and metaphoric thinking are

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widely considered vital to creativity (Runco 1991).

However, researchers generally recognize that an individual's abilities supply only one part of the creativity equation. Another part is motivation. In an expansive program of research across art, education, and the workplace, Amabile has consistently found that intrinsic motivation (performing an activity out of sheer interest and enjoyment) increases creativity (summarized in Collins and Amabile 1999). Amabile's findings are echoed by another long-term program of research conducted by Getzels and Csikszentmihalyi (summarized in Getzels 1987). They followed a set of artists for more than 20 yr. and found that those who produced the greatest creative works were motivated by intrinsic interest as opposed to fame and fortune. However, while intrinsic motivation has been the predominant form of motivation studied in creativity research, these researchers all noted that it is not the only one and that others may be important in other contexts.

### Research on Creativity in Consumer Behavior

Though creativity has received sporadic attention and some degree of conceptual development in past consumer research (see, e.g., Hirschman 1980b; Ridgeway and Price 1994), it has not received sustained consideration, and there have been few empirical studies. We focus on existing empirical evidence.

Hirschman (1980a) found that consumer creativity significantly correlated with (a) modernity (a multifaceted construct that includes openness to new ideas and tolerance for others), (b) cognitive complexity (the number of attributes or linkages used to define a concept), and (c) seeking new experiences. In a follow-up study, Hirschman (1983) found that consumer creativity correlated positively with both active memory capacity and phenotypic intelligence (defined as the ability to acquire and use knowledge to solve problems, and considered to arise from both hereditary and environmental factors).

Related empirical work has also been conducted under the auspices of use innovativeness (UI), defined as the novel use of products to solve consumer problems (Hirschman 1980b). Price and Ridgeway (1982), for example, found that UI correlated with optimal stimulation levels. More recently, Bagozzi and Foxall (1996) developed a three-factor measure of an innovative consumption style, comprised of originality (a tendency to propose many solutions to a consumption problem, even if impracticable), a lack of concern for efficiency, and a disdain for rule governance (innovators ignore rules and flout convention).

In sum, empirical studies of consumer creativity are few and have focused primarily on person-level aspects. They have tended to forgo other important facilitators of creativity, particularly situational characteristics, which often guide consumer behavior (Belk 1975). Consequences of creativity have also been neglected. Finally, experiments on consumer creativity—unlike in psychology—have not been utilized to help establish causal mechanisms.

## DEFINITION AND CONCEPTUALIZATION OF CREATIVE CONSUMPTION

We define creative consumption as a departure from conventional consumption practice in a novel and functional way. Consistent with contemporary perspective, this definition shifts the focus from the individual to the outcome, though it does not preclude the important role of the individual in the creative process (Lubart 1994). Also consistent with other definitions, it emphasizes novelty and functionality as the two core components of creativity (e.g., Amabile 1983; Lubart 1994). In the context of consumption, novelty might entail a new use for a product (i.e., UI). However, it could also involve altering the form of a product, perhaps to affect its performance. Or it might involve combining two or more products in a nonstandard manner. What is essential is that the product(s) be used, changed, or combined in a manner that is contrary to typical forms and applications, including possibly the manufacturer's intent.

However, being novel by being bizarre is not creative. An outcome must also be functional (Amabile 1983; Lubart 1994). In consumer problem solving, functionality reflects the extent to which a consumption response effectively addresses the problem or improves on an existing solution. Perhaps the consumer discovers that a product initially conceived for one use successfully solves a different problem. Perhaps two products are combined in such a way that there are functional synergies, and a consumption problem is more effectively addressed than could be when using these products independently. To the extent that a consumption solution works, or works better, functionality has been achieved.

## ANTECEDENTS OF CREATIVE CONSUMPTION

A wide array of potential antecedents to creativity has been previously identified, though clearly some variables are more important in certain contexts than others. To help systematize our selection of variables for development in consumer research, we adopted the well-known person-situation perspective from psychology (see, e.g., Higgins 1990). Briefly, this perspective holds that behavior reflects a combination of individual and environmental factors, and often their interactions. The person-situation perspective is useful for creativity research for at least two reasons. First, it is consistent with the trend toward confluent models of creativity, where outcomes reflect multiple influences (see, e.g., Sternberg and Lubart 1996; Woodman and Schoenfeldt 1990). Second, the person-situation perspective places a heavy emphasis on the role of the environment, which our prior review indicated is potentially critical to creativity in consumer behavior.

