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THE EFFECTS OF STRUCTURAL CONSISTENCY ON ATTITUDE-INTENTION AND ATTITUDE-BEHAVIOR RELATIONSHIPS

JIE ZHOU

Chinese Academy of Sciences, Beijing, People's Republic of China

ERPING WANG

Chinese Academy of Sciences, Beijing, People's Republic of China

JOHN DOVIDIO

Yale University, New Haven, CT, USA

GUANGTAO YU

*Central University of Finance and Economics, Beijing,
People's Republic of China*

The effects of structural consistency including affective-cognitive consistency (ACC) and attitude based on attitude-intention consistency (AIC) and attitude-behavior consistency (ABC) were explored. Results revealed the effect of ACC on attitude-intention consistency and the interaction of ACC and attitude based on attitude-behavior consistency. Specifically, an attitude with high ACC led to stronger intention. Regarding the attitude-behavior relation, cognitive-focus attitude with high ACC was a more reliable predictor of behavior, whereas affective-focus attitude predicted behavior equally in high and low ACC conditions.

Keywords: structural consistency, affective-cognitive consistency, attitude base, attitude-intention, relation, attitude-behavior relation.

Jie Zhou, PhD student, Center for Social and Economic Behavior, Institute of Psychology, Chinese Academy of Sciences and Graduate University for Chinese Academy of Sciences, Beijing, PRC; Erping Wang, Professor, Center for Social and Economic Behavior, Institute of Psychology, Chinese Academy of Sciences, Beijing, PRC; John Dovidio, Professor, Department of Psychology, Yale University, New Haven, CT, USA; and Guangtao Yu, Associate Professor, Department of Business Administration, Central University of Finance and Economics, Beijing, PRC.

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Please address correspondence and reprint requests to: Erping Wang, Institute of Psychology, Chinese Academy of Sciences, 4A Datun Road, Chaoyang District, Beijing, China, 100101. Phone: +86-10-64879237; Fax: 86-10-64872070; Email: wangep@psych.ac.cn

Social psychologists have long been interested in understanding the conditions under which attitudes influence behaviors, and they have formed the approach adopted in the present paper focusing on the effect of attitude strength on the attitude-behavior relationship (Fabrigar, Petty, Smith, & Crites, 2006). Specifically, in the present research the role of structural consistency, a dimension of attitude strength, in the attitude-behavior relationship (Wegener, Downing, Krosnick, & Petty, 1995) was investigated. *Structural consistency* has been defined as *the extent to which one aspect of an individual's attitude is consistent with either his or her overall attitude toward the object or the other aspect of the attitude* (Maio, Esses, & Bell, 2000). The three types of structural consistency are (a) affective-cognitive consistency (ACC), (b) evaluative-cognitive consistency (ECC), and (c) evaluative-affective consistency (EAC) (Eagly & Chaiken, 1995). The relative levels of ECC and EAC indicate whether the general attitude is based primarily on cognition or affect (Chaiken, Pomerantz, & Giner-Sorolla, 1995). Typically, structural consistency has been assessed by the absolute value of the discrepancy between an individual's positions in two corresponding rankings (Chaiken & Baldwin, 1981; Chaiken & Yates, 1985; Norman, 1975).

Structural consistency between affective and cognitive components of an attitude (i.e., ACC) can moderate the attitude-behavior relationship. Norman (1975) measured students' attitudes toward volunteering for psychological research, and offered them an opportunity to actually volunteer as the participants later. Students showing high ACC were more likely to act in accord with the stated attitude than were those with low ACC. Also, Schleicher, Watt, and Greguras (2004) surveyed employees' job satisfaction and performance in organizations, suggesting that for employees with higher ACC there was a higher correlation between job satisfaction and performance than for those with lower ACC. In addition, the structural consistency between the overall evaluation and the cognitive or affective component of the attitude (i.e., attitude base) can influence the attitude-behavior relationship. Franc (1999) found that higher ECC predicted higher attitude-behavioral intention correlations. In two other studies (Millar & Millar, 1996; Millar & Tesser, 1986) the attitude base was manipulated (i.e., the relative strength of the affective and cognitive components of an attitude) and it was found that the affect-based attitudes were a more reliable predictor of non-instrumental behaviors, whereas the cognition-based attitudes were associated more with instrumental behaviors.

