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Attention to Social Comparison Information: An Individual Difference Factor Affecting Consumer Conformity

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Interpersonal influence in consumer behavior is moderated by the extent of consumer sensitivity to social comparison information concerning product purchase and usage behavior (cf. Calder and Burnkrant 1977). Two survey studies indicate that Lennox and Wolfe's (1984) attention-to-social-comparison-information (ATSCI) scale has adequate convergent and discriminant validity and moderates the relative influence of normative consequences on behavioral intentions, as predicted. A quasi-experiment and an experiment in which control subjects under no social pressure are compared with high and low ATSCI subjects under pressure reveal that high ATSCI subjects are more likely to comply with normative pressures.

The operation of interpersonal processes is dependent upon the individual's attending to and acting upon the beliefs, thoughts, and expectations of others. The premise underlying the present research is that the extent to which individuals are sensitive to social comparison cues relevant to their product choices and usage is a mediator of interpersonal influence. That is, the influence that others have on individual decisions is often due to the person's concern or caring about reactions to his/her behavior. In this article, we first present the results of two studies designed to evaluate both the validity of the measure used to identify individual variation in sensitivity and its ability to moderate the relative influence of interpersonal influence variables within Miniard and Cohen's (1983) model of behavioral intention. Second, the results of two experiments that tested the effects of sensitivity to social comparison information and peer pressure on conformity rates are presented. An explication of the nature of social comparison information and the role that attention to such information plays in consumer behavior precedes the presentation of the studies.

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ATTENTION TO SOCIAL COMPARISON INFORMATION

One problem facing researchers interested in predicting and understanding consumer behavior is the explication of conditions under which normative influences are likely to contribute significantly to the formation of behavioral intentions. As Miniard and Cohen (1983, p. 171) have pointed out, "to the extent consumers' behavior is influenced by concerns over what others might think of them or how others might act toward them as a function of their product choice and usage, the identification and separation of normative from personal reasons for preferring a product would appear to be quite useful." We propose that sensitivity to social comparison information, motivated by such factors as a fear of negative social evaluation, is one such moderating variable. That is, it is possible to make predictions concerning the relative importance of interpersonal antecedents of consumers' purchase intentions by measuring consumers' predisposition to act on the social cues available at the time a purchase or consumption decision is being made.

Such a measure was recently identified by Lennox and Wolfe (1984) in their critique and revision of Snyder's (1974) original explication of self-monitoring. Labeled "attention-to-social-comparison-information" (ATSCI), this variable was identified as a factor distinct from the self-monitoring construct because of its relatively strong relationship with social anxiety. Lennox and Wolfe (1984, p. 1358) reported significant positive correlations of ATSCI with two

variables related to social anxiety—neuroticism ($r = 0.29$) and fear of negative evaluation ($r = 0.64$). (See the Appendix for the 13 questions comprising the ATSCI measure.) Lennox and Wolfe also described a study in which ATSCI, but not the revised self-monitoring scale, was shown to be a significant moderator of the strength of religiosity as a predictor of self-reported marijuana and alcohol use among college students. The suggestion that ATSCI might be useful as a measure of long-term predispositions toward conformity stimulated our initial interest in ATSCI's potential as a moderator of consumer conformity. In the only direct test to date, ATSCI was found to be significantly more strongly related to the normative factor ($r = 0.68$) of Bearden, Netemeyer, and Teel's (1989, p. 478) susceptibility to interpersonal influence scale than to the informational factor ($r = 0.16$).

Persons scoring high in ATSCI are aware of the reactions of others to their behavior and are concerned about or sensitive to the nature of those reactions. Simply put, such individuals care what other people think about them and look for clues as to the nature of those likely reactions. In a consumer context, sources of social comparison information include: (1) behavioral cues, such as the kinds of clothing or makeup worn (Jolson, Anderson, and Leber 1981; Levy 1959; Solomon and Schopler 1982); (2) explicit pronouncements of the relative appropriateness of the consumption of certain products or services made by important referents or aspiration groups (Miniard and Cohen 1983); (3) the structure of social rewards and sanctions within such groups (Allen 1965); and (4) attributions about likely reactions of group members to the consumer's behavior (Calder and Burnkrant 1977). Advertising and various personal selling techniques also provide social comparison information vicariously by depicting consumer referents receiving either positive reinforcement as a consequence of product usage (Nord and Peter 1981) or punishment in the form of social sanctions for failing to use a product. Evidence that the efficacy of such social appeals in advertising varies across individuals was obtained by Snyder and DeBono (1985).

Concern about social comparison information is also akin to the concept of "reflexive evaluation," which is an integral part of symbolic consumption. Reflexive evaluation is a form of information integration in which the consumer forms a self-concept or self-definition on the basis of estimated appraisals by others. According to Solomon (1983), product symbolism is an antecedent to role definitions and behavior patterns associated with those roles. Similarly, Baumeister (1982) has described conformity in self-presentational terms by attributing conforming behavior to the motivation to gain rewards by pleasing an audience.

