

Ambivalence and the study of attitudes Ambivalencia y el estudio de las actitudes

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This paper is a review of the attitudinal ambivalence concept. This review seeks to define the ambivalence and its consequences. The review explores the origin of ambivalence, the diverse attempts in the literature to operationalize ambivalence, the sources of ambivalence and the effects of ambivalence on behavior, beliefs, emotions, and the attitude themselves. Research that supports these claims are described and critiqued. An evaluation is made as to the current state of the research.

Este trabajo es una revisión del concepto de ambivalencia actitudinal. Esta revisión busca definir el concepto de ambivalencia y sus consecuencias. Esta revisión explora el origen de la ambivalencia, los diversos intentos en la literatura por operacionalizar el concepto, las fuentes de la ambivalencia y los efectos de ésta sobre la conducta, las creencias, emociones y la actitud en sí. Se describen y critican las investigaciones que respaldan estas ideas. Se evalúa el estado actual de la investigación en la ambivalencia actitudinal.

Attitude is one of the constructs most frequently used in social psychology. Attitude can be defined as "a tendency to evaluate an entity with a certain degree of favor or disfavor" (Eagly & Chaiken, 1991). However, this simple definition does not specify a structure. A structure comes into play when the cognitive, affective, and behavioral aspects of attitudes are considered. These three aspects are different classes of evaluative responses toward the attitude object. The cognitive class involves people's thoughts or ideas about the attitude object. The affective category consists of feelings or emotions that people have in relation to the attitude object. The behavioral category encompasses people's actions with respect to the attitude object.

The assumption that attitudes have a structure composed of cognitive, affective and behavioral categories has generated extensive research to examine the consistency between the evaluation of the attitude object (i.e., attitude) and the evaluative meaning of each class of attitudinal responses (see Eagly & Chaiken, 1991, for a review of this research.) However, less attention has been given to the consistency within each of the three classes of attitudinal responses. This lack of consistency, for example, with respect to cognition, occurs when an individual possesses evaluatively inconsistent

beliefs about an attitude object. The simultaneous existence of beliefs (or emotions or behaviors) that express positive evaluation and beliefs (or emotions or behaviors) that express negative evaluation has been termed *ambivalence*. This definition of ambivalence implies that the positive and negative evaluations have to be available in memory. However, individuals do not need to have all the evaluations accessible¹ in order to feel ambivalence; they need only be aware of the contradictory information.

It is necessary to emphasize that ambivalence is not the equivalent of conflict. Rather, ambivalence is a subset of conflict, distinguishable from conflict primarily by the presence of both positive and negative poles. Thus, approach-avoidance conflicts like the one described by Dollard & Miller (1950), which involve one or more objects are indeed ambivalence conflicts².

Even though previous studies have acknowledged that the emotions, behaviors, and cognitions that individuals possess are not always evaluatively consistent, there has been no extensive research dealing with ambivalence. Moreover, the research that does consider ambivalence lacks, for the most part, a full description of the concept and its general implications.

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¹ In this paper, "availability" denotes whether the information has been stored in memory, and "accessibility" indicates the ease of recall of that information (see Higgins & Bargh, 1987).

² Scott (1979) also distinguished between "dissonance" and "ambivalence". Scott noted that "dissonance" refers to the inconsistency of an event with an expectation, while "ambivalence" refers to the opposition of valences.

This gap in the existing knowledge about attitudinal ambivalence and its consequences calls attention to the need for an extensive review of the ambivalence concept in psychology and in particular in social psychological literature. Such a review, drawing upon the definition of ambivalence already presented and its implications is attempted here.

The Origins of Ambivalence

Its Origin in Psychoanalytic Theory

The concept of ambivalence has its origin in clinical psychology and psychiatry, particularly in the psychoanalytic framework. The term ambivalence was introduced for the first time by Eugen Bleuler (1950), who distinguished between three types of ambivalence. The first type of ambivalence was called "affective ambivalence" and refers to feelings of love and hate directed toward the same object or object representation, for example, a husband who both loves and hates his wife. The second type of ambivalence is identified as "ambivalence of will" or volitional ambivalence. This type of ambivalence refers to conscious conflicts over doing or not doing something or over doing one thing versus doing something else, for example, the person wishes to eat and does not wish to eat. The third type of ambivalence proposed by Bleuler is called "intellectual ambivalence," which refers to ambivalence in the process of thinking and reasoning. It may be manifested linguistically, as a combination of opposites into a single word, or cognitively, in the simultaneous interpretation of experience in both positive and negative ways. A child who labels his or her sibling "sween" - a combination of "sweet" and "mean" - is thus demonstrating a verbal blend characteristic of intellectual ambivalence.

