
Charles S. Areni, Richard J. Lutz (1988), "THE ROLE OF ARGUMENT QUALITY IN THE ELABORATION LIKELIHOOD MODEL", in *Advances in Consumer Research* Volume 15, eds. Micheal J. Houston, Provo, UT : Association for Consumer Research, Pages: 197-203.

Advances in Consumer Research Volume 15, 1988 Pages 197-203

THE ROLE OF ARGUMENT QUALITY IN THE ELABORATION LIKELIHOOD MODEL

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ABSTRACT -

This study examines the conceptualization and manipulation of the argument quality construct in previous tests of the Elaboration Likelihood Model conducted by Petty and Cacioppo and their associates. A conceptual definition of argument quality is developed, borrowing from McGuire's (1960) and Fishbein and Ajzen's (1975) accounts of the attitude change process. The results of an experiment suggest that argument quality, as conceptualized and operationalized in previous ELM studies, confounds two distinct components, argument strength and argument valence. The implications of this distinction for understanding the effects of persuasive communications in the consumer behavior domain are discussed.

INTRODUCTION

Petty and Cacioppo's (1981) Elaboration Likelihood Model (ELM) is among the most influential current approaches to understanding the effects of persuasive communications. The ELM is particularly appealing to consumer researchers because of its explicit attention to persuasive effects under both high and low involvement conditions. In essence, audience involvement with the persuasive communication (sometimes referred to as motivation to process the message) is seen as a key moderating influence on the nature of the process through which a message exerts its persuasive effects on the audience.

The endpoints of the involvement continuum are associated with two distinct "routes" to persuasion, with high involvement corresponding to the so-called "central route" and low involvement representing the "peripheral route." In the latter case, according to Petty and Cacioppo, persuasion cues such as source credibility and attractiveness, number of arguments, and the like are more crucial to achieving persuasive effects than is actual message content. However, in the high involvement case, the strength or quality of the persuasive arguments in the message is thought to drive the process. Numerous studies have reported the expected interaction between audience involvement with a persuasive message and the quality of the arguments in the

message (Petty and Cacioppo 1979, 1980, 1984; Petty, Cacioppo and Goldman 1981; Petty, Cacioppo and Schumann 1983).

EXAMINING THE ARGUMENT QUALITY CONSTRUCT

Conceptualization

Petty and Cacioppo (1981, pp. 264-5) have discussed argument quality as the audience's subjective perception of the arguments in the persuasive message as strong and cogent on the one hand versus weak and specious on the other. Given diligent processing of the message, then, strong arguments are expected to yield favorable cognitive and affective responses to the message, while weak arguments should lead to counterargumentation and generally negative reactions to the message. While Petty, Cacioppo and Heesacker (1981) describe strong arguments as being "...logically sound, defensible and compelling" and weak arguments as being "...open to skepticism and easy refutation" (p. 435), the argument quality construct itself has not received much attention in the development of the ELM. Little or no emphasis has been given to identifying the underlying dimensions on which arguments can differ in "quality." In light of this, emphasis solely on the "logical" aspects of the argument quality manipulation may be unjustified, as will be discussed more fully below.

Operationalization

In their empirical research, Petty, et al. (e.g., 1981, 1983) have assigned argument quality a secondary role as a methodological tool employed to test ELM predictions. For example, Petty, et al. (1981) reported that:

"..the strong version of the message provided persuasive evidence (statistics, data, etc.) in support of the exam...the weak version of the message relied more on quotations, personal opinion and examples to support its position...the strong arguments were selected from a pool that elicited primarily favorable thoughts in a pretest, and the weak counterarguments in a pretest" (p. 850).

This procedure resulted in the construction of two editorials, each of which contained eight arguments in favor of senior comprehensive examinations. Petty, et al. (1983), in a study conducted in a consumer behavior context, pretested a series of arguments in favor of a disposable razor for their "potency" (p. 139). The resulting ad claims are shown in Figure 1.

FIGURE 1
AD CLAIMS USED BY PETTY, CACIOPPO AND
SCHUMANN (1983)

STRONG VERSION OF THE EDGE AD

Advanced honing method creates unsurpassed sharpness.