Public Self-Consciousness and Social Anxiety

One psychological factor likely to be related to the attention of individuals to social comparison information is public self-consciousness (PSC). Fenigstein, Scheier, and Buss (1975) define public self-consciousness as the consistent tendency of persons to direct their attention toward themselves as social objects. Thus, like those high in ATSCI, individuals high in PSC are also aware of the perspectives of others and the reactions of others to their public behavior.

In their study of image management, Burnkrant and Page (1982, p. 454) used Fenigstein et al.'s measure of PSC and predicted that "people who are high in public self-consciousness should be more sensitive to the type of impression called for in social situations and more inclined to act in accord with these impressions than people who are low in public self-consciousness." However, Burnkrant and Page concluded from their data that persons high in PSC "are *not* more inclined to act in accord with the reward contingencies inherent in social situations." Contrary to this conclusion, Miller and Cox (1982) found that women who scored higher on the PSC scale tended to use more makeup than those with a lower score. Solomon and Schopler (1982) found that females, but not males, exhibited a significant correlation between their attitudes toward conformity in fashion and their public self-consciousness. In other words, women higher in PSC tended to evaluate clothing fashions more favorably.

Thus, the evidence concerning the relationship between PSC and conformity in a consumer setting is mixed. Public self-consciousness appears to capture a perceptual dimension of social sensitivity but, perhaps, not a motivational one, at least for men. Apparently, individuals high in public self-consciousness are aware that people around them form impressions of them based on their product choice and usage behavior. However, it is unclear whether they are also motivated to act in a manner likely to elicit particular types of attributions or reactions.

It is expected that ATSCI will be positively correlated with PSC. We also expect ATSCI to be a more robust moderator of conformity because of its stronger relationship to social anxiety, which provides a motive (e.g., the avoidance of negative social evaluation) for conforming behavior. Based on the results reported by Lennox and Wolfe (1984) and our expectation that social anxiety promotes conformity among high ATSCI individuals, a significant positive relationship between ATSCI and fear of negative evaluation is predicted. Similarly, individuals who have a strong feeling of self-esteem should be less socially anxious and less concerned about the reactions

of others. Therefore, an inverse relationship between consumers' levels of self-esteem and scores on the ATSCI scale is hypothesized.

Summary

The intent of the present research is to investigate the role of an individual difference factor—attention to social comparison information—in consumer interpersonal influence. The basic premise of the research is that consumer susceptibility to interpersonal influence is moderated by the extent to which consumers are sensitive to social cues concerning their purchase and consumption behavior. In an effort to investigate this prediction, four studies were conducted. The attention-to-social-comparison-information measure of Lennox and Wolfe (1984) was selected as a means of classifying subjects according to their relative sensitivity to social comparison information. However, given the relative newness of the measure and its limited use to date, evidence regarding the properties of the ATSCI scale was needed. Consequently, the studies were designed to evaluate the reliability and validity of the ATSCI measure in addition to investigating the ability of the measure to moderate the influence of normative considerations on consumer behavior.

STUDY 1

Study 1 tested ATSCI's convergent and discriminant validity by including public self-consciousness in a survey of opinions about others' reactions to an automobile purchase. PSC was expected to be distinct from, but positively related to, ATSCI. Interpersonal influences were expected to be stronger for a product sold primarily on appeals to image (e.g., a Pontiac Fiero sports car) than for one sold more on function (e.g., Chevrolet Celebrity). Thus, ATSCI's moderation of consumers' product evaluations should be stronger for the high image product (Bearden and Etzel 1982; Jolson et al. 1981; Solomon 1983). In addition, ATSCI was expected to be positively related to knowledge of and concern for the reactions of others to consumer behavior.

Method

Sixty-two undergraduate business students responded to Lennox and Wolfe's measure of attention to social comparison information along with the measure of public self-consciousness (Fenigstein et al. 1975, p. 524). The 13-item ATSCI measure was operationalized as the sum of responses recorded on a six-place scale that ranged from 0 = always false to 5 = always true. The seven-item PSC measure was operationalized similarly, and its seven-place scale ranged from 1 = strongly disagree to 7 = strongly agree. Examples of PSC statements are "I usually

worry about making a good impression" and "I'm concerned with what other people think of me."

Prior to responding to the measures, however, subjects were asked to assume that they had recently purchased either a Chevy Celebrity or a Pontiac Fiero and to list their thoughts about what other important people would think about them, given knowledge of their purchase. Following the open-ended thought elicitation, participants were asked how likely other people would be to judge them by the car they had purchased. Responses to this item were assessed via a nine-place likely/unlikely scale. Subjects then responded to 25 semantic differential items regarding what other people would think of them if they bought a Celebrity or Fiero. These items were similar to the measures used by Calder and Burnkrant (1977, p. 33) and included such adjective pairs as unattractive/attractive, successful/unsuccessful, and passive/aggressive. Several additions and deletions were made to Calder and Burnkrant's original set of items in an effort to make the scales more relevant to automobile purchases. The responses to these 25 items were converted to a summed index reflecting differences from the midpoint on each item. It was predicted that individuals scoring high in ATSCI would tend to report more extreme scores on this index and would also tend to report more positive and negative attributions in the open-ended elicitation task. Data were also collected using single-item, nine-place bipolar scales regarding subjects' confidence in their responses to the 25 items and the extent to which they cared what other people thought of their car selection.

