

# Personality and Ad Effectiveness: Exploring the Utility of Need for Cognition

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## Abstract

Two studies are briefly described to demonstrate the how the personality variable of need for cognition--a measure of an individual's chronic tendency to enjoy thinking--may be useful in understanding how advertisements may influence the formation of attitudes toward a consumer product. Results from Experiment I showed that individuals high in need for cognition were more influenced by the quality of arguments contained in an ad than were individuals low in need for cognition. Results from Experiment II showed that individuals low in need for cognition were more influenced by the peripheral cue of endorser attractiveness than were individuals high in need for cognition. Implications for the conceptualization and use of personality variables in consumer behavior research are discussed.

## Introduction

The utility of personality variables for understanding consumer behavior has been considered disappointing. In a review of dozens of studies and papers that have addressed the role of personality in consumer behavior, Kassirjian and Sheffet (1981) concluded that the research was equivocal. A partial explanation of why research on personality variables may have fared so poorly. A central criticism was that personality research in consumer behavior tended to employ shot-gun like approaches in which predictions were often based on few or no specific hypotheses or theoretical frameworks.

The purpose of the present paper is to describe how a relatively new personality variable--need for cognition (a measure of an individual's chronic tendency to engage in and enjoy thinking)--may be an aid to understanding how individual differences can systematically influence the processing of advertising stimuli and the formation of product attitudes. In addition, we show how the individual difference variable of need for cognition (NC) fits into an overall conceptualization of attitude change processes--the Elaboration Likelihood Model of Persuasion.

Cacioppo and Petty (1982) proposed that just as there are situational differences which enhance or decrease the motivation of persons to engage in issue-relevant thinking when forming attitudes (e.g., personal relevance) so too could there be individual differences in chronic tendencies to engage in issue-relevant thought when exposed to persuasive appeals. Cacioppo and Petty (1982) sought a personality variable that closely mirrored the kinds of processes caused by situational inductions of motivation to think. In addition to the practical utility of such a variable, they saw the use of a dispositional variable as providing a stronger test of hypotheses in experiments designed to assess the importance of issue-relevant thinking in attitude change and attitude-behavior correspondence research.

Taking the lead from some early research conducted by Cohen and his colleagues (Cohen, Stotland, and Wolfe, 1955), and unable to find an existing personality variable that was a specific

operationalization of the theoretical construct they sought, Cacioppo and Petty (1982) devised a measure of an individual's natural tendency to engage in and enjoy effortful cognitive activities. Items on the NC scale ask individuals to rate the degree to which they consider statements to be characteristic or uncharacteristic of themselves (e.g, I really enjoy a task that involves coming up with new solutions; I usually end up deliberating about issues even when they do not affect me personally).

*Scale issues.* The NC scale has been validated using a number of techniques in a variety of studies. Cacioppo and Petty (1982), for example, conducted a study in which subjects performed either a simple or complex number circling task for 10 minutes. The simple task involved circling all 1s, 5s, and 7s in a random number table. The complex task involved circling all the 3's, any 6 that preceded a 7, and every other 4. Analysis of responses to questions regarding subjective enjoyment or preference for the tasks revealed a significant task by NC interaction. Individuals scoring above the median on the need for cognition scale preferred the complex task over the simple task, whereas individuals scoring below the median on the Ncog scale preferred the simple task over the complex task.

Importantly, adding to the validity of the NC construct, research has also shown that individuals high in NC are more intrinsically motivated to engage in effortful cognitive analyses than are individuals low in NC. For example, research has shown that, in general, individuals put less effort into a task when they share responsibility for the outcome as part of a group than when they are individually responsible (Ingham, Levinger, Graves, and Peckham, 1974). This effect, which has been dubbed social loafing (Latane, Williams and Harkins, 1979) is equally evident in cognitive (Harkins and Petty, 1982), attitudinal (Petty, Harkins, and Williams, 1980), and physical tasks (Williams, Harkins, and Latane, 1980). To test the intrinsic motivation aspect of the NC construct, Petty, Cacioppo, and Kasmer (1985) asked subjects to perform a brainstorming task (generating uses for objects) after they were led to believe that they were individually responsible or part of a group that was responsible for performing the task. Results of the study showed that individuals scoring high in NC, were *less* likely to loaf on *cognitive* (brainstorming) tasks under group conditions. High NC individuals generated equally high numbers of ideas regardless of the social condition. Importantly, adding to the discriminant validity of need for cognition construct, a separate study demonstrated that individuals high in NC were just as likely as individuals low in NC to loaf on physical tasks--such as fastening and unfastening nuts and bolts--when working in a group (Petty, et al 1985).