Following the main ideas proposed by Bleuler, Sigmund Freud further emphasized the importance of ambivalence. Freud assigned to it a major role in the development of psychoanalytic theory. Freud (1953) defined ambivalence as "the simultaneous existence of love and hate toward the same object." In contrast to Bleuler, then, Freud primarily restricted the definition of ambivalence to unconscious feelings, thus excluding thoughts or actions. He further limited the object of ambivalence to people, thus also excluding experiences or ideas. According to Freud, the development and maintenance of emotional ambivalence results from insufficient fusion, or integration, of the life and death instincts. The opposing feelings occur together

but are not fused into a single, integrated emotional state.

The concept of ambivalence has also been analyzed by other authors (Benedek, 1977; Kimberlin & Friesen, 1977). However, most of the work, even though not identical with Bleuler's and Freud's propositions, has followed the main theoretical assumptions of these authors.

Ambivalence in social psychology

In spite of the extensive studies of ambivalence in sociology (see Caditz, 1975; Frazier & Meisenhelder, 1985; Room, 1976, and especially Merton, 1976, for a description of ambivalence from a sociological perspective)³, social psychology has not devoted much attention to this issue. Even though some authors have used the term, they have not given attention to the role of ambivalence in social psychology in general and in attitude research in particular.

One of the few authors in social psychology that has devoted attention to the ambivalence construct is W. A. Scott. Scott (1968) understood attitudes as having a set of defining properties. These specific properties or dimensions distinguish attitudes from other psychological constructs. One property of attitudes proposed by Scott is ambivalence⁴, which is based on the conception of direction in bipolar terms, and on the observation that both favorable and unfavorable components may be present in the attitude composite. The greater and more equal these opposing tendencies, the higher the degree of ambivalence. Consequently, ambivalence is defined as "the degree to which objects are described in terms of both desirable and undesirable attributes" (Scott, 1966).

Irwin Katz (1979) also made extensive use of the term ambivalence. He employed the term to denote a psychological condition in which a person has both positive (i.e., friendly, sympathetic, accepting) and negative (i.e., hostile, denigrative, rejecting) dispositions toward some group. Like Scott, Katz held that the stronger the positive and negative dispositions and the more nearly equal their respective strengths, the greater the amount of ambivalence.

³ Although sociology more than social psychology has focused upon ambivalence in its studies, most of this research has not been empirical.

⁴ Scott also included direction, magnitude, salience, affective salience, cognitive complexity, overtness, embeddedness, flexibility, and consciousness among the properties specific to attitudes.

Even though some other researchers have shown interest in ambivalence (Gardner, 1987; Kaplan, 1972), only Scott and Katz have made extensive use of the concept. Scott tried to incorporate the concept in the attitude structure and Katz considers ambivalence to be a central concept in his ambivalence-induced amplification hypothesis (see later in this paper). However, most researchers have not elaborated the concept of ambivalence in relation to attitude; most, in fact, tend to adopt a general semantic definition.

Operational Definitions of Ambivalence

Several authors have given operational definitions of ambivalence, but only K. J. Kaplan (1972) provided a clear and systematic procedure to calculate ambivalence. Kaplan, following Scott (1966, 1968), assumed that the greater and more equal the opposite tendencies (i.e., the good and bad components) the greater the degree of ambivalence. But if these contrary tendencies were to be captured, Kaplan argued, an individual would need to be presented with the opportunity to judge both the favorable and unfavorable attributes of a given stimulus object. Such a technique would require a modification of typical measures such as the Semantic Differential (Osgood, Suci, Tannenbaum, 1957) which allows respondents to make one and only one mark at a point on a dimension that has polar adjectives reciprocally antagonistic at each extreme of the scale (i.e., on a good-bad bipolar scale).

Kaplan suggested a modification of the Semantic Differential technique that would assess separately the positive and negative attributes ascribed to an attitude object. In the proposed modification, subjects would be presented with two unipolar measures. One unipolar measure would assess the positive qualities associated with the attitude object (e.g., good, valuable, nice), and the other unipolar measure would assess the negative qualities (e.g., bad, useless, awful).

