MINORITY OPINION INFLUENCE:
THE ROLE OF ISSUE-INVOLVEMENT AND SIMILARITY

by

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ABSTRACT

Social influence in marketing has generally been conceptualized in terms of conformity, where the individual's attitudes and behaviour are influenced by real or imagined group pressure. This is a one-way influence process where the group (majority) influences the individual. This research extends this conceptualization of social influence to include the influence of minority or deviant opinions. A simultaneous social influence paradigm is adopted, in which individuals may not only experience conformity pressure from the majority, but may also be subject to persuasion by minority opinions in the group. Such situations may arise in consumer groups as such organizational buying committees or families.

Several conditions that may determine the extent of conformity or minority influence were delineated. It was hypothesized that the extent of social identification with a minority or majority source, i.e., *source-similarity,* would determine the extent of its influence. It was proposed that *issue-involvement* would play an important role in determining conformity versus minority influence effects, as well as interact significantly with source-similarity. The role of other mediating variables in this social influence process, such as source credibility and source feelings, were also explicated.

An empirical test of the theory was undertaken through a 2 (high/low similarity) X 2 (high/low involvement) factorial design. Subject were exposed to persuasive communication from both a majority and a minority source, who advocated contrary

positions. The two sources always assumed opposite social identities, and thus when one source was similar to the subject, the other was dissimilar. As anticipated, the minority opinion was more persuasive when the minority was similar, rather than dissimilar. However, this effect was dependent on the level of involvement. The results were generally consistent with the proposed model, with both similarity and involvement playing a crucial role in determining the extent of minority influence. Source credibility and feelings towards the source were both significant mediators in the social influence process. This research indicates a further need to explore the role of involvement in such simultaneous influence contexts using other consumer contexts, and it opens several avenues for future research.

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I. INTRODUCTION

1.0 Overview

This chapter outlines the motivation behind this research as well as the scope of this research. At the outset, within the field of marketing, a knowledge gap in the area of social influence is identified and a theoretical model intended to fill this gap is presented. The chapter also provides a brief overview of the theory on which this research is founded. Finally, a description of the empirical work conducted to test the proposed model of social influence is presented. The chapter ends with a brief summary of the contributions of this research.

1.1 Background

Social or group influence in marketing, it has been reported, extends to a wide range of products such as automobiles (Grubb and Stern 1971), cosmetics (Moschis 1976), illicit consumption of drugs and alcohol (Rose, Bearden and Teel 1992) and a variety of private and public consumer products (Bearden and Rose 1990). Furthermore, the influence of reference groups is felt in diverse groups in the society such as physicians (Coleman, Katz and Menzel 1966), students and housewives (Park and Lessig 1977). Given that our decisions are often influenced by others, a thorough understanding of the social influence process can be useful theoretically and managerially.

Many consumer decisions are made in group settings and many others are made after directly or indirectly incorporating the opinions of close friends or family. In consumer groups (such as organizational buying committees, families or informal social groups) it is not uncommon to see members disagreeing on goals or actions. Thus, often multiple opinions may exist on the same issue. When multiple opinions exist, marketers have believed that individuals in the group will conform to the will of the majority opinion or the group norm rather than risk siding with a minority or less popular opinion. Such a perspective is based on the works of social psychologists such as Asch (1951), Deutsch and Gerard (1955), and Sherif (1953), which has been considered a fundamental axiom of social influence - individuals yield to group influence and conform to group norms. The conformity perspective dominates the study of social influence to such an extent that the term *conformity* is often considered to be equivalent to social influence (Maass and Clark 1984).

The reference group literature in marketing is generally based on the conformity perspective (e.g., Bearden and Rose 1990; Hansen 1969; Rose, Bearden and Teel 1992; Stafford 1966; Venkatesan 1966; Witt 1969, Witt and Bruce 1970). While consumer researchers have acknowledged that susceptibility to social influence is likely to vary across individuals (e.g., Bearden, Netemeyer and Teel 1989;), meaning that not all consumers are likely to submit to conformity pressures to the same extent, the marketing literature is silent on the issue of whether individuals who decide to maintain their individuality and deviate from group norms hold any influential or persuasive power over other individuals in the group. Thus, social influence is still

viewed as a one-way process, where the influence flows from the larger group to subgroups or individuals.

Instead of assuming that an individual will gravitate towards the group norm (or majority point of view), in recent years social psychologists have recognized deviating or dissenting minorities within groups as agents of innovation (Moscovici 1976). In other words, individuals in consumer groups could be the source of original ideas (cf. Nemeth 1985; Folkes and Kiesler 1991) and can be quite influential. This point is underscored by the fact that adoption of new products and new patterns of consumption are often started by a few who dared to disregard the popular wisdom. Thus, the view that individuals in groups succumb to the influence of the majority (i.e., group norms) without having any influence on other group members is an incomplete view of social influence at best.

Before explicating the proposed social influence model further and identifying its relevance to consumer behaviour and marketing, it may be worthwhile defining the terms "minority" and "majority" in the context of this research. A minority or a majority can be defined in terms of two characteristics: (a) Size - numerically, a minority is smaller than the majority. The larger the strength of the majority, the greater its influential power on other group members. (b) Position - a minority not only opposes the group norms (majority view), but it also actively defends its own preference, and hence the minority is antinomic or represents a position contrary to the norm (Moscovici 1980). Thus, in this context the usage of the term "minority" does not refer to ethnic minorities.

Within groups why does the majority or the minority have any influential power? When there is a majority opinion in a group, that opinion becomes acceptable for several reasons. The fact that "so many people hold this view" often leads us to believe that the majority must be correct. The majority, due to its size, acquires greater credibility and hence persuasive power (Moscovici 1976). The minority opinion, on the other hand, lacks the numerical strength. But individuals who are deviant (i.e., minority) are known to be persuasive when they maintain their position consistently and unflinchingly. The consistency of the minority leads observers (other group members) to conclude that the minority is confident and certain, which in turn makes the minority opinion acceptable (Moscovici 1980).

The mounting evidence supporting minority influence in groups indicates that in the field of marketing, where study of group influences on buyer behaviour occupies an important place, a reconceptualization of group influence is essential. This would entail extending our current conception of group influence, which is mainly based on the notion of conformity, to one that will allow both majority and minority within groups to be the source of influence (see Figure 3). Such a model of social influence is termed the *simultaneous social influence paradigm* (Clark and Maass 1988a; Maass and Clark 1984). In other words, individuals may be recipients of influence from the majority (representing the group norm) as well as the minority (representing a deviant opinion), and the relative influence of either source may depend on a number of factors which are outlined next.

1.2 Proposed Research

Consumers often seek the opinions of several sources (e.g., friends, neighbours, colleagues, salespersons, TV spokespersons etc.) on decisions ranging from choice of restaurants to choice of cars. In such situations consumers not only try to evaluate the information obtained from various sources , but they also try to gauge the social support available for different alternatives. Frequently, consumers get contradictory information from different sources and they may be forced to make a choice between alternatives that have varying social support. When social influence simultaneously occurs from multiple sources we have previously assumed that the position with the greater social support (majority view) will be more influential. The objective of this research is to offer an extended conceptualization of social influence that allows both minorities and the majority to be the source of influence. The conditions facilitating either a minority or a majority influence are specified. An empirical test is proposed to test the predictions of the model. The important variables in the proposed model are as follows.

First, based on previous research in persuasion, it is proposed that at least part of the influence in a social setting can be attributed to the extent to which the recipient of influence identifies with the source of influence. In other words, *similarity* between the source and the recipient of influence has been found to be a critical factor in persuasion (e.g., Berscheid 1966; Feick and Higie 1992; Moschis 1976). Even a less popular position may be acceptable if one shares a common bond with the proponent of that viewpoint (e.g., Clark and Maass 1988a; Martin 1988a).

Second, the degree of *issue-involvement* (in terms of personal implications) is likely to affect the influence of the majority and the minority sources. This research extends Petty and Cacioppo's (1986) Elaboration Likelihood Model to a social influence context to explain conformity versus minority influence. It is posited that an uninvolved person is more likely to join the majority using a "majority must be right" type of heuristic. On the other hand, someone with a high issue-involvement is more likely to engage in diligent consideration of each alternative before making a choice, which would make the characteristics of the source less important. Under such circumstances, the less popular of the two opinions (i.e., the minority opinion) should stand a better chance of being persuasive.

Previously, there has been scant attention paid to the role of issue-involvement in determining conformity versus minority influence, even though many scholars have called for an examination of this issue (Maass and Clark 1984; Chaiken and Stangor 1987). The limited attempts made in this direction indicate that this could be a fruitful avenue of research (see Trost, Maass and Kenrick 1992).[1] Issue-involvement has been recognized as having a very important role in persuasion (Johnson and Eagly 1989). Hence issue-involvement or personal involvement may be a key determinant of conformity versus minority influence effects.

Third, *response-involvement* or *response-type* (public versus private response)

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[1] Trost, Maass and Kenrick (1992) was published after the empirical work on this dissertation was completed. To the best of my knowledge there is no other published research on the role of issue-involvement in this context. Given the importance of this subject, in appropriate places in this dissertation Trost et al.'s work is compared with this research in terms of the theory, methodology as well as findings.

is considered to be another important determinant of the nature of social influence. Often one's attitudes and preferences may be biased by whether or not one's position is expressed publicly. Social desirability or need for social approval may cause a difference between private and public attitudes (Bearden and Rose 1990; Clark and Maass 1988a). Thus response-type is a likely determinant of conformity versus minority influence.

Fourth, other variables such as *source credibility* and *feelings towards the source* were also expected to influence the relative influences of the majority and minority sources. Research in the area of persuasion (e.g., Dholakia and Sternthal 1977; Hovland and Weiss 1951; McGinnies 1973) and in the area of minority influence has identified credibility as a critical determinant of the persuasion (Clark and Maass 1988b; Moscovici 1980). Another source-related variable, *liking* or *feelings* towards the source, is also known to affect the effectiveness of a persuasive communication (Roskos-Ewoldsen and Fazio 1992). This research examines the mediating role of both these variables, source credibility and source-related feelings, in determining the extent of minority or majority influence.

Finally, individual difference variables such as one's susceptibility to social influence (Bearden, Netemeyer and Teel 1989) or Attention to Social Comparison Information (Bearden and Rose 1990) as well as degree of *risk-aversion* will also play a role in whether the individual accepts the group norm or chooses to dissent and even persuade other group members. Individual's risk-taking ability is known to impact the nature of decisions (Fagley and Miller 1990). In many group-oriented

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decision situations, dissent or deviance from the group norm may have attached risks such as the majority excluding dissenting members from the group and the individual losing self-esteem due to social rejection. In this research *risk-aversion* or other personality factors do not play a central role. However, risk-aversion is used as a covariate in the analysis of the experimental data.

1.2.1 *Summary of Proposed Research*

It is posited that group influence includes not only conformity, but also minority opinion influence. The extent to which minority or majority opinion is influential in a group is likely to be determined by similarity between source and recipient, as well as issue-involvement and response-involvement of the recipient. Further, the perceived credibility of the source and the feelings towards the source will have an impact on the relative influences of the majority and the minority.

1.3 The Study

Initially several pretests and a pilot study were conducted to gain further insight into the minority influence paradigm. Consistent with previous research in this area, an laboratory experiment was adopted as the methodology. The main experiment involved the manipulation of two variables - similarity of the majority/minority and issue involvement. Each subject was thus in one of the four cells - 2 (similar-minority or dissimilar minority) X 2 (high versus low issue-involvement).

Previously uncommitted individuals received a stimulus which contained the opinions of both the minority and the majority on a particular issue, with the minority and the majority taking contrary positions on the issue. When the minority was "similar" to the subject, the majority was "dissimilar" and vice-versa. Thus, minority-majority was a within-subjects manipulation.

After subjects read the stimulus material, which was presented as the text of a group discussion, they responded to a series of dependent measures which included attitude toward issue discussed by the two sources, source-credibility of similar and dissimilar minorities, feelings towards the source, willingness to take risk, confidence in decision etc.

In the experimental design the group pressure was created through a "nominal" group method, where subjects did not directly come in contact with the group members. While further details of the design are presented in a later chapter, it should be noted here that the methodology used was consistent with the designs used in this area by other scholars (Maass and Clark 1983; Martin 1988; Mugny and Papastamou 1980).

1.4 Potential Contribution of Research

This research was motivated by the need to bridge the apparent knowledge gap in the marketing literature in the area of social influence. As elaborated earlier, the view of social influence as occurring in only one direction - from the majority in the

group to the individual or minority in the group - is very limiting. Sound theoretical reasoning and empirical evidence is available for the existence of minority opinion influence in groups. This research heeds the call of other marketing scholars (e.g., Folkes and Kiesler 1991) and attempts to incorporate minority influence in an extended model of consumer social influence, thus making a potentially significant contribution.

This research endeavours to make a contribution to the minority-majority influence literature by examining how issue-involvement affects the degree of conformity or minority influence. Even though issue-involvement has been recognized as an important variable in the persuasion literature (see extensive review by Johnson and Eagly 1989), its role in determining conformity versus minority influence remains unknown, but for one exception (Trost, Maass and Kenrick 1992).

This research also hopes to enhance our understanding of the decision process in group contexts. With a exception of few scholars (such as Bearden and his colleagues), very little attention is being paid to group decision process in the marketing literature. Many, if not most, consumer decisions are made in group contexts where there are direct or indirect influences by reference others. Purchase decisions by families, informal groups of friends as well by organizations are examples. This research attempts to provide further insight into the social influence processes affecting consumer behaviour.

1.5 Organization of Thesis

The rest of this thesis is organized as follows. Chapter Two provides the background literature drawn from social psychology and examines the differences between conformity and minority influence perspectives. In Chapter Three a literature review is undertaken leading to the delineation of the conditions facilitating minority or majority influence. Specific hypotheses are proposed. The details of two pretests and a pilot study are contained in Chapter Four. The research methodology used in the main experiment is presented in Chapter Five. In Chapter Six a discussion of the results of the main experiment is provided. And finally, Chapter Seven incorporates an overview of the key findings, a general discussion of the results and the implications of the research, limitations of the research, as well as directions for future research.

II. BACKGROUND

2.0 Overview

This chapter includes a discussion of the *conformity paradigm* - the predominant view of social influence in consumer behaviour (see Figure 1), as well as the *minority influence paradigm* (see Figures 2 and 3). While discussing each paradigm, first the general theory from social psychology and other allied disciplines is presented, followed by a discussion of the relevant marketing literature. Alternative theoretical perspectives on minority influence effect are discussed. The objectives of this chapter are (i) to explore the theory behind majority influence (i.e., conformity) as well as minority influence, and (ii) to further highlight the knowledge gap in marketing and emphasize the need for current research.

2.1 The Conformity Paradigm

The Conformity Paradigm examines the "change in an individual's behaviour or attitudes towards those advocated by a group as result of real or imagined group pressure" (Davis 1984). Asch (1951) studied the social and personal conditions that induce an individual to resist or yield to group pressure. In a typical experiment under Asch's paradigm, the majority (consisting of confederates) would repeatedly disagree with an individual on a simple task such as judging the length of a series of lines.

Over repeated trials, many individuals were found to abandon their position and join the majority, even when the latter's opinion was contrary to fact. However, a significant number of individuals did resist the majority influence and displayed independence in their judgements (Asch 1951). More recent research indicates that there might be different mechanisms operating to produce conformity effect, depending on the nature or extremity of the norm. When the norm is clearly incorrect, it has been found that conformity occurs through a normative influence mechanism, and when the norm represents a factually correct position, conformity seems to occur as a result of an informational influence by the majority (Campbell and Fairey 1989). Based on the works of several social psychologists, including Asch, we know that the degree of majority influence or conformity may be dependent on many factors such as: (1) The character of the stimulus situation - where diminishing clarity of the stimulus condition increases the majority influence; (2) The character of group forces - where unanimity and larger (versus smaller) majority size lead to greater majority influence; and (3) The character of the individual - including degree of confidence in one's judgement; susceptibility to social influence etc.

Conformity is known to affect a wide variety of behavioral situations and outcomes. Impact of conformity on many issues such as organizational performance (McGill 1990), alcoholism (Savoni 1989), sexual satisfaction (Wilson and Reading 1989), and eating disorders (O'Brien and Bankston 1984) have been investigated. Pertinent to the present research are the studies which have established conformity effects within consumer decision making contexts (e.g., Davis 1984; Hansen 1969;

Rose, Bearden and Teel 1992; Venkatesan 1966).

2.1.1 *Conformity Effect In Marketing Literature*

A study by Venkatesan (1966) was the first to test conformity effects in a consumer setting. The differential effects of compliance (Kelman 1961) versus reactance (Brehm 1966) were examined in a situation where subjects had to select the "best" suit from identical ones under different forms of group pressure. The study did find strong conformity effect in the absence of any objective standard. However, in the reactance condition, when the subjects perceived that the group pressure was leading to the restriction of choice, subjects seemed indifferent or deliberately chose an alternative that would negate the group pressure. Thus, it seems individuals succumb to group pressure when the pressure is somewhat subtle, but not when it is seen as a threat to their freedom of choice or action.

A similar consumer judgemental problem was investigated by Davis (1984) - conformity on judgements of fashionability by women. The study involved two levels of judgement ambiguity - low (i.e., present fashions) and high (i.e., future fashions). The subjects ranked six women's suits and then read an essay on fashions (which incorporated opinions of other individuals that were discrepant from the subject's opinions) and then subjects were asked to rank the garments a second time to detect any conformity effect. The evidence was suggestive of greater conformity under higher ambiguity of the judgement task. Subsequent studies of group influence in consumer behaviour have at least indirectly suggested conformity effects.

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More recently, Rose, Bearden and Teel (1992) have further demonstrated conformity influence for illicit alcohol and drug consumption. The main contribution of this research is the integration of the attributional analysis with the group pressure phenomenon. These authors, based on earlier work by Ross, Gunter and Hoffman (1976), proposed that conformity effects, such as evidenced in Asch's studies, could be understood by undertaking an attributional analysis. When individuals face a strong majority opinion stacked against them, the attributional problem faced by the individual can be stated as follows: (i) why are other group members expressing these judgements or performing these behaviours, (ii) what would my dissent from the group norm imply about me and my perception of the group, and (iii) what would my dissent imply to me about myself (i.e., self-perception).

In studies conducted using high school students, these authors found that such attributional thinking played a critical role in whether or not individual conformed to group pressure. When individuals were able to provide an external explanation for a group's behaviour it provided a mechanism for reducing conformity pressure, while internal attributions (where the locus of causality is with the actors) led to greater conformity pressure. This work takes us a step further in understanding conformity effects within groups as well as explaining the underlying mechanism behind deviance from group norm.

There is also documented evidence that conformity effect might very much depend on individual personality characteristics (Bearden and Rose 1990). Related variables such as Self-consciousness (Davis 1984), Susceptibility to Social Influence

(Bearden et al. 1989) and Attention to Social Comparison Information (Bearden and Rose 1990) play an important role in determining the extent of conformity. Individuals scoring high on these personality related measures have been found to be more likely to yield to group pressure. Since marketers are interested in grouping similar consumers (for market segmentation and other purposes) attention to such individual difference factors seems to be a fruitful line of investigation.

2.2 The Minority Influence Paradigm

Moscovici (1976) has challenged the "functionalist" perspective of the conformity literature, which assumes the capitulation of the minorities to the majority and ignores the role of the minority as agents of social change or innovation. Moscovici and his colleagues have demonstrated that in group decisions minorities can indeed be persuasive (Moscovici 1976; Moscovici, Lage and Naffrechoux 1969; Moscovici and Personnaz 1980).