For our inquiry, we focus on two person-based antecedents (metaphoric thinking ability, locus of control [LOC]) and two situation-based antecedents (situational involvement, time constraints). These variables are likely to influence creativity in a consumer problem-solving context (see



below) and have not been empirically tested in prior consumer research. However, because of the nascent state of theory development on creativity in our field, these variables must be considered exploratory, and others could have served as a starting point. For example, research outside of consumer behavior suggests that domain knowledge, risk taking, and tolerance for ambiguity all influence creativity (Lubart 1994; Sternberg and Lubart 1996; Weisberg 1999). Broader and more systematic integration of the antecedents of creative consumption will be an important next step.

### Situational Involvement

Situational involvement (SI) refers to an individual's preoccupation with an activity out of concern for its immediate consequences (Houston and Rothschild 1978). In other words, even if an individual would not otherwise be inherently interested in an activity, when aspects of the situation harbor substantial implications for the individual, involvement will be higher. For example, someone may not be overly concerned about fashion, but if an unkempt appearance will keep him or her from being promoted at work, then involvement with dress will likely increase for this instance. Though situational involvement has not previously been considered within creativity research, a case for its importance can be readily made. Creativity takes effort (Collins and Amabile 1999). If an individual does not particularly care how a situation turns out, the effort required for creativity is unlikely. Hence, our first hypothesis is:

- H1:** Higher situational involvement with a consumption problem increases creativity in the consumer's response.

### Time Constraints

A consistent but not unexpected finding in creativity research is that extreme time constraints stifle creativity (e.g., Kelly and Karau 1993). Nonetheless, Stokes (2001, p. 355) has proposed that constraints, if not extreme, may actually increase creativity by "precluding reliable, repetitive responses and promoting unusual, unexpected ones." Similarly, Ridgeway and Price (1991) suggested that restricted access to products and markets—often resulting from time pressures in daily life—may enhance creativity by inhibiting conventional responses. Though this proposition has remained untested to this point, supportive anecdotal evidence exists. For example, cooks will often substitute one ingredient for another when supplies run short, and there is not enough time to go to the store. Since the effects of extreme time constraints on creativity are known, we focus on the influence of a demanding, but not debilitating, time constraint, one that is challenging yet still allows for a legitimate effort to solve a given consumption problem. Our second hypothesis is then:

- H2:** Time constraints (provided they are not so extreme as to preclude almost any response) increase cre-

ativity in the consumer's response to a consumption problem.

### Metaphoric Thinking Ability

Ability factors have received more consideration in creativity research than perhaps any other type of antecedent. One prominent variable from this category is analogical, or metaphorical, thinking. A metaphor is the use of one concept (the vehicle) to represent another (the target). Metaphors are fundamental to human thought and facilitate the comprehension of complex and unfamiliar ideas through basic and familiar ones (Lakoff and Johnson 1980). Experimental evidence reveals that metaphors and analogies enhance creative problem solving (e.g., Gick and Holyoak 1980). In such studies, metaphoric thinking is induced in research participants without regard to their natural abilities or proclivities. There is much less research on the extent to which individual differences in metaphoric thinking ability (MTA) affect creative performance. This lack of research may stem from the limited availability of valid instruments for assessing MTA. As a result, metaphoric thinking ability has been one of the most widely theorized but least-tested facilitators of creativity. Nonetheless, a facility for transforming ideas from one conceptual domain to another through metaphor should benefit creative problem solving. Hence, in our empirical work we also test the following hypothesis:

- H3:** Higher metaphoric thinking, as an innate ability factor, increases creativity in the consumer's response to a consumption problem.

### Locus of Control

Locus of control refers to an individual's belief that events are internal to or outside of (external to) his or her control. With respect to creativity, for an individual to attempt to be creative, he or she must believe that there is a reasonable chance the effort will succeed. Thus, internals should exhibit higher levels of creativity than externals. Surprisingly, prior research on this relationship has been equivocal (see Dowd 1989), suggesting that important boundary conditions have yet to be identified. But first we offer the following baseline hypothesis:

- H4:** A more internal LOC increases creativity in the consumer's response to a consumption problem.