Based on the above studies, and others too numerous to mention here (e.g., Srull, Lichenstein and Rothbart, 1985; Ahlering and McClure, 1985; Sidera, 1983; Cacioppo, Petty, and Kao, 1984; Cacioppo, Petty, Kao, and Rodriguez, 1986; Ferguson, Chung, and

Weigold, 1985) the NC scale appears to be reliable and valid. We now turn to a discussion of how this individual difference construct fits in an overall framework of persuasion.

#### The Elaboration Likelihood Model

Petty and Cacioppo (1981, 1986) outlined a general framework for organizing, categorizing and understanding the effectiveness of persuasive communications. According to their framework—the Elaboration Likelihood Model—persuasion can be characterized as the result of the relative operation of one of two distinct routes to persuasion. Specifically, it has been suggested that one route to persuasion—the central route—occurs following an individual's careful and thoughtful consideration of arguments presented in support of a position. If message arguments are found to be strong—that is, producing relatively more positive than negative issue-relevant thoughts—attitude change would occur. If the message arguments are found to be weak, no attitude change or attitude change in the opposite direction (i.e., boomerang) may occur. Research on the model has shown that in order for change under this central route to take place, individuals need to possess both the ability and motivation to effortfully evaluate message arguments (see Petty and Cacioppo, 1986 for a complete review). On the other hand, research has also shown that persuasion can occur in situations where individuals lack the ability or motivation to extensively evaluate message arguments. In situations where ability and/or motivation to process a message are low, persuasion may be the result of peripheral persuasion cues. That is, the presence of a simple associative cue in the persuasion context (e.g., pleasant music, attractive sources, etc.) may induce attitude change without scrutiny of arguments central to the merits of the issue.

A number of studies have shown that situational factors such as the personal relevance of an issue or external distractions can influence the extent of message processing and thus, the route to persuasion. For example, Petty, Cacioppo and Goldman (1981) presented subjects with a counterattitudinal advocacy containing either strong or weak arguments presented either by an expert or nonexpert source. Some subjects were led to believe that the recommendation in the advocacy would affect them personally and others were led to believe that it would not. Results of the study revealed that message quality was a more important determinant of postcommunication attitudes for subjects who believed the recommendation was personally important than for subjects who believed it was personally unimportant. On the other hand, source credibility was a more important determinant of postcommunication attitudes for subjects who believed the message was personally unimportant than for subjects who believed that the message was personally important.

The following experiments are described here as examples of how a personality variable might be used in a manner similar to situational manipulations to examine the impact of message arguments and peripheral cues on the formation of attitudes. Experiment I demonstrates the effect of the quality of the arguments contained in an ad on the attitudes formed by individuals low vs. high in NC. Experiment II demonstrates the influence of peripheral cues contained in an ad on the attitudes formed by individuals low vs. high in NC.

#### Need for Cognition and Argument Processing

Drawing on the previous research on the effects of personal relevance (e.g., Petty, Cacioppo, and Goldman, 1981), it was predicted that individuals high in NC would have favorable attitudes toward a product after exposure to an advertisement containing strong arguments and relatively unfavorable attitudes toward a product after exposure to an advertisement containing weak arguments. On the other hand, it was predicted that, compared to the high NC individuals, individuals low in NC should be less affected by a manipulation of argument quality.

To test our hypotheses we exposed undergraduate subjects to slide presentations of one series of eight ads for a variety of unknown brands of products. Within the group of ads, half of the subjects were exposed to an ad for a typewriter containing strong arguments (determined via pretesting) and half of the subjects were exposed to the same ad containing weak arguments. As part of the "ad rating forms" completed at the end of the session, subjects were asked to express their attitudes toward the product on two nine point bipolar scales (e.g., unfavorable/favorable; unsatisfactory/satisfactory). Subjects completed the NC scale at the end of the session.

A 2 (high vs. low NC) X 2 (strong vs. weak arguments) between subjects ANOVA revealed the predicted interaction  $F(1,124) = 5.83, P < .02$ . The quality of product attribute information contained in the ad was a more important determinant of the attitudes formed by individuals high in NC than for individuals low NC. Individuals categorized as high in NC (via a median split) had significantly more favorable attitudes toward the product (a fictitious typewriter) when the ad contained strong attribute information than when it contained weak attribute information. The attitudes of individuals low in NC were relatively unaffected by the quality of the arguments. It should be noted that the results of Experiment I nicely parallel the findings of a study reported by Cacioppo, Petty, and Morris (1983) on the effects of NC and argument quality despite some important differences in stimuli and methodology<sup>1</sup>.