The earliest evidence supporting such a proposition came from Moscovici, Lage and Naffrechoux (1969), who demonstrated that a consistent minority can exert influence over the majority. In an experiment using Asch's paradigm, these authors asked their subjects to perform a simple colour perception task. The fact that all subjects had full visual capacity was made known to all participants. Then, the subjects were asked to judge the colour of "blue" slides that varied only in their luminance. When the two confederates consistently labelled the slides as "green",

8.42% of all responses were green and 32% of subjects reported having seen "green" at least once (even though all slides were in fact "blue"). However, when the confederates were inconsistent they did not influence the rest of the group. Even though these results are quite modest, they generated a lot of interest which has led to the formulation of minority influence theories (Moscovici 1976), more formal models (Latane 1981; Tanford and Penrod 1984) and a plethora of research activity (see extensive review by Maass and Clark 1984).

An important determinant of minority influence is considered to be its behavioral style, which includes behavioural consistency, autonomy, fairness, rigidity and investment (Moscovici 1976). Among these different aspects of behavioural style, consistency has been the most commonly studied (see Maass and Clark 1984). It has been suggested that a consistent behaviour by the minority (which includes unflinching maintenance of one's position in the face of conformity pressure) would lead other group members to make favourable attributions regarding the minority (i.e., the minority is certain and confident in its position), making the minority influential. On the other hand, an inconsistent minority attracts less favourable reaction, thereby diminishing minority influence.

Minorities have been found to be persuasive in many contexts. Initially, minority influence was established in experimental studies involving colour perceptions (e.g., Moscovici, Lage and Naffrechoux 1969; Moscovici and Faucheux 1972). Later, the minority influence paradigm was applied to situations involving more complex social judgements. These studies offer further evidence for the influence of minority

opinions in contexts such as jury decisions (Nemeth and Wachtler 1973), and group discussions of a variety of social issues such as air pollution (Mugny and Papastomou 1980), gay rights (Maass and Clark 1983), feminism (Paicheler 1976), and militarization (Mugny 1975). In examining minority influence in these diverse social topics, researchers have used subjects from different age groups such as teenagers (Mugny 1975) and adults (Moscovici et al. 1969).

2.2.1 *Minority Influence and Marketing*

Folkes and Kiesler (1991), in a review paper on social cognition research in consumer behaviour, briefly alluded to role that minority opinions may play in consumer group settings. However, even these authors did not elaborate on this subject at any length. They speculated, on the basis of Nemeth's work (Nemeth 1988), that the presence of minority opinions within groups may lead to more innovative decisions. To date in the marketing literature there has not been any empirical or theoretical examination of this issue or other issues surrounding the existence of minority opinions in group settings. Thus, the void in the marketing literature is obvious. There is indeed a need for more theory and empirical examination of the minority influence paradigm in a marketing context.

2.3 Perspectives on Majority-Minority Influence

In the social psychology literature, two major theoretical views exist as explanations

of the minority influence phenomenon. These two views are discussed briefly here.

2.3.1 *Theory of Conversion Behaviour*

Moscovici (1980) proposed the Theory of Conversion Behaviour (TCB) which argues that the underlying processes leading to conformity or minority influence are essentially different. Briefly, when an individual faces a strong majority that disagrees with him/her, a *comparison process* is triggered, where the individual is motivated to reduce the disagreement. Individuals operating under such a motive do not critically examine the validity of the position taken by the majority or challenge the majority. This interpretation is consistent with the findings of studies using the Asch (1951) paradigm (such as Bearden and Rose 1990; Venkatesan 1966), where the subjects often accept a blatantly incorrect position expressed by a strong majority. On the other hand, if a minority presents a "different" view in a group, one feels free to challenge this view without any fear of social exclusion or condemnation. Hence, messages presented by the minority lead to a *validation process*, where arguments and counter-arguments are raised. The comparison process is similar to the peripheral process and the validation process is similar to the central process in Petty and Cacioppo's (1986) Elaboration Likelihood Model (ELM). Just as in the case of the peripheral process, the comparison process also involves reduced attention to the message and increased attention to other cues such as the source. The validation process, on the other hand, parallels the central process because it involves critical processing of the message.

A more detailed comparison between the TCB and the ELM is presented in the next chapter.

Tests of Moscovici's theory have shown that those conforming to the majority often do so only in public and often go back to their own positions privately. On the other hand, those accepting a minority position seem to exhibit internal attitude change (see Maass and Clark 1984). Thus, majority influence is often limited to only a public compliance, whereas minority influence tends to be a private conversion.

According to Moscovici, it is the "behavioural style" of the minority, through the maintenance of a resolutely nonconformist position, that leads to a favourable impression about the minority. In addition to this characteristic of consistency, other attributes like competence, certainty, autonomy and conviction are also important in enhancing the minority's influence (Moscovici and Nemeth 1974).

Similar to the attributional analysis used by Rose et al. (1992) to explain a conformity effect, Moscovici and his colleagues too have used attribution theory to explain the minority influence effect (see Moscovici and Nemeth 1974). According to this explanation, when a minority consistently disagrees with the majority over time (behavioural style), such behaviour will produce a person-attribution (i.e., the cause of disagreement will be attributed some characteristic of the minority). When a minority within a group maintains its position with consistency, in the face of strong majority pressure, a negative or a positive person-attribution could be made. The minority may be seen as obdurate or uncooperative or not team-oriented, and if such an attribution is made then the minority is unlikely to be effective. On the other hand,

if the minority's consistent deviation from the majority opinion is attributed to characteristics such as courage, confidence or expertise in the opinion issue, then such a minority will be influential.

Nemeth, Swedlund and Kanki (1974) found that the perception of minority being consistent and possessing knowledge in the subject matter (a positive person-attribution) occurred not merely due to repeated disagreement of the minority with the majority, but because the minority articulated a well-defined position. Further, studies show that as the numerical strength the minority increases, the perception of the minority's competence became more favourable (Nemeth, Wachtler and Endicott 1977). When the minority consists of more than one individual it is difficult to make a negative person-attribution (such as the minority is crazy or dogmatic) and the minority's opinions are closely examined leading to greater minority influence (cf. Moscovici 1976).

Other researchers have raised objections to Moscovici's attributional account of behavioural consistency. Maass and Clark (1984) raise the question of why should minority's consistency lead to a positive attributions like certainty or confidence rather than negative attributions such as "craziness or dogmatism". Chaiken and Stangor (1987) raise more serious concerns regarding the attributional account by pointing out that the central task of the perceiver in Kelly's (1972) theory is *not* to infer the communicator's (i.e., minority's) dispositions (such as certain, confident), but to infer the causes for the communicator's message. This questions the validity of the attributional analysis. Chaiken and Stangor (1987) pointed out that in the attribution

and persuasion literature, inferences about the communicator's dispositions have been found to have, at best, an indirect relation to persuasion. The lack of process-oriented methodologies and the lack of attention to motivational variables in previous research limits further understanding of how exactly the consistency of the minority contributes to its increased persuasiveness (for a more complete discussion of this issue, see Chaiken and Stangor 1987).

Further challenge to the TCB comes from social impact theory (Latane 1981; Latane and Wolf 1981) as well as from the social influence model by Tanford and Penrod (1984). These researchers treat both minority and majority influence as part of the same process. The social impact theory, for instance, views the degree of social influence on individuals as a multiplicative function of the number of sources, their strength (e.g., expertise) and their immediacy (e.g., proximity). In other words, holding other factors constant, the difference in the minority versus majority influence is attributable to differences in their numerical strength alone. Latane and Wolf (1981) used their mathematical model (which assumes a negatively accelerating power function relating group size to observed influence) to reinterpret previously published studies in both conformity as well as minority influence and found that their model explained a substantial amount of variance in both cases.

Chaiken and Stangor (1987), in a review of the literature, conclude that there is a distinct possibility that more than one process may operate for both majority and minority influence conditions, depending on the individual's motives. If motives of individuals facing the majority versus the minority are similar (e.g., seeking correct

information), then Chaiken and Stangor (1987) think that a qualitative difference in the processes underlying majority-minority influence is meaningless. But such a difference may be operative when individuals facing the majority versus the minority have different motives (e.g., seeking social approval versus seeking a valid opinion). Empirical results are mixed at this point. Some researchers have found essentially no difference in the amount of cognitive processing undertaken in the majority and minority conditions, but have found qualitative differences in the nature of thoughts (e.g., Maass and Clark 1983; Trost, Maass and Kenrick 1992). On the other hand, as observed earlier, quantitative models of social influence (e.g., Latane 1981) seem to account for the observed influence in both conditions without resorting to a dual influence perspective, thus providing a more parsimonious approach (Latane and Wolf 1981).

2.3.2 *Model of Idiosyncrasy Credits*

The crux of Hollander's model (1958, 1964) is based on the assumption that a deviant individual, a minority within a group, can gain acceptance from other groups members only if this individual attained a sufficiently high status within the group. According to Hollander (1958, 1964), initially all members of a group conform to group norms. By exhibiting competence, an individual is able to build up "idiosyncrasy credits" or favourable impressions held by others in the group, and then such an individual will be permitted not to conform, to innovate and to even exert influence. Thus, according to Hollander's model, no ordinary member of a group can exert

influence as a minority within a group.

Hollander's work has shown that factors such as perceived competence of an individual as well as length of membership in a group contribute to the individual becoming more influential, if he/she chooses to deviate from the group norms (Hollander 1961). Further, Hollander held that early nonconformity, when the individual has not accumulated sufficient idiosyncrasy credits, will make that individual less influential as compared to when such deviance occurs when the individual has a favourable reputation in the group.

2.3.3 *Commonality Between the Two Perspectives*

Moscovici's model suggests that a minority's influence is enhanced by consistent and staunch opposition to the majority right from the outset, whereas Hollander's model argues that the minority will be effective only by conforming initially and showing competence in the subject matter, before deviating from the group norm. Thus, both models use *nonconformity* as a means of achieving influence is group contexts, however they differ in terms of when such conformity should occur in the group decision process (see Bray, Johnson and Chilstrom 1982).

The common theme between the two models is that the minority should be perceived in a positive light (positive person-attribution) in order for the minority to be successful. Thus, it seems the disagreement between the two models is not as significant as it might first appear.

2.4 Summary

The findings within psychology as well as the marketing literature have provided extensive support for the conformity effect under a variety of settings using varied sample of subjects, pointing to the robustness of the conformity effect. In the marketing literature, it is apparent that there has been no direct attempt to incorporate the role of minority opinion influence, although studies have examined and provided explanations for why individuals or an individual may deviate from group norms (e.g., Bearden et al. 1989; Rose et al. 1992). This does underscore the need for extending the conceptualization of social influence in consumer/marketing settings. While the process underlying the minority influence is still being debated (see subsection 2.3.1), as Hollander's theory suggests, knowledge about the minority's ability or competence could be important in determining its influence. As detailed in the next chapter, source credibility, an attributional variable, is explicitly incorporated in this research.

III. LITERATURE REVIEW AND HYPOTHESES

3.0 Overview

This chapter provides a discussion of the proposed model and the related theory. An attempt is made to integrate theory from psychology as well as marketing and a *simultaneous social influence model* that considers both the conformity as well as minority influence effects within a single framework is presented (see Figure 3). Similarity (based on social identity), issue-involvement and response-involvement are proposed as the critical variables determining the nature of the social influence. In addition, the role of other intervening variables in the social influence process is also identified. Based on this theory and related literature review a set of testable hypotheses is derived.

3.1 Multiple Sources Model

Previously, marketing scholars have paid little attention to how individuals integrate information from multiple sources. While there are exceptions to this statement (e.g., Moore and Reardon 1987), most studies in consumer research examine information processing or persuasion using a single source, such as an advertisement. In reality, it is not at all uncommon for consumers to be exposed to congruent or incongruent information from many different sources. For instance, a

consumer may hear the opinions of many sources on a product. Sometimes the multiple sources may present the same opinion leading to a unanimous view,

but often minority opinions exist, and may be even more commonplace than unanimity. Within consumer groups like families or other informal social groups, such divergent views can exist in group members' reactions to a movie, tastes in food or fashions, experiences with car dealers or mechanics etc. Thus, a consumer seeking the opinion of his/her reference group members is more often than not likely to find multiple opinions.

There has been some research on how individuals integrate information from multiple sources (e.g., Harkins and Petty 1987; Moore and Reardon 1987). These studies have usually manipulated the number of sources and argument quality (as in Moore and Reardon 1987) or have also varied the similarity of the multiple sources (as in Harkins and Petty 1987). In a marketing application, Moore and Reardon (1987) created a single source versus multiple source ad by presenting just one versus four satisfied customer/s in the ad for a consumer product.

In Harkins and Petty (1987) as well in the marketing study by Moore and Reardon (1987) found that multiple sources, as opposed to a single source, trigger greater cognitive processing and this in turn mediates persuasion. It seems that when consumers perceive the multiple sources as being independent and representing divergent perspectives, the motivation to think about the issue is enhanced. In the case of information from multiple sources, the perception that the opinions represent more than one person's knowledge may lead to a more diligent examination of such

information.

It is important to note that in these studies, the multiple sources represent the same side of the issue, for instance, in the Moore and Reardon study all four consumers extolled the virtues of the same product. This is akin to creating a majority influence situation or conformity pressure. The individual facing multiple sources gets different arguments from different sources, all in favour of or opposed to an issue.

The present research can be viewed as a study of multiple sources (see Figure 3). However, it differs from previous research in one important respect. In this research, while individuals receive information from multiple sources (i.e., different members of a group discussion), the opinions expressed by the sources are not unanimous and two different opinions are expressed each with a different degree of social support (i.e., a majority or a minority opinion).

In a consumer context, one does not merely acquire information from the social environment, but one may also try to evaluate the popularity (social support) of each alternative. A consumer may also encounter influence attempts by different sources whose positions constitute a majority or a minority. This research examines the processing of information in such a context. Thus, the previous work on multiple sources in extended by this research.

In this research, as outlined earlier, the objective is to examine the conditions under which minority and majority influences occur. A previously uncommitted individual is given two opinions on an issue, one representing the majority view and

the other a minority view. At this stage the variables that determine the nature and extent of social influence in such a multiple source context are examined.

3.2 Source-Recipient Similarity

The social comparison theory (Festinger 1954) states that individuals will prefer to compare with "similar" others when they wish to verify the validity of their opinions. In consumption decisions, which involve one's tastes or values, knowing the preferences of similar others is more relevant than knowing the preferences of dissimilar others (cf. Goethals and Darley 1977). Furthermore, similarity between the source of communication and the recipient of the message is known to increase the persuasiveness of the message (e.g., Berscheid 1966).

Evidence regarding the persuasive power of a similar source can be obtained from the diffusion of innovations literature as well. Studies in rural sociology (see Rogers 1983) lend credence to the notion that similarity or homophily between an innovator and a non-innovator leads to greater influence by the innovator. Homophily is the extent to which two individuals are similar in terms of age, sex, education, social status etc. (Rogers 1983). In a consumer behaviour study, Brown and Reingen (1987) operationalized homophily through occupation, age, sex and education. Research in the area of advertising has also incorporated source similarity, and the evidence generally supports the contention that a similar-source is more persuasive than a dissimilar-source (e.g., Feick and Higie 1992).

Research in the area of minority influence also indicates support for the greater persuasiveness of a similar, as opposed to dissimilar, source (e.g., Clark and Maass 1988a, 1988b; Martin 1988a). In these studies, frequently social categorization (Tajfel and Turner 1979) is used to create perceptions of similarity or dissimilarity by denoting the source as a either a member of an ingroup or an outgroup. Variables used to create perceptions of similarity or dissimilarity include gender (a.g., Martin 1988b; Perez and Mugny 1987), school affiliation (e.g., Clark and Maass 1988a; Martin 1988a), sexual-orientation (Clark and Maass 1988b) among others.[1]

Much of the research incorporating "similarity" in minority influence research is based on the Social Identification Theory. This theory offers further insight into why a similar source may be more persuasive.

3.2.1 *Social Identification and Social Categorization*

Tajfel and his colleagues (Tajfel, Flament, Billing and Bundy 1971; Tajfel and Turner 1979; Turner 1982) showed that even a "minimal group" situation, where subjects are categorized for *ad hoc* or administrative reasons, was sufficient to create ingroup favouritism and discrimination of outgroup subjects. This *mere categorization* effect led Tajfel and his colleagues to suggest that individuals over-evaluate the ingroup and under-evaluate the outgroup. Tajfel and Turner (1979) argued that individuals are motivated to enhance their self-esteem through the acquisition of a

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[1] In this research, the terms similarity and dissimilarity mean the same as the terms ingroup and outgroup respectively.

"positive social identity", where social identity is defined as an "individual's knowledge of his membership of certain social groups and the emotional and evaluative meaning resulting from their membership" (Tajfel 1972; see also Martin 1988a).

Individuals achieve a positive social identity by engaging in self-favouring social comparisons so that one's own group is perceived more favourably than the other group. Such self-favouring social comparison is often accomplished by attributing negative characteristics to the outgroup.

In a later work Tajfel (1982, Ch.16) commented that there is a distinction between a *social group* and a *social category*. An example of the latter would be "all people using Brand A toothpaste", and members of this category are highly unlikely to become a group. The social category in the above example would turn into a social group if it was known that Brand A contained a dangerous side-effect, which would bring all users of Brand A together in a common cause (cf. Rabbie and Horwitz 1988). The common fate will bind all users of Brand A together and they may now pursue common actions (e.g., a class-action suit), engage in direct or indirect conversations and may, thus, become interdependent. Rabbie and Horwitz (1988) have argued persuasively that such interdependence between individuals is necessary for a "social group" and it is such interdependence that causes ingroup favouritism and outgroup discrimination to occur.

Interpreting Tajfel's work, Mugny (1982) suggested that individuals attribute stereotypical characteristics to members of different social groups. If an individual is

influenced, then he/she will not only have adopted the position advocated by the source, but may also assume the stereotypical characteristics attributed to that source (which arises from that source's group membership). This will involve self-attribution of stereotypical characteristics associated with the influence source's social group.

It is apparent that there is a "psychological cost" involved in redefining one's social identity. The psychological cost may depend on: (i) strength of identification with one's own group, and (ii) desirability of characteristics of the influence source's group (which could be an ingroup or an outgroup). Thus, if an individual is influenced by an outgroup (which is usually attributed negative characteristics), then this would require the individual to make greater changes in social identity than when the individual is influenced by members of the ingroup (which is usually attributed positive characteristics).

Explicating further on the *social categorization* analysis of social influence, Turner (1987) provided insight into why individuals may be more susceptible to persuasive attempts from a similar, rather than a dissimilar, source. Individuals will generally expect "similar others" to exhibit similar behaviours when exposed to identical situations. Thus, it would make sense to anticipate agreement with "similar others" on most cases. On the other hand, one would not normally expect to agree with a member of an outgroup because of the *a priori* knowledge that such a person is dissimilar. According to Turner (1987), disagreement with dissimilar sources or outgroups can easily be discounted on the basis of the differences in the characteristics between the recipient and the source. However, disagreement with

a similar source is more difficult to reconcile. The uncertainty caused by such disagreement (with a similar source) is often reduced by changing one's attitude toward the disagreeing similar source.

3.2.2 *Evidence Regarding Social Categorization Effect*

Within the area of minority-majority influence research, the results of studies using social categories or groups are generally consistent. These studies usually compare an in/outgroup minority with an out/ingroup majority or compare an ingroup minority with an outgroup minority. The dependent measures include source credibility, source image, as well as direct and indirect effects on attitude.

Clark and Maass (1988b) manipulated the minority's status (either ingroup or outgroup) and kept the majority's status constant (ingroup). On the focal topic of "abortion", the minority seemed to be more persuasive than the majority, but only in private measures not in public measures. This result can be attributed to the higher "conformity pressure" felt when having to respond publicly.