### Interactions

While a lack of prior research could render interaction hypotheses premature, the confluence perspective provides a general logic for proposing such relations. Within the context of consumer problem solving, creativity could be multiplicatively higher when requisite person factors (i.e., higher metaphoric thinking ability, more internal LOC) combine with compelling situational conditions (i.e., higher situa-

tional involvement, time constraints). For example, a person with an internal LOC should respond more creatively in the presence of demanding time constraints, while someone with an external locus would likely be more indecisive. However, the confluence perspective is not restricted to interactions across person and situation. Factors within the situation (or within the individual) may also interact to enhance creativity. For example, higher situational involvement may lead to even higher creativity in the presence of time constraints but have a lesser impact when time is abundant (because the otherwise-involved individual has time then to execute a more standard response). In sum, the confluence perspective provides a basis for hypothesizing six possible interactions.

**H5:** Person and situation variables will interact such that the creativity of a consumer's response to a problem will be even higher when (a) situational involvement is higher and LOC is more internal, (b) situational involvement is higher and metaphoric thinking ability is higher, (c) LOC is more internal and there are time constraints, (d) metaphoric thinking ability is higher and there are time constraints, (e) situational involvement is higher and there are time constraints, and (f) metaphoric thinking ability is higher and LOC is more internal.

## EXPERIMENT 1

Experiment one tests hypotheses 1–5. An important requirement of this experiment was devising a consumption problem that was easy for all participants to understand yet afforded a wide range of potential responses across the conventional-to-creative spectrum. Through extensive pretesting, we developed our problem situation around the topic of fashion and the issue of dealing with scuffed shoes prior to a social event.

One hundred and seventy-two adults were recruited through various civic groups (e.g., Rotary, League of Women Voters) located in the northeastern United States. In exchange for their participation, a \$5-per-person donation was made to the cooperating organization. Of the participants, 53% were women, 11% were minorities, ages ranged from 21 to 65 yr. ( $M = 47$ ), and education spanned from high school through graduate degree. In terms of income, most participants came from a middle-class socioeconomic background.

## Method

The central task for the research participants was modeled on Torrance's (1966) "just suppose" test of creativity. However, our approach differed from Torrance's in that his test uses improbable scenarios while ours focuses on a down-to-earth consumption situation. The essence of the problem is that the individual is getting ready for an outside dinner engagement when they discover that their shoes are scuffed

and they are out of shoe polish. An example of one of the complete scenarios is as follows:

Just suppose that you are going out to dinner one evening. You have just moved into the area to take a new job. It is the annual company banquet held by your new employer and you are probably going to be called up front and introduced to the rest of the company by your new boss. You put on a black outfit and think you are all ready for the dinner when, as you go to put on your shoes, you discover they are all scuffed up and the scuffs are definitely noticeable. You go to the utility closet only to discover that you are almost completely out of shoe polish. This is the only pair of shoes you have to go with this outfit and there is really no other outfit you can wear. You have 2 minutes before you must head to the dinner if you are to be on time. Since you live in a residential area, all of the stores in your part of town have already closed for the evening. You know of one shopping mall that is open but it means an extra 5 miles of freeway driving.

After reading the scenario, participants were asked to write down how they would respond to the problem, and this record became the basis for the dependent variable (creativity of the response). Participants then completed measures of LOC and metaphoric thinking ability. Finally, because prior research has shown that age, gender, and education can also be related to creativity, these variables were assessed and subsequently included as covariates in the analysis.

*Situational Involvement and Time Constraints.* Experimental manipulations were effected by altering key aspects of the scenario provided above in a  $2 \times 2$  between-subjects design. To manipulate situational involvement, the dinner varied in its importance. In the higher situational-involvement condition, the dinner was a banquet with a new employer (as shown above). In the lower situational-involvement condition, the dinner was an introductory meeting with an insurance agent. For the time constraint manipulation, in the demanding condition participants had only 2 min. before they had to leave or face being late (as shown above). In the unconstrained condition, participants were told that they had 3 hr. before they had to leave. Pretesting and a manipulation check had shown 2 min. created a demanding time constraint, but one that was still manageable. Conversely, 3 hr. was the level at which time no longer became a concern, while still being realistic.

*Locus of Control.* We measured LOC using a 10-item short form of Rotter's *Internal versus External Control of Reinforcement Scale* (Valecha 1972). The coefficient alpha for the scale was .71. The factor structure was examined using confirmatory factor analysis (CFA), which indicated that the scale is unidimensional (comparative fit index [CFI] = .99, root mean square error of approximation [RMSEA] = .02).