Results

The internal consistency reliability estimates for the ATSCI and PSC measures were 0.85 and 0.83, respectively. The Pearson correlation estimate between ATSCI and PSC was 0.60 ($p < 0.01$). These results provide preliminary evidence that the ATSCI scale is internally consistent and is correlated as predicted with a related construct. Correlations with the other measures related to the automobile purchase also support the relationship of ATSCI with social anxiety and concern for the reactions of others, with one exception. Individuals scoring high in ATSCI felt that it was more likely that others would judge them by their purchase ($r = 0.31, p < 0.01$), cared more about what others thought about them ($r = 0.51, p < 0.01$), and were more confident of their ratings of the 25 items regarding the likely attributions of others to their purchase ($r = 0.34, p < 0.01$). The correlation between ATSCI and the extreme score index (assuming that high ATSCI individuals would report more extreme responses on the 25 semantic differential items) was 0.16 ($p < 0.10$). Disappointingly, no differences in the number of positive and negative thoughts between

low and high ATSCI groups were found in the elicitation task.¹

STUDY 2

The second study was designed to confirm the reliability and validity of the ATSCI measure and to determine whether measures of normative influences operated in a predictable pattern between groups of subjects who differed in their sensitivity to social cues. This latter issue was addressed in the context of the global version of Miniard and Cohen's (1983) model of behavioral intention formation. Our rather straightforward hypothesis was that interpersonal considerations with respect to product purchase would be relatively more influential for subjects who were highly sensitive to social comparison information. That is, it was predicted that mean scores regarding the evaluation and importance of normative sources of influence would be higher for sensitive subjects (in comparison to subjects scoring low in ATSCI) and that interpersonal considerations would be more strongly correlated with purchase intentions for the sensitive group. This study also tested the relationship, expected to be positive, between ATSCI and fear of negative evaluation (FNE) and attempted to replicate the previous positive PSC/ATSCI relationship.

Method

Ninety-nine male and female undergraduate business students participated in the study for course credit. On the basis of a median split, subjects were divided into high and low sensitivity groups using the scores from the ATSCI scale. During a 30-minute session, subjects responded to the ATSCI and PSC measures, and data were also collected for the 30-item true-false measure of fear of negative evaluation (Watson and Friend 1969). Examples of the FNE items are "I worry about what people will think of me even when I know it doesn't make any difference" and "I feel very upset when I commit some social error." Items used to operationalize the global version of the Miniard and Cohen behavioral intention model were assessed for six brands, two for each of three products. The three products—beer, tennis shoes, and jeans—were selected because of their rele-

vance to the student sample and because of their roughly equal applicability to males and females. All subjects responded to the Miniard and Cohen items for each brand; however, the product presentation was counterbalanced across subjects to avoid order bias.

The Miniard and Cohen measures were similar to those employed in previous tests of the global version of their model. To measure the favorability of interpersonal considerations, subjects were asked, "Suppose that you bought jeans for wearing to school on the sole basis of *interpersonal considerations* (e.g., what others might think about you and/or how they might react toward you). Given this, how favorable or unfavorable would you feel toward buying Wrangler jeans for wearing to school?" Responses were made on a seven-place scale ranging from extremely favorable (+3) to extremely unfavorable (-3). To capture subjects' perceptions of the importance of interpersonal considerations, they were asked, "In making your decision concerning the purchase of Wrangler jeans, how much importance would you place on *interpersonal considerations*?" The importance of interpersonal considerations was operationalized on a seven-place scale ranging from 0 = absolutely no importance to 6 = the greatest importance. Responses to these measures were multiplied to provide an overall estimate of normative interpersonal evaluation for each of the six brands. Prior to the administration of these items, detailed written instructions were provided regarding the distinction between personal and interpersonal considerations (cf. Miniard and Cohen 1983, p. 173).

As in Study 1, the target brands were selected from pretest data to represent differences on a continuum of symbolic value. The brands used in these tests were: Lowenbrau and Stroh's beer, Reebok and Wilson tennis shoes, and Guess? and Wrangler jeans. Lowenbrau, Reebok, and Guess? were judged in the pretest to provide more information about consumers who use them and, therefore, to be more useful as a means of self-expression than Stroh's, Wilson, and Wrangler. Thus, the high image products were expected to be more susceptible to social influences. The situational contexts were purchasing (1) beer for serving to friends at a party, (2) tennis shoes for wearing to school, and (3) jeans for wearing to school. Intentions to purchase each of the products in these contexts were operationalized as the sum of subjects' responses to three seven-place bipolar scales bounded by likely/unlikely, certain/uncertain, and probable/improbable. The direction of these bipolar adjectives was varied to inhibit acquiescence bias.