However, there are some limitations in previous studies. One limitation is that structural consistency has generally been measured rather than experimentally manipulated. In fact, Millar and Tesser (1986, 1989) manipulated attitude base by asking participants to analyze their attitude reasons, but they did not check the manipulation validity. In the present study ACC was manipulated by providing people with either consistent or inconsistent information about the

attitude object according to the suggestion of Wegener et al. (1995). At the same time, attitude base was manipulated by instructing participants to pay attention to the affective or cognitive information in an attitude formation task. Based on these manipulations, it was possible to explore the causality between structural consistency and attitude-behavior relation. Another limitation in previous studies is that attitude base and ACC have rarely been studied together. In the current research, we examined the effect of their interaction to extend previous theories. Finally, researchers have often used the term *behavior* in a broad sense to encompass behavioral intentions as well as actual behaviors (Fabrigar et al., 2006). In this work we went further by distinguishing the actual behavior from behavioral intention and exploring the attitude-intention relation and attitude-behavior relation with structural consistency as a distinctive moderator.

As did previous researchers, we used two fictitious department stores as target objects (Fabrigar et al., 2006; Sanbonmatsu & Fazio, 1990). Although the influence of the role of interaction between ACC and attitude base on the attitude-behavior relationship has not been examined directly, Lavine, Thomsen, Zanna, and Borgida's (1998) study exploring the impact of cognitive and affective components on attitudes and behaviors in different ACC conditions showed that affect exerted a stronger influence in a low ACC condition and a roughly equal influence to cognition in a high ACC condition. Based on the rationale from their findings, we hypothesized that:

H1a: When an attitude is cognition based, the attitude-behavior consistency will be higher in a high ACC condition than in a low ACC condition.

H1b: When an attitude is affect based, the attitude-behavior consistency will not be significantly different between a high ACC condition and a low ACC condition.

These two hypotheses were derived from the findings of Lavine et al. (1998) findings, but they differed in important ways. Concretely, in the results reported by Lavine et al. attention was paid to how ACC influenced the attitude base and the effects of affect and cognition on behavior. In contrast, our hypotheses tended to be focused on the role of interaction between ACC and attitude base in attitude-behavior relations. On the other hand, the behavioral intention – which is always viewed as the proximal determinant of behavior – replaced the actual behavior in some studies (Fabrigar et al., 2006; Franc, 1999). Therefore, we assumed that there would be similar effects on attitude-intention relation and hypothesized that:

H2a: When an attitude is cognition based, the attitude-intention consistency will be higher in a high ACC condition than in a low ACC condition.

H2b: When an attitude is affect based, there will be no significant difference in the attitude-intention consistency between a high ACC condition and a low ACC condition.

METHOD

PARTICIPANTS

Seventy-three female undergraduate students from a university in the north of China, whose ages ranged from 18 to 24 with an average of 20.05, volunteered for this study. Only female participants were used because no males registered their interest in the experiment voluntarily during recruitment. Participants received ten yuan in return.

DESIGN AND PROCEDURE

The experiment was a 2 (attitude base: cognitive focus vs. affective focus) x 2 (level of ACC: low vs. high) mixed design. Participants were told that they were taking part in a study of consumer decision. Firstly, it was necessary to ensure that the provided information dimensions were sufficiently pivotal for the participants to form attitudes toward a department store they were not previously familiar with. Thus, before the experiment, 14 evaluation dimensions about department stores were selected from real advertisements, and 30 students were asked to rank their importance. The five dimensions which scored highest in importance were adopted in this experiment. In addition, to ensure that the descriptions of stores could stimulate both cognitive and affective responses, 67 undergraduate students in the psychology department who were studying advertisement and consumer psychology were told to classify 80 descriptions about department stores into cognitive and affective information. For the affective category, they were also asked to assess the level of emotion aroused. The stimuli selected for the manipulation of positive and negative affect differed significantly in the extent of pleasant emotions aroused (all $ps < .05$). At least 55% of participants classified these descriptions as cognitive or affective information and the descriptions were then included in the study.

ACC manipulation Participants were presented with two sets of information describing two fictitious department stores to manipulate ACC as a within-subjects factor. Both sets included descriptions of five dimensions (merchandise, shopping surroundings, service, location and traffic, sales promotion), and each dimension contained both cognitive and affective information selected through the aforementioned pretesting of stimuli. For the high ACC department store, on each dimension we presented one paragraph of positive cognitive information (e.g., "The department store often has discounts from 20% to 40% lasting one to two weeks") and another paragraph containing positive affective information. For the low ACC department store, on each dimension we presented one paragraph of positive cognitive information, which was a little more positive than the high ACC store (e.g., "The department store often has a discount of 50% lasting two to three weeks") and another paragraph containing negative affective information.