Perez and Mugny (1987) found a more marked indirect persuasive effect when an ingroup minority was matched against an outgroup majority. However, an outgroup minority facing an outgroup majority exerted the greatest direct influence on attitude because in this situation the "psychological cost" of switching one's social identity is not an issue (as both sources belong to the outgroup and the individual may feel no direct involvement).

Finally, when an ingroup minority is compared against an outgroup minority, the

former seems to be more persuasive on public measures, while there was no difference on private measures (Martin 1988a). This is again consistent with the explanation that in the case of public measures one would not risk altering one's social identity by taking the siding with the outgroup.

In summary, the cost of redefining one's social identity (when one agrees with a dissimilar person) and the *a priori* knowledge that a similar source is likely to possess similar views (or values or tastes) may account for the greater persuasiveness of a similar source. In addition to these factors a similar source is also likely to be viewed as more credible. The issues relating to source credibility are considered next.

3.2.3 *Source Credibility and Source Similarity*

The social categorization framework discussed above would suggest that an outgroup or a dissimilar source is seen as possessing less desirable characteristics and an ingroup is seen as possessing more desirable characteristics (cf. Mugny 1982). This leads to the inference that a dissimilar source would be perceived as being less credible than a similar source.

Both Mugny's and Turner's perspectives lead to the conclusion that the ingroup, which is likely to be seen as more credible than the outgroup, will be more persuasive. The greater influence of a highly credible source is supported by previous research (e.g., Kelman and Hovland 1953). These studies examined the main effect of source credibility and the general consensus was that a highly credible source is more persuasive than a less credible source.

Other researchers who have investigated the interaction of source credibility with other variables have often come to different conclusion (e.g., Dholakia and Sternthal 1977; Sternthal, Dholakia and Leavitt 1978). Sternthal et al. (1978) have shown that a low credible source might be more persuasive than a high credible source when the message is pro-attitudinal, and not counter-attitudinal. A credible source is also known to suppress the possibility of counter-argumentation, and minimization of negative thoughts increases the persuasiveness of the highly credible source (Dholakia, Sternthal and Leavitt 1978).

Studies in majority-minority influence also take the position that less credible sources will have less persuasive influences. In these studies, the majority is often portrayed as the credible source and the minority as lacking in credibility (Moscovici 1980, p.214). Moscovici's Theory of Conversion Behaviour suggests that when facing a strong majority with an opposing viewpoint, the individual engages in a *social comparison process*, which calls for little information processing. On the other hand a minority's viewpoints will be criticized without fear, and in the process an examination of issues will take place, which is known as the *validation process* (Moscovici 1980). Thus, a minority source facilitates greater cognitive processing. Also, there is evidence that a minority may have a more indirect or latent influence than a majority (e.g., Perez and Mugny 1987; Moscovici and Lage 1976).

Taking the notion of source credibility effects further, Clark and Maass (1988b) have argued that if ingroup members are more credible than outgroup members, then a minority from an ingroup (similar source) should be more credible than a minority

from an outgroup (dissimilar source). Since the outgroup minority is less credible than the ingroup minority, Clark and Maass argue that the ingroup minority is likely to be more persuasive in direct or public measures (where psychological costs of agreeing with an outgroup minority may be a consideration). If ingroup minorities have more credibility than outgroup minorities, then the outgroup minority (the less credible of the two) is more likely to generate greater cognitive activity and may stand a better chance of being persuasive in indirect or private measures (where social identity is not threatened).

When both the majority and the minority came from the ingroup, the results regarding the difference in perceived source credibility is mixed. While some studies suggest a higher credibility for the majority, others suggest no difference in credibility between the two sources. However, a minority from an ingroup is not only seen as more credible than an outgroup minority, but is also more persuasive (Clark and Maass 1988a).

3.2.4 *Source Related Feelings and Persuasion*

In recent years there has been an accumulation of evidence pointing to source-likability as an important determinant of a source's persuasiveness (e.g., Hamilton, Hunter and Burgoon 1990; Roskos-Ewoldsen and Fazio 1992, Wood and Kallgren 1988). The likability of the source is a seen as a dimension that is distinct from source credibility or expertise (e.g., Wood and Kallgren 1988).

Source credibility is often seen as a function of a source's expertise and

trustworthiness (cf. Dholakia and Sternthal 1977). Evaluating a source's credibility is likely a cognitive or thought-oriented process. On the other hand, source likability is likely a result of an affective or feeling-oriented process. While the two may not be independent dimensions, they are distinct from each other.

In the context of minority influence research, source credibility or source image has been examined in previous research (e.g., Clark and Maass 1988b; Perez and Mugny 1987), but not source-related feelings. It follows from the social identity theory, which argues that stereotypically positive (negative) characteristics are associated with a similar (dissimilar) source, that a similar source will lead to more positive source related feelings than a dissimilar source. The research on persuasion would suggest that such feelings should have a direct or indirect effect on the persuasiveness of that source.

3.2.5 *Source-Similarity Hypotheses*

MAIN EFFECT OF SIMILARITY: A minority represents a deviant opinion or the opinion with less social support in the group. Accepting such an opinion has risks attached to it. However, the probability of a such an opinion being accepted should be enhanced when the minority is made up of ingroup and the majority is made up of outgroup members.

Hypothesis 1: The minority will be more influential when it is similar to the subject, than when it is dissimilar.

It should be noted that while this hypothesis is not stated in terms of a direct comparison between the majority and minority source, it is nevertheless implied. Since each subject is exposed to both the minority and the majority sources, and since both sources advocate contrary positions, greater influence of one source means reduced influence of the other. Thus the majority will be less (more) influential when the minority is similar (dissimilar).

SOURCE CREDIBILITY AND FEELINGS: First, the perceived credibility of the source is a function of the perceived similarity of the source. In other words, the more similar a source, the more likely it will be perceived as very credible. Second, the perceived credibility of the minority is likely to have a mediating effect on the influential power of the minority.

> **Hypothesis 2:** A similar minority will be perceived as being more credible than a dissimilar minority
>
> **Hypothesis 2a:** Higher (lower) perceived credibility of the minority will be associated with greater (lesser) minority influence.

A similar minority can be expected to generate more favourable feelings than a dissimilar minority based on the earlier discussion. Furthermore, the feelings towards a minority source is likely to have an effect on the extent of its influence.

> **Hypothesis 3:** A similar minority will be generate more positive source-related feelings than a dissimilar minority.
>
> **Hypothesis 3a:** Greater positive (negative) feelings towards the minority will be associated with greater (lesser) minority influence.

3.3 Issue-Involvement

Previous research in minority influence has generally used topics with little personal relevance to the participants of the study. The type of stimuli studied range from simple perceptual ones (e.g., colour slides, geometric figures) to at best moderately involving political/social topics (e.g., abortion, death penalty, gay rights). Personal involvement has been found to be a critical variable in the persuasion literature (e.g., Johnson and Eagly 1989; Petty and Cacioppo 1979, 1986; Petty, Cacioppo and Schumann 1983). Consumer researchers have also explored the role of involvement and have generally found that the involvement level in a product moderates the persuasiveness of the message such as advertising (e.g., Gardner, Mitchell and Russo 1985; Kardes 1988; Krugman 1965; Petty, Cacioppo and Schumann 1983).[2]

In studies of minority influence, which fall under the rubric of persuasion research, little attention has been paid to the role of personal relevance or involvement. It is worth noting that scholars reviewing the research in this area have called for a systematic incorporation of issue-involvement into minority influence

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[2] In this research a distinction is made between issue-involvement (Petty and Cacioppo 1979, 1986) and ego-involvement (Sherif and Hovland 1961). In the case of issue-involvement, the personal relevance is based on a close tie between the attitude issue (or object) and a self-defining reference group. In the present context, an individual with no prior attitude towards an issue is expected to process information relating to that issue if the issue under consideration has implications for the individual's future (see Leippe and Eskin 1987). According to the typology of personal involvement provided by Johnson and Eagly (1989), the involvement in this research context can be defined as outcome-relevant involvement. In this research, the terms issue-involvement, personal relevance and outcome-relevant involvement mean the same thing.

research (Chaiken and Stangor 1984). A very interesting question that has been unexplored is whether conformity (majority influence) or minority influence is some how dependent on an individual's level of involvement in the issue under consideration.

3.3.1 *Elaboration Likelihood Model and Minority Influence*

The basic tenet of Petty and Cacioppo's (1986) Elaboration Likelihood Model (ELM) is that the effectiveness of different methods of persuasion depend on "whether the elaboration likelihood of the communication issue (i.e., probability of message-relevant or issue-relevant thoughts occurring) is high or low" (Petty, Cacioppo and Schumman 1983). According to the ELM, when an product or an issue becomes personally relevant to an individual, it becomes more important to form a reasoned opinion. When there is little personal relevance, individuals are less concerned about the accuracy of their attitudes.

Under increased involvement the central route to persuasion is more likely to be activated, and a more careful consideration of the true merits of the product or the issue takes place. Attitude formation under high involvement is a function of such information processing activity. Under low involvement, however, individuals simply look for simple acceptance or rejection cues in the message context and quality of the arguments are not carefully considered. The reduced personal relevance of the product or the issue is the cause of reduced attention to the message quality and attitude formation under low involvement more likely takes the peripheral route.

In a group context a simple peripheral cue may be the degree of support available for a certain position. In other words, if a person under low involvement observes many people supporting a certain position, this may provide the justification for accepting that position without any further questions. Since a low involvement person has very little personal stake in the situation, agreeing with the majority is a quick way of reaching a solution with minimal effort. Thus, under low involvement one is more likely to observe conformity to the group norm (majority influence).

On the other hand, under high involvement one would more critically examine the message from the two sources, and the source itself is less important. A highly involved consumer is more likely to give consideration to both the minority and the majority messages. Hence, the fact that one opinion is supported by more people may not be a strong influence on the high involvement subjects. This line of reasoning suggests that there is a greater likelihood of minority influence under high involvement.

Contrary to this explanation, it is also conceivable that under high involvement individuals may turn to the majority, rather than the minority. Under situations involving very high personal/social risks or great uncertainty, taking the side of a majority may facilitate a diffusion of the risk. In such a case, adopting a minority position is less likely to resolve the uncertainty or perception of risk. While, this line of reasoning provides a rival hypothesis to the ELM predictions, it is likely to be dependent on two things: (i) very high uncertainty or perceived risk, and (ii) individual differences in willingness to assume risk.

A recent study by Trost, Maass and Kenrick (1992) found support for their prediction that a majority opinion is more influential under conditions of high personal relevance of an issue, while a minority is persuasive only under low involvement. Under high involvement, they found that the minority source was derogated and was not influential.

It seems the predictions based on the elaboration likelihood model (ELM) and the Trost et al. (1992) results are in opposite directions. ELM suggests a focus on the quality of arguments under high involvement and reduced attention paid to the minority's or majority's status should make the minority more persuasive. On the other hand, Trost et al.'s (1992) result provides a rival hypothesis that higher involvement may diminish minority influence. It is important to note that while Trost et al. (1992) have examined the role of involvement, their predictions were not drawn from the ELM, but from Moscovici's Theory of Conversion Behaviour (TCB). To further understand why ELM and TCB lead to different predictions, let us consider the similarities and differences between these two theories.

3.3.2 *Parallels Between ELM and TCB*

Both ELM and TCB are dual process models. ELM suggests that a central or peripheral route to attitude formation is activated depending on whether the level of involvement in that attitude issue/object is high or low (Petty and Cacioppo 1986). TCB is also a dual process framework. TCB suggests that exposure to majority opinion leads to shallow processing or a *comparison process* and exposure to a

minority opinion leads to a careful examination of the arguments or a *validation process*.

Both the TCB and the ELM frameworks suggest dual processing routes. In the TCB, exposure to majority triggers a process that is akin to the peripheral process and exposure to a minority triggers a process similar to the central process in the ELM Nemeth's work sheds further light on the dual persuasion routes. According to Nemeth (Nemeth 1985; Nemeth and Kwan 1985), majorities foster convergent thinking (through conformity pressure), while minorities facilitate divergent thinking (often by pointing out that the majority's solutions are not the only solutions). Thus, individuals exposed to minorities engage in greater cognitive elaboration.

Moscovici's (1980) theory indicates that a majority opinion should trigger minimal cognitive elaboration and activate the comparison process, irrespective of the level of involvement in the issue. This led Trost et al. (1992) to hypothesize that the degree ob personal relevance in an issue would play a role only when the persuasive message comes from the minority, but not the majority. Predictions based on ELM would, on the other hand, suggest that under high level of involvement the source characteristics (e.g., minority/majority or source-similarity) become less important and message content becomes the central focus.

It is conceivable that when facing a strong majority an individual, due to conformity pressure, may decide to accept the majority's position without critical examination, thereby essentially functioning in a low involvement mode. On the other hand, when facing a minority, the pressure to conform is reduced and also now the

individual has two different viewpoints to consider (the majority and the minority views), this could lead to the individual being in a "decision making mode" as well as experiencing greater involvement when facing a minority opinion. Thus, it seems, in the TCB an individual's issue-involvement becomes secondary to the group pressure experienced while facing a majority. On the other hand, the ELM would hold that the process (or depth of processing) is likely to be determined by the extent of individual involvement in the issue rather than by the characteristics of the source (i.e., majority or minority).

There are also other key differences between the TCB and the ELM that warrant examination. First, the ELM specifically considers the "personal relevance" of the issue to the individual, which TCB does not. Second, while both the TCB and the ELM consider an individual's motivation, they deal with different underlying motivations. In the ELM it is the presence or absence of personal relevance (where the outcome of a certain course of action does or does not have personal implications) and in the TCB it is merely the presence or absence of the need to conform. Thus the underlying cognitive processes in the central/peripheral routes are not the same as those in the comparison/validation conditions.

Given the controversy surrounding the nature of the process underlying majority and minority influence (see earlier discussion on dual and single process in Chapter 2), as stated earlier, this research has adopted the ELM perspective. It should also be noted that part of the conflict between the ELM and TCB predictions may have to be empirically resolved. Depending on which motive (i.e., concern for personal

consequences versus need for social approval) dominates, the nature of social influence may differ.

3.3.3 *Issue-Involvement and Source-Similarity*

In this research, in addition to considering the impact of involvement on the degree of conformity or minority influence, we also have to consider the other source characteristic, i.e., source-similarity. If the ELM framework is applied, both source-similarity and minority/majority support will be treated as peripheral cues under high involvement. Thus, similarity of source should have little effect in the high involvement condition, whereas for the low involvement individuals source-similarity may be another peripheral cue for forming an attitudinal position without a great deal of cognitive elaboration.

Research in the area of social comparisons, however, provides a possible rival hypothesis here. When consumers make choices very often information from similar others may be more relevant information than information from dissimilar others (cf. Goethals and Darley 1977). For instance, knowing the preferences and attitudes of similar others may provide a better guide to how one should behave in an unfamiliar situation. A marketing study by Moschis (1976) did lend credence to this viewpoint. Information from a similar source could have greater utility to highly involved individuals. This line of reasoning would suggest that highly involved individuals are more likely to lean towards a similar-source (or a similar minority) than uninvolved individuals.

At this juncture, we again have two conflicting predictions. A ELM based prediction would be that source-similarity would operate as a peripheral cue and would thus be a significant factor only in low involvement conditions. But social comparison literature, which suggests that information from similar others is more useful than information from dissimilar others, would suggest the contrary. That is, source-similarity would be more important under high involvement.

3.3.4 *Issue-Involvement Hypotheses*

MAIN EFFECT OF INVOLVEMENT: The Elaboration Likelihood Model would lead to the prediction that involved individuals would engage in more diligent consideration of information and would form their attitudes based on the respective quality of the minority and majority arguments. On the other hand, uninvolved individuals, not being motivated to process information, may look at the degree of "support" for each position within the group as a cue to decide their own attitudes, thus making a majority influence more likely.

> **Hypothesis 4:** Greater minority influence will be observed under high, rather than low issue-involvement.

INTERACTION BETWEEN INVOLVEMENT AND SIMILARITY: Similarity between the source and the recipient of the message is another peripheral cue. Hence, under low involvement a similar minority can be more influential than a dissimilar one. However, when the involvement is high, source characteristics should not matter. In other words, the similarity main effect hypothesis presented earlier is further qualified

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by taking into account the level of issue-involvement. We can hypothesize that:

Hypothesis 5: Similar and dissimilar minorities will vary in their level of influence in the low issue-involvement condition, but not in the high issue-involvement condition.

Hypothesis 5a: Under low involvement, a similar minority will be more influential than a dissimilar minority.

Hypothesis 5b: Under high involvement, similar and dissimilar minorities will not differ in their influence.

These hypotheses actually constitute a test of the Elaboration Likelihood Model in a group influence setting. If the hypotheses are tenable, then this research would have extended the ELM to group influence contexts.

3.4 Response-Involvement

In studies of consumer attitudes and preferences, there is very little appreciation of the fact that attitudes or preferences stated in public may not tally with ones privately held position. For instance a consumer who attends a party may say that he/she likes the food served in order not to offend the host. At other times one may simply say positive things due to self-presentational motives. In these cases, the individual may hold very different private views. Thus, it is very likely that the type of social influence - majority versus minority influence - will depend on whether or not one's opinions are expressed in private or in public.

Leippe and Elkin (1987) have examined the difference between private and

public responses. They use the term response-involvement because the relevance of the message can increase or decrease depending on whether or not the recipient's attitudinal response will be presented for some sort of public scrutiny. Under high response-involvement (public response) individuals are less interested in resolving the issue, but rather the concern is with presenting a moderate or publicly acceptable position. However, under low response-involvement (private response) one may be more willing to reveal one's true attitude.

Moscovici's (1980) Theory of Conversion Behaviour is consistent with the above and states that majority influence leads to merely superficial compliance, whereas acceptance of minority position often leads to deeper internal change. Among others, Maass and Clark (1983) provided support to this theory when they found that greater minority influence occurred under private response, where confidentiality was assured, rather than under public response. Apparently, the lack of conformity pressure in the former case and the presence of such a pressure in the latter case causes this difference in responses.

3.4.1 *Issue versus Response-Involvement*

Previously, the interaction between issue-involvement and response-involvement has not been tested in a consumer context. When motives clash what will be the outcome? Issue-involvement encourages systematic processing that is sensitive to how well the message concurs with ones personal standards, whereas response-involvement encourages self-presentational needs (Leippe and Elkin 1987).

In a consumer setting one can visualize situations where one may be both issue and response involved. For instance, a consumer who is about to make a decision on a car purchase is likely to be issue-involved and if the consumer has to discuss his/her opinion with some friends (reference others) whose views are unknown then response-involvement is also likely to be high. Work by Cialdini et al. (1976) suggests that when the two motives interact issue-involvement will dominate. Cialdini et al. (1976) note that "a person's concern for appearances should be dwarfed by outcomes connected with the topic itself" (p.664).

In other words, individuals who are issue-involved should carefully consider the minority and majority messages without paying much attention to the numerical size of the sources. Since these subjects are likely to reach a decision based on the message, not the source strength, they are more likely to have the same position in private as well as public response conditions. On the other hand, when issue-involvement is low one may use the majority size as a cue in the public response condition, leading to conformity. But in private, when such conformity pressure is absent they may deviate from the majority position.

3.4.2 *Response Involvement and Source-Similarity*

Social comparison theory (Festinger 1954; Goethals and Darley 1977) suggests that on matters involving personal values and tastes, one prefers to compare with a similar other when other objective comparison standards are not available. Hence, similarity information is likely to be very salient and hence in both public as well as

private response conditions a person should prefer a similar and not a dissimilar other. In other words, irrespective of the mode of response a similar minority will be more influential than a dissimilar minority. Thus, it seems any significant interaction effect between similarity and response-type is unlikely.