Results

The internal consistency reliability estimate for the ATSCI scale was 0.83. Similar estimates for the PSC

¹Analysis of variance tests using both the car brand and ATSCI as independent predictors revealed that car type only affected the extent to which subjects cared what others thought. Surprisingly, the scores were higher (i.e., greater concern) for the Celebrity. No other main effect or interactions involving brand type were significant. This result was replicated in the findings for the low image brands examined in Study 2. In retrospect, it appears that subjects perceived the low image brands to be less desirable as well as lower in symbolic value. Unfortunately, this perception was not captured in the product selection pretest.

TABLE 1
MULTIVARIATE ANALYSIS OF VARIANCE RESULTS: STUDY 2

Factor	Normative considerations					
	Importance		Favorability		Importance by favorability	
	F	p	F	p	F	p
ATSCI	610.11	.01	10.22	.01	15.67	.01
Products	25.40	.01	5.46	.01	6.66	.01
Brands	.01	.92	107.40	.01	57.69	.01
ATSCI by products	3.27	.04	2.11	.13	3.02	.05
ATSCI by brands	.67	.42	1.50	.22	4.35	.04
Products by brands	.87	.42	12.13	.01	3.16	.05
ATSCI by products by brands	2.41	.10	1.98	.31	2.41	.09

and FNE scales were 0.74 and 0.89. Correlations of the ATSCI scale with the PSC and the FNE scales were 0.40 ($p < 0.01$) and 0.50 ($p < 0.01$), respectively. The correlation between PSC and FNE was 0.41 ($p < 0.01$).

Subjects' responses to the Miniard and Cohen measures were first analyzed using multivariate analysis of variance in which attention to social comparison information represented a between-subjects factor, based on a median split of subjects' ATSCI scores, while the products and brands represented within-subjects factors. The results of this overall analysis are summarized in Table 1. Group mean scores along with univariate tests for each product and brand are presented in Table 2. This analysis revealed significant overall main effects for ATSCI for all variates of the interpersonal global measures of the Miniard and Cohen model. Examination of the univariate results at the product level indicated that the cell means differed in the predicted manner. That is, the importance scores were highest for the high ATSCI group across the brand comparisons. Similar results were found for the favorability measures for the more popular brands of shoes and jeans. The significant ATSCI by product interaction for the importance measure was due to the large means for both the high and low ATSCI groups for beer. Clearly then, it seems that individuals high in ATSCI report different scores to measures of interpersonal considerations than those low in ATSCI.

These mean score results are also supported by an analysis of the correlations between brand behavioral intentions and the Miniard and Cohen measure of interpersonal considerations. That is, the expected pattern of stronger relationships between intentions and normative considerations for the high ATSCI group was obtained. The correlations were first transformed to z -scores to test the significance of the differences observed between high and low ATSCI groups following a procedure suggested by Cohen (1977). The re-

sults of these comparisons revealed that the pairwise correlations were higher ($p < 0.05$) for the high ATSCI group for five of the six brands. Further support

TABLE 2
MEAN DIFFERENCES BETWEEN HIGH AND LOW ATSCI
SUBJECTS: STUDY 2

Variable	Subjects				F
	Low ATSCI ($n = 50$)		High ATSCI ($n = 49$)		
	Mean	SD	Mean	SD	
Beer					
Lowenbrau					
Importance	3.14	1.74	3.69	1.60	2.72 ^a
Favorability	.60	1.88	.59	1.66	.01
Importance by favorability	2.38	7.46	2.35	7.43	.01
Strohs					
Importance	3.22	1.84	3.98	1.51	5.03 ^b
Favorability	-.16	1.63	-.02	1.75	.17
Importance by favorability	-.62	7.02	.39	7.92	.45
Shoes					
Reebok					
Importance	1.78	1.57	3.06	1.90	13.52 ^b
Favorability	1.06	1.88	1.86	1.21	6.23 ^b
Importance by favorability	2.41	4.49	6.14	6.61	10.82 ^b
Wilson					
Importance	1.61	1.44	2.75	1.63	13.65 ^b
Favorability	-.65	1.68	-.23	1.46	1.73
Importance by favorability	-.47	2.98	.19	4.83	.68
Jeans					
Guess?					
Importance	1.75	1.55	2.94	1.78	12.81 ^b
Favorability	.59	1.93	1.37	1.58	4.86 ^b
Importance by favorability	2.04	4.58	4.22	6.90	3.57 ^b
Wrangler					
Importance	1.76	1.54	3.14	1.86	16.31 ^b
Favorability	-.90	1.63	-.78	1.82	.13
Importance by favorability	-1.16	3.27	-2.88	8.42	1.84

^a $p < 0.10$.
^b $p < 0.05$.