Special chemically formulated coating eliminates nicks and cuts and prevents rusting.

Handle is tapered and ribbed to prevent slipping.

In direct comparison tests, the Edge blade gave twice as many close shaves as its nearest competitor.

Unique angle placement of the blade provides the smoothest shave possible.

WEAK VERSION OF THE EDGE AD

Floats in water with a minimum of rust.

Comes in various sizes, shapes and colors.

Designed with the bathroom in mind.

In direct comparison tests, the Edge blade gave no more nicks or cuts than its competition.

Can only be used once but will be memorable.

Examination of these arguments as well as the arguments used in the editorials in Petty, et al. (1981) leads to the conclusion that argument quality, as manipulated, may not be reflecting solely the logical aspects of a persuasive message. Rather, a considerable difference appears across conditions in the desirability of the arguments (i.e., attributes of the advertised razor). For instance, getting the "smoothest shave possible" is almost certainly seen as being quite desirable. It probably represents a basic objective of shaving. On the other hand, a razor that "can only be used once" is rather undesirable for most individuals. In fact, the two sets of attributes appearing in the two ads are so disparate in terms of their desirability that a subject seeing both ads might easily imagine that the ads are for two completely different products, one which is very good and one which is not. As a result, interpretation of past results associated with the argument quality construct must be tempered somewhat due to the nebulous nature of the construct, as conceptualized and operationalized.

CONCEPTUALIZATIONS OF ARGUMENT QUALITY

Consideration of the conceptual material relating to argument quality brings to mind earlier work by McGuire (1961) proposing a syllogistic analysis of persuasive communications. The nature of

Petty, et al's. (1981, 1983) operational procedures pointed out the distinction between the logic of an argument and its valence, a partitioning paralleling the well known Fishbein and Ajzen (1975) model of attitude. In addressing the argument quality construct then, these two related models will first be reviewed as they relate to argument quality.

Fishbein and Ajzen (1975)

Fishbein's model has enjoyed much attention in the consumer research literature as a model of attitude formation and change. In brief, an individual's attitude toward an object is modeled as a function of the sum of all beliefs (b_i) about the object, weighted by the "evaluative aspects" (e_i) of those beliefs. Fishbein and Ajzen's (1975) analysis of a persuasive communication in terms of its relationship to beliefs has received less attention, though it is potentially useful in the present investigation.

In discussing the structure of a persuasive message, Fishbein and Ajzen posit that any message contains a set of arguments concerning beliefs that link the object with positive and negative consequences and evidence in support of those arguments. Primary beliefs are defined as beliefs held by the individual which serve as the fundamental determinants of the dependent variable (i.e., attitude toward the object). For example, one's attitude toward Spores Illustrated may be based on the primary belief that Sports Illustrated offers the broadest coverage of sports. That is, the belief that Sports Illustrated offers the broadest coverage of sports directly determines the attitude towards the magazine. Proximal beliefs are pre-exposure beliefs that correspond to message arguments. For example, if the audience is exposed to a message stating that Sports Illustrated has only the most qualified writers on its staff, then the preexposure belief about the qualifications of Sports Illustrated writers would be the corresponding proximal belief. With respect to the communication itself, the principal assertions of the persuasive communication are called target beliefs. They represent the intent of the message, which is to change the existing beliefs of the audience to fit exactly with the target beliefs being communicated in the message.

Fishbein and Ajzen (1975, p. 460) summarize this framework with the following statement

"In sum, a persuasive communication comprises...a set of belief statements. Each statement corresponds to a proximal belief held by the receiver. Some of these proximal beliefs may serve as...target beliefs, and still others as beliefs that are assumed to support the target beliefs."

Thus, in an advertising setting, a set of arguments is chosen to alter or create beliefs on the part of the consumer which are consistent with the goals of the advertiser. These are the target beliefs of the message, which may correspond to primary beliefs influencing the consumer's attitude directly, or beliefs that require the consumer to make certain inferences before any change in attitude occurs. Evidence may be provided so that support beliefs are formed, leading to greater acceptance of the target beliefs.