When subjects are presented with the positive components of the scale (i.e., the "liking" scale) they are asked to consider only the positive qualities of a concept and ignore its negative ones. They evaluate how positive a concept is on a 4-point unipolar positive scale, as follows: not at all x, slightly x, quite x and extremely x, where x represents a good quality associated with the attitude object. When subjects are presented with the negative components scale (i.e., the "disliking" scale) they are asked to consider only the negative qualities, discarding the positive ones. Subjects then evaluate the negativity of the concept using the same 4-point unipolar scale

used for the positive qualities. The measure would be scored from 0 to 3 for the positive qualities, and 0 to -3 for the negative qualities. Three independent measures are thus generated by this technique: first, the usual bipolar attitude (A), which is the sum of all the items; second, its positive or "liking" component (A_p), which is the sum of all the positive items; and third, its negative or "disliking" component (A_n), which is the sum of all the negative items.

Based on these measures, Kaplan developed an index of ambivalence and a model in which such an index can be directly interpreted. This index of ambivalence (AMB) has two major components: total affect (TA) and polarization (POL).

Total affect (TA) refers to the total amount of evaluation directed to the object, regardless of sign. TA is calculated through summing the absolute values of the liking and disliking components. This can be illustrated in the formula:

$$TA = A_p + |A_n|$$

Based on this formulation, a score of zero TA would be interpreted as no evaluation or "indifference." Any departure from zero would indicate either that an individual possesses both positive and negative affect or only one of these.

The second component of ambivalence, polarization (POL), is defined as the absolute value of the directional residual. This component is calculated by summing across all the items and obtaining the absolute value of the sum. This can be represented in the following formula:

$$POL = |A_p + A_n|$$

A score of zero POL would be obtained in the event that the amount of positive and negative evaluation are equal. A divergence from zero would mean that the individual is favoring one of the extremes.

Finally, ambivalence can be expressed as the difference between total affect and polarization. This relationship can be represented by the following formula:

$$AMB = TA - POL$$

or

$$AMB = A_p + |A_n| - |A_p + A_n|$$

In other words, for a neutral Semantic Differential response (all responses evaluated as 0), ambivalence is equal to total affect (TA). However, for non-neutral responses, ambivalence is also influenced by polarization (POL). Under high polarization (e.g., -3; +3) little ambivalence can occur, but under

low polarization ambivalence increases. Thus, attitude objects perceived as possessing both very positive and very negative attributes receive high ambivalence scores, and attitude objects perceived as possessing more uniformly evaluated attributes receive lower ambivalence scores. Unfortunately, even though this technique is the only systematic approach to measure ambivalence, it has not been used or even considered to any great extent in psychological research (see Moore, 1973, 1980, and Bargh, Chaiken, Govender, & Pratto, 1991, for some exceptions).

This formula however contains some limitations. According to Thompson, Zanna, and Griffin (1995), even though the formula proposed by Kaplan (1972) is a reasonable operationalization of ambivalence, it has some important limitations. If Kaplan's ambivalence formula is analyzed closely it can be shown that ambivalence is simply double the amount of the lower evaluation (without considering the sign). While the lower score is thus held constant, variations among subjects in the higher score are not taken into account. For example, a subject with a positive score of 1 and a negative score of 3 will have the same ambivalence score as a subject with a positive score of 1 and a negative score of 2. This clearly undermines the concept of ambivalence, according to which the greater the discrepancy between the positive and the negative score, the greater the ambivalence.

Thompson et al. (1995) suggested a formula proposed by Dale Griffin that would resolve the problem. This formula, like the one advanced by Kaplan (1972), regards ambivalence as a function of the similarity and the intensity of the components of the attitude. The suggested formula is as follows, where P is the positive component and N is the negative component (all numbers are positive):

$$AMB = (P + N) / 2 - |P - N|$$

This operational definition of ambivalence measures ambivalence more precisely, since it discriminates between ambivalence at different levels of polarization. At the same time, this formula does not depart significantly from the one suggested by Kaplan (1972); it simply calls for the TA term in Kaplan's formula to be divided by 2. Since Thompson's formula is an improvement over Kaplan's formula, it will be used in this experiment.