TABLE 3

CHI-SQUARE DIFFERENCE TESTS FOR EQUIVALENCE OF PARAMETER ESTIMATES ACROSS HIGH/LOW ATSCI GROUPS: STUDY 2

Brands	Path estimates		Models		
			Gamma invariant	GA (1, 1) equal	GA (1, 2) equal
	Low ATSCI	High ATSCI	$\Delta\chi^2(2)$	$\Delta\chi^2(1)$	$\Delta\chi^2(1)$
Lowenbrau					
GA (1, 1)	.207 ^b	.392 ^b	1.30	.90	1.10
GA (1, 2)	.476 ^b	.271 ^b			
Strohs					
GA (1, 1)	.310 ^b	.549 ^b	2.09	1.84	.02
GA (1, 2)	.360 ^b	.334 ^b			
Reebok					
GA (1, 1)	.008	.321 ^b	4.44 ^a	4.29 ^b	.02
GA (1, 2)	.588 ^b	.556 ^b			
Wilson					
GA (1, 1)	.183 ^b	.552 ^b	4.94 ^b	4.21 ^b	3.08 ^a
GA (1, 2)	.527 ^b	.213 ^b			
Guess?					
GA (1, 1)	-.231 ^b	.100	2.96	2.96 ^a	.30
GA (1, 2)	.575 ^b	.469 ^b			
Wrangler					
GA (1, 1)	.272 ^b	.367 ^b	.38	.35	.18
GA (1, 2)	.570 ^b	.502 ^b			

NOTE: GA (1, 1) refers to the influence of normative considerations on intentions; GA (1, 2) refers to the influence of personal considerations on intentions.

^a $p < 0.10$.^b $p < 0.05$.

for the greater relative influence of normative considerations for the high ATSCI group was provided by a series of regression analyses in which reductions in explained variance were observed when personal and interpersonal considerations were omitted from estimated equations. For four of the brands, reductions in explained variance when interpersonal considerations were omitted from the model were significantly higher for the high ATSCI group.

To address the issue of the relative influence of interpersonal versus personal considerations on the formation of behavioral intentions, a series of simple causal models were estimated using path analysis in LISREL VI (Jöreskog and Sörbom 1984). First, models were estimated separately for the high and low ATSCI groups within each brand, using importance by favorability of normative considerations and importance by favorability of personal considerations as correlated predictors of behavioral intentions. Then, models were estimated that assumed both causal paths—gamma (1,1) and gamma (1,2)—were invariant and that each path singly was equal across the low and high ATSCI groups. These models were then compared to a baseline model in which the same path estimates were unconstrained. The results of chi-square difference tests based on these model comparisons are presented in Table 3.

A quick look at the path estimates in Table 3 indicates that for each brand the expected pattern of

greater interpersonal influence for the high ATSCI group was obtained. Further, for five of the six brands (Guess? jeans excepted), normative considerations were significant predictors of intentions for the high ATSCI group. For both brands of tennis shoes, the chi-square difference tests revealed that the path coefficients for interpersonal influences differed as predicted between the low and high ATSCI groups. That is, a two-group model was created in which the parameter estimates for the effect of normative considerations on behavioral intentions were constrained to be equal across the low and high ATSCI groups. A comparison of this constrained model with a baseline unconstrained model revealed a significant decrement in fit due to the equality constraint ($\chi^2(1) = 4.29$ and 4.21 for Reebok and Wilson, respectively, $p < 0.05$). For Guess? jeans, interpersonal considerations were negatively related to purchase intentions in the low ATSCI group. This finding may reflect a motivation to avoid fashionability within the low ATSCI group or a reactance effect (Clee and Wicklund 1980).

Discussion

These two studies suggest that the ATSCI measure is internally consistent and correlates as predicted with other constructs. The average correlation between PSC and ATSCI was 0.50; the average internal

consistency reliability estimate was 0.84. The ATSCI measure was also correlated with other measures regarding the reactions of others to a hypothetical purchase and fear of negative evaluation, as predicted. And differences in mean scores and correlations among variables in the global version of the Miniard and Cohen (1983) model were found as anticipated.

STUDY 3

To provide a more direct test of the ability of ATSCI to moderate the effects of normative influences on conformity, an experiment was conducted that required a behavioral response to conformity pressures. Subjects who scored high on the ATSCI scale were again expected to exhibit greater conformity to the preferences of their peers than those subjects with lower scores on the scale. Subjects were told that the purpose of the study was to help with the standardization of school colors used on merchandise sold with the university name or logo. A pretest indicated that students considered this task to be relevant and important. The task involved the selection of a shade from a choice of two colors that would best represent the university. The color choices were based on the results of a pretest ($n = 28$) that showed one color was strongly preferred over the other.

Method

One week prior to the color evaluation task, subjects completed the 13-item ATSCI scale that was embedded in a battery of 21 lifestyle measures. These data were collected under a different guise and by different researchers to minimize the likelihood that any connection would be made between the measurement of ATSCI and the color evaluation task. The color evaluation study was conducted in a classroom setting. The experimental stimuli consisted of two genuine university sweatshirts that were being offered for sale in the university bookstore. The sweatshirts were labeled Color S (least preferred in the pretest) and Color C (most preferred), respectively. After reading a brief description of the need for color standardization, subjects were given the following information designed to create some normative pressure toward conformity:

Thus far, we have surveyed over 500 college students from across the state. Preliminary analysis of these data has revealed some interesting differences in people's color preferences based on whether or not they support (a much despised, in-state rival institution) or (the students' school). We have found that most (supporters of the rival) think that Color C is the right color for the university, while most (supporters of the students' school) prefer Color S.