**Metaphoric Thinking Ability.** We were unable to identify a test of metaphoric thinking ability suitable for our purposes. One test was only appropriate for children (Pollio and Pollio 1979), while another was, by the author's admission, cumbersome to administer (Barron 1988). A multiple-choice version of the latter test was subsequently developed, but it arguably compromises the free-form nature of metaphoric thinking. A different instrument uses an open-ended format but explicitly calls for metaphors in completing the task (Helstrup 1988). Such an approach does not reveal how individuals naturally rely on metaphors in structuring thought.

In response to these limitations, we constructed a new test of metaphoric thinking ability. Development was extensive (contact the authors for details), and the final result was a nine-item sentence-completion task we abbreviate as the MTA-SC. The success of the test hinges on three components: the task itself, the instructions, and the scoring. Participants are given truncates of sentences (e.g., "Helping someone is \_\_\_\_") and are asked to complete each in such a way that someone "unfamiliar with the concept would appreciate its essence." The instructions are carefully worded to signal the permissible use of metaphors (through examples) but not to explicitly call for them. Providing a concise but vivid description of an abstract concept is difficult but is something to which metaphors are well suited.

For analysis, each sentence is rated for its metaphoric content. A score of zero is assigned for literal completions such as, "Helping someone is the right thing to do." A score of one is assigned for completions that are metaphoric but have become integrated into the language, such as "Helping someone is to lend a hand." A score of two is assigned for completions that are extension-oriented or live metaphors, such as, "Helping someone is to make a deposit in the bank of Karma." Two doctoral students in linguistics independently rated each participant's MTA-SC responses. The interrater reliability was .95 (Spearman-Brown calculation), and so the ratings were combined for analysis of the experiment. However, since this was a new measure, we first performed exploratory factor analysis. All nine items loaded on a single factor (average loading .62). Additionally, we conducted a known-groups validity check. The MTA-SC test was administered to a set of advertising copywriters. These individuals scored higher on the test than people drawn from the general population ( $M_{\text{copywriters}} = 19.8$ ,  $M_{\text{general}} = 11.8$ ,  $t = 3.85$ ,  $p < .01$ ).

**Creativity.** The creativity of the responses to the consumption problem was assessed using the *Creative Product Semantic Scale* (CPSS; O'Quin and Besemer 1989). The CPSS contains 44 items in a five-point semantic differential format, designed to assess the facets of creativity (e.g., predictable-novel; functional-nonfunctional). Two graduate students in psychology were hired as judges to fill out independently the CPSS for each subject's written response to the consumption problem. When these ratings were subjected to confirmatory factor analysis, the scale performed poorly. Fit indices were below recommended levels, and the scale did not replicate its purported dimensions very well

(CFI = .76, RMSEA = .18). Poor fit can be a problem in scales with a large number of items because of measurement error and redundancy. Following established scale purification procedures (e.g., experts judging face validity, inspection of standardized residuals between items), we reduced the scale from 44 to 10 items, with no apparent loss of information (the correlation between the original and reduced scale was .99). We then conducted a follow-up CFA. The model specified creativity as a second-order factor comprised of two first-order factors (novelty and functionality), along with a method factor (for the judges). Now the CFA achieved a much better fit (CFI = .99, RMSEA = .07) and, consistent with conceptualizations of creativity, supported two dimensions. However, to be assured that including dimensions was meaningful, we ran the exact same model as above, with one change—creativity was now specified as a first-order (i.e., unidimensional) factor. The fit declined (CFI = .95, RMSEA = .16), suggesting that novelty and functionality make distinct contributions to the overall creativity construct. The interrater reliability between the two judges for the CPSS<sub>reduced</sub> was .94, and so their scores were combined for analysis of the experiment.

## Results and Discussion

Participants generated a wide range of responses to the problem. Examples judged to be more creative included dabbing the shoe scuffs with magic marker; covering the scuffs with black crayon and then buffing with car wax; touching with eye mascara, coating with Crisco or baby oil, and then buffing with a dish towel; and applying black hair dye and then shining with hand lotion or Vaseline. More conventional (i.e., less creative) responses included going to the store to buy polish, trying to borrow polish from a neighbor, or ignoring the scuffs altogether.

The data were analyzed using multiple regression. To facilitate comparisons and reduce any collinearity between the interaction coefficients and their constituent terms, all variables were standardized prior to analysis following procedures outlined by Friedmarich (1982). As shown in table 1, both situational factors influenced creativity. Individuals attending the banquet with their new employer (higher situational involvement) responded more creatively to the problem than when the dinner was with an insurance agent ( $\beta = .31$ ,  $p < .01$ ). Similarly, individuals responded more creatively when facing a time constraint, as compared with having ample time ( $\beta = .15$ ,  $p < .04$ ). Individual difference factors also played a role. Persons with a more internal LOC and persons higher in metaphoric thinking ability produced more creative solutions than their more externally oriented and less-metaphoric counterparts ( $\beta = .17$ ,  $p < .02$ ;  $\beta = .14$ ,  $p < .05$ , respectively).