Following Kaplan's technique, Eagly, Mladinic and Otto (1991) designed a measure that incorporated the evaluative contents of subjects'

beliefs and emotions to calculate ambivalence. Eagly, Mladinic and Otto (1991) asked subjects to list up to ten characteristics or emotions that they believed were typical of members of several target groups (male, female, Democrat and Republican). After completing this task, subjects indicated the strength of their association between the group and each characteristic by estimating the percentage of people in each group (e.g., women) who have each characteristic (e.g., who are "sociable," if a subject listed this attribute). Subjects then rated each characteristic (e.g., "sociable") listed for the group on a 7-point good-bad scale, which was scored from +3 to -3, with 0 assigned to the middle category. The percentages subjects indicated for each characteristic were transformed to proportions. Each characteristic's proportion was multiplied by its good-bad rating, and these products were averaged across the characteristics listed.

Ambivalence was then calculated by representing each belief or emotion entering into the A_p and A_n terms of Kaplan's equation by its Probability-Evaluation product (i.e., by the product of the probability and the evaluation that each subject assigned to the belief or emotion). The sign of each subject's product for each belief or emotion determined whether it was entered into the positive or negative term of the equation. Beliefs or emotions for which the product was 0.00 were omitted from ambivalence calculations. The A_p and A_n terms in Kaplan's equation were represented by the mean values of the summed Probability-Evaluation products. The higher the score obtained from the equation, the higher should be the subjects' experienced ambivalence toward a particular group. The advantage of this modification over Kaplan's original technique is the use of the evaluative contents of subjects' beliefs and emotions. Because subjects are allowed to report the attributes and evaluations that they personally ascribe to the groups, this procedure is a more precise measure of subjects' ambivalence than the use of the single adjective scales suggested by Kaplan.

Following Lanier (1941a, 1941b), Katz (1981) used a response-time measure to assess ambivalence. He stated that the time needed to answer a question related to an attitude object is indicative of ambivalence: the longer the time needed to answer, the higher the ambivalence. In an experiment using three target groups (obese men, tall men and physically handicapped men), Katz (1981) found that mean response latencies on ratings of the physically handicapped group were longer than mean latencies

on ratings of the tall or obese groups. Even though this research did not show conclusively that response latency is a valid measure of ambivalence, the fact that the results are consistent with previous research that has shown people to be more ambivalent toward handicapped man than toward obese or tall men, is, according to Katz, evidence that supports the ambivalence interpretation. Furthermore, the use of response-time as a measure of ambivalence seems appropriate to the ambivalence construct. If individuals have a set of contradictory evaluations of an object, it is plausible that they will take longer to respond than individuals with non-contradictory evaluations when they are questioned about that object.

Even though the previous operationalization are the most relevant, there have been another efforts. Anderson and Wieting (1976) postulated that responses to graphical humor (cartoons) can be used as a measure of attitudinal ambivalence. Abelson, Kinder, Peters and Fiske (1982) used a list of traits and a list of affects (some positive and some negative). The ambivalence index for traits and affects was simply the correlation between the number of positive and negative traits mentioned by the subject. The idea that positive and negative factors are relatively independent is highly consistent with the definition of ambivalence assumed in this review. Other researchers such Hass & Katz have adopted the same approach. Studies of the attitudes of whites toward blacks have revealed that whites possess at the same time positive and negative attitudes toward black and that these attitudes are largely unrelated (see section on the effect of ambivalence on behavior for an extensive discussion of Hass & Katz's proposition).

Minkowich, Weingarten, and Blum (1966), and Raulin (1984) also operationalized ambivalence. However, instead of treating ambivalence as a situational variable, they treated it as an individual difference trait. These research have shown some interesting results, however, the measures of ambivalence employed need further research.

Even though it was stated at the beginning of this review that the amount of research related to ambivalence is limited, the number of operational definitions of ambivalence is quite substantial. Unfortunately it seems that researchers tend to operationalize ambivalence in their own ways without taking previous efforts into account. This great diversity place limitations on the comparisons across studies. Moreover, most of these measures lack studies of reliability, variability and even

construct validity. Further research is necessary in order to obtain not only valid measures of ambivalence but also measures that allow consistent comparisons across studies.

Sources of Ambivalence

Cognitive Structural Sources: Linkages to Values

The origin of ambivalence and its relation to values has been researched by Irwin Katz and his associates (Katz, 1979, 1981; Katz, Cohen, & Glass, 1975; Katz & Glass, 1979; Katz, Wackenhut, & Hass, 1986). Following the conceptions of values held by such theorists as Allport (1954) and Rokeach (1973), Katz and his collaborators conceived values as generalized standards of the goals and goal-directed behavior of human existence. According to these researchers, values are more central and fundamental components of a person's makeup than attitudes and are determinants of attitudes as well as of behaviors.