This manipulation was intended to heighten perceptions of normative pressure by informing the sub-

jects that one color (C) was preferred by a negative referent group, while the other color (S) was preferred by a positive referent group. After reading this information silently while the experimenter read aloud, subjects were asked to choose the best color for representing their university by raising their hands if they preferred Color S (i.e., the conforming choice). Those who did so were then instructed to write the letter S boldly on an index card stapled for this purpose on the front of their study folder. This procedure was repeated for Color C. Next, subjects opened their folders and completed a brief questionnaire about their color preferences. This instrument contained less visible measures of their choice as well as a few ancillary measures and a place for subjects to record any comments. Item 1 on the questionnaire repeated the color choice query. Subjects were also asked to indicate on a seven-point scale anchored by strongly agree/strongly disagree the extent of their agreement with two statements, "Color S(C) best represents the university." The measures required to operationalize the Miniard and Cohen behavioral intentions model were again completed after the critical choice and evaluative items.

Results

Subjects were split into high and low sensitivity groups on the basis of their scores on the 13-item ATSCI scale ($\alpha = 0.88$). Those scoring below the median were classified as low ATSCI subjects ($n = 31$), the remainder as high ATSCI subjects ($n = 32$). As expected, ATSCI was significantly correlated with subjects' perceptions of the favorability of interpersonal considerations concerning the choice of Color S ($r = 0.45$, $p < 0.01$) and the importance of those interpersonal considerations ($r = 0.28$, $p < 0.05$). In other words, as subjects' sensitivity to social comparison information increased, interpersonal considerations in the choice of Color S increased in favorability and importance as well (Miniard and Cohen 1983).

Differences in the distribution of subjects' color choices across ATSCI groups were examined by a normal curve test applied to arcsin transformations of the proportions data for both the public and private choice measures (Cohen 1977, p. 210). Overall, 12 conforming choices (i.e., Color S) were made in public (19.1 percent). Of these, nine were high ATSCI subjects (i.e., 28.7 percent of the high ATSCI group versus 9.7 percent of the low group). As expected, high ATSCI subjects were more likely to choose Color S, the conforming choice, than were low ATSCI subjects ($h_s = \phi_1 - \phi_2 = 0.498$, $p < 0.05$). Similar results were obtained in analyses of the private choice measure. Out of 10 conforming choices on the private measure, eight (i.e., 25 percent of the high ATSCI group versus 6.5 percent of the low group) were made by high ATSCI subjects ($h_s = \phi_1 - \phi_2 = 0.532$, p

< 0.05). High ATSCI subjects also were more in agreement than low ATSCI subjects that Color S best represented the university ($\bar{X} = 3.47$ and 2.35 for high and low ATSCI, respectively; $p < 0.05$).

Multivariate analysis of variance was used to test for significant differences between ATSCI groups in response to a vector of correlated dependent variables including the importance and favorability of normative consequences and behavioral intentions. A significant overall main effect for ATSCI was observed ($p < 0.01$). In addition, the univariate tests indicated that the importance and favorability of interpersonal considerations were higher for the sensitive group ($p < 0.05$ and $p < 0.01$, respectively). High ATSCI subjects also reported a greater likelihood of buying a Color S sweatshirt to wear to a university football game ($p < 0.01$).

Discussion

In this study, differences in conformity rates between subjects categorized as high or low in sensitivity to social comparison cues on the basis of their ATSCI scores were predicted. This expectation was supported across a variety of public and private criteria, including a measure of purchase likelihood, even though Color C had been shown to be preferred overwhelmingly in the absence of normative pressures in favor of Color S in a pretest. Thus, we were attempting to pressure the subjects to make a choice that, for the majority, was contrary to their preferences. Because the subjects received relatively pallid, second-hand normative information at the time the color choices were made, it could be argued that pressures toward conformity were, at most, moderate in this study. Alternatively, it could be argued that the observed effects actually represent anti-conformity in that subjects may have been expressing dissent with others in the class (i.e., the majority who did not raise their hands). However, the fact that 80 percent of those conforming were high in ATSCI argues against this explanation. This conclusion is based upon ATSCI's relatively strong relationship with social anxiety (i.e., the 0.50 correlation with FNE in Study 2) along with the conformity effects observed in the prior two studies and our final study, in which we examined the ability of ATSCI to moderate conformity effects under conditions of more direct conformity pressures.

STUDY 4

The purpose of this final experiment was to determine whether ATSCI's moderation of conformity would hold in a conformity situation in which pressures to conform are stronger and more direct than in the previous three studies (Asch 1958). Our primary hypothesis was that conformity rates would be high-

est for the high ATSCI group (C_h), lowest for the no-pressure group (C_{np}), and intermediate for the low ATSCI group (C_l). In other words, we expected the order of conformity rates to be: $C_{np} < C_l < C_h$. This hypothesis is consistent with the recent results of Insko et al. (1983) regarding conformity effects in Asch-type experiments attributable to concern with being liked. As a further test of ATSCI's relationship with other psychological constructs, Rosenberg's (1965) self-esteem scale was also examined. Based upon previous findings in psychology regarding conformity effects and persuasion, it was hypothesized that ATSCI would be inversely related to self-esteem (McGuire 1968).