Research in minority influence suggests that interaction between response-type and source-similarity might be more complex. The outgroup (or dissimilar) minority is often perceived as being less credible than the ingroup (similar) minority. Clark and Maass (1988b) have argued that the ingroup minority is likely to be more persuasive in direct or public measures (where psychological costs of agreeing with an outgroup minority may be a consideration). If ingroup minorities have more credibility than outgroup minorities, then consistent with the source credibility literature, the outgroup minority (the less credible of the two) is more likely to generate greater cognitive activity and may stand a better chance of being persuasive in indirect or private measures (where social identity is not threatened).

Kruglanski and Mayseless (1987) have also suggested that whether one seeks social comparison information from a similar or a dissimilar person may depend on the motivations of the individual at that point. This is consistent with Clark and Maass's arguments. In a public response condition, individuals may operate under a motive to protect their social identity. In a private response condition, however, with no threat to social identity individuals may be more likely to "seek the truth", thus paying more attention to the views of dissimilar sources as well. The early literature on social comparison does suggest that dissimilar sources do not provide good basis for

evaluation of opinions (or sources of information). Thus, a test of two competing

hypotheses is possible here.

3.4.3 *Response-Involvement Hypotheses*

MAIN EFFECT OF RESPONSE-INVOLVEMENT:

Hypothesis 6: Greater minority influence will occur under private,
rather than public response condition.

INTERACTION EFFECTS:

Hypothesis 7: Extent of minority influence will differ due to
response-involvement only in the low issue-involvement condition,
but not in the high issue-involvement condition.

Hypothesis 7a: Under low issue-involvement there will be a greater
minority influence in the low response-involvement condition
(private response) as compared to the high response-involvement
condition (public response).

Hypothesis 7b: Under high issue-involvement, the degree of minority
influence will not differ due to response-involvement.

Hypothesis 8: In both the high and low response-involvement conditions,
a similar minority will be more influential than a dissimilar minority.

These hypotheses specify the conditions for minority and majority influence.

An experiment was designed to test these hypotheses. In this empirical test an

individual faced a majority and a minority taking two opposing positions on an issue.

Conditions facilitating conformity versus minority influence were varied. The pretests

conducted to refine the methodology are presented in the next chapter.

IV. PRETESTS

4.0 Overview

In addition to the initial investigations conducted to identify the focal topic and determine the format of the stimulus material, several pretests were conducted to obtain further insight. This chapter discusses three specific preliminary studies. First, a pretest conducted using the "cafeteria decision problem" is discussed. Second, a pilot study, which used a larger sample size, but the same decision problem is presented. Third, since the results of the pilot study suggested substantial modifications to the design and measures, another pretest was conducted. This pretest used the "joint venture decision problem" as the setting for persuasion.

4.1 Selection of Group Discussion Topic

Initially, several potential topics were tested to identify a topic that would be involving to the student participants and at the same time will have a minimal chance of the subjects having strong or extreme prior attitudes. The reason for choosing a topic with moderate or non-existent attitudes is elaborated in the next chapter. Several issues relevant to marketing were examined. These included: (i) environmental safety of products and who (consumer or marketer) should take the lead; (ii) whether or not abortion pills should be made available, (iii) whether or not

Sunday shopping should be restricted through legislation; (iv) whether a new cafeteria to be started on campus should be run by the University or by a private franchise, and (v) whether the university should capitalize on an "invention" by its faculty and enter into a joint venture to manufacture and market a product. In each of these issues, the pretest subjects were presented with two options and were asked to state their preference on a seven-point scale (strongly agree - strongly disagree).

At this stage, the objective was to find out the extent to which the two sides of each issue were preferred by subjects. The means for the two opposing sides of the cafeteria problem were not significantly different (support for university $= 4.0$; support for private franchise $= 3.7$; n $= 25$).

The Sunday shopping problem was pretested using a single scale (strongly agree - strongly disagree), where the item read, "I think it is a good idea to restrict Sunday shopping hours through legislation." The mean score obtained was 4.3 on a seven-point scale, however only 11 subjects were on the agree side of the scale compared 17 who were on the disagree side, while 8 were in a neutral position. Thus, there seemed to be a bias towards one side of the issue (i.e., against Sunday shopping). A review of studies on the peoples attitudes towards Sunday shopping legislation indicated that there was strong support for Sunday shopping in British Columbia (71% support versus only 18% opposition) and any restrictive legislation would meet with stiff resistance, especially from younger members of the society (Halifax Chronicle-Herald 1990, p.A5). As the minority influence literature indicates that a strong zeitgeist limits the minority's influence when it is seen as anti-zeitgeist

(in this case, in favour of law restricting Sunday shopping), this topic would have possibly limited the direction of minority influence to one direction (i.e., when it was advocating a pro Sunday shopping position). Hence this topic was not considered further.[1]

For the joint venture topic, the mean preference of 15 randomly selected subjects was 3.7 on a seven-point scale (where 1 indicated high preference for the joint venture and 7 indicated low preference for the joint venture). The mean of 3.7 was not significantly different from 4.0, which indicated a neutral position on the scale. Since the subjects in the pool seemed to have moderate attitudes towards the joint venture and the cafeteria topics, these two topics were used in further research. Also, the joint venture and cafeteria topics were fictitious, hence minimizing any chance of subjects having prior attitudes.

4.2 Pretest: Cafeteria Topic

The preliminary tests, described above, facilitated the selection of an appropriate group discussion topic. Next, a pretest with all three independent variables (issue involvement, response involvement and source similarity) was conducted using a small sample. The main purpose of this pretest was to identify

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[1] The zeitgeist was of particular importance because this research was intended to be conducted using young adults in British Columbia (university students mostly below 23 years of age), where according to a national survey Sunday shopping was very popular (Halifax Chronicle Herald, August 9, 1990, p.A5).

potential weakness in the manipulations and also get feedback on the clarity of instructions provided to subjects.

4.2.1 *Design and Subjects*

The subjects for this pretest came from two third year marketing classes. A total of 42 subjects were used in this pretest. Subjects were randomly assigned to one of the eight cells in the design [Involvement (2) X Similarity (2) X Response Type (2)]. The subjects participated as part of a course requirement.

4.2.2 *Experimental Procedure*

The study involved the following steps. This pretest was conducted in class with the data collection for all cells of the design completed simultaneously. First, subjects were informed that they were participating in a Faculty Research Project. Then the subjects were told that they would be presented with a decision problem and will be provided some information relating to the problem, following which they will have to express their opinion or preferred solution. Following this general instruction, the subjects were individually given a brief scenario (which contained a description of a decision problem as well as both issue and response involvement manipulations). Then they were told that a group of students as well as non-students on campus had, at the request of the researchers, previously engaged in a group discussion on the same topic and that a summary of that group discussion will be made available to the subjects now. At this point the subjects were given a one page summary of this

ostensible group discussion. After reading the text the subjects responded to dependent measures, followed by demand assessment and then a complete debriefing.

4.2.3 *Stimulus Material*

The cafeteria problem was chosen as the focal topic for this pretest. The stimulus material involved the subjects reading the text of a group discussion. In the group discussion text, the arguments were presented in two columns - one column consisting of support arguments for the university running the cafeteria and the other column consisting of a arguments supportive of a private franchise running the operation. Six arguments were presented on each side. (see Appendix 1 contains the stimulus material used in the Pilot Study described in section 4.4, which is identical to the one used in this pretest).[1]

Earlier, a sample of 20 subjects from the same subject pool was drawn to generate arguments in favour of both the "university operating the cafeteria" and the "private franchise operating the cafeteria." The arguments generated were then shown to a group of 16 subjects who were asked to evaluate the strength of each argument (after reading each argument they responded on a 7-point scale anchored very strong argument - very weak argument). The data from this exercise were

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[1] In this pretest, the arguments in favour of the university running the cafeteria always appeared in the left column and the argument favouring the private franchise were always on the right column. However, in the pilot study reported in section 5.2, however, the larger sample allowed for randomizing the order of presentation as well.

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submitted to a t-test and there was no significant difference in the mean *argument strength* for the pro-university and pro-franchise arguments [t (df = 15) = 1.01, p > 0.10].

4.2.4 *Manipulations*

ISSUE-INVOLVEMENT was manipulated in the initial stage where subjects were presented with a decision scenario. One half of the subjects were informed that their university is about to make a decision regarding the operation of a new cafeteria, which could have a bearing on the students' lives (high involvement), and the others were informed that they were participating a study on decision making styles, and that they would first be given a practice task to become acquainted with the exercise (low involvement). However, both groups received the same stimulus material and dependent measures.

SIMILARITY was manipulated by varying the social group to which the source belonged. A similar source consisted of "business students" and a dissimilar source consisted of "non-students" (such as a janitor or a research associate working on campus). When the arguments supporting the university came from a similar source, the arguments supporting the private company came from a dissimilar source, and vice-versa. Each side of the argument was supported by either a minority of people or a majority of people. The positions advocated by the minority-majority were counterbalanced within each cell.

RESPONSE-INVOLVEMENT was manipulated by instructing half the subjects

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that their responses to this survey would be strictly confidential and that their names or identities are not required. The other half of the subjects were told that they would have to publicly state their opinions in front of their classmates.

4.2.5 *Measures*

The main dependent variable consisted of a two-item measure of the subjects' preference for the two options available. The statements "I think the University (Private Company) should run the cafeteria" were followed by seven-point scales anchored strongly agree - strongly disagree).

4.2.6 *Demand Assessment and Debriefing*

After the measures were taken, in order to assess any demand effects the subjects were asked to write down in the back of the questionnaire their thoughts about the intentions of the study. After completion of this task, all subjects were fully debriefed. Since the entire data for all cells of the design were collected simultaneously, a common debriefing was possible.

4.2.7 *Results*

The subjects were unable to correctly identify or guess the purpose of the study or any of the major hypotheses. This indicated that the cover story as well as the treatments were well disguised. During the debriefing subjects generally expressed surprise over the intended purpose of the study.

Since the sample sizes were small (4 to 6 subjects per cell), at this stage the primary concern was not the statistical significance of the results, but the general direction of the means. Since this was an exploratory study, the analysis was limited to mean comparison through t-tests. For Involvement the prediction was that greater minority influence would occur under high involvement. The means under high and low involvement respectively were 1.30 and 0.32 (where higher number indicates greater minority influence). The predicted effect for Similarity was that greater minority influence would occur when the source was similar. The means for similar and dissimilar sources respectively were 1.50 and 0.00 (where higher number indicates greater minority influence). The third treatment variable, response-involvement, had a relatively weaker effect, with greater minority influence occurring under public response rather than private response as anticipated (1.1 versus 0.40), but this effect was very weak. None of the effects was significant. None of the mean differences reported here was significant. Since each of the t-tests for main effects had two groups with at least 20 subjects, these results indicated a need for strengthening the treatments.

4.3   Revision of Manipulations and Stimulus

Based on these pretest result a careful scrutiny of the manipulations was undertaken. The involvement manipulation was to be strengthened in two ways. (i) Offer of a financial incentive in the high involvement condition. Subjects in the high

involvement condition were to be informed at the outset that their names would be entered in a lottery with three cash prices: $100, $75 and $50. This was expected to motivate them to pay greater attention to the issues and interest in the task, as compared to the low involvement subjects.[2] (ii) The high involvement subjects were also to be informed that a decision regarding the cafeteria in _their_ university was imminent (to occur within 6 months) and the low involvement subjects were informed that the decision would be implemented after four years.

The similarity manipulation showed the strongest effect of the three manipulations, even though the main effect was not significant. Given the general directional support, it was anticipated that with a larger sample size this effect would become significant. Response-involvement was the weakest manipulation. In the pretest subjects read the group discussion text in which some of the discussion group participants were business students (same faculty as the subjects) and others were non-business students or non-students. The Response-type manipulation involved the subjects either having to state their position publicly or not. It was felt that the strength of this manipulation could be increased by informing subjects that some of the group discussion participants were actually their classmates. This might cause them to closely examine the position of similar others (classmates/business students) in the public-response condition. These changes came out of feedback from the

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[2] At the end of the data collection, however, both the high and the low involvement subjects were to be offered the chance to enter their names in a lottery. However, only the high involvement subjects were to be made aware of this beforehand.

participants in the pretest as well as with other experts in the field who had considerable experience in involvement manipulations. A pilot study, incorporating these changes was carried out. The details of this study are presented next.

4.4 Pilot Study

The pilot study involved the same focal topic - should a new campus cafeteria be run by the university or a private franchise - and involved the same design as in the pretest described above. This study adopted the same experimental design and procedure described in section 4.2 of this chapter, except for the revised treatments discussed in section 4.3. The sample of 120 subjects used in this study was drawn from the same subject pool as in the pretest. It was hoped that the larger sample size and the modifications made to the treatments would produce stronger results or at least shed more light on the underlying processes. The following sections discuss the results and the implications of the results.

4.4.1 *Measures and their Reliability*

As prescribed in the marketing literature, multiple items were used to tap each construct (Churchill 1979). As per the standard practice, Cronbach's Alpha was computed for each set of measures (see summary in Table 2). The two scales measuring attitude towards the two viewpoints (university vs. private-franchise) had an alpha of 0.92, thus indicating good internal consistency. The manipulation check

measures for involvement (concentration while reading, whether all alternatives were considered and how much attention they paid to arguments on both sides) had an alpha of 0.77, which is considered to be adequate (Nunnally 1978). The similarity manipulation check measures (whether similar others provide a more useful basis of comparison, whether they perceive similar others to hold similar views) had an $r^2 = 0.50$, but an alpha of only 0.67, which is somewhat low (the problem with the measures is discussed later in this chapter). The six belief measures (which required subjects to agree or disagree with the statements made by the group discussion members) also fared reasonably well with an alpha of 0.77. Finally, the measures used as indicators of source credibility fared poorly with an alpha of 0.52. At this stage it was conclusive that the scales had to be reworded and redesigned.

The data were then submitted to a factor analysis with varimax rotation to get further insight into how "clean" the measures were. The 17 items used in the factor analysis were as follows: two measures of overall attitude, one measure of confidence, six belief items, three measures of involvement manipulation check, two measures of similarity manipulation check, and three items relating to source credibility and quality of arguments. The analysis yielded a total of four factors that accounted for only 57% of the variance. A scrutiny of the rotated factor matrix revealed that a simple factor structure was not obtained (see factor analysis summary in Table 3). There were instances of the same items having fairly high loadings (greater than 0.4) on more than one factor. This result indicated the need for further revision of the measures.

4.4.2 *Manipulation Check*

ISSUE-INVOLVEMENT: A t-test was conducted by the variable obtained by summing two manipulation check measures (amount of attention paid and how much they concentrated on the message when they were reading the message).[3] The expectation was that the high involvement group would have a significantly lower score, indicating a higher issue-involvement (the low and high ends of the composite scale was 2 and 14 with a mid-point of 8, and the data were coded in such a fashion that a lower score on the scale meant a higher involvement). The t-test produced nonsignificant results $[t(117) = 0.10, p > 0.90]$, with both groups having identical means [High = 5.1, Low = 5.2]. These mean involvement scores indicate a high to moderate level of issue involvement in the two groups. Another indicator of involvement - degree of confidence in one's opinion - also failed to reveal any differences between the groups $[t(117) = 1.12, p > .10]$. The possible reasons for the failure of the manipulation and the implications are discussed in subsection 5.3.4.

SIMILARITY: The items used to infer similarity did not directly refer to either of the sources in the group discussion text (commerce students and non-students) and ask the subjects which of the two sources they thought were similar to them (it was felt that such a direct question may make transparent the objectives of the study). The items instead were designed to get a general feeling for whether the subjects preferred to seek information from similar others or dissimilar others. Hence a clean

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[3] These measures were used because both degree of attention and concentration of attention to message cues are considered to be important indicators of involvement.

manipulation check was not possible. However, a t-test conducted using the similarity/dissimilarity of the minority as the two groups revealed that when the minority consists of a similar source, subjects were more likely to consider a similar source as a useful source of information than when the minority consists of a dissimilar source [t(117) = 4.76, p < 0.001]. While this can be taken as an indication of support for the similarity manipulation, the need to design more precise manipulation check measures is discussed in a later section.

RESPONSE-INVOLVEMENT: To verify the effectiveness of this manipulation, subjects were merely asked to recall whether or not they were previously instructed to state their opinions publicly. In the private response condition 93% of the subjects said NO and in the public response condition 89% of the subjects said YES, which suggests that this manipulation had registered in most people's minds.

MINORITY-MAJORITY: Finally, subjects were required to state how many people supported the university running the cafeteria and how many people supported the private franchise. Accurate recall of this would indicate that subjects did pay attention to the majority-minority configuration of the group discussion team. The results indicated that in both conditions - when the minority was supporting the university and when the minority was supporting the private franchise - subjects had difficulty recalling accurately the number of people in the majority condition. When the minority of two supported the university: 96% recalled that two people supported the university, while the response for the majority ranged from 4-6 with only 30% accurately recalling that six people supported the private franchise. In the other

condition, (minority supporting private franchise), accuracy of minority number recall was 93%, while accuracy of majority number recall was only 35% (the responses ranged from 4 persons to 8 persons). The data were split by involvement (high and low issue-involvement) to see if those in the high involvement condition paid less attention to the number of people in each group as compared to those in the low involvement condition. The results indicated that subjects in both involvement levels had difficulty recalling the exact number of individual in the majority condition. These results call into question the effectiveness of the minority-majority manipulation. Overall, it seems the manipulations were not very effective. At this point, the discussion of hypotheses tests is presented.

4.4.3 *Hypotheses Tests*

First a 2x2x2 ANCOVA with Similarity, Issue-Involvement and Response-Involvement as the three factors was conducted, using political-orientation as the covariate. The dependent measure was the attitude towards the two positions. The first scale measured attitude towards support for university and the second one measured attitude towards the private enterprise. An agreement on the first scale would mean less preference for private enterprise, and vice-versa. The scales were appropriately recoded and summed to produce a composite score. The ANCOVA was conducted to pest the three main effects as well as all the interaction effects hypotheses (see detailed results in Table 4).

MAIN EFFECTS: None of the three predicted main effects was significant. It

was anticipated that the a similar minority would be more influential than a dissimilar minority, whereas the test showed an insignificant difference between the groups [$F_{(1,118)} = 0.023$, $p > 0.80$]. For Issue-involvement, the prediction of greater minority influence under high involvement was not confirmed [$F_{(1,118)} = 0.022$, $p > 0.80$]. For Response-Involvement, greater minority influence was expected in the private (confidential) response condition, which was not supported [$F_{(1,118)} = .069$, $p > .70$].

INTERACTION EFFECTS: None of the interaction effects was significant, however, these effects seemed stronger than the main effects and did reveal some interesting patterns. The Similarity X Issue-involvement interaction, while not statistically significant indicated an interesting pattern [$F_{(1,118)} = 2.56$, $p > 0.10$]. While low involvement subjects did respond better to a similar minority (Mean = 0.14), rather than a dissimilar minority (Mean = -0.06), unexpectedly the high involvement subjects responded more favourably to the dissimilar minority (Mean = 0.19), than the similar minority (Mean = -0.07).