The order of information presentation for high ACC and low ACC stores was counterbalanced so that half of the participants received the information about the high ACC store first, and the other half received the low ACC store information first. The store presented first was named Department Store A, and the second store was named Department Store B. The five dimensions were presented in random order initially, and maintained the same order throughout the presentation.

Attitude base manipulation Participants were randomly assigned to the cognitive-focus or affective-focus condition to manipulate the attitude base as a between-subjects factor. For the cognitive-focus condition, we re-presented the cognitive information of two department stores after initial presentation of all of the information (i.e., both cognitive and affective descriptions). Then the participants' cognitive components of attitudes on five dimensions were measured. Afterwards, the participants reported their total satisfaction with the two stores based on their previous judgments. Therefore, in the cognitive-focus condition, the participants emphasized the cognitive information to form their attitudes. Similarly, the participants assigned to the affective-focus condition emphasized the affective information during the attitude formation procedure.

Experimental procedure The participants were seated in front of computers and responded via the program interfaces. After filling in some demographic information, they read the presented information and listened to the instructions through earphones. Verbal presentation was used to ensure that the participants received all pieces of information. Then the participants engaged in the attitude formation procedures described above. After an optional rest period, they were re-presented with all the information about the two stores, and asked to report the other component of attitude (i.e., the affective attitudes were measured at this point for those in the cognitive-focus condition). When they finished the re-presentation and measurements on five dimensions, the behavioral intentions and behaviors were measured. Finally, each participant completed a questionnaire including his or her preference out of the two stores, the advantages and disadvantages of the selected store, and were also asked to record their guess as to the purpose of the experiment. None of the participants were excluded because their preferences were the same in both the questionnaires and the computer programs. According to the advantages and disadvantages provided by the participants, all of them had thought that the examples were genuine advertisements. No participants identified the true purpose of the experiment.

MEASURES

The cognitive component of attitude was assessed by asking, "What do you think of the merchandise/shopping surroundings/service/location and traffic/sales promotion of department store A/B?" with a 6-point scale ranging from 1 (*worst*)

to 6 (*best*). The cognitive evaluations on the five dimensions were averaged to obtain the participant's cognitive attitudes (for the high ACC store, $\alpha = .68$; for the low ACC store, $\alpha = .62$). The affective component of attitude was assessed by asking, "What are your feelings about department store A/B?" also with a 6-point scale, ranging from 1 (*extremely unfavorable*) to 6 (*extremely favorable*). Similarly, the affective evaluations on five dimensions were averaged to indicate the participant's affective attitudes (for the high ACC store, $\alpha = .73$; for the low ACC store, $\alpha = .78$). The participants' general attitudes toward the stores were measured by asking, "As a whole, how well were you satisfied with department store A/B?" with a 6-point scale, ranging from 1 (*extremely dissatisfied*) to 6 (*extremely satisfied*).

Next, the participants' behavioral intentions were assessed by asking, "How likely is it that you will go shopping in Department Store A/B?" with a 6-point scale, ranging from 1 (*Totally impossible*) to 6 (*Extremely possible*). The instructions for the behavior measure were then given as follows: "A lottery draw will be held to give 60% of you an SVIP (Super Very Important Person) Card and a gift certificate with the value of 100 Yuan for the selected store. If you win the prize, which department store will you choose?" The participants could choose either of the two stores. After the selection, we collected their email addresses to inform them about the purpose of the experiment and the supposed lottery.

RESULTS

MANIPULATION CHECK OF ATTITUDE FORMATION PROCEDURES

First of all, we needed to check the effectiveness of manipulation of the levels of attitude base (cognitive vs. affective focus) and ACC (low vs. high). The classical method for calculating the absolute value of the discrepancy between the individual's positions in the two corresponding rankings was used to assess the ECC, EAC, and ACC scores (Chaiken & Baldwin, 1981; Chaiken & Yates, 1985; Norman, 1975). Lower scores signify a higher level of consistency. In the test for the efficiency of the manipulation of attitude base, the findings indicated that ECC was higher in the cognitive-focus condition (mean ECC score = 17.01, $SD = 9.60$) than in the affective-focus condition (mean ECC score = 21.54, $SD = 9.76$), $t(71) = -2.00$, $p = .05$; while EAC was higher in the affective-focus condition (mean EAC score = 12.57, $SD = 6.33$) than in the cognitive-focus condition (mean EAC score = 15.96, $SD = 7.27$), $t(71) = 2.13$, $p < .05$. In addition, in the test for the efficiency of ACC manipulation, the results showed that ACC was higher in the high ACC condition (mean ACC score = 15.44, $SD = 12.67$) than in the low ACC condition (mean EAC score = 22.29, $SD = 16.50$), $t(72) = -2.85$, $p < .01$. Taken together, these analyses confirm the success of our attitude formation procedures.