Method

Survey data were collected from undergraduate business students under a different guise by a faculty colleague not associated with this research. The ATSCI items, along with the previously used measure of public self-consciousness and a 10-item self-esteem scale (Rosenberg 1965), were embedded in a larger survey. Four to five weeks following this survey, subjects were contacted by telephone and recruited to participate in a study of beverage preference formation. (Responses to an open-ended question at the end of the experimental session suggested that none of the subjects perceived the two studies to be in any way connected.) Subjects were encouraged to participate in the research via a chance to win a monetary award in a random drawing from study participants. A total of 85 subjects participated in both phases of the research.

The design consisted of three groups: (1) a control group involving no pressure to conform ($n = 25$); (2) low ATSCI subjects in a pressure condition ($n = 29$); and (3) high ATSCI subjects in a pressure condition ($n = 31$). Low and high ATSCI subjects, based upon an initial quartile split, were selected from the original pool of respondents to the first survey. In the two pressure conditions, subjects were run individually. Each session involved a blind taste test between two cola brands labeled C and S. A research assistant, blind to the condition, administered the study. Three confederates, also blind to the study and ostensibly recruited in the same manner as the subjects, were used to provide their drink preferences prior to the subjects' evaluations. The two colas were selected from a pretest evaluation of unbranded taste preferences to represent a pleasant tasting, much preferred cola (Brand S) and a much less appealing cola (Brand C). These preliminary blind taste tests revealed that only one in six people preferred Brand C.

Upon arrival at the research setting, the research assistant greeted subjects, noted their names on index cards to be used for assessing compliance, and assigned the four individuals involved in the taste test

(three confederates plus the subject) to their appropriate seats. The subjects were always positioned in the seat requiring their public statement of preference to be given last. Colas S and C were poured for each participant prior to their statement of preference. In all cases, the confederates indicated a unanimous preference for the less appealing Brand C. The proportion of subjects complying with the stated preferences of the confederates served as the primary dependent variable. Prior to administering the blind taste tests, data were collected from each subject (and the confederates) regarding their soft drink consumption and preferences for 11 diet and regular cola soft drink brands. Following subjects' public statements of their preferences, data were then collected regarding their private preferences between Brands C and S.

Results

Coefficient alpha estimates of internal consistency were 0.89, 0.79, and 0.80 for measures of ATSCI, public self-consciousness, and self-esteem. Correlations of ATSCI with PSC and self-esteem were 0.46 ($p < 0.01$) and -0.33 ($p < 0.01$), respectively. Subsequent tests revealed no gender differences in either assignment to conditions or conformity effects ($p > 0.10$). Analysis of differences between the two pressure conditions indicated no effects due to varying perceptions of either similarity among group members or their knowledge of soft drinks. And analysis of questions at the end of the study regarding suspicions of the intent of the research did not suggest any differences between high and low ATSCI conditions. Lastly, no significant differences in the amount of soft drink consumption nor average ratings across the 11 soft drink brands were found.

Our hypothesis concerning the ordering of conformity rates was tested using Bartholomew's chi-square test of proportions in qualitatively ordered groups (Fleiss 1981). As expected, the proportion of subjects choosing Cola C was lowest in the no-pressure group, intermediate in the low ATSCI pressure group, and highest in the high ATSCI pressure group ($\chi^2(1) = 5.35$, $p < 0.05$). Specifically, 16 percent of the subjects in the no-pressure control condition preferred C (almost a perfect replication of our pretest). The conformity rates (i.e., proportion of subjects choosing C) for the low ATSCI pressure condition and the high ATSCI pressure condition were 0.31 and 0.42. This difference was in the expected direction but, based on a test of the arcsin transformed proportions, not significant ($p = 0.16$). Comparisons of the pressure conditions with the no-pressure control group revealed a significant difference for the high ATSCI group ($p < 0.05$), while the difference for the low ATSCI group fell just short of significance ($p = 0.10$).

DISCUSSION

Our research has investigated, in a series of studies under varying conditions, the premise that the extent to which individuals are sensitive to social cues relevant to their product choices and usage is a determinant of interpersonal influences in consumer behavior. In sum, the results provide evidence that the attention-to-social-comparison-information measure is internally consistent, valid, and capable of mediating the relative effects of interpersonal considerations. Specifically, predicted differences between subjects categorized as high and low in ATSCI were obtained for public and private measures in both mean scores and correlations among variables in the Miniard and Cohen (1983) model of behavioral intention. Results of Studies 3 and 4 were noteworthy in that the ATSCI data were collected separately from the conformity data and under considerably different research contexts. Further, Studies 3 and 4 demonstrated the expected moderation of conformity rates by ATSCI for contexts in which subjects had strong preexisting opinions about the products evaluated.