The results of Experiment I show that, similar to the effect of high personal relevance observed in other studies (e.g., Petty and Cacioppo, 1979; Petty, Cacioppo, and Schumann, 1983), individuals high in NC are more influenced by the quality of arguments for a product contained in an ad than are individuals low in NC. As indicated in the discussion of the ELM above, the central route to attitude change is more likely under conditions of high motivation to effortfully evaluate message arguments. As shown in previous research, and Experiment I, the quality of arguments are a crucial determinant of attitudes under conditions of relatively high motivation.

#### Need for Cognition and Peripheral Cues

A great deal of research in consumer behavior and social psychology suggests that individuals are not

<sup>1</sup> Cacioppo, Petty, and Morris (1983) had subjects read a 300 word proposal about issues very relevant to the participants (e.g., raising tuition or instituting senior comprehensive exams on their own campus). In contrast, subjects in the present study were exposed to a number of ads for consumer products under conditions of ambiguous relevance for only a brief period of time (15 seconds per ad).

always willing or able to effortfully evaluate message arguments and product attributes (See Fiske and Taylor, 1984; Bettman, 1986; Cialdini, 1985; Petty and Cacioppo, 1981 for reviews). For the present purposes, given the guidance of the ELM, a crucial question pertains to understanding or predicting aspects of a persuasive appeal that are most likely to be important influences in attitude formation under different kinds of situational conditions or for different kinds of individuals. Previous research gives us some indication of the interaction of personal relevance and peripheral cues. For example, Petty, Cacioppo, and Schumann (1983) have shown that the peripheral cue of celebrity endorsement had the greatest impact under conditions of low personal relevance. Again, because of the conceptual relationship between NC and the processes thought to take place under conditions of different levels of motivation to process, in our second study we hypothesized that individuals low in NC would be more influenced by cues peripheral to the actual merit of a product than individuals high in NC.

Our second study is very similar in design to Experiment I. Important differences pertain to the nature of the advertisement. In Experiment I the quality of arguments was manipulated and the attractiveness of the endorsers remained constant. In Experiment II, the quality of arguments remained constant and the attractiveness of the endorsers varied. In the negative cue version, the ad contained the pictures and product endorsement of two relatively unattractive females (assessed via pretesting) depicted as Vo Tech students. In the positive cue version, the ad contained pictures and endorsement of two relatively attractive females depicted as university students.

A 2 (high vs. low NC) X 2 (attractive vs. unattractive endorsers) between subjects ANOVA revealed the predicted interaction,  $F(1,105) = 5.24, P < .02$ . Individuals low in NC expressed significantly more favorable attitudes toward the product (the typewriter) when it was associated with attractive endorsers than when it was associated with unattractive endorsers. The attitudes of individuals high in NC were uninfluenced by the cue of endorser attractiveness.

### Conclusions

The results of this research suggest that some kinds of consumers—those high in NC—may be relatively unaffected by irrelevant aspects of the context in which an advertisement is placed or by cues such as celebrity endorsements. Instead, for these individuals, the most important part of an advertisement may be the product-relevant information. On the other hand, for other consumers—those low in NC—factors like celebrity endorsements or the endorsement of attractive people may be quite important features of an advertisement.

Based on the examples provided by the above studies, it appears that the dispositional variable of NC influences the attitude formation process in a manner similar to the situational variables affecting motivation to think. As such, it can be considered an alternative way to operationalize the construct of "motivation to effortfully examine information." As an alternative operationalization, the NC variable may be especially useful in broadening the theoretical and applied domain of approaches such as Petty and Cacioppo's (1986) Elaboration Likelihood Model of Persuasion.

We believe that the NC construct is a potentially interesting and useful one for the field of consumer

behavior. In applied settings, segmenting markets on the basis of NC scores may allow for different and more effective advertising. For example, low NC individuals may require more repetitions before an ad exerts its maximal attitudinal effect whereas high NC individuals may require fewer repetitions, but longer and more informationally dense advertisements. Recent research suggests that individuals high in NC may rely on different media for news and information than low NC individuals. In one study, for example, high NC reported relying more on newspapers and magazines for news and reported watching less television than did individuals low in NC (Ferguson et al. 1985). In addition, the ELM suggests that the attitudes formed by the two groups of individuals may be very different with regard to their persistence (ability to last over time) and resistance (ability to maintain in the face of attacks from competing ads), and attitude-behavior consistency (see Petty and Cacioppo, 1986).

Finally, we believe that the individual difference variable of NC provides an example of the utility of a personality variable in consumer behavior research when its conception and operationalization is compatible with a useful theory of persuasion. With such an approach, precise, interesting, and important predictions about the influence of variables contained in persuasive appeals on the formation of attitudes can be made. Used in combination with situational variables, researchers are in a better position to understand the general principles that may underlie the effectiveness of advertisements.

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