Katz (1981), further stated that there are two central value orientations in American society: communalism and individualism (See Williams, 1979, for an extensive analysis of American values). The value of *communalism* expresses democratic and humanitarian precepts and emphasizes adherence to the democratic ideals of equality, social justice and concern for others' well being. The value of *individualism*, embodied in the Protestant ethic (see Weber, 1958 for a review of the concept), emphasizes personal freedom, self-reliance, devotion to work, achievement, and success as the product of hard work. Katz argued that these two central values coexist simultaneously in each individual. Because values are associated with attitudes, the attitudes developed from this association may be ambivalent. For example, if white individuals emphasize the value of communalism when evaluating a black, they should tend to agree with statements such as "Black people do not have the same employment opportunities that whites do" or "Too many blacks still lose out on jobs and promotions because of their skin color". In contrast, if white individuals accentuate the value of individualism, they should be predisposed to agree with items such as "On the whole, black people do not stress education and training", or "Blacks should take the jobs that are available and then work their way up to better jobs".

The results of the Katz and Hass (1988) experiments developed to test these assumptions tended to support the hypotheses. Subjects

responded more favorably to the pro-black scale when they were primed with the humanitarianism statements than when they were primed with the Protestant ethic statements or control items. The reverse effect occurred on responses to the anti-black scale, where scores were higher with a Protestant ethic statement prime than with humanitarian or control statements.

The same pattern of results was found when the attitude questionnaires were used as a prime. Individuals expressed more humanitarian values when primed with pro-black statements than when primed with anti-black statements or control items. The reverse effect was again found with the Protestant ethic scale, in which scores were higher for individuals who had been primed with anti-black statements than for those individuals who had been primed with pro-black or control statements. In summary, according to Katz and his associates, the ambivalent beliefs that individuals have about stigmatized individuals have their origins in two main contrasting values: communalism and individualism.

Another investigation that related ambivalence and reactions toward racial groups proposed the concept of "symbolic racism" (Kinder, 1986; Kinder & Sears, 1981; McConahay, 1983, 1986; McConahay & Hough, 1976). Like Katz, these researchers assumed that white Americans are ambivalent toward blacks and that the source of ambivalence is the values that Americans hold. They defined symbolic racism as a blend of anti-black affect and the kind of traditional American values symbolized in the Protestant ethic (Kinder & Sears, 1981). Symbolic racism⁵, they suggested, constituted a form of resistance to change in the racial status quo based on moralistic feelings that blacks violate traditional American values such as individualism and self-reliance, the work ethic and discipline. According to this theory, ambivalence is created by the conflict between these values in the American society and negative affect toward blacks; moreover, ambivalence emerging from such conflict will affect beliefs and behavior and will influence the interpretations of new events.

Even though symbolic racism is similar to the theory proposed by Katz and his associates, the two theories differ in their explanations of how

ambivalence is created. Katz & Hass (1988) proposed that the conflict from which ambivalence originates is between positive and negative cognition. The proponents of symbolic racism state that ambivalence originates from a conflict between negative affect toward blacks and the person's values, cognition and/or need to maintain a positive/non-prejudiced self-image (McConahay, 1986).

Additional research which links values and attitudes and that has clear implications for ambivalence is Tetlock's research into "value pluralism" (Sniderman & Tetlock, 1986; Tetlock, 1983, 1986, 1989). In studying ideological reasoning, Tetlock suggested that people's thinking about political issues depend on the degree to which issues bring important values into clear conflict with each other. If an issue activates values with conflicting implications for one's attitudes, people will think about the issue in a more "integratively complex" way⁶. According to Tetlock, integrative complexity is defined by two cognitive structural variables: conceptual differentiation and integration. Differentiation refers to the variety of aspects or components of an issue that a person recognizes. Accordingly, an undifferentiated thinker would rely only upon a simple evaluative rule to categorize an issue (e.g., "good" liberal vs. "bad" conservative issues). However, a highly differentiated thinker would recognize that an issue can be defined using many categories, even contradictory categories, and that it is not easy to classify an issue on a single dimension. The second component of integrative complexity, integration, refers to the development of conceptual connections among differentiated characteristics, in other words, the extent to which the categories are perceived to be linked to one another and the complexity of the links. An individual high in integration would consider value trade-off, and would tend to recognize the need to take into account the joint impact of causal variables on an outcome. Thus, individuals who think in an integratively complex way will tend to list more thoughts that are positive and negative toward an issue than individuals who think in a less integratively complex way. These ideas have clear implications for ambivalence. If integratively complex individuals tend to entertain thoughts on both sides of an issue, they will be ambivalent due to the existence of those evaluatively inconsistent thoughts.