Of particular importance in the present situation is that each target belief has associated with it a belief strength (b_i) and a valence (e_i). That leads to the characterization of argument quality as comprised of two separate components, argument strength and argument valence. Argument strength is defined as the audience's subjective probability that the attitude object is associated

with some outcome or consequence. Argument valence is the audience's evaluation of that consequence. Furthermore, Fishbein and Ajzen's notion of support beliefs relate directly to McGuire's work on syllogisms.

McGuire (1960)

McGuire (1960) proposed a syllogistic model of cognitive relationships in response to the emerging notion that humans have a need to maintain consistency among feelings, thoughts, and actions. The basic idea was that this need for consistency is a powerful determinant of individual belief systems. McGuire's model was based on a formal model of cognitive consistency, wherein individuals classify three propositions that stand in a syllogistic relationship to one another as being either true or false. McGuire extended this deterministic logic by applying subjective probabilities to the analysis, asserting that a probabilistic model is consistent with observable human behavior in that it allows for variations in an individual's commitment to particular beliefs and for logical fallacies commonly made by humans.

McGuire applied his model in the context of a persuasion attempt by constructing persuasive messages with underlying syllogistic structures. That is, each communication was designed to change beliefs corresponding to the first and second premises of a logical syllogism. Subjects' beliefs about the first and second premises and the conclusion (in terms of subjective probabilities) were measured both before and after exposure to the communication. Of importance to the present investigation are the notions that cognitive systems can be conceptualized as sets of probabilistic relationships among beliefs in a hierarchical syllogistic network and that persuasive messages have an underlying structure which is syllogistic in nature.

Conceptualizing the Argument Quality Construct

When the principles of McGuire's cognitive consistency model are considered in conjunction with those of the Fishbein and Ajzen attitude model a richer conceptualization of argument quality emerges. Within the McGuire model argument strength may be defined in terms of the likelihood that the conclusion of a logical syllogism is accepted. If the conclusion is ascribed the role of the target belief in Fishbein and Ajzen's model, then Fishbein and Ajzen's support beliefs can be viewed as the premises in a syllogistic structure underlying the target belief.

As noted earlier, Fishbein and Ajzen have suggested that the likelihood that the target beliefs of a persuasive communication are accepted is increased if beliefs in support of the target beliefs are formed. This suggests that a manipulation of argument strength ought to alter the nature of the supporting evidence in the communication while holding the content of the target beliefs themselves constant across conditions. However, in their manipulations of argument quality Petty et al. alter the target beliefs of the messages so as to be either low or high in desirability. Supporting evidence plays little or no role in the manipulation. As should be apparent from the above conceptualization of the argument quality construct, these manipulations manipulate primarily argument valence rather than argument strength. Figure 2 shows how argument strength might be manipulated in the context of the Edge disposable razor ad.

While it is useful to demonstrate that highly involved subjects are more influenced by positively valenced arguments than by negative or neutrally valenced arguments, that relationship is less important and interesting than one in which argument strength can be related to persuasion, with a fixed argument valence. The latter issue is the one faced by advertisers who presumably have identified the most desirable properties of their products and face the problem of communicating those features as persuasively as possible. In other words, the product itself has a fixed set of attributes from the perspective of the advertiser. Although it may be possible to alter the salience of certain attributes, the ones emphasized in an advertisement are largely invariant. For instance, an advertisement for a disposable razor would almost necessarily stress the closeness of the razor's shave. This invariance is particularly true in mature markets where product dimensions have stabilized. In such situations it is more feasible to focus on linking this relatively fixed set of desirable product attributes to the brand than it is to alter the set of relevant attributes (Holbrook and Howard 1977). In terms of the conceptualization above, given a set of argument valences represented as the aweigh components of the target beliefs in a persuasive message, the true challenge is to heighten the argument strength (i.e., b_i) associated with each target belief.

Discussions of the argument quality construct (e.g., Petty et al. 1981, 1983) seem implicitly to have focused on argument strength rather than argument valence in their use of adjectives like "cogent," "specious," "logical," and the like. However, it seems apparent from the preceding analysis that the evidence available to date on argument quality is based on manipulations of argument valence, making such interpretations risky at best. This is a particularly important point given the moderating role of involvement in the ELM. The effects of argument valence and argument quality most likely are felt in different regions of the involvement continuum. It is of interest, therefore, to examine involvement manipulations in past ELM studies to see how they differ with respect to involvement.