There were two significant ( $p < .05$ ) interactions in the data. Time constraints interacted with both situational involvement and LOC. To facilitate interpretation of the interactions, simple slope analysis was conducted (Aiken and West 1991). As shown in figure 1, the influence of situational involvement on creativity was larger when time constraints

TABLE 1  
REGRESSION ANALYSIS OF CREATIVE CONSUMPTION

Independent variables	Dependent variable: Creative consumption		
	$\beta$	<i>t</i>	<i>p</i>
Situational involvement	.31	4.53	.01
Time constraints	.15	2.09	.04
LOC	.17	2.40	.02
Metaphoric thinking ability	.14	1.95	.05
Situational involvement $\times$ LOC	-.05	-.67	.50
Situational involvement $\times$ metaphoric thinking ability	-.02	-.32	.75
Time constraints $\times$ LOC	.18	2.60	.01
Time constraints $\times$ metaphoric thinking ability	.04	.65	.52
Situational involvement $\times$ time constraints	.14	2.11	.04
LOC $\times$ metaphoric thinking ability	.02	.38	.71
Age	.12	1.70	.09
Gender	-.24	-3.37	.01
Education	-.25	-3.39	.01

NOTE.—LOC = locus of control. Statistics for model: adjusted  $R^2 = .25$ ,  $F(13, 148) = 5.14$ ,  $p < .01$ ; significance levels are two-tailed; beta coefficients are standardized using Friedrich's (1982) procedure for reporting standardized coefficients with interactions; all variance inflation factors are  $< 2$ , indicating minimal collinearity among predictors; for gender, 0 = female, 1 = male; time constraints, 0 = low, 1 = high; situational involvement, 0 = low, 1 = high; LOC, higher indicates more internal.

were present as compared with when they were not present. Similarly, the presence of time constraints lead to higher creativity, but only provided the respondent had an internal LOC.

Runco and Sakamoto (1999) have asserted that because of creativity's confluent nature, a much-needed development is for researchers to begin combining experimental manipulations (that focus on more proximate influences on creativity) with individual-difference measures (that tap more remote determinants of creative performance). Our research reinforces this need and finds creative consumption to be a product of multiple and interactive influences.

A number of aspects of the results merit further consideration. First, the analysis indicates that situational factors were at least as influential on creativity as individual-difference factors, if not more so. This is noteworthy because situational factors have not only been neglected in prior consumer studies, they have also been deprioritized in basic creativity research, at least compared with person factors. This may demarcate an important difference between eminent creativity and everyday creativity that should be explored more comprehensively in future work.

Perhaps more important than the comparative influences were the interactive influences on creativity. Had, for example, the relationship between time constraints and creativity been examined without also considering LOC, an important boundary condition on this relationship would have been overlooked. Much the same can be said of the interaction of time constraints with situational involvement. Since time constraints interacted with two other antecedents, we speculated that a more complex, three-way interaction may be operative. Therefore, we respecified the regression model in table 1, adding a term for the three-way interaction. The results showed that time constraints, situational involvement, and LOC do interact in their influence on consumer

creativity ( $p < .04$ ). Individuals with a more external LOC are very reluctant to attempt a creative solution unless they are compelled to do so through higher situational involvement and demanding time constraints. By contrast, for individuals with a more internal LOC, either higher situational involvement or demanding time constraints are sufficient to evoke a more creative response. Overall, the three-way interaction lends even more support to the assertion that creativity in daily life is often the result of complex and converging forces both within and external to the individual.

## CONSEQUENCES OF CREATIVE CONSUMPTION

The consequences of creativity may be at least as important as the antecedents, as some scholars have asserted that individuals often engage in creative activities precisely because of the reinforcement they provide (e.g., Csikszentmihalyi 1996). However, there have been very few empirical studies on the consequences of creativity. One potential outcome is positive affect. Historically, affect has usually been studied as a facilitator of creativity. In a program of research covering a variety of populations and contexts, Isen and colleagues have consistently found that performance on a creative task increases when individuals are in a good mood (see Isen 1999). Here, we investigate if acts of creativity also increase positive affect.