Even though differences exist in Katz's (1981),

⁵ McConahay (1986) began to term this theory "Modern Racism," in order to emphasize the contemporary nature of the principles constituting the new ideology. However, this name change did not alter the theory's main assumptions.

⁶ Integrative complexity is assessed through a content analysis of the thoughts that subjects report in response to each question. (For detailed description of integrative complexity coding, see Tetlock (1983).

McConahay's (1983), and Tetlock's (1986) understanding of how ambivalence is created, all three approaches show that values can be considered an important source of ambivalence.

Attitude-relevant Behavior

The impact of behavior on ambivalence has been considered in research on the "incentive-aroused ambivalence hypothesis" (Crano & Sivacek, 1984). This hypothesis posits an "overjustification effect", the attitudinal effect of providing a person with an extrinsic reward to engage in an intrinsically motivated pro-attitudinal action (Deci & Ryan, 1985; Lepper, Green & Nisbett, 1973). The provision of an oversufficient inducement for an attitude-consistent action is thought to stimulate an ambivalent response on the part of the recipient; e.g., a positive reaction occurs as a result of the unexpected reward, but this response is tempered precisely because the reward is unexpected and oversufficient. According to the incentive-aroused ambivalence hypothesis, this situation makes individuals ambivalent and hence more apprehensive, and less confident about their attitudes and behaviors. Individuals are thus led to believe that a change might be desirable, and if information consistent with the possibility of change becomes available, individuals may indeed change (Crano & Sivacek, 1984).

Finally, all the studies described in this section show that ambivalence is originated by contradictory values or conflict between values and specific cognitions, feelings or behaviors. Even in the case of Crano & Sivacek's (1984) theory, it may be assumed that the reason why overjustification produces such an effect is the existence of a generalized standard that tells the individual when a reward is acceptable. Even though values seem to be the central source of ambivalence, further research is necessary to determine the existence of more diverse origins of ambivalence.

Effects of Ambivalence

If ambivalence implies that individuals are aware at a given time of both the positive and negative evaluations of an issue, it is possible that not only will individuals experience tension, but also the presence of these contradictory evaluations would make them vacillate. This vacillation would make their behavior less predictable and would decrease the correlation between attitude and the evaluative contents of subject's beliefs and emotions. Such

vacillation would also be a factor having direct influence over the attitude, in particular, attitude change. Some of these issues are discussed in the following section of this paper.

Effects on Behavior

Studies on the effects of ambivalence on behavior have been scarce. Only in recent years empirical studies have been conducted on the effects of ambivalence upon social interaction. Most of the work in this area has been carried out by Irwin Katz and his colleagues (Carver, Gibbons, Stephan, Glass & Katz, 1979; Katz, 1979, 1981; Katz & Glass, 1979; Katz, Hass & Wackenhut, 1986) who proposed what they called the "amplification hypothesis". According to Katz, people's reactions toward stigmatized groups such as blacks and the handicapped are ambivalent because they possess contradictory beliefs and feelings toward these groups. Katz also argues that such ambivalent beliefs and feelings induce behavioral reactions to the stigmatized groups that are more extreme than reactions to members of non-stigmatized groups. The direction of the reaction (favorable or unfavorable) would depend highly meritorious, but upon the social context. For example, a white individual might give extra help to a black perceived as little help to a black perceived as unworthy. Research by Katz, Glass and Cohen (1973), have shown that subjects who possessed the most ambivalent racial attitudes were the ones most likely to denigrate a black victim. Identical results were obtained using a handicapped person as a stimulus person (Katz, Glass, Lucido, & Farber, 1977).

Further research has been lent additional support for the amplification hypothesis. For example, Katz (1981) found that non-whites that displayed socially desirable attributes were treated more altruistically than whites that revealed similar qualities. Carver et al. (1979) obtained some evidence that experimentally activated ambivalence about an out-group polarizes evaluations of out-group targets and Hass, Katz, Rizzo, Bailey, and Eisenstadt (1991) found better evidence of the role of ambivalence as a mediator of amplification.