FIGURE 2
POSSIBLE MANIPULATIONS OF ARGUMENT
STRENGTH IN PETTY, ET AL. (1983)

POSITIVE ATTRIBUTE-STRONG ARGUMENT

ADVANCED HONING METHOD CREATES
UNSURPASSED SHARPNESS.

A recent scientific breakthrough allows the Edge blade to be honed more cleanly and smoothly than ever before. In fact, athletes such as Greg Norman and Chris Evert-Lloyd rated the Edge blade superior in sharpness to the Schick disposable, the Personna disposable, the Bic disposable and the Gillette Good News.

SPECIAL CHEMICALLY FORMULATED COATING
ELIMINATES NICKS AND CUTS AND PREVENTS
RUSTING.

This coating forms a chemical seal which actually bonds with the metal and protects it from elements which can ruin a blade's sharpness and finish. This coating is so effective that the Edge blade gave fewer nicks and cuts than all four of the leading competitors.

POSITIVE ATTRIBUTE-WEAK ARGUMENT

ADVANCED HONING METHOD CREATES
UNSURPASSED SHARPNESS.

A new production process makes the Edge blade better than the others. In fact, athletes such as Greg Norman and Chris Evert-Lloyd rated the Edge blade superior in sharpness to the Personna disposable blade - proof of its unsurpassed sharpness.

SPECIAL CHEMICALLY FORMULATED COATING
ELIMINATES NICKS AND CUTS AND PREVENTS
RUSTING.

This coating protects the blade from harmful elements - elements which can ruin a good blade. This coating is so effective that the Edge blade gave fewer nicks and cuts than two of the four leading competitors.

THE STUDY

In order to investigate empirically the distinction between argument strength and argument valence, an experiment was undertaken using message materials from Petty, et al. (1981, 1983). The basic hypothesis to be investigated was that the difference in average perceived argument valence (aweigh) between strong and weak argument conditions in both studies is substantial, while the difference in average perceived argument strength (bi) is not significant.

Method

Subjects. One-hundred twelve undergraduate students were recruited from an introductory marketing course. Subjects were given one extra credit point toward their final grade in return for their participation.

Design and procedure. A 2X2 (argument quality x message type) between-subjects factorial design was used. The strong and weak advertisements for the Edge disposable razor from the Petty, Cacioppo and Schumann (1983) study and the strong and weak editorials in favor of senior comprehensive examinations from the Petty, Cacioppo and Goldman (1981) study were placed in questionnaire booklets and administered in a classroom setting [Appreciation is expressed to Richard Petty, who provided complete versions of the editorials.]. The first page of the booklet was the same for all conditions so that subjects could not detect any differences as the booklets were distributed. All subjects first read two pages describing the purpose of the study and providing a cover story to introduce either the ad or the editorial. The subjects were asked to read carefully either the ad or the editorial. This was an attempt to hold involvement at a relatively high level so that any effect of the argument quality manipulation could be detected. To ensure that subjects did not merely skim through the treatments, subjects in the ad condition were told not to continue to the questionnaire until one minute passed. Subjects in the editorial condition were told not to continue until five minutes passed. Subjects then completed the portion of the questionnaire regarding the Fishbein and Ajzen attitude component measures. Following the measurement of these dependent variables, each subject read a scenario describing one of the involvement manipulations used by Petty, et al. (1981, p. 849; 1983, p. 139). They then completed a second portion of the questionnaire designed to measure how involved they would have been in that situation with processing the message they had read earlier.