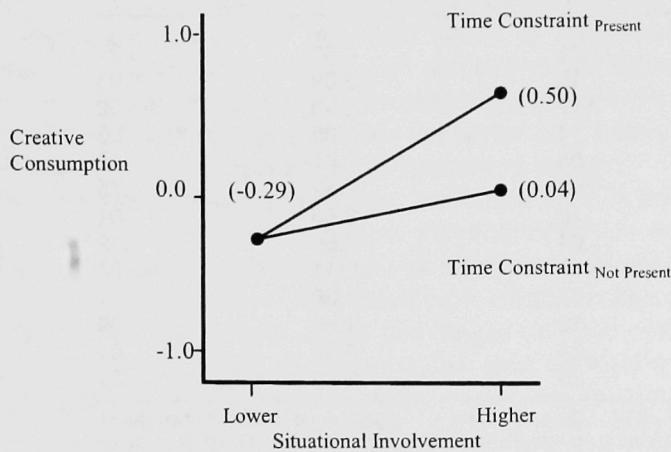
In experiment 2 we explore four types of positive affect. The first is accomplishment. Accomplishment is the feeling of having been constructive and brought closure to a situation (Larsen and Diener 1987). Because creativity is fundamentally a generative act, more creative solutions to a problem should increase the feeling of accomplishment. Creativity should also lead to increased satisfaction. The satisfaction response is complex and reflects the whole of the



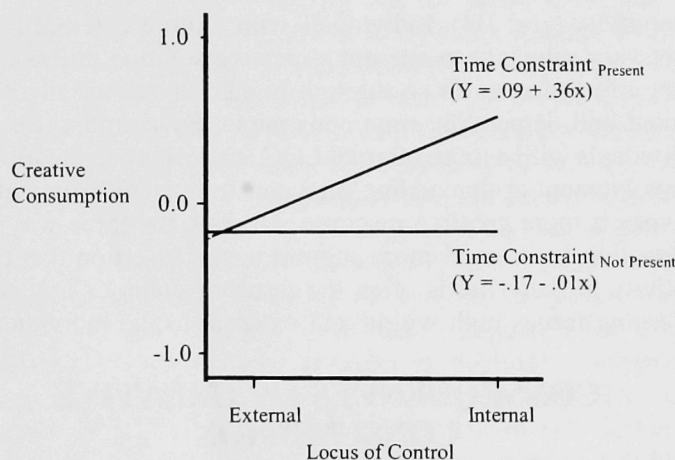
FIGURE 1

## SIMPLE SLOPE ANALYSES OF INTERACTIONS

## A) Involvement x Time Constraints



## B) Locus of Control x Time Constraints



NOTE.—Scales have been standardized. In part B, the slope coefficient for the time constraint condition is significant at  $p < .01$ ; for no time constraints,  $p = \text{NS}$ .

consumption experience, including circumstances, outcomes, and attributions (Oliver 1997). When an individual faces a worrisome problem and uses his or her ingenuity to overcome it, an increased sense of satisfaction should result. The next is pride. Pride is an efficacy-based emotion, which is produced when an outcome is perceived as the result of an individual's own actions, particularly if he or she receives accolades from others (Weiner 1986). Because creativity directly implicates an individual's sense of agency, creative solutions to a problem should increase pride. Similar to pride, confidence is also an efficacy-based emotion but is future oriented. Successfully dealing with one situation increases belief in the ability to handle other similar situations (Weiner 1986). Creatively resolving a current problem should boost the individual's feeling of confidence. These notions are summarized in the following hypothesis:

**H6:** Higher levels of creativity in the response to a consumption problem will increase positive affect, including increased feelings of (a) accomplishment, (b) satisfaction, (c) pride, and (d) accomplishment.

Testing experimentally whether positive affect flows from creativity is a formidable task. Emotional outcomes are sensitive to laboratory conditions such as the actions of the researcher (Howard and Gengler 2001). The challenge is compounded by the fact that creativity is not easily manipulated (hence, the reason consequences are rarely studied). The key to such an experiment is to invite creativity while allowing respondents to experience phenomenologically the development of their own solutions (Runco and Sakamoto 1999).

## EXPERIMENT 2

Seventy-seven undergraduate students participated for course credit. Each was processed individually.