The Similarity X Response interaction was also not significant [$F_{(1,118)} = 2.24$, $p > 0.10$]. An examination of the means revealed that in the public response condition a similar minority (Mean = 0.21) was more influential than a dissimilar minority (Mean = 0.00) as expected. However, in the private response condition, it seems, the subjects felt less social pressure to take the side of a similar source and the direction of means were reversed (Similar minority = -0.15; Dissimilar Minority = 0.13). Finally, The Issue-involvement X Response-involvement interaction was insignificant with no discernable pattern in means [$F_{(1,118)} = 1.6$, $p > 0.20$]

COVARIATES: The covariates used in the study explained more variance than did any of the main or interaction effects. Position (advocated by the minority) was highly significant [$F(1,118) = 8.69$, $p < 0.005$] and Political-orientation of the individuals also had some effect, albeit not significant at the 0.05 level [$F(1,118) = 2.65$, $p = 0.10$]. An examination of the means for the Position covariate indicated that the minority was significantly more influential [$t(118) = 3.10$, $p < 0.005$] when it advocated a pro-franchise position (Mean = 0.38) than when it supported the university (Mean = -0.18).

4.4.4 *Discussion*

Three major concerns arose from the results of the pilot study. First, the reliability and validity of the measures were challenged by the reliability and factor analysis results, indicating that the measures might have to be reconceptualized and/or reworded. Second, the treatments were apparently not at all effective, indicating serious problems with the experiment and the design. Third, more importantly, was the conceptualization of the theory and hypotheses itself flawed. Let us consider the three issues in the reverse order, with the last issue addressed first.

First, the validity of the basic experimental paradigm as well as foundational theory of this research has been previously established (e.g., Clark and Maass 1988a; Maass and Clark 1983; Martin 1988a; Perez and Mugny 1987). A key difference between this and past studies (e.g., Clark and Maass 1988a; Martin 1988a) was the

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incorporation of issue-involvement into minority-majority influence process. It seemed that the examination of two competing motives - a motive for protecting one's personal consequences (issue-involvement) and a motive for social acceptance or belonging to a group (caused by the group setting) - would be the next logical step in furthering our knowledge on conformity versus minority influence effects. The importance of this line of enquiry has been previously acknowledged (e.g., Chaiken and Stangor; Maass and Clark 1984). Thus, it seemed that the model of social influence suggested here did have solid theoretical grounding.

Second, problems with the manipulations and the design, merits serious attention. Two specific manipulations need closer scrutiny at this point.

(i) Minority-majority manipulation: Subjects' inability to recall accurately the number of people in the majority and minority group indicated that they were either not paying attention to the numbers or were too highly involved in the issue, which might explain lack of attention to this peripheral cue. The self-reported issue-involvement score in the two issue-involvement conditions revealed that in both the low involvement (Mean = 5.2) and the high involvement (Mean = 5.1) conditions and the amount of attention paid to the message was quite high, indicating high involvement with the attitudinal issue (probable causes for this observed effect are explored in the following paragraphs). The other possibility was that the numerical gap between the majority and the minority was not sufficiently vivid. Yet another possibility was that the format in which the information was presented (i.e., in two columns) was different that used in past research (which was not in columnar form). In this case subjects

were not told anything about the number of people in each group, as was done in earlier research (e.g., Maass and Clark 1983) and given the high involvement in the issue, the subjects may have been oblivious to the number of people on either side of the issue, which diminishes the effectiveness of the minority-majority manipulation.

(ii) Issue-involvement manipulation and validity problems: Issue-involvement was manipulated in the standard manner, using "your university" versus "other university" format. The issue chosen as the focal topic (whether cafeteria should be run by university or a private franchise) was not one that was intrinsically involving (according to earlier pretests). Why then was the manipulation ineffective? An external confound not taken into consideration at the time of data collection provides the best possible answer. The data for this study were collected at The University of British Columbia in March-April 1992 when there was a campus-wide strike of all union employees (which included all non-teaching staff). This strike resulted in the closure of all campus cafeterias for several weeks, including the university operated food services at campus residences. Thus, at the time the study was conducted, students were clearly dissatisfied with the university operated food services. As a result, the issue of campus food services had probably become a highly involving topic for everyone and the experimental manipulation intended to vary the involvement level did not succeed. Also, among the business students who constituted the sample there is a usual predilection for private enterprise, which could have been further

heightened by these uncontrollable external events.[4]

Just prior to the data collection it was learned that in the classes where the data collection was scheduled (an undergraduate marketing class with multiple sections), the instructor had discussed the campus strike in detail and had asked the students how it affected their behaviour as consumers. Thus a few days before the data collection, the students had been sensitized to this subject. At this stage since there was no alternative but to go ahead with the data collection, and so some measure was necessary to prevent possible impact of these external/historical events. To accomplish this, as the subjects were introduced to the study and briefed about the "purpose" of the study (which was varied for high and low issue-involvement groups), they were informed that the two private franchises under consideration by the university (as alternatives to university run food services) both had unionized employees, and thus the private franchise was also equally susceptible to be shut down in case of any campus strike (see Appendix 1). By adding this comment, at that time, it was felt that the students may now not assign any advantage to the private enterprise on this particular issue.

The results, however, indicate that the effect of the strike had clearly resulted in a very strong preference for the private enterprise which could not be altered by the manipulation. In other words, a clear zeitgeist had evolved regarding this issue, which was not the case during the earlier pretest (see section 4.1), and in accordance with

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[4] Unfortunately the data collection scheduled could not be postponed because it was the last week of classes for that term, and there were no summer classes in the Faculty of Commerce available for data collection.

prior findings the minority was persuasive only when its message was consistent with the zeitgeist (e.g., Paicheler 1976; Mugny 1979). Thus, at this point, one could conclude that an internal validity threat caused by "history" (the strike affecting food services) was a major factor in weakening the treatment effects (Cook and Campbell 1979).

(iii) Response-involvement manipulation: The data were collected in a third year marketing class where disagreements during class discussions are not uncommon. Thus, the instruction intended to produce public pressure (i.e., to state their opinion publicly) may not have been strong enough to induce the desired group pressure. In support of this proposition, Fitzpatrick and Eagly (1981) found that moderate attitudes were expressed only when subjects anticipated a discussion with experts, and in the case of expected discussion with peers, opinions were quite polarized (meaning less self-presentational concerns). The response-involvement manipulation used in the pretest and the pilot study required public expression of opinions in front of a group of peers (classmates who were reasonably familiar with each other). This could account for the ineffectiveness of the manipulation. Further discussion regarding response-involvement is carried out in the next section.

Thirdly, reliability analysis and factor analysis called into question the internal consistency as well as validity of the measures. For instance one of the questions read: " I think the group members with backgrounds similar to mine talked about issues that I myself would have considered." Discussion with subjects after the experiment, to obtain feedback, suggested that this statement was open to multiple

interpretations (some felt that a "similar background" meant commerce students in the group discussion, and others interpreted it as those who were advocated a position similar to their own - in other words opinion similarity). The literature on social comparison with similar and dissimilar others does suggest that there are two possible types of similarity - related attributes similarity (Goethals and Nelson 1973; Fazio 1979) and opinion similarity (Kruglanski and Mayseless 1987). Thus, it seems the statement required better wording to eliminate dual interpretation. Thus, the significant result for similarity, reported earlier, is clouded with some doubts about the validity of the measure used. This and other problems of the same nature led to a careful examination of the measures and revision/addition of measures in the next stage.

In conclusion, the failure of this study did serve as a useful learning experience and did point out to several problem areas that need attention. The next section addresses some of the corrective measures undertaken.

4.4.5 *Steps Undertaken*

At this stage, an assessment of the entire research was undertaken to chart a course of action.[5] First, it was felt that the extension of the minority influence theory to marketing would serve a useful purpose and the examination of issue-involvement would contribute to the minority influence research. Hence, at this stage, a decision

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[5] The action plan described here evolved out of meetings with the Supervising Committee of this dissertation.

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was made to rectify the limitations with the measures and treatments and continue the investigation.

Second, after closely examining the independent variables, and evaluating their respective contribution to this research, it was decided that response-involvement would be dropped from further investigation for the following reason. Even though the motivational conflict arising as a function of issue-involvement (where personal consequences are important) and response-involvement (where self-presentation is important) is an interesting issue, Leippe and Elkin (1987), who studied the clash between these two motives suggest that the relative strengths of the two motives may ultimately decide how the conflict is resolved (i.e., in favour of issue or response-involvement). This suggests that in an experimental setting the stronger of the two manipulations might win. Also, it felt that since issue-involvement had not been examined previously in the context of majority-minority influence, this research would make a greater contribution by carefully investigating the role of issue-involvement at this stage. Further, since response-type had been examined previously in a similar research context (e.g. Martin 1988a; Moscovici and Lage 1976; Moscovici and Personnaz 1980) and the role of issue-involvement had not been studied before, it was felt that a smaller experiment devoted to understanding the impact of issue-involvement would be a more meaningful first step. Hence, the examination of the clash between the two types of involvement was deferred to future research.

Third, given the impact of the external events on the validity of the research, further attention was devoted to selection of a focal topic (for the group discussion),

which would have minimal influence from any external factors occurring during or prior to the data collection. From the topics tested initially, the joint venture topic was considered suitable since it satisfied the condition of moderate attitudes among subjects and no clear zeitgeist.

Finally, it was decided that the dependent and manipulation check measures would be carefully examined, again compared with measures used in past research, and then submitted to a small pretest to ensure no ambiguities in the questions. With these decisions following from the results of the pilot study, the next stage involved reconceptualization of the study and preliminary tests of the joint-venture study.

4.5 Pretest: Joint Venture Topic

The "joint venture" topic was used in the group discussion (i.e., stimulus material) in this pretest. Initially small groups of about 4-6 individuals were used to examine if the manipulations were believable and feedback from subjects was obtained on the understandability of the measures to ensure there were no ambiguities. At this point there was sufficiently encouraging feedback to suggest that the measures were meaningful (had face validity) and that the manipulations were consistent and believable.

MANIPULATIONS: For Similarity, after holding a small group discussion with students to identify what they consider to be a "similar" or a "dissimilar" source, it was decided that "students of the same university" would constitute a similar source,

i.e., the opinions of other students would provide a good point of reference in most cases. Also, feedback from students indicated that the "faculty of the same university" would constitute a sufficiently dissimilar source.[6]

The involvement manipulation was basically the same as in the earlier pretest and the pilot study. The lucky draw used to increase interest in the cafeteria study was dropped after consultation with scholars familiar with involvement manipulation.[7] The minority-majority manipulation was further strengthened by making the number of people in both groups more visible. Feedback from a small group of subjects (similar to those who were to participate in the final study) indicated that a four-eight split of minority and majority was clearly visible and did convey the impression that one group was clearly smaller than the other.

QUESTIONNAIRE: Many items in the dependent measures questionnaire were reworded after consultation with experts or on the basis of feedback from the pilot study. New measures added included: risk-aversion and feelings towards the source. Manipulation check measures for minority-majority as well as the two theoretical

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[6] It has to be borne in mind that the dissimilar source cannot be extremely dissimilar for the student sample to reject the opinions of that source outright. In other words, when the subjects read the summary of group discussion (the stimulus) they should be more drawn to the opinions of one group (similar source) than the other (dissimilar source), but the opinions of the dissimilar source should still draw some consideration for the social categorization manipulation to have face validity. The students used in the small group pretests did suggest that they do consider the opinions of faculty in many cases, but identify more with the students in case of any common cause.

[7] Thanks is due to Dr. Jong Won Park, who at the time of this research was at the University of British Columbia, for his invaluable suggestions in this regard and for sharing his knowledge on issue-involvement manipulations.

variables of interest, involvement and similarity, were also reworded (see questionnaire of main study in Appendix 2).

Another pretest of the entire design at this stage could not be carried out due to time and resource constraints. Hence, only the main effects were tested to verify the effectiveness of the treatments before undertaking the final data collection effort. Two classes of undergraduate marketing and economics students were used, with the similarity manipulation being tested in one class and the involvement manipulation in the other.[8]

SUMMARY OF RESULTS: Similarity manipulation produced results in the anticipated direction, with a similar minority (Mean = 1.67) being more influential than a dissimilar minority (Mean = 0.26), with the t-value being significant at the $a = 0.10$ level [$t(38) = 1.41$, $p < 0.10$]. The involvement manipulation also had directional support, although not significant, with the high involvement condition (Mean = 1.39) producing more minority influence than the low involvement condition (Mean = 0.60).

4.5.1 *Pretest Summary and Overview of Final Design*

The verbal discussions held with small groups of subjects were very useful in redesigning the questionnaire and refining the manipulations. The limited data collection undertaken at this point did produce encouraging results and more

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[8] The subjects for this pretest as well as the main experiment (see results in Chapter VI) came from Simon Fraser University, whereas the subjects for earlier pretests and pilot study were from The University of British Columbia. Except for this difference, subjects were similar in terms of age, academic year and the fact that they were taking a similar third year marketing course.

importantly open-ended feedback provided by subjects in both the similarity and involvement conditions revealed that the manipulations had face validity (were believable) and the dependent measures were clear with no ambiguities.

The main experiment involved a 2(high/low minority similarity) X 2 (high/low involvement) design with the minority-majority being a within-subjects design. The main dependent measure was the preference for the minority versus majority opinion. The joint venture topic was used as the setting for the manipulations and the stimulus material. Further details of the methodology are in Chapter V.

V. METHODOLOGY

5.0 Overview

This chapter outlines the methodology of the main experiment (and the corresponding results are in Chapter VI). Since several pretests and a pilot study were conducted before the main experiment, specifics of the methodology for the pretests and the pilot study were discussed separately in Chapter IV. The purpose of this chapter is to first discuss the methodological issues in configuring the empirical study, then to present an outline of the research methodology used in the main experiment

5.1 Methodological Issues

5.1.1 *"Real" versus "Nominal" Groups*

Since Moscovici's initial studies, a variety of paradigms have been utilized to test minority influence. In many of these studies the groups are composed of confederates who act as the majority and/or minority (e.g, Maass and Clark 1983). Asch's (1951) experiments on conformity effect also involved "real" groups with confederates, where the subject came face to face with other individuals in the group. Other researchers have resorted to the use of "nominal" groups in which subjects would read a transcript of a group discussion without any face-to-face contact with the group members (e.g., Mongeau and Garlick 1988; Clark and Maass 1988a, Clark

and Maass 1988b; Martin 1988a).

The critical issue here is whether the use of face-to-face groups would produce results that are different from what would be obtained through a nominal group approach. Scholars in the area of group influence research have emphasized that the physical presence of group members is not necessary to feel the effects of group pressure. For instance, Rabbie and Horwitz (1988) have argued that face-to-face interaction is not necessary for individuals to perceive common fate or interdependence or group pressure.

An examination of the results do indicate that the nominal group approach, while being easier to use, does not in any significant way alter the results. The use of either methodology is prevalent in this area and the results seem to be consistent across the two methods. Often the same researchers have used both methods in different studies. For instance, Clark and Maass (1988a) found that ingroup minorities were more influential than outgroup minorities, and this result was confirmed in two different experimental paradigms - one involving face-to-face meetings and direct interaction and the other using written information. Similarly, Clark and Maass (1988b) used a group discussion text in lieu of a face-to-face meeting and reported results that were consistent with their past research involving face-to-face meetings.

It seems that based on past evidence one may conclude that the two approaches will produce more or less consistent results. While one might argue that the written text approach is synthetic, a survey of results does not reveal any significant differences in results due to the paradigms employed. In this research,

given the lower cost and ease of operationalizing groups, the group discussion text method was adopted.

5.1.2 *Single Source Versus Dual Sources*

Many studies on minority influence require the subjects to read a message purported to emanate from only one source - either a majority or a minority (e.g., Clark and Maass 1988a; Mugny and Papastamou 1980). Other studies, such as Maass and Clark (1983), have simultaneously exposed subjects to minority and majority sources.

The present research is conceptualized as a study of multiple source effects requiring a simultaneous social influence attempt by both the majority source and the minority source. Hence previously uncommitted subjects were simultaneously exposed to a text of a "group discussion" where the majority and the minority expressed contrary positions on an issue relevant to marketing. The subject had the opportunity to consider both points of view before expressing an opinion.

5.1.3 *Attitude Versus Attitude Change*

It has been a customary practice in minority influence research to assess the degree of attitude change brought by the source of influence. Typically the difference between pre and post-test attitude scores are obtained for this purpose (e.g., Clark and Maass 1988a; Martin 1988a). Alternatively, the pretest score has also been used as a covariate to control for any differences due to pre-test score effect (e.g., Clark

and Maass 1988b; Perez and Mugny 1987).

The pretest measures are often used to select subjects who do not hold extreme attitudes on the focal issue (e.g., Clark and Maass 1988b; Maass and Clark 1983; Mackie 1987). This is done to ensure that attitude change is demonstrable within an experimental setting and sometimes to ensure that either message (majority or minority message) is not strongly pro or counterattitudinal. In most studies involving pre-test measures, the focal issue is often something where strong prior attitudes might exist. For instance, issues like abortion, gay rights, tuition increase and financial support to students are used. Studies without pre-test attitude measure, while relatively uncommon, do exist (e.g., Mongeau and Garlick 1988; Moscovici and Lage 1976).

In this research, a judgement had to be made about whether attitude change or attitude itself should be measured. While using a pretest measure would facilitate comparison with previous research, the issue of sensitizing subjects through a pretest measure had to be weighed carefully (Campbell and Stanley 1963).[1] It was also felt that the need to filter subjects through a pre-test (by selecting only those with moderate attitudes) could be overcome by selecting an issue which the subjects may not have previously considered and hence were unlikely to have prior attitudes. Hence it was decided to adopt a *post-test only* design, with the subjects being randomly assigned to different experimental cells.

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[1] The data for the pre-test as well as the main study were collected during class time. It was felt that taking both the pre-test and the post-test measures within a short time interval of about 20 minutes would lead to pre-test sensitization.

5.1.4 *Stimulus Material and Format*

Another important methodological issue was the format of the group discussion text. A determination had to be made as to whether the stimulus, i.e., text of a group discussion, should be presented with minority and majority viewpoints interspersed or if all arguments on one side of the issue should be presented first, followed by the arguments of the other side. Previous research in minority influence had employed different presentation formats, with some using a transcript of a group discussion (e.g., Mongeau and Garlick 1988 and others using a brief summary of the majority and/or minority arguments (e.g., Perez and Mugny 1987)

Since no clear guide was available from past research, pretests were used to study several formats of information presentation - minority and majority arguments interspersed, minority and majority arguments on separate columns of the same page, and all arguments of one side (minority or majority) followed by all arguments of the other side. In the final study, the third format was used as it was found to be easy for subjects to grasp the information (see Appendix 2). In the pretest as well as the pilot study described this chapter, the information was presented in columns, with the minority and majority arguments on one side (see Appendix 1).

5.2 Main Experiment

The main experiment involved tests of only the source-similarity and issue-involvement hypotheses. The response-involvement factor was dropped due to

conceptual as well as operational issues which were discussed in Chapter IV. With response-involvement being omitted from the study, Hypotheses 6 through 8 were not considered in this study. Thus, the objective of this study was then to test Hypotheses 1 through 5, relating to main and interaction effects of similarity and involvement. The rest of this section describes in detail the research design and methodology of the main experiment.

5.2.1 *Experimental Design*

A 2 [Similarity] X 2 [Involvement] between-subjects design was adopted, where the minority was either similar or dissimilar (when the minority was similar the majority was dissimilar and vice-versa) and issue-involvement was either high or low. The source (minority and majority) was a within-subjects factor since each subject received a message from both sources. The order of presentation for the two sources as well as the position advocated by each of the two sources were counterbalanced within each cell.

5.2.2 *Subjects*

Undergraduate Business students participated in the study for course credit. the subjects in the pretest as well as the final study came from the same pool of subjects, all of whom were third year students taking a required marketing course. A total of 75 subjects participated in the study, and 72 usable responses were obtained. The age of the subjects ranged from 18-35 years, with the mean age being

approximately 20 years. Of the 72 subjects, 42 were male and 30 were female.