Measures. Subjects in the ad conditions responded to a total of twelve 7-point bipolar scales representing bi and aweigh measures for each of six attributes mentioned in the ads. Six attributes resulted from the ads due to a compounding of rust prevention with nick and cut elimination in the "strong" ad and with floating in water in the "weak" ad. For measurement purposes, these two compound arguments were recast into single attribute arguments [A complete set of all measures is available from the authors.]. Subjects in the editorial conditions responded to 16 bipolar scales representing the bi and aweigh components of the eight key arguments in the editorial (as summarized by Petty, Harkins and Williams 1980, p. 87). All bi measures were anchored by "likely" and "unlikely," while all aweigh measures were anchored by "good" and "bad." The bi and aweigh scales were interspersed randomly, and scale endpoints

were reversed randomly for half the items. The key dependent variables were constructed by computing each subject's mean bi and aweigh rating. The involvement measure consisted of five scale! selected from Zaichkowsky's (1985) Personal Involvement Inventory [The five scales were important/not important, exciting/unexciting, uninteresting/interesting, valuable/worthless, and not needed/needed. An index including all five items had an estimated reliability coefficient of .85.]. Responses were averaged over the five 7-point scales.

Results

Two 2X2 between-subjects ANOVAs were conducted on the mean argument strength (bi) and argument valence (aweigh) ratings. Results are shown in Table 1. As expected, strong effects were observed for argument valence in both studies ($F=99.67$, $p<.0001$, $Q2=.66$; and $F=45.65$, $p<.0001$, $Q2=.46$, for ads and editorials, respectively). Neither study yielded a significant difference for argument strength ($F=.08$ and $F=.05$, both n.s., for ads and editorials, respectively).

TABLE 1

MEANS AND STANDARD DEVIATIONS FOR ARGUMENT STRENGTH (AS) AND ARGUMENT VALENCE (AV)

The observed results are completely consistent with the conceptual arguments advanced above: argument quality, as operationalized, has manipulated only argument valence and not argument strength. The observed difference in argument valence was more pronounced (as measured by the estimated omega-squared statistic) for the advertising messages used in Petty, et al. (1983) than for the editorials used in Petty, et al. (1981). An additional 2X2 between subjects ANOVA was performed on the involvement measure. The two "low involvement" conditions showed means of 5.15 and 4.44, for the editorial and ad studies respectively; "high involvement" means for editorial and ad were, respectively, 5.64 and 5.19. This pattern of results indicates that the low involvement editorial condition was as involving for subjects as was the high involvement ad condition, complicating the interpretation of argument quality effects.

DISCUSSION

The above results suggest that the argument quality construct, as previously conceptualized and operationalized, can be decomposed into two underlying constructs, argument strength and argument valence. To date, evidence regarding the operation of argument quality within the ELM appears to be limited to the argument valence component. This possibility is not a great cause for concern, so long as persuasion researchers are cognizant of this interpretational issue.

The distinction between argument valence and strength is of special concern to persuasion researchers in the consumer behavior domain, where product attributes quite often assume the role of the arguments in the message (e.g., an ad). Conclusions regarding the efficacy of argument quality for highly involved consumers are not necessarily warranted under the present interpretation. For instance, if the advertiser has already identified correctly the most desirable (i.e., highly valenced) attributes of the product, then gains in argument quality can be achieved only by increases in argument strength. To date, no evidence has been mustered to demonstrate

the argument strength exerts that effect within the context of the ELM. Thus, advertisers must be cautioned that they should not necessarily assume that they can achieve increases in persuasibility without resorting to false or misleading claims.

The pattern of the data suggests that previous ELM studies have manipulated argument valence rather than argument strength as conceptualized above. The distinction between the two constructs is particularly important because evaluative responses to argument valence differences may be generated much more easily and at a lower level of involvement than cognitive responses to differential argument strength. Involvement has been described as a mediator of cognitive effort, which in turn determines the degree to which central or peripheral processing of the persuasive message takes place (Petty, et al. 1983). The explanation offered here also relies on cognitive effort to explain the differential effect of argument valence and argument strength; specifically, it is possible that a manipulation of message valence affects attitude towards the object at a lower level of involvement than does a manipulation of argument strength. In fact, argument strength may produce an effect on attitude only at very high levels of involvement where the individual is willing to devote a substantial amount of cognitive effort processing the persuasive communication. While the above discussion represents speculation on the part of the authors, it does represent an interesting area for future research.