Because public self-consciousness was measured in three of the four studies (Study 3 being the exception), it was possible to conduct a stronger test of the discriminant validity of ATSCI. Based on the work of Burnkrant and Page (1982), we expected PSC to be positively related to subjects' awareness of the social cues existing in a product purchase or usage context. However, we predicted that ATSCI, but not PSC, would moderate the influence of pressures to conform on subjects' behavior. Our data supported these predictions. Although both PSC and ATSCI were significant predictors of subjects' perceptions of normative influences in Studies 1 and 2, PSC did not moderate the impact of conformity pressures on subjects' evaluation of the soft drinks in Study 4. Based on a median split, the proportion of subjects choosing Cola C in the low and high PSC conditions was 0.38 and 0.36, respectively. This result suggests that ATSCI may offer greater utility to those researchers interested in the potential application of psychological moderators of conformity than competing constructs such as PSC. However, the reason for PSC's failure to moderate the effects of social pressures on choice in Study 4 is not clear. Our expectation that PSC would not be as closely related to social anxiety as would ATSCI was not strongly supported, since the correlation of PSC with FNE was nearly as large as ATSCI's. Thus, additional tests of these relationships appear warranted.

Overall, our results compare favorably to those found in previous personality studies in both psychology and consumer research. For example, Sarason, Smith, and Diener (1975) examined 102 personality research studies involving 138 analyses of variance and found the median percentage of variance ac-

counted for by personality variables (using omega squared) was 3 percent (Peterson, Albaum, and Beltramini 1985, p. 100). The average effect size (eta squared) across the six interpersonal considerations importance measures of the Miniard and Cohen model in this research was 0.10. This also compares favorably to the mean effect size of 0.05 (i.e., across all effects, including both manipulated factors and classification variables) in prior consumer research (Peterson et al. 1985, p. 100).

We have not attempted to address process issues relating to interpersonal influence in this research. However, we believe that ATSCI's moderating role is primarily normative in nature, rather than informational. This opinion is bolstered by (1) the strong correlation of ATSCI with the normative subscale of Bearden et al.'s (1989) susceptibility to interpersonal influence scale ($r = 0.68$) and (2) our results' showing significant moderation by ATSCI of the influence of normative considerations, but not personal considerations, on behavioral intentions (Study 2). Resolution of this issue awaits further research. Further, the need remains to study the effects of social visibility within product categories (cf. Allen 1965; Burnkrant and Cousineau 1975) in addition to the consideration of other contextual moderators of interpersonal influences (e.g., group salience, group attractiveness, and the nature of the interpersonal information provided).

Our research shares the usual limitations of experimental approaches to knowledge development. Conclusions concerning attention to social comparison information as a moderator of normative influence are limited to the products and choice settings studied (tennis shoes, beer, jeans, cars, school colors, and soft drinks) and the use of student subjects. However, an effort was made to vary the research contexts as much as possible and to study products that would be of relevance to the subjects used. In particular, the school color evaluation task and the soft drink taste test generated considerable interest among the student subjects. While the pattern of results involving a variety of dependent variables across the four studies was supportive of ATSCI's role as a moderator of consumer conformity, caveats are in order regarding some expected effects that were not significant. For example, the overall effect on conformity proportions was significant in Study 4, but the pairwise comparison between high and low ATSCI conditions did not reach significance. Similarly, ATSCI was found to be a significant moderator of conformity for most, but not all, self-report measures in Studies 1 and 2.

The study of social influences is inherently difficult, in part due to the necessity of disguising the true purpose of the research. Study 4, which involved an elaborate taste test ruse and the use of confederates, was especially demanding in terms of logistics, time, and research funds. Because of these constraints, we were

forced to accept smaller samples and lower power than would have been desirable, especially for tests involving crucial comparisons of correlations and proportions. Nevertheless, the results across the four studies are quite supportive of the importance of ATSCI as a moderator of interpersonal influences in a variety of consumer choice and evaluation tasks.

APPENDIX

The Attention to Social Comparison Information (ATSCI) Measure

1. It is my feeling that if everyone else in a group is behaving in a certain manner, this must be the proper way to behave.
2. I actively avoid wearing clothes that are not in style.
3. At parties I usually try to behave in a manner that makes me fit in.
4. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.
5. I try to pay attention to the reactions of others to my behavior in order to avoid being out of place.
6. I find that I tend to pick up slang expressions from others and use them as part of my own vocabulary.
7. I tend to pay attention to what others are wearing.
8. The slightest look of disapproval in the eyes of a person with whom I am interacting is enough to make me change my approach.
9. It's important to me to fit into the group I'm with.
10. My behavior often depends on how I feel others wish me to behave.
11. If I am the least bit uncertain as to how to act in a social situation, I look to the behavior of others for cues.
12. I usually keep up with clothing style changes by watching what others wear.
13. When in a social situation, I tend not to follow the crowd, but instead behave in a manner that suits my particular mood at the time.

Note that each item is scored 0 (always false) to 5 (always true) and that Item 13 requires reverse scoring.

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