5.2.3 *Procedure*

Subjects were randomly assigned to one of the four cells in the design, with 18 subjects per cell. The data collection took place in a large class. The instructor requested the cooperation of the student in a faculty research project. They were told that their refusal to participate in the study, for whatever reason, would not in any way affect their course grade. Without any further introduction, packages containing the treatments and the measures were distributed in random order. Each package had two booklets, the first one contained the treatments and stimulus material and the second one contained the dependent measures. The second booklet was identical for all subjects, where as the first one varied (see Appendix 2 for Booklets One and Two).

One half of the subjects received the Booklet One which had a cover title "Administration Policy Survey" and the other half of the subjects received the Booklet One which was titled "Decision Making study." The former contained the high involvement manipulation and the latter the low involvement manipulation. The manipulation is described in detail below.

After all subjects had received the package containing the two booklets, the experimenter instructed the subjects to go through Booklet One first before opening Booklet Two. Booklet One presented the decision problem to the subjects (the involvement manipulation being embedded in the problem presentation) and then provided them an opportunity to see the views of "others" in the form of a group

discussion summary (the similarity manipulation was embedded here). After the subjects had read Booklet One, they were asked not to reopen Booklet One again and proceed to Booklet Two. Each subject was allowed to go through each booklet at his/her own pace. After all subjects had responded to all measures, the subjects were fully debriefed. Since the entire data collection (all cells of the design) was done in one sitting in a large class room, it was felt that there was no possibility of any contamination of the data due to communication between subjects. The entire experiment took about 15-20 minutes to complete.

5.2.4 Manipulations

ISSUE-INVOLVEMENT: Issue-involvement was increased or decreased by making subjects believe that a certain decision would have personal implications in their university (or city) or another university (or city) (Madsen 1978; Petty and Cacioppo 1979; Petty, Cacioppo and Schumann 1983).

Low-involvement: Half the subjects were led to believe that they were taking part in a "Decision Making Study" and were presented with the a problem faced by McMaster University (in Ontario). The problem had to do with whether that university should enter into a joint-venture agreement with a private firm to manufacture and market an invention made by that university's faculty members. In the cover story, where this problem was presented, it was indicated that the intention of the study is to understand the differences in decision making process across people, and that the opinions expressed by them (subjects) will have no actual bearing on the situation at

McMaster University.

High-involvement: The other half of the sample assigned to the high involvement condition was told that their university (i.e., Simon Fraser University in Greater Vancouver, British Columbia) is faced with the decision of whether to enter into a joint-venture agreement with a private firm or not, and the subjects were also alerted to the bearing such an agreement would have on their lives as students of the university. These subjects were informed that they are participating in a survey conducted by the university administration, which aims to obtain input from students on this matter before drawing a policy (hence the title, "Administration Policy Survey). To further increase involvement subjects were informed that their opinions could really shape the university's policy on this matter.

SIMILARITY: After the subjects had read the introduction to the problem (at their university or at the other university), at end of the same page they were informed that a group discussion was conducted on the same topic, involving both students and faculty members of their university to obtain different views on the subject, and that a summary of this discussion would be made available to them now. The group discussion was presented in a summarized form with the opinions favouring either side being presented together. When the majority was composed of faculty members (outgroup or dissimilar), the minority was always composed of students (ingroup or similar), and vice-versa. Thus, similarity was manipulated through social categorization.

MAJORITY-MINORITY: In the summary provided to the subjects, each position

(i.e., "the university should" or "should not" enter into the joint venture agreement) was supported by either the majority or the minority. When the majority supported the joint venture, the minority opposed it, and vice-versa. The minority and majority advocacies were counterbalanced across all cells of the design. The majority was composed of 8 individuals and the minority consisted of four individuals. In previous research, sometimes in small groups of six, two people have represented the minority and the rest the majority (e.g., Nemeth and Wachtler 1983). The numerical split between the minority and the majority was, thus, fairly consistent with past research.

5.2.5 *Stimulus*

The treatment, as discussed earlier, consisted of a summary of a purported group discussion. The text contained arguments in favour of or against the joint venture, emanating from either a minority or a majority. The arguments on both sides of the issue were pretested using a sample of 12 subjects (drawn from the same subject pool) to ensure that they did not differ in quality. A t-test conducted to verify the differences in the sample's ratings of pro and con joint venture arguments was nonsignificant $[t(11) = 1.0, p > .20]$. The text also contained an equal number of arguments by both the majority and the minority, with each group presenting six arguments. The lengths of the minority and majority arguments were identical, each occupying 12 single-spaced lines.

5.2.6 *Measures*

After the subjects had gone through Booklet One (the treatments and the discussion text), they proceeded to Booklet Two, which contained the manipulation check, measure of attitude towards the issue, as well as measures of covariates.

MANIPULATION CHECKS: (i) Minority-Majority: A recall measure of the number of people supporting each position in the discussion and whether or not they were students or faculty was used to verify if the minority-majority manipulation (a within subjects factor) had registered in the subjects' minds.

(ii) Similarity: A three item scale measuring the extent to which the subjects identified with the faculty or other students was used. Subjects responded to statements anchored "strongly agree - strongly disagree." (iii) Issue-involvement: Level of involvement in the decision task was assessed using three items which tried to tap the personal relevance of the joint-venture issue to the subjects. A measure of their confidence in their own opinion was also used to further verify if confidence in the decision varied by involvement level.

DEPENDENT MEASURES: The main dependent variable was the subjects' attitude towards the issue of joint venture. A two-item seven-point scale was used. Other dependent measures included: source credibility, feelings towards the source.

COVARIATES: Relevant covariates were partialed out using analysis of covariance (ANCOVA). Risk-aversion, a predisposition known to affect decisions (Fagley and Miller 1990) was one of the covariates. Since the persuasion literature suggests that women are more susceptible to persuasive communication than men

(Eagly and Chrvala 1986; Moschis and Churchill 1977), it was felt that the degree of minority influence or conformity may have a gender bias. Hence, gender was also proposed as a covariate. Both covariates were entered into the analysis together.

5.2.7 *Analysis*

First, t-tests were performed to verify the effectiveness of the involvement manipulation. The three manipulation check measures were summed up to form a single measure for this purpose. The manipulation check for the similarity treatment was done through a chi-square test. This test facilitated the examination of whether more subjects identified with the similar source (other students) or the dissimilar source (faculty members). The Minority-Majority manipulation was checked by computing a simple percentage of the correct responses for the question asking them to identify the number of students/faculty supporting each position.

The major hypotheses were tested using an Analysis of Covariance (ANCOVA). Similarity and Involvement served as the two factors along with Risk-aversion (an individual personality measure) and gender as the covariates. This analysis was essential to test the main and interaction effects hypotheses for Similarity and Involvement factors. Additionally, t-tests (with Bonferroni adjustment) were used for planned multiple comparisons. To examine the roles of source-credibility and source-feelings in the proposed model of social influence, for each variable a t-test was conducted by splitting the sample along the mean and examining if the degree of minority influence (or alternatively, conformity) varied between high and low scorers.

To obtain further insight into the mediating effects of source-credibility and source-feelings, a path analysis was undertaken. Multiple regressions using OLS estimation procedure were used to conduct the path analysis.

5.2.8 *Summary*

The main experiment involved a test of hypotheses relating to similarity and issue-involvement effects (Hypotheses 1 through 5). A 2x2 design with Similarity and Involvement serving as the two between-subjects factors was adopted. Minority-Majority was a within-subjects factor. The position advocated by each of these sources as well the order of presentation were counterbalanced in each cell. Standard inferential statistical methods were used in the data analysis, in addition to a causal modelling analysis. The next chapter presents in detail the preliminary tests conducted, which shaped the research methodology discussed here.

VI. RESULTS

6.0 Overview

The results of the Main Experiment are presented in the following order. First, the scales used in the dependent measures were subjected to a reliability test to ensure that the scales were internally consistent. In addition to examining the Cronbach's alpha levels of the scales, a confirmatory factor analysis was also performed. A five factor confirmatory factor model was suggested by the theory as there were five major categories of dependent variables - scales measuring involvement, subjects' perception of source similarity, perceived source credibility, feelings towards the source and finally attitude towards the issue in the scenario. After discussion of these preliminary results, details of manipulation checks, as well as the hypotheses tests are presented. Then, path analysis conducted to verify the presence of mediating variables is discussed, followed by a brief discussion of other post-hoc tests.

6.1 Reliability Assessment

6.1.1 *Cronbach's Alpha*

In accordance with previous guidelines provided by many scholars in marketing (e.g., Churchill 1979), multiple measures were used to tap each construct. The

coefficient alpha for involvement items, similarity items, source credibility items, risk-averseness, feelings, and attitudes were respectively 0.84, 0.94, 0.68, 0.84, 0.83 and 0.82. Except the source credibility items the rest are consistently high. Even in this case the alpha is quite close to 0.70, which is generally used as a benchmark for acceptable internal consistency (cf. Nunnally 1978).

6.1.2 *Confirmatory Factor Analysis*

Causal modelling can be used to represent and test the reliability of measurements (Bagozzi 1980). A confirmatory factor model including the five major categories of variables was tested through LISREL to further gauge the reliability of the measurements. This analysis also provides some indication regarding the validity of the hypothesized constructs. The five constructs included in this analysis were involvement (2 items), similarity (3 items), source credibility (2 items), feelings towards source (2 items), and attitude toward issue (2 items).

First, in accordance with the procedure described by Bagozzi (1980), a General Reliability Model was tested using LISREL VI (Joreskog and Sorbom 1984). The General Reliability Model posits that the five true-scores (corresponding to the five latent variables) explain the entire pattern of relationship among all the observed measurements (Bagozzi 1980, p180.). The model is presented in Figure 4, and the parameters estimates are presented in Table 5. The results revealed that the model provided a good fit to the data. A χ^2 = 47.91 with df = 44 and p = 0.317 was obtained.

Next an Equal Units of Measurement Model was estimated (see Figure 5 and parameter estimates in Table 5). This model posits that all observations have equal units of measurement (Bagozzi 1980). This hypothesis was tested by assigning a value of 1.0 to all λs in the measurement model. The estimation of this model resulted in a $\chi^2 = 59.95$ with df = 51 and p = 0.18, indicating that there was a reasonable fit.

The Parallel Forms Model, which in addition to restricting the λs to equal 1.0 makes a further restrictive assumption which requires the error variances of indicators of common true scores are be equal (see Figure 6 and parameter estimates in Table 5). The results indicated a further deterioration in fit ($\chi^2 = 73.64$, df = 53, p = 0.08).

Even though Model Two (Equal Unit of Measurement) produced a reasonable fit, the model was rejected because the difference in the goodness-of-fit tests between the first and second reliability models produces a $\chi^2 = 12.04$ with df = 6 and p = 0.05. Similarly the difference in goodness-of-fit tests between the Parallel Form and Equal Units Models produces a $\chi^2 = 13.69$ with df = 2 and p < 0.005. Hence the parallel form model was also rejected. Thus there was adequate confirmation that the measurements used in this study were internally consistent and acceptable.

6.2 Validity Assessment

Both convergent and discriminant validity can be assessed using the LISREL model by comparing the fit of rival confirmatory factor models. Convergent validity examines if there's a great deal of commonality between measures of different

constructs, in other words are the hypothesized constructs really different from each other. Discriminant validity is the extent to which measures of different constructs differ (Nunnally 1978). In accordance with the procedure described in Dillon (1986) the validity of the constructs was evaluated.

6.2.1 *Convergent Validity*

First, as suggested by Dillon (1986) a Single-Factor Model was tested (see Figure 7). A Confirmatory Factor Model with a single factor was tested to see if measures of different constructs converged. The convergent validity of the single-factor model was rejected because the model provided a poor fit to the data [x^2 = 423.23; df = 54; p < 0.001]. As against this, the multi-factor model (which is the same as the General Reliability Model with true-scores) discussed earlier, provided a very good fit.

6.2.2 *Discriminant Validity*

Discriminant validity of the constructs was evaluated by examining the common variance between measures of different constructs (Dillon 1986). A high covariation would lead to doubts about the uniqueness of the measures and/or constructs. By examining the Psi matrix (Ψ), which is the factor correlation matrix, one could draw conclusions about the uniqueness of the measures/constructs. In order to determine the discriminant validity, the Psi matrix from the multi-factor model (General Reliability Model) was examined. According to Dillon (1986), the correlations should be

"reasonably" smaller than 1.0 in order to conclude that there is discriminant validity. In this case all inter-factor correlations, except one, were below 0.50, yet were sufficiently larger than zero.

The high inter-factor correlation (0.76) was between the factors ATTITUDE (i.e., preference for the issues) and FEELING (i.e., feelings toward the two sources expressing two different viewpoints). Conceptually, however, the distinction between these two constructs seems clear. It should be borne in mind that there is a significant causal structure that exists among the factors (the structural equation - causal modelling - is explained in the next chapter), hence one would expect strong, but not too high, correlations between factors. Hence, given the conceptual clarity of the two constructs and the fact that the factors are causally related one may argue that the discriminant validity of the measures is not violated.

Using the method described in Dillon (1986), two contrasting models were tested to see if ATTITUDE (towards the issue) and FEELINGS (towards the source) are different constructs or not. First a One-Factor Model was constructed, with all four measures as indicators of a single construct. This model did not fit the data well [χ^2 = 5.84, df = 2, p = 0.05]. Next, a Two-Factor Model was tested by hypothesizing FEELINGS and ATTITUDE as two separate constructs. This model provided an excellent fit to the data [χ^2 = 1.53, df = 1, p = 0.217]. These results suggest that in spite of the high correlation between the latent variables FEELINGS and ATTITUDE, these are indeed distinct and separate constructs.

6.3 MANIPULATION CHECKS

6.3.1 *Involvement Manipulation*

For the purpose of verifying the effectiveness of the involvement manipulation, the three involvement measures (concerned whether the joint venture is started or not, whether joint venture is relevant to their life as a student of that university, and whether they think the outcome of such a joint venture will have important consequences for the students of that university) were summed to form a single involvement score. The high involvement condition (where the joint venture was to occur in "their" university) was expected to get a higher overall involvement score, as compared to the low involvement condition (where the joint venture was to occur at "another" university). A t-test conducted to test the difference between the two groups indicated that the involvement manipulation was indeed very effective [$t(df = 70) = 4.71$, $p < 0.001$], with mean involvement being greater in the high involvement group (Mean = 17.55) as compared to the low involvement group (Mean = 13.19).[1]

In addition to this manipulation check, another t-test was conducted to confirm the effectiveness of involvement manipulation. Studies have previously shown that involvement contributes to greater confidence in one's attitudes (cf. Berger and Mitchell 1989). Since level of confidence in expressed preference was one of the dependent variables, it provided an opportunity to test this effect. A t-test was conducted to see if the high and low involvement subjects differed in their confidence

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[1] The scales were recoded so that a higher score indicated greater involvement.

levels. The subjects were split into to two approximately equal groups (34 and 38 subjects) at the mean value of the total involvement score and the differences in their confidence levels were examined through a t-test. While direction of the means indicated that high involvement subjects were relatively more confident (Mean = 5.3) than the low involvement subjects (Mean = 4.7), the result was not significant [t(df = 70) = 1.84, p = 0.07].[2]

6.3.2 *Similarity Manipulation*

The manipulation check measures were intended to capture the subjects' identification with the similar or dissimilar source not in relation to the persuasive communication they received from that source, but they were intended to capture the extent of identification with the source even outside the limited laboratory setting (see Appendix 2 for measures). Such a measure allowed for verifying that the experiment used groups with real "histories" outside the experimental setting. Since each subject was exposed to a similar as well as a dissimilar source (one of whom was a minority and the other a majority), the manipulation check measures were designed to see which of the two sources (students/similar or faculty/dissimilar) were perceived by the subjects as being "similar" to them. For example, subjects were asked to indicate their agreement to the statement:

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[2] The scale measuring confidence was recoded so that a higher score indicated greater confidence. The difference in confidence levels remained almost the same when the t-test was conducted using the two involvement conditions as the groups.

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"My views on many issues are likely to be similar to that of the students, rather than the faculty who participated in the group discussion." (7-point scale; strongly agree - strongly disagree).

Since the subjects' perception of the two sources based on a direct comparison was sought, a t-test is not an appropriate statistic to test the similarity manipulation. To conclude that the manipulation was successful, more people should agree with the above statement. Two seven-point scales were combined and a chi-square test was conducted to see if there were more people on the agreement side of the scale as opposed to the disagreement side.

The null hypothesis would be that "there are an equal number of people in the agreement side as in the disagreement side of the scale". If this is rejected, it would indicate the effectiveness of the similarity manipulation. The numbers on either side of the mid-point were collapsed and two categories were formed.[3] A chi-square test was conducted to verify the hypothesis. The obtained chi-square $[\chi^2(df = 61) = 10.09]$ was highly significant at $p = 0.005$. This result called for a rejection of the null hypothesis. Since the chi-square could have been large because there were more people in one of the two categories (i.e., agree or disagree) than the other, the rejection of the null hypothesis by itself does not indicate if the subjects showed greater identification with a similar, rather than a dissimilar source.

The frequencies in the two categories were further examined to see what led to the rejection of the null hypothesis. It was found that only 30% of the subjects

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[3] Eight subjects who were in the mid-point of the scale were dropped and only the subjects who had indicated an agreement or a disagreement were used in this test.

were below the mid-point of the scale (meaning they did not identify with other fellow students more than they did with the faculty), while 70% of the subjects were at or above the mid-point of the scale (meaning they were on the agreement end of the scale). This result indicates that the similarity manipulation was indeed successful.

6.3.3 *Minority-Majority Manipulation Check*

One of the last items on the dependent measures questionnaire was a question asking the subjects to identify the exact number of students and faculty (in and out groups) who supported and/or opposed the joint venture decision. The response categories provided were: Students Supporting (Opposing) Joint Venture and Faculty Opposing (Supporting) Joint Venture. After deleting the cases with missing values, the results indicated that 88% of the subjects had correctly identified the number of in and outgroup members who supported and/or opposed the joint venture. Thus, it seems the minority-majority manipulation correctly registered in most subjects' minds.

6.4 Hypothesis Tests: Similarity and Involvement

To test for the main and interaction effects of Similarity and Involvement a two-way Analysis of Covariance (ANCOVA) with risk-aversion and gender as the covariates. Since the minority advocated either a pro-joint venture position or an anti-joint venture position, it was necessary to determine if the position advocated by the minority in any way influenced the persuasiveness of the minority. The dependent

variable was the preference for the two opposing positions. A summation of two preference measures was used as the dependent variable in the analysis. In the ANCOVA both covariates were insignificant, with risk-aversion [$F_{(1,66)} = 3.09$, $p > 0.05$] being stronger than gender [$F_{(1,66)} = 1.54$, $p > 0.20$].

6.4.1 *Main Effects*

The results indicate strong support for the similarity main effect [$F_{(1,66)} = 9.56$, $p < 0.005$]. Thus, H1 is tenable, meaning that a similar minority is more persuasive than a dissimilar minority. H4, the involvement main effect, was not supported [$F_{(1,66)} = 0.083$, $p > 0.75$], meaning that the predicted effect of greater minority influence under high involvement does not hold.

6.4.2 *Interaction Effect*

Involvement does play a critical role in the minority influence process, as indicated by the strong interaction between involvement and similarity [$F_{(1,66)} = 4.16$, $p < 0.05$]. Since a significant interaction by itself does not indicate if the nature of the interaction is in accordance with the ELM based hypotheses, an examination of the cell means was necessary.

6.4.3 *Comparison of Means*

As planned a comparison of means was undertaken. T-tests, using the Dunn (1961) multiple comparison method, were conducted. With Bonferroni adjustment an

α level of 0.01 was used for the mean comparisons. The t-tests compared the means for similar and dissimilar minority-sources at each of the two levels of involvement.