Why does ambivalence produce such an extreme reaction? According to Katz and his associates (Katz, 1981; Katz & Glass, 1979), ambivalence would produce a threat to one's self-esteem whenever the inconsistent nature of a person's feelings about a particular out-group are made salient. Accordingly, reactions expressing one's negative beliefs about

stigmatized people would threaten one's self-image as humane, whereas reactions expressing one's positive beliefs would threaten one's self-image as insightful and discerning in judging other people. To reduce the tension produced by the ambivalence, the individual would tend to use whatever means are available, selecting a course of action that would dispense with either the positive or the negative aspect of the ambivalent attitude. For example, most whites would help blacks or at least would treat them equally to whites if denial of such help would make them appear to be prejudiced (which would threaten one's self-image as humane). However, if whites can find an acceptable reason other than race for failing to help blacks, the negative side of their ambivalence would win (thus protecting one's self-image as objective and fair). An experiment by Hass, Katz, Rizzo, Bailey, & Moore (1990) supported that idea: the simultaneous activation of opposite racial sentiments produces emotional tension, and that the amount of discomfort is a function of individual differences in measured ambivalence.

Even though most of the research in this area has been conducted by Katz, Haas and their associates, there have been other researchers like Gaertner and Dovidio (1977), who have replicated some studies the ambivalence-amplification hypothesis.

In summary, extensive studies related to the ambivalence-amplification hypothesis have shown evidence that attitudinal ambivalence could induce an amplification response toward stigmatized groups. Further research is necessary to see the generalizability of ambivalence as a mediator. Such research would not only contribute to more conclusive results about the mediating effect of ambivalence, but also will help to rule out additional interpretations.

The effect of ambivalence on the attitude-behavior relationship has also been studied. Moore (1973) measured attitude toward capital punishment and intentions to vote in favor or against the reinstatement of capital punishment for certain crimes. Using the measure of ambivalence suggested by Kaplan (1972), Moore found that the correlation between attitude toward capital punishment and voting intentions was significantly higher for subjects scoring below the mean in ambivalence than for subjects scoring over the mean in ambivalence. Moore (1980) obtained identical results using other attitude targets such as recycling and gambling.

The ambivalence of beliefs can also influence the

relationship between behavior and affect. Granberg & Brown (1989), studied how affect and cognition were related to directions in voting behavior using data obtained from a series of studies consisting of interviews with adults before and after the election. These researchers found that cognitive ambivalence has an impact upon the behavior-affect relationship. It was observed that the link between affect and behavior was much weaker among individuals with an ambivalent set of cognitions than among those individuals whose cognitions were unambivalent.

Effects on Beliefs and Emotions

It was stated at beginning of this paper that attitudes can be defined as "a tendency to evaluate an entity with certain degree of favor or disfavor" (Eagly & Chaiken, 1991). It was also stated that evaluations can be manifested through three classes of responses: cognitive, affective and behavioral. These statements suggest that a relationship exist between people's evaluation of attitude objects and the evaluative contents of their beliefs, emotions and behaviors. For example, if an attitude object is evaluate favorably, it is more likely to be the focus of positive beliefs (or emotions, or behaviors) than an attitude object which is evaluated unfavorably. Conversely, if an attitude object is evaluated unfavorably, it is more likely to be the focus of negative beliefs (or emotions, or behaviors) than an attitude object, which is, evaluate favorably.

However, if the evaluative contents of individuals' beliefs or emotions or behaviors are contradictory, individuals will became ambivalent. This ambivalence could in turn destabilize the belief system (or emotion or behavior system) and weaken the relationship between attitude and beliefs (see Eagly, Mladinic & Otto (1991).