Although the involvement data must be interpreted cautiously, since they were gathered in a "role playing" situation, they suggest the possibility that the involvement manipulations used in ELM research have not tapped the extremes of the involvement continuum. If that interpretation is correct, then inferences about the impact of argument quality at the upper end of the continuum remain unclear. Continued monotonic increases in persuasion as shown in Figure 3a may be unlikely as recipients exert even more effort toward processing message content. Instead, the effects of argument valence may be diminished at higher levels of involvement (Figure 3b), unless argument strength is sufficient to make the claim credible. In other words, holding argument strength constant, there is an inverted U-shaped relationship between believability of the message (vertical axis) and argument valence (horizontal axis). Similarly, argument strength may exert little influence up to fairly moderate levels of involvement, due to the greater cognitive effort required to evaluate the logical merits of the message (i.e., an implicit syllogistic process). As shown in Figure 3c, the effects of argument strength might be expected at the very upper end of the involvement continuum, where it interacts with argument valence to influence the persuasibility of the message. The precise nature of the response functions characteristic of argument strength and valence remains an area needing further investigation.

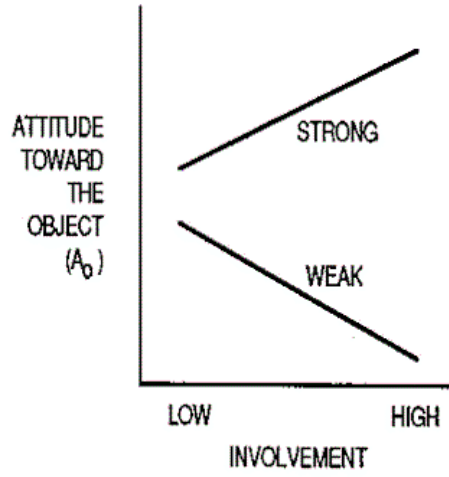
CONCLUSION

The present study introduced two constructs embedded within the argument quality construct. The hypothesis that argument strength operates at a higher level of involvement than does argument valence is an important one for two reasons. First, without an adequate conceptualization of the construct, there is the potential for "strong arguments" to come to mean "anything in a persuasive message that elicits a positive response" and "weak arguments" to mean "anything in a persuasive message that elicits a negative response." This conceptualization is not likely to advance knowledge of persuasion in the long run. Second, the above hypothesis is consistent with a global objective of "pulling apart" attitude effects along a central/peripheral

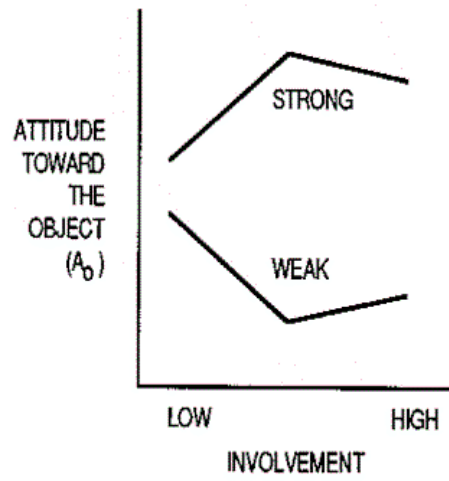
processing continuum. Given the influence and appeal of the ELM, more detailed exploration of its underlying mechanisms is an appropriate objective for future research.

FIGURE 3
THE RELATIONSHIP OF ARGUMENT QUALITY, VALENCE AND STRENGTH WITH INVOLVEMENT

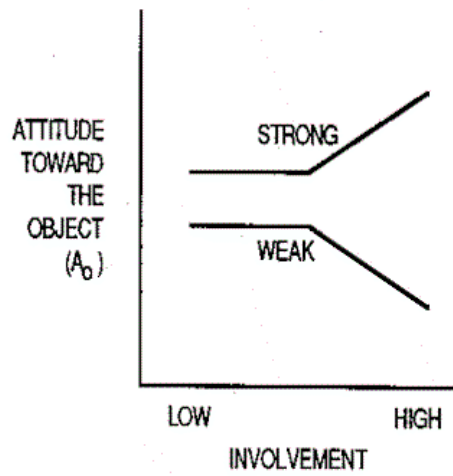
A.
ARGUMENT QUALITY



B.
ARGUMENT VALENCE



C.
ARGUMENT STRENGTH



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