ANALYSES OF ATTITUDE-INTENTION CONSISTENCY

One primary objective of the current study was to examine the impact of attitude base and ACC on attitude-intention consistency (AIC). The method for calculating the absolute value of the discrepancy between the individual's standard scores in the attitude and intention scales was used to quantify AIC (McIntyre, Paulson, Lord, & Lepper, 2004). The ANOVA findings revealed that the main effect of ACC on AIC was significant, $F(1, 71) = 9.71, p < .01$, whereas the main effect of attitude base on AIC, $F(1, 71) = 1.08, p = .30$, as well as the interaction between ACC and attitude base, $F(1, 71) = .13, p = .72$, were not significant. Participants' attitude-intention consistency was higher in the high ACC condition (mean AIC score = 0.56, $SD = 0.69$) than in the low ACC condition (mean AIC score = 0.89, $SD = 0.68$) regardless of the attitudes base. H2a was supported, but H2b was not supported.

ANALYSES OF ATTITUDE-BEHAVIOR CONSISTENCY

The second objective of this study was to examine the impacts of attitude base and ACC on attitude-behavior consistency (ABC). The ABC score was constructed by computing the correlation between each participant's general attitude rating and behavioral choice, which was a dichotomous variable. The results showed a pattern consistent with the expectation. Attitudes based on cognition predicted subsequent behaviors better in the high ACC condition ($r(33)_{\text{attitude-behavior}} = 0.35, p < .05$) than in the low ACC condition ($r(33)_{\text{attitude-behavior}} = 0.29, p > .05$), $t(32) = 3.01, p < .01$. Similarly, as expected, attitudes based on affect predicted the behaviors equally in both low ($r(36)_{\text{attitude-behavior}} = 0.32, p < .05$) and high ($r(36)_{\text{attitude-behavior}} = -0.03, p > .05$) ACC conditions, $t(35) = 1.48, p > .05$. Thus, H1a and H1b were both supported.

DISCUSSION

The results of the present study indicate that attitude is a more reliable predictor of intention with high ACC than low ACC regardless of the attitude base. In addition, our results showed that cognition-based attitude was a more reliable predictor of behavior in the high ACC condition, whereas the affect-based attitude predicted the behavior as reliably in both ACC conditions. These findings have some implications for research into the effects of structural consistency on attitude-intention and attitude-behavior relations in the following ways. First, in this experiment ACC was manipulated and provided the strongest evidence that ACC plays a causal role in attitude-intention consistency. Second, the present study revealed the independent main effect of ACC on the attitude-intention relation to demonstrate that the effect of attitude base on attitude-intention relation (e.g., Franc, 1999) did not occur when taking ACC into consideration.

Third, the experiment extends the previous theories about the effect of either ACC or attitude base separately on attitude-behavior consistency. Fourth, because the effects of structural consistency on attitude-intention and attitude-behavior relations were different, a discrepancy between intention and behavior has been revealed, suggesting that the accurate attitude-behavior relation would be missed if the behavior were to be simply replaced with the intention.

The findings from this study can be applied to research into consumer satisfaction. Previous studies on consumer satisfaction have been focused primarily on some cognitive and affective factors (Caro & Garcia, 2007; Spreng & Chiou, 2002), but the effects of cognitive and affective components of satisfaction on shopping intentions and behaviors have not yet been studied. This study has provided a new perspective and a feasible method to test consumers' satisfaction-intention-behavior models. In addition, the procedures for manipulating cognitive and affective components in satisfaction formation have implications for advertising. According to our findings, advertisers should ensure that affective messages make consumers feel positive and pleasant.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This research was based on department store satisfaction-shopping behavior relation in the laboratory. In future research these findings need to be tested using a questionnaire survey method both with more varied samples and with reference to other types of behaviors. Another avenue for future research would be to explore the generalizability of the findings at the group level. Studies exploring structural consistency as a moderator of the group attitude-behavior relation would also be valuable to increase understanding of the mechanism of group attitude formation, and increase our ability to predict or change group behavior.

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