## Method

For continuity and to leverage our prior insights, participants were presented with the same basic problem as experiment 1 (i.e., a situation of an important banquet, scuffed shoes, and limited time to respond). However, there were two key differences in this experiment. First, because genuine emotions are more likely to be experienced by actually enacting a response, participants were presented with a real pair of scuffed shoes in conjunction with the problem scenario (multiple pairs of pairs of dress shoes were purchased and scuffed for the study). The other difference was that the availability of shoe polish was left uncertain. The scenario ended by noting that the individual was unsure if there is any polish left. Invariably, the participants' initial response was to check for polish, which set up the key manipulation.

Randomly, half of the participants were told that no polish was available (the creative condition). The researcher then asked the participant what he or she would do next. Based on experiment 1, participants' likely responses were anticipated. For example, if the person replied that they would use a magic marker, cooking oil, or something else, the researcher responded that he had not thought of this (so that the participant would retain ownership of the idea) but then casually remarked that there was a marker in his office, cooking supplies in a nearby kitchenette, and so forth. He then retrieved the appropriate materials and asked the participant to implement his or her proposed solution on the shoes. The other half of the participants were told that, indeed, there was some shoe polish left (the control condition). The researcher retrieved a polishing kit and asked the respondent to polish the shoes.

Immediately following participants' responses to the problem, they were asked to indicate the degree to which they were currently experiencing feelings of accomplishment, satisfaction, pride, and confidence. Each emotion was

measured on a nine-point Likert scale anchored by "definitely not feeling now" and "definitely feeling now" (Larsen and Fredrickson 1999). To guard against and rule out a dominant response tendency, three additional emotions not expected to vary with creativity (regret, sleepiness, and boredom) were placed intermittently among the others. Finally, as a manipulation check, subjects were asked how creative they felt.

Because of the high potential for demand effects in such a study, a number of precautions were taken. In order to be consistent yet appear natural, the researcher carefully scripted and rehearsed the procedures for the experiment. Also, nine pretest individuals were processed through the experiment and then queried on three issues: (1) Had they suspected the purpose of the study? (2) Had the availability of the solution materials appeared contrived? (3) Had their responses had been unduly influenced by the researcher? It appeared that pretest participants had little awareness of these issues. But as a final precaution, at the end of experiment 2, participants were asked to write down what they felt the specific purpose of the study was. An external professor evaluated these responses using the same criteria listed above. His evaluation indicated that four participants' responses may have been compromised, and these data were discarded.

## Results and Discussion

The results were analyzed using MANOVA. Because the four target emotions were highly correlated, they were combined into a single indicant termed "positive affect." In addition to positive affect, the analysis also included the manipulation check for creativity and the three emotions used to test for response bias. The manipulation check revealed that the manipulation was successful. Participants in the creativity condition (i.e., no polish) felt that their responses were significantly more creative than participants in the control condition ( $M_{\text{control}} = 3.6$ ,  $M_{\text{creative}} = 5.9$ ,  $\omega^2 = .19$ ,  $F(1, 67) = 16$ ,  $p < .01$ ). More centrally, participants in the creativity condition experienced higher levels of positive affect than those in the control condition ( $M_{\text{control}} = 3.8$ ,  $M_{\text{creative}} = 5.8$ ,  $\omega^2 = .22$ ,  $F(1, 67) = 18$ ,  $p < .01$ ). None of the other emotions (boredom, sleepiness, or regret) were effected by the manipulation (all  $p$ 's  $> .2$ ), limiting the possibility that the results were simply because of a dominant response tendency.

Experiment 2 demonstrates an important but largely untested aspect of creativity, namely, that it can enhance positive affect. Consumer researchers have placed a great deal of emphasis on understanding what leads to positive outcomes from the consumption process, with most prior work focused on the consequences of product choice and product performance (see, e.g., Oliver 1997). We expand this perspective by suggesting that the consumer may help co-determine the quality of their consumption experiences through creativity. While the experimental nature of our second study necessitated presenting respondents with a specific consumption problem, it is clear nonetheless that con-

sumers also seek out opportunities to be creative with products. Because of its affective implications, creativity may harbor significant new insights for other domains of marketing and consumer behavior, including brand commitment, collecting, and gift exchange.

## GENERAL DISCUSSION

Creativity can be central to many of the consumption processes individuals engage in, yet we have known little about creative consumption's nature, antecedents, and consequences. The first experiment showed that situational involvement, time constraints, LOC, and metaphoric thinking ability have main and interactive influences on consumer creativity, even in a relatively mundane problem-solving context. The second experiment demonstrated that creative consumption elevates positive affect.