The results indicated that the means for minority influence (for similar and dissimilar minority) were not significantly different under high involvement [$t(34) = 0.73$, $p > 0.4$], but were significantly different under low involvement [$t(34) = 3.98$, $p < 0.001$]. This is consistent with the interaction effect hypothesis based on the Elaboration Likelihood Model (see Figure 8).

6.5 Hypothesis Tests: Credibility and Feelings

Additional analyses were conducted to determine the role of some of the proposed intervening variables. Hypotheses 2 and 3 were concerned with the relationship between source similarity on the one hand, and source credibility and source feelings on the other hand. While these two hypotheses are not central to establishing the minority influence effect, they do allow us to understand the minority influence process better.

6.5.1 *Source Credibility*

According to Hypothesis 2, a similar minority was supposed to be perceived as more credible than a dissimilar minority. Even though minority status in a group, by itself leads to perception of diminished credibility (cf. Moscovici 1980), it was suggested that a similar minority will be held in higher esteem due to the shared

"social identity" between the recipient and the source of the message. A test was conducted with the two groups being similar and dissimilar minority and the dependent variable was source credibility. This measure was obtained by summing two measures of this construct (believe and credible).[4] The obtained result indicated support for the hypothesis [$t(70) = 2.13$, $p < 0.05$], with the similar minority (Mean = 7.6) being perceived as more credible than the dissimilar minority (Mean = 8.6).[5]

The total sample was split into two groups along the mean credibility score, yielding two groups of approximately equal size. Using these two groups a t-test was conducted to see if higher perceived credibility of the minority source was associated with higher minority influence. The result was affirmative [$t(70) = 2.04$, $p < 0.05$]. Thus credibility of the source did seem to have an effect on the extent of that source's influence. This finding concurs with Martin (Clark and Maass 1988b), who also found that higher perceived credibility was associated with higher minority persuasion.

6.5.2 *Source-related Feelings*

Similar to the credibility hypothesis, Hypothesis 3 suggested that a similar source would generate more favourable feelings than a dissimilar source, even if the

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[4] A lower score on the summed measure indicates higher source credibility.

[5] A lower score on the composite credibility measure indicates a higher level of credibility.

source had a minority status. Again, a t-test using similar and dissimilar minority as the two groups was conducted, with source-related feelings serving as the dependent measure. This measure was a composite of two scales.[6] The results revealed strong support for this hypothesis [t(70) = 3.05, p < .005], with a similar minority (Mean = 1.33) leading to more positive feelings than a dissimilar minority (Mean = -0.39).

Similar to the analysis carried out with source credibility, the sample was split into two groups along the mean score on the source-related feelings, and a t-test was conducted to see if those with favourable or unfavourable feelings toward the minority differed in their acceptance of the minority's position. Again, the results strongly confirmed the existence of such an effect [t(70) = 6.19, p < 0.001].

6.6 Mediating Effects

It is not sufficient to set out the conditions leading to conformity effect or a minority influence effect, but it is also essential to understand the process underlying such an effect. With the exception of a few studies which have examined attributional variables like credibility (e.g., Clark and Maass 1988b; Martin 1988a), or the subjects' cognitive responses (e.g., Maass and Clark 1983; Trost et al. 1992),

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[6] Since each scale measured the attitude toward one source (either the majority or the minority), a high score on one scale meant a low score on the other. Hence, before obtaining a composite score appropriate recoding was done. A high (positive) score indicates more favourable feelings towards the source, and a low (negative) score indicates the reverse.

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there has not been a lot of effort towards understanding the role of mediating variables in the minority-majority influence process. In this research an important attributional measure, i.e., source credibility, was measured. Furthermore, since the identification with the source (i.e., through similarity) was considered essential in producing the minority influence effect, subjects' feelings towards the source was also measured. As explained in Chapters 1 and 3, both source credibility and source feelings were conceptualized as mediating variables. The rest of this section details the path analysis undertaken to verify if these two variables played a mediating role.

6.6.1 *Methodology*

In testing mediating effects, marketing applications (e.g., Homer 1990; MacKenzie, Lutz and Belch 1986) have quite frequently used Joreskog's LISREL model (Joreskog and Sorbom 1984). Causal modelling or structural equations modelling has some distinctive advantages: it considers the modest reliability of most observed measures and allows for incorporating latent or unobserved variables, and it also allows for incorporation of multiple measures used in tapping each construct (Dillon and Goldstein 1984). However, the LISREL model uses the Maximum Likelihood Estimation procedure, and it is generally recommended that this technique be used only with large samples (Dillon and Goldstein 1984). Given the limited sample size of seventy-two subjects, it was felt that the causal modelling method would not be appropriate.

In the marketing literature there are several instances where a multiple

regression procedure has been used to examine mediating effects (e.g., Batra and Ray 1986). This procedure essentially involves path analyses without considering the measurement errors. Keeping this weakness in mind, a sequential regression analysis was undertaken to examine the existence of mediating effects, if any.

The objective of this exercise was not to test the effects of the two treatment variables, which was earlier accomplished through the analysis of covariance, but to examine the inter-relationships amongst the dependent measures. Hence, the treatment variables Similarity and Involvement were excluded from the analysis. Instead, felt similarity and felt involvement (denoted as SIMILARITY-F and INVOLVEMENT-F respectively henceforth) were used. Other variables entered into the regression equations were source credibility, source feelings and attitude toward the issue of joint venture (all these three were self-reported measures). Since there were multiple measures for each construct (see earlier discussion in section 6.1), an average score of the measures was obtained for each construct. These composite measures were used in the regression estimation.

The regression equations were estimated using the OLS procedure in three phases. First, the effects of SIMILARITY-F and INVOLVEMENT-F on each of the proposed mediating variables (i.e., CREDIBILITY and FEELINGS) was examined to see if the two predictor variables significantly affected these criterion variables. If these results were not significant, further use of CREDIBILITY and FEELINGS as mediating variables could not be justified. Second, the relationship between the mediating variables was examined. Here CREDIBILITY was used as one of the predictors and

FEELINGS was the criterion variable. The reason behind this was the expectation that FEELINGS (towards the source) will not only be influenced by the extent of identification with that source, but also the extent of perceived credibility of the source (the variable CREDIBILITY) will have an effect on FEELINGS, with a credible and believable source producing more favourable feelings.[7] Third and last, a series of regression models were examined to see if CREDIBILITY and FEELINGS played a mediating role in determining the extent of minority-majority influence (represented by the variable ATTITUDE).

6.6.2 *CREDIBILITY and FEELINGS as Criterion Variables*

The effects of SIMILARITY-F and INVOLVEMENT-F on CREDIBILITY were tested first (Model 1 in Table 7). In accordance with the expectation, both predictor variables had significant betas, with SIMILARITY-F being the stronger (beta = 0.499) than INVOLVEMENT-F (beta = 0.202). An R^2 of 0.328 was obtained, indicating an acceptable fit.

Model 2 (Table 7) used SIMILARITY-F and INVOLVEMENT-F as predictors of FEELINGS. As anticipated, SIMILARITY-F had a significant beta (0.441), however, INVOLVEMENT-F was not significant (beta = 0.036). But the model still provided a respectable R^2 of 0.202

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[7] Such a hypothesis has support from past research which indicates that the perceptions regarding the source's experience or expertise (which is a indicator of source credibility) is liked to the extent of liking expressed for that source, such that the greater the perceived expertise or credibility, the more favourable the liking or feeling (Feick and Higie 1992).

Finally, the possibility of CREDIBILITY of the source having an effect on the FEELINGS towards the source was also examined (Model 3 in Table 7). This model used SIMILARITY-F, INVOLVEMENT-F and CREDIBILITY as the predictors. In this model only CREDIBILITY had a significant beta (0.52), while the predictive power of SIMILARITY-F declined (beta = 0.17, t-value ns), meaning that CREDIBILITY and SIMILARITY-F strongly covaried. With an $R^2 = 0.366$, the model offered a significant fit.

Models 2 and 3 were compared to see if the addition of CREDIBILITY significantly added to the explanatory power. The gain in R^2 from the addition of CREDIBILITY was 81 percent.[8] Using the procedure described in Dillon and Goldstein (1984; p231-34), the null hypothesis that CREDIBILITY does not add significantly to the explained variance was tested.[9] The null hypothesis was rejected, meaning that CREDIBILITY of the source has an important role in predicting the source-related FEELINGS [$F(1,69) = 17.84$, $p < 0.001$].

Thus, there is confirmation that the hypothesized mediating variables

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[8] Gain in R^2 = (difference in R^2 between Models 1 and 2)/(R^2 of Model 2)

[9] The F-statistic for the model comparison is computed as follows:

$$F = \frac{\dfrac{(R^2{}_p - R^2{}_q)}{(p-q)}}{\dfrac{(1 - R^2{}_p)}{(n-p)}}$$

where F has df of (p-1),(n-p); p and q are the number of parameters in the two models.

(CREDIBILITY and FEELINGS) do have strong relationships with SIMILARITY-F and/or INVOLVEMENT-F. Having established that these two main predictor variables explain a good proportion of the variance in the two mediating variables, and one of the hypothesized mediators (CREDIBILITY) is an important predictor of the other mediator (FEELINGS), the next stage involved testing of models involving ATTITUDE.

6.6.3 *ATTITUDE as the Criterion Variable*

The next set of models reported in Table 8, used ATTITUDE as the criterion variable. A sequential approach was used, and first only the two primary predictor variables, SIMILARITY-F and INVOLVEMENT-F, Model 4 was estimated. The results indicated that SIMILARITY-F was a significant predictor of ATTITUDE (beta = 0.44), whereas INVOLVEMENT-F was not (beta = -0.13). Overall, the model provided a significant fit ($R^2 = 0.218$).

Model 5 was tested by adding CREDIBILITY, a hypothesized mediator, into the equation. This model produced an R^2 of 0.274, giving a 25.7% increase in the explained variance. The F-statistic (see footnote 7) was significant [$F(1,69) = 5.32$, $P < 0.05$]. Again, SIMILARITY-F was the only statistically significant predictor. Even though CREDIBILITY did not have a significant beta (beta = 0.255), it seemed to add significantly to the variance explained, and hence warranted retention.[10]

The final tested (Model 6) involved the addition of FEELINGS to the equation.

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[10] In a similar case, Batra and Ray (1986) have argued that testing for the magnitude of gain in the R^2 could provide a better insight regarding the significance of the variable(s) added to the equation.

This model showed a very substantial improvement in the variance explained with $R^2 = 0.518$, where only FEELINGS was a significant predictor (beta $= 0.492$). Again the shared variance between the predictor variables accounted for the insignificance of variables that were previously significant. The percentage increase in R^2 between Models 5 and 6 was 89%. The test for model comparison (in footnote 7) yielded an $F(1,68) = 34.42$ ($p < 0.001$). The substantial increase in R^2 between Models 5 and 6 is very likely attributable to multicollinearity between the independent variables CREDIBILITY and FEELINGS.[11]

From Models 4, 5 and 6, it is evident that CREDIBILITY and FEELINGS do play an important mediating role in determining the ATTITUDE. The R^2 obtained by using only the two primary predictors, SIMILARITY-F and INVOLVEMENT-F, improves substantially by incorporating the mediating variables. Thus, the hypotheses that the two source-related variables (CREDIBILITY and FEELINGS) will play an important mediating role in determining the extent of minority-majority influence are supported. Further discussion of the regression results is deferred to Chapter VII.

6.6.4 *Test of SIMILARITY-F and INVOLVEMENT-F Interaction*

In the regression analyses described in the last two sections, the interaction term between SIMILARITY-F and INVOLVEMENT-F was omitted. However, the

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[11] Batra and Ray (1986), who encountered a similar problem, have suggested that in cases the significance of the increase in R^2 between two successive models is more reliable than the individual betas. When multicollinearity exists the values of betas tend to unstable (cf. Howell 1982), and hence the contribution of each independent variable is not emphasized here.

existence of such an interaction effect was verified. The ANCOVA reported earlier in this chapter did indicate a significant interaction effect between the treatment variables similarity and involvement. The regression model using SIMILARITY-F and INVOLVEMENT-F, along with a product term (representing the interaction) was testing, with ATTITUDE as the criterion variable. The interaction term was not significant ($p > 0.15$). When CREDIBILITY and FEELINGS were used as the criterion variable, results along the same lines were obtained.

Several factors need to be borne in mind here. Firstly, the variables SIMILARITY-F and INVOLVEMENT-F represent "felt or perceived similarity" and "felt involvement" respectively. Hence they are not the same as the treatment variables used in the ANCOVA. Secondly, the tests for main and interaction effects of the treatment variables was conducted with two covariates, which were not used here in the regression models. These two points may account for the lack of significance of the interaction effect. Since the objective of this modelling exercise was to uncover mediation effects, if any, and not to test the interaction effect, this issue is not pursued further.

6.7 Additional Analyses

First, using a demographic variable, i.e., ethnicity, an investigation was carried put to see whether there was greater (or lesser) minority influence in certain demographic categories than in others. This variable was not treated as covariate in

the main ANCOVA because there was no *a priori* reason for doing so. There were 6 categories provided for ethnicity based on knowledge of the demographic profile of the sample. The six categories were: Anglo-Canadian, Canadian of Eastern European Origin, French-Canadian, Chinese-Canadian, Indo-Canadian, and Other. The response was made optional because: (i) in earlier pretests many subjects had difficulty accurately naming their ethnicity, and (ii) some subjects felt uneasy about this question. As a result, a total of 22 subjects did not respond to this question. With the remaining subjects, a one-way ANOVA was conducted and the result indicated no significant effect.

Next, subjects' perceptions of the quality of the arguments were examined. First, there was no significant difference in the perception regarding consistency and novelty of the arguments proposed by those advocating a pro or an anti joint-venture position.[12] When the same measure of argument quality was used to see if the high and low involvement subjects perceived a difference in argument quality, there was a indication that the perception of argument quality was slightly higher under high involvement (Mean = 7.3) as compared to low involvement (Mean = 8.02), but the result was not significant [$t(70) = 1.31$, $p = .195$, two-tailed test]. It is plausible that the under high involvement subjects paid more attention to the message and hence were more aware of the quality of the arguments.

A final test carried out to see to what extent the subjects were aware of the

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[12] This analysis was carried out after appropriately recoding the two scales measuring novelty and consistency of arguments, and then summing them into a single measure.

specific technology (i.e., fuzzy logic) used in the experimental setting. Subjects were asked to indicate if they had previously heard of this technology. 77.8% said they had not heard of the technology, and the remaining subjects indicating some awareness of this technology.

6.8 Summary

First all the manipulation checks were significant in accordance with earlier predictions indicating that the manipulations were effective. The Similarity X Involvement ANCOVA (with Minority Position and Risk-aversion) produced significant results as anticipated, except for the main effect of the involvement manipulation. But the results confirm that involvement plays a crucial role in determining when conformity or minority influence will occur. Further, two source-related variables, CREDIBILITY (an attributional type variable) and feeling (emotional reaction to the source) played a significant mediating role in determining the extent of minority influence. Finally, other extraneous variables such as demographic characteristics (age and ethnicity) were insignificant, thereby enhancing the confidence in the validity of the experimental design and the observed results.

VII. CONCLUSION

7.0 Overview

This chapter will first summarize the key issues this research set out to address along with the results obtained. This is followed by a thorough discussion of the results and the implications of the research. Then, the potential contributions of this thesis to the marketing and social psychology literature are addressed, followed by a discussion of the limitations of this research. Finally, several ideas for future research are expounded.

7.1 Summary of Major Issues

A primary objective of this research was to examine the conditions under which conformity effect (or majority influence) versus minority influence effect occurred. Given that issue-involvement is a major factor in persuasive settings (cf. Johnson and Eagly 1989), this research was particularly interested in understanding the role of issue-involvement in the minority-majority influence process. Since similarity of the minority (operationalized through varying social identity of the minority) is known to lead to enhanced minority influence (e.g., Clark and Maass 1988a; Martin 1988a), this research set out to examine if the role of similarity, a peripheral cue in the ELM parlance, was dependent on the level of the subject's involvement.

The main experiment, described in Chapter IV, predicted that source-similarity will have a main effect, meaning that a similar minority would be more persuasive than a dissimilar minority. In other words, greater conformity effect will occur only when the minority consists of dissimilar individuals. Also, a main effect for involvement was predicted, where higher involvement will diminish the importance of peripheral cues (such as status of source or number of people supporting each argument) and hence facilitate greater minority influence. Finally, an interaction effect between similarity and involvement was hypothesized, indicating that source-similarity of the minority will enhance persuasion only under low involvement.

7.2 Summary of Major Results

7.2.1 *Measurement*

The five measured variables were: felt similarity (SIMILARITY-F), felt involvement (INVOLVEMENT-F), credibility of the source (CREDIBILITY), feelings toward the source (FEELINGS) and attitude toward the position advocated by the minority or the degree of minority influence (ATTITUDE). Each construct was measured with multiple-item scales. The scales were internally consistent and exhibited good discriminant and convergent validity as well.

7.2.2 *Effectiveness of Manipulations*

Similarity was manipulated by varying the social identity of the source (students versus faculty), and as anticipated an overwhelming majority of the subjects identifying with a similar source (students) to a dissimilar source (Faculty). Issue-involvement was manipulated by varying the personal consequences of the problem to the subject by having the problem occur in the subjects' own university or at another university. In line with prior expectations, subjects under high involvement reported greater personal relevance towards the issue. Finally, a large number of subjects were able to correctly identify the number of individuals in the minority and majority groups.

7.2.3 *Hypotheses*

The three main hypotheses were the main effects for both source similarity and issue-involvement, and the interaction effect between these two variables. Two of the three hypotheses were supported. A similar minority was more persuasive than a dissimilar minority. This main effect, however, was moderated by the significant interaction between involvement and similarity, with a similar minority being more persuasive than a dissimilar minority only in low involvement conditions. Under high involvement there was no significant difference between the similar and dissimilar minority sources. The hypothesis relating to issue-involvement, which predicted greater minority influence under high involvement, was not tenable. In this entire analysis, the effects of risk-aversion and gender were statistically controlled.

It was expected that a similar minority would be perceived as more credible and generate more favourable feelings than a dissimilar minority. Both these expectations were met. T-tests conducted to examine the effect of credibility on minority influence revealed that a minority perceived as more credible was capable of greater persuasion. Along the same lines, higher favourability of the feelings towards the minority source resulted in higher persuasion.

Regression analyses conducted to examine the effects of the two hypothesized mediating variables, credibility and feelings, indicated that these two variables did play a significant mediating role. The overall predictive power increased substantially when each of these variables was entered into the equation along with the two primary predictor variables, felt similarity and felt involvement. Thus the perceived credibility of the source and feelings (favourable/unfavourable) towards the source are important factors in determining the extent of its influence in a minority-majority context.

7.3 Discussion

Based on Moscovici's Theory of Conversion Behavior (1980), many researchers had found a minority to be more persuasive under a private, rather than a public response condition. In this research, the response-condition (or response-involvement) was held constant by having only private responses. Also, a *simultaneous social influence paradigm* (e.g., Clark and Maass 1988a) was used, where each individual received conflicting persuasive messages from two different sources, with each

message having a high or a low social support. Let us consider the major findings in greater detail.

7.3.1 *Similarity*

At the very outset it was contended that in consumer settings, individuals will often not only know which opinions have more support, but will also be aware of the characteristics of the sources expressing these opinions. Hence, a source-characteristic variable, similarity, was manipulated. The result was consistent with the social comparison literature which indicates that information from a similar "other" (who shared similar values and tastes) is more relevant than information from a dissimilar source (cf. Goethals and Darley 1977; Moschis 1976). The manipulation check for similarity clearly supported that the contention that the subjects (who were university students) felt they shared more common beliefs, tastes and values with other students (similar source) than the faculty members (dissimilar source).