Effects on attitudes themselves

Ambivalence can be a factor in attitude change. The influence of ambivalence on attitude change is suggested by the incentive-aroused ambivalence hypothesis (Crano & Sivacek, 1984). This hypothesis holds that the provision of an unnecessary incentive gives rise to an ambivalent response: the positive reaction to reinforcement is accompanied by a sense of uneasiness regarding the legitimacy of the induced behaviors. If circumstances confirm the feelings of un-ease, subjects should change their attitudes. Even though Crano & Sivacek (1984) did not directly

access ambivalence, their research seems consistent with the proposed ambivalence hypothesis. According to the assumptions of the incentive aroused ambivalence hypothesis, subjects that received the surprise payment and read the communication arguing in favor of the tuition increase reported lower consensus and more favorable attitudes toward the tuition increase than those in the other condition. It appears, then, that when subjects received the unexpected reward for behaving in a manner consistent with attitudes they already hold, they generated an ambivalent reaction. According to the hypothesis, this ambivalence reaction would have caused them to become more apprehensive and more inclined to change. Because they had also received information consistent with the possibility of change, they modified their attitude.

Ambivalence also seems to be a mediator in the attitude polarization paradigm (Tesser & Conlee, 1975; Tesser & Leone, 1977). According to this paradigm, the longer an individual thinks about an attitude object, the more extreme in the initial direction (polarization) his/her attitude will be. However, Liberman and Chaiken (1991) stated that attitudes do not always polarize during thought. Attitudes will polarize if consistency exists among the evaluative implications of important attributes of the attitude object. Thoughts will lead to polarization when important and stable attributes imply the same attitudinal position. However, if these important attributes are ambivalent (i.e., imply opposite attitudinal positions), thought may actually result in moderation. Following Tetlock's (1986) demonstration that value conflict stimulates evaluatively inconsistent thinking, Liberman and Chaiken (1991) suggest that value conflict should constrain attitude polarization. They found that attitudes do not polarize if the issue requires a trade-off between values. It seems that the evaluative congruity of important object attributes determines the evaluative mix of thoughts about the object, with only evaluatively consistent thinking (non-ambivalent thinking) resulting in attitude polarization.

Conclusions

Even though ambivalence is an old concept in psychology, only recently has it been researched in social psychology. The fact that it is a relative new focus of research may explain why there is not greater coherence among the different theories that invoke the concept of ambivalence.

This lack of coherence becomes clear upon

analysis of the various operationalizations of the ambivalence construct. Though all researchers who invoke the concept of ambivalence appear to agree upon its general definition, e.g., the degree to which objects are described in terms of both desirable and undesirable attributes, their operationalizations of the construct do not always capture this definition. It is necessary to validate the ambivalence construct and to develop research that tests the validity and reliability of the different measures that assess this construct.

This review also has shown the multiple relationships that exist between ambivalence and attitudes. The impact of ambivalence upon behavior, beliefs, emotions and attitudes has been brought to light by the studies described in this review. Moreover, these studies suggest that a better understanding of ambivalence could contribute much to future research into important social psychological issues such as attitude change and behavior-attitude consistence.

However, one factor common to all the research shown in this review is a lack of manipulation of the ambivalence construct. Even in research such as Katz's test of the amplification hypothesis and Crano's test of the incentive-aroused ambivalence hypothesis, which presuppose ambivalence as an important theoretical element, ambivalence is not manipulated. It seems necessary to develop studies, which manipulate ambivalence if the goal is to demonstrate its usefulness as a mediator or a moderator variable in the context of attitude research.

In addition, most of the studies of ambivalence have focused upon ambivalence of beliefs, without much consideration of affective and behavioral ambivalence. With the exception of Abelson et al. (1982), who studied emotional reactions to politicians, and an early study by Kelman (1962), which relates-approach avoidance conflicts (a form of behavioral ambivalence) to attitude, there has been no research in this area. Behavioral and affective ambivalence should be addressed in future research.

The increasing importance given to cognitive factors in psychology will also contribute to the development of ambivalence research. Recently, for example, ambivalence has been proposed has an alternative explanation of the automatic attitude activation effect (Fazio, Sanbonmatzu, Powell, & Kardes, 1986; Fazio & Williams, 1986). These researchers propose that individuals react automatically upon the mere observation of attitude objects if a strong association exist in memory between the attitude and its evaluation.

If this association is weak, individuals should take longer to respond. Bargh et al. (1991) challenge this model, arguing that not only strong but also weak attitudes can be automatically activated and that differences in speed may be a product of ambivalence. If presenting the attitude object activates both good and bad evaluations, individuals will take longer to report their evaluations because of response competition. The controversy surrounding the automatic activation effect suggests a further need for ambivalence research.

Finally, the importance of the ambivalence construct in social psychology and particularly in the study of attitudes deserves not only more extensive research, but also research that integrates the results and overcomes the limitations of previous studies.

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