There are many opportunities to refine and extend the results reported here. For example, although all four of the antecedents in experiment 1 influenced creativity, it is possible that they differ in how they exert this influence. In other words, because creativity is comprised of at least two dimensions, it is possible that these antecedents differentially influence creativity through these dimensions. To investigate this possibility, we reran the regression outlined in table 1 twice more, treating novelty and functionality as separate dependent variables. Some interesting results emerge, particularly with respect to the situational antecedents. There was a significant difference in the influence of time constraints on the novelty dimension ( $\beta = .27$ ,  $p < .01$ ) versus the functionality dimension ( $\beta = -.05$ ,  $p = \text{NS}$ ) of creative consumption. Thus, while time constraints may impel consumers to take unusual measures, such actions are not necessarily any more effective. By contrast, situational involvement appears to influence creativity in a somewhat opposite manner. Situational involvement exerted an influence on the functionality dimension ( $\beta = .41$ ,  $p < .01$ ) of creativity that was twice as large as the novelty dimension ( $\beta = .20$ ,  $p < .01$ ). This result suggests that as situational involvement rises, consumers are primarily motivated to find a way to overcome the problem, being only as novel as they have to be. Neither LOC nor metaphoric thinking ability varied in their influences across the dimensions of creativity. Taken together, these findings suggest for the first time that situational factors may cause individuals to focus on different facets of creativity, whereas person factors appear to drive creativity more generally. Future research is needed to replicate and qualify these insights.

While novelty and functionality are fundamental to most definitions of creativity, they may, nevertheless, underspecify this construct within consumer behavior. Many acts of creative consumption have little to do with problem solving per se. People alter their dress, vehicles, and homes in unusual and ornamental ways (see, e.g., Holt 1997). In these cases, creativity is deliberately effected for self-expression and social communication. As such, the conceptualization of creativity might benefit from adding a third dimension, aesthetics, which refers to a beauty or refinement in an out-



come or product, "without regard to whatever utilitarian function it might provide" (Holbrook 1981, p. 37). Aesthetics are universally experienced but culturally construed. A major component of acculturation is learning to appreciate and express aesthetics, often through creative play with objects. Of course, there can be an element of refinement in a problem solution, while there can be a functional element to more expressive acts of consumption (dress, transportation, etc.). Thus, aesthetics may represent a bridge between the problem solving and expressive or artistic forms of consumer creativity.

Limitations to the present research must also be acknowledged. The first concerns LOC, which was an important predictor of creativity in the first experiment. Because LOC was measured shortly after completion of the experimental task, it is possible that individuals who responded creatively experienced a temporary boost in their perceived level of LOC. While this possibility cannot be completely ruled out, recall that this relationship was actually conditional—internals who were not under time constraints acted no more creatively than externals, yet still reported an internal LOC. This conditional finding limits the plausibility of a reverse-causal explanation of our results. Of course, over long periods creativity may well increase LOC, which then predicts creativity in any one instance (i.e., a reciprocal relationship). We know of no long-term study examining the influence of creativity on personality characteristics such as LOC, but such research could be highly impactful. Another limitation concerns manipulating time constraints using a scenario-based methodology. As with any such research, there is always a chance that what individuals report they would do differs from how they would actually respond. Thus, while our scenario-based findings are logically sensible, replicating them in future research (ideally without dependence on hypothetical situations) would fortify our initial insights.

Finally, the set of antecedents and consequences studied here was necessarily limited. Future research is needed to identify other antecedents and consequences of creative consumption. One particularly intriguing issue is priming. Research has shown that creative solutions to problems can be nonconsciously readied by the way that instructions are framed or through the use of metaphors and analogies (see, e.g., Higgins and King 1981). However, priming can also reduce creativity if it causes respondents to fixate on a particular approach and neglect creative facilities such as analogical reasoning (Dahl and Moreau 2002). Since the marketplace is replete with signs that may subtly direct or impede creativity, consumer behavior may be a particularly apropos setting to investigate further nonconscious antecedents.

Creativity is arguably among the most crucial topics that remain outside of most social researchers' scopes. While psychology exceeds consumer research in studying creativity, still less than .5% of the research indexed in *Psychological Abstracts* concerns this topic (Sternberg and Lubart 1996). And a frequent criticism of experimental research is that it employs situations that are divorced from reality or unlikely to be faced by average individuals (Runco and

Sakamoto 1999). Consequently, consumer researchers have a rich opportunity to contribute not only new substantive knowledge on consumer behavior but also more fundamental theoretical advances on creativity.

[Dawn Iacobucci served as editor for this article.]

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