Researchers reviewing the literature in the field of minority-majority influence have pointed out using "minimal" groups with no history or no future, is unlikely to contribute much to the understanding of complexities involved in conformity effects versus minority influence (see Chaiken and Stangor 1987). In some of the past research the social categories of the subjects have questionable relation to the persuasive message being examined (e.g., Martin 1988a) and other studies have failed to report any manipulation checks (e.g., Perez and Mugny 1987) or have reported manipulation checks that do not capture the extent of subject's identification with the

similar or dissimilar source (e.g., Clark and Maass 1988a). The last mentioned study did a manipulation check to see if a minority was perceived as more consistent than a majority, but did not report any manipulation checks to confirm that there was greater identification with an ingroup or similar minority (heterosexual) rather than with the outgroup or dissimilar individual (homosexual).

In this research, as mentioned earlier, only private responses were obtained. However, some of the past research (e.g., Perez and Mugny 1987) has used indirect attitude measures (i.e., attitude on an issue related to the main issue discussed) as a substitute for private measures.[1] Others have examined the similarity/dissimilarity of the minority when the minority is advocating a pro or anti-zeitgeist position (e.g., Clark and Maass 1988a). Furthermore, only a few studies examining the effects of similarity have used a simultaneous social influence paradigm (or a multiple source setting) as in this research (e.g., Perez and Mugny 1987), while others (e.g., Martin 1988a) have compared similar and dissimilar minorities without any reference to a majority source, in other words the subjects received a persuasive message only from a minority source.

The limitations in past research (e.g., failure to provide appropriate manipulation checks) as well as these differences between present and past research limit the extent of comparison possible. One study which also used a simultaneous social

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[1] As Maass and Clark (1984) pointed out, different types of private acceptance measures have been used previously. Some studies use private responses (which provide confidentiality to the subject) similar to the one used in this research, and yet other have used indirect attitude measures to capture private acceptance. It is felt that these measures are distinct.

influence paradigm, found that the a similar minority was more influential than a dissimilar majority (Perez and Mugny 1987). Given the consistency of the results obtained in the present research with the theoretical predictions, the similarity effect can be accepted with confidence.

7.3.2 *Involvement*

Since personal consequences become a primary concern under high involvement, it was felt that under high involvement the motive to make these personal consequences favourable to oneself would clash with the self-presentational and other motives induced under conformity settings. In such a clash of motives it might be reasonable to expect that the best alternative available will be chosen, regardless of whether it comes from a minority or a majority. This is in accordance with the Elaboration Likelihood Model (Petty and Cacioppo 1986), which suggests that attention to source-characteristics will diminish under high involvement. Under low involvement, due to lower interest in the issue, the status of the source (i.e., majority) might serve as an important peripheral cue shaping the attitude. These expectations were not supported by the data, and there was essentially no difference between subjects in the high and low involvement conditions. At this stage one could speculate as to why such a result might have occurred. In addition to using the size of the source (minority or majority) as a peripheral cue, another very visible peripheral cue used was the degree of source similarity. Under low involvement, it is possible that the most visible or most vivid peripheral cue may have been used by the subjects.

In this case, source similarity may have been a more vivid (or perhaps even important) peripheral cue than minority or majority status.

Having said this, it should also be noted that while the low involvement subjects were swayed by the minority's similarity (in reference to the interaction effect), the high involvement subjects not only did not seem to pay much attention to source-similarity, but were also relatively impartial between the minority and the majority (as indicated by their a low minority influence score of 0.30, which is close to a neutral point between the minority and the majority). This suggests that perhaps the high involvement subjects, in accordance with the ELM, may have ignored all peripheral cues. Cognitive response data may help to further untangle this result. Trost et al. (1992), who had collected cognitive response data, reported that a minority's position evoked resistance under high involvement, and this effect was reversed under low involvement.[2] The findings of this research suggest that when individuals were provided a basis for strong social identification, under high involvement a moderate minority influence occurs, while under low involvement a very high level of minority influence can occur, if the minority possesses similar characteristics. The differing objectives and differing methodologies limit further comparisons between these two studies at this point. However, a continued

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[2] A methodological difference between Trost et al. (1992) and the present research should be noted. Trost et al. (1992) had exposed subjects only to a majority or a minority, rather than both. Also, they had the minority and the majority advocate only a counter-attitudinal position. In this research, a simultaneous social influence model was adopted with the subjects being exposed to both the majority and the minority opinions. Further both the minority and the majority presented arguments supporting or opposing the attitudinal issue.

exploration of the role of issue-involvement in producing conformity versus minority influence is likely to be fruitful.

7.3.3 *Mediating Effects*

Initially t-tests revealed that greater minority influence occurred under higher perceived credibility of the minority and also when the feelings towards the minority was more favourable. Path analyses conducted to examine the mediating effects did indicate that these two variables played an important mediating role in the minority-majority influence process.

The results of the path analyses suggest that SIMILARITY-F by itself had a significant impact on reported FEELINGS, with a similar source generating more favourable feelings. This is consistent with past research (e.g., Feick and Higie 1992). Felt involvement did not affect FEELINGS directly. Both SIMILARITY-F and INVOLVEMENT-F significantly predicted CREDIBILITY. Thus, the two primary predictor variables, SIMILARITY-F and INVOLVEMENT-F, had significant paths to the hypothesized mediating variables. Further, the second set of regression models tested with ATTITUDE as the criterion variable indicated that the addition of both CREDIBILITY and FEELINGS in incremental steps, significantly increased the R^2 each time. When all the four variables - SIMILARITY-F, INVOLVEMENT-F, CREDIBILITY and FEELINGS - were entered into the regression equation with ATTITUDE as the criterion variable, only FEELINGS was significant, which meant any effect of CREDIBILITY on ATTITUDE was further mediated through FEELINGS (see Figure 9).

While the role of source credibility has been identified previously (Clark and Maass 1988b), FEELINGS towards the source has not been examined in a similar context. The results of this research indicate that in addition to the credibility of the source, the feelings towards the source, which is a related but distinct construct, plays a significant role in determining the minority-majority influence.

7.3.4 *Support for Theory*

Overall, the results provide confirmation for the simultaneous social influence paradigm. Previous findings indicating that an ingroup or similar minority is more persuasive than an outgroup or dissimilar minority under private measures (Perez and Mugny 1987) is supported here. However, this research indicates that the role of similarity depends on the level of involvement, with similarity having an impact only under low involvement. Regarding the role of involvement, the initial expectation was that under high involvement the group pressure might be diminished because of increased awareness about the personal consequences of the issue, and this in turn might facilitate greater acceptance of the minority position. The lack of influence of either peripheral cue (similarity and minority-majority) on the high involvement subjects indicates that they may have engaged strictly in a central process. This does suggest that issue-involvement may diminish the conformity effect. Clearly, the role of involvement in a group influence context needs further investigation.

7.4 Limitations of Research

7.4.1 *Generalizability and External Validity*

In this research the attitudinal issues examined, in the pretests as well as in the final study, were of a policy nature. In contexts input from consumer groups and other interest groups normally do shape the policies. Since this research was conducted within such a limited context, at this point it may not be judicious to extrapolate these findings to all consumer group contexts. Along the lines of a recent consumer behaviour paper on conformity effects (Rose, Bearden and Teel 1992), extending the study of minority influence and the simultaneous social influence paradigm (or the multiple sources model) to other consumption situations is essential. The generalizability is also limited by the specific nature of the involvement and similarity manipulations as well.

Does the group influence process created in the experiment match closely the process that one might observe outside the laboratory? While face-to-face groups provide greater realism, this research has used a group discussion summary in lieu of a real group. Many scholars in this area have done this in the past (e.g., Clark and Maass 1988a; Martin 1988a; Perez and Mugny 1987; Trost, Maass and Kenrick 1992) and others have argued that face-to-face groups are not necessary to create interdependent relationships or social influence (Rabbie and Horwitz 1988). Thus, there is strong support for the methodology used. However, lack of personal knowledge about the sources as well as limited exposure to group influence do limit

the external validity. There is a need for extending this type of research to more natural settings.

Another issue that might have some bearing on external validity is the nature of the sample used. Will the results obtained from a student sample extend to other groups? The study did use a sample consisting of both genders and different ethnic group, which does increase the external validity.

On the whole, given that this research had the extension and testing of a theory as its objective, the concerns regarding internal validity weighed more heavily. Such a position has support from marketing scholars (Calder, Philips and Tybout 1983).

7.4.2 *Design and Experimental Execution*

The experimental design involved comparisons between a similar minority and a dissimilar majority or vice-versa. The use of a control group or an experimental condition where both the majority and minority share the same social identity (either similar or dissimilar to the subject), as done by Perez and Mugny (1987), would provide greater insight. For instance, the role of issue-involvement could be clarified further if this factor was explored in the presence of only one source-related cue (i.e., majority-minority sources) as opposed to the two source-related cues used in this research (see Trost et al. 1992 for a such a design).

In terms of the execution of the experiment, the data were collected in a large classroom with over 70 students. Data could not be collected in small groups due to financial and time considerations, as well as the difficulty of getting a sufficiently large

sample within a specific time. However, the collection of the entire data in one setting did ensure that the "environmental" factors occurring during the experiment were identical for all subjects, and this does help strengthen the internal validity. Extensive instructions were provided to all students who consented to participate in the study to ensure there was no communication between subjects. At this stage there is no reason to suspect that collection of data in a large class setting may have affected the result.

7.4.3 *Measures*

While the measures, in general, showed good internal consistency as well as discriminant and convergent validity, cognitive response data were not examined, as has been done in some recent research (Trost, Maass and Kenrick 1992). The cognitive response data may shed more light on the effect of involvement. Even though, the generally consistent results obtained in this research do lend support to the Elaboration Likelihood Model, a thorough understanding of the subjects' thought process could be very useful.

7.5 Implications of the Research

7.5.1 *Theoretical Implications*

This research complements the recent efforts in marketing aimed at

understanding the social influence phenomena (e.g., Bearden and Rose 1990; Rose; Bearden and Teel 1992). While these recent efforts have involved the examination of conformity effect as well the personal characteristics which enhance or diminish such an effect, this research offers a simultaneous social influence model that incorporates influence attempts by both the minority and the majority sources. As empirically demonstrated, such a model not only allows for conformity effects to occur, but will also allows deviant or minority opinions to be persuasive. Given that consumers are very likely to be exposed to multiple opinions with varying levels of support, such a model is likely to further advance our understanding of consumer behaviour.

The social psychology literature has incorporated the social identity or similarity of the source as an important variable in such a social influence context. However, the role of issue-involvement, known to be an important variable in persuasion, in determining the extent of minority versus majority influence had not been studied previously. Using the Elaboration Likelihood Model as the framework, this research has made an important advance in bridging these two streams of research. Even though the results did not support the prediction of enhanced minority influence under high involvement, involvement did seem to affect the nature and degree of social influence through its interaction with similarity. In terms of similarity effects on minority influence, the interaction effect obtained in this research also contributes to a greater understanding of the social identification effect that has been known to increase minority influence. This research has made an important, but small step, and

further research on the role of involvement is essential.

7.5.2 *Managerial Implications*

This research has important implications for managers as well. As mentioned at the outset, early adoption of many innovations is mostly confined to a minority. Within social groups, one may find that there are one or two individuals who are willing to stray away from the group norm. Understanding the process through which such individuals influence other groups members can be of great significance to marketers.

In this research, the minority was not portrayed as an "expert" or "opinion leader". Yet the minority was persuasive under the right conditions when the similarity was high and involvement low. This may mean that adoption of new products that are not very highly involving, such as many continuous innovations (Assael 1992), could be enhanced by increasing source-recipient similarity in the communication efforts. This is consistent with the homophily effect in diffusion research (Rogers 1983). Further, since the results indicate a low level of social influence (both in terms of minority-majority influence and in terms of the effect of source similarity) for high involvement subjects, increasing the involvement in an innovative product or idea may facilitate an independent decision with minimal consideration to social influence factors. At this stage one has to be cautious about suggesting specific marketing applications based on the results obtained. Further research using specific products and more realistic settings is needed.

7.6 Future Research

It is essential to further study the role of issue-involvement in the social influence process. It may be worthwhile examining the effects of involvement in the absence of similarity (as in Trost et al. 1992), while retaining the two sources as a within-subjects factor. To fully understand the contribution of issue-involvement, the use of cognitive response measures may be essential.

The work of some social psychologists suggests further avenues of research, which may be very productive for marketers (Nemeth and Wachtler 1983; Tanford and Penrod 1984). Nemeth (1985) has argued that operationalizing social influence in terms of *movement toward the position advocated* by one or the other source is restrictive, and has instead examined how the existence of a minority opinion in a group can diffuse the tension (conformity pressure) in the group leading to more creative decisions (Nemeth 1985; Nemeth and Kwan 1985; Nemeth and Wachtler 1983). This line of enquiry suggests that in groups with dominant majorities, creativity is stifled and consequently the involvement of individuals is diminished, whereas when a group has dissenting viewpoints individuals may feel less pressure from the majority and may actively search for a solution. Nemeth's work has important implications for consumer behaviour. While there is evidence suggesting conflict in consumer groups (e.g., Belch, Belch and Sciglimpaglia 1980), it seems conflict created by minority may lead to consideration of new alternatives and solutions leading to better consumer decisions (cf. Folkes and Kiesler 1991). Currently the work on how the presence of minority leads to creative decisions is

based mostly on perceptual stimuli. It seems that this theory can be readily tested in consumer behaviour settings.

In this research an individual's reaction to a majority as well as a minority was considered. Another possibility is to examine the majority's reaction to a minority, and vice-versa. Such a conflict between the majority and the minority can be set-up by using confederates (e.g., Moscovici and Lage 1976). The issue here is whether a conformist (who has accepted the majority's opinion) will adopt a less popular position, and if so, when might this happen? This issue has relevance to marketers because social changes (including adoption of new products) have started as a minority view and then have been accepted by the majority, who may have been sceptical or disdainful in the beginning. Hence understanding the role of minority in modifying the attitudes and behaviours of conformists is important.

This study examined the conflict in motives occurring due to personal involvement versus group pressure. The response-involvement variable was omitted after the pilot test. In future an examination of the clash between issue and response--involvement may be undertaken. But a thorough understanding of the role of issue-involvement may be necessary before venturing in that direction.

As mentioned earlier, future research should attempt to incorporate more common consumer situations involving specific products or services. It may be interesting to see what kind of product choices (e.g., public versus private products) are influenced by the majority and the minority. For instance, will the public products be more influenced by the majority (similar to greater majority influence in public

measures)? Will the minority be more influential for privately consumed products? If such effects are observed then marketers will gain more insight into promoting public versus private products.

Finally, some of the methodological limitations identified earlier will have to be addressed in future research. The use of control groups as well as face-to-face groups will have to be considered. Additional measures including cognitive response measures as well as other mediating variables (for instance attributional variables) should be incorporated to enhance our understanding of minority influence. Overall, this research has opened several interesting avenues for future research.

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APPENDIX 1

PILOT STUDY: TREATMENTS, STIMULUS MATERIAL AND MEASURES

<u>Key to Appendix 1</u>

1.   This Appendix contains the treatments, stimulus material and dependent measures used in the pilot study reported in Chapter V. The treatments and measures were given to subjects in separate booklets - labelled Booklet One and Two.

2.   To facilitate easier understanding, the treatments used for low and high issue-involvement as well as low and high response-involvement are presented in successive pages in this appendix. For the reader's benefit these pages are labelled appropriately.

(COMMON TITLE SHEET FOR ALL TREATMENTS)

Faculty of Commerce and Business Administration

University of British Columbia

BOOKLET ONE

MARCH 1992

* The University Administration is faced with an important managerial decision regarding a specific student service.

* In order to make an effective decision, the University is seeking input from students in a few randomly selected classes. Your class is among the ones selected.

* Initially a group discussion on this same managerial problem was held in February 1992. You will read a summary of this group discussion. Then, you will be asked to CHOOSE between TWO alternative decisions.

* All opinions expressed by participants will be summarized and presented to the University Administration. Thus, you will be providing useful input for a decision which will affect a specific student service on campus.

* To show our appreciation for your effort and time, we will automatically enter your name in a lottery. There are three cash prices in this lottery: $100, $75 and $50.

Important Note: Please DO NOT communicate with anyone until this study is completed. Please follow ALL instructions carefully.

PLEASE PROCEED TO THE NEXT PAGE.

Introduction:

* A study commissioned by the Administration to evaluate campus services has indicated that given the substantial increase in student population in recent years a new cafeteria will have to be established by the end of 1992 (David Lam Research Centre is a possible location).

* At this stage the University Administration has to decide whether this proposed cafeteria should be run by the University or by a professional food service company.

* To aid the University in making this decision a random sample of students participated in a group discussion. This group discussion, held in February 1992, focused on the following:

"Should a new student cafeteria to be established on Campus (by Dec 1992) be run by the University or by a professional food service company?"

Please Note: There are two private companies interested in opening a cafeteria on campus. Both companies have unionized employees. Thus, in the event of a strike (by any of the unions on campus), the operations of the privately run cafeteria will also be affected.

PLEASE PROCEED TO THE NEXT PAGE.

* We would like you to participate in a study that attempts to understand decision making styles of individuals.

* Our research shows that it is possible to acquire more reliable data on decision making styles if people are given a PRACTICE TASK first.

* Hence, before you actually do the main task, we would like you to go through a simple PRACTICE TASK , to familiarize you with the "rules of the game." Booklets One and Two contain the practice task.

Important Note: Please DO NOT communicate with anyone until both studies are completed. Please follow ALL instructions carefully.

PLEASE PROCEED TO THE NEXT PAGE.

Practice Task

Introduction:

* From the projections of increase in student enrolments at UBC, it is anticipated that a new student cafeteria (in addition to the existing ones) will be required by the year 1996-97.

* The University Administration has to decide whether this proposed cafeteria should be run by the University or by a professional food service company.

* To aid the University in making this decision a random sample of students participated in a group discussion. This group discussion, held in February 1992, focused on the following:

"Should a new student cafeteria to be established on Campus (in 1996-97) be run by the University or by a professional food service company?"

Please Note: There are two private companies interested in opening a cafeteria on campus. Both companies have unionized employees. Thus, in the event of a strike (by any of the unions on campus), the operations of the privately run cafeteria will also be affected.

PLEASE PROCEED TO THE NEXT PAGE.

Your Task:

* First, you will read a summary of the group discussion, which is provided in the next page. You will also find a brief background of each group member. We have used only the initials of the participants in order to protect their identity Some of the participants were Commerce students from various sections of Commerce 396 (some of them could be your classmates).

* After reading the summary of the group discussion, you will express your opinions in a questionnaire. Later, we will ask you to **PUBLICLY** state your opinion in front of your classmates.

PLEASE PROCEED TO THE NEXT PAGE.

(LOW RESPONSE-INVOLVEMENT TREATMENT)

<u>Your Task</u>:

*   First, you will read a summary of the group discussion, which is provided in the next page. You will also find a brief background of each group member. We have used only the initials of the participants in order to protect their identity. Some of the participants were Commerce students from various sections of Commerce 396 (some of them could be your classmates).

*   After reading the summary of the group discussion, you will express your opinions in a questionnaire. Your responses will be **STRICTLY CONFIDENTIAL** and will not be revealed to anyone. Your name or identity is not required. Please feel free to express your views.

PLEASE PROCEED TO THE NEXT PAGE.

(STIMULUS - order and position advocated were randomized; regular font size was used, and not as presented here)

Summary of Group Discussion

Each participant in the group discussion provided arguments favouring one of the two alternatives. After three rounds of discussion, a consensus was not reached. The final arguments made by each participant are presented below:

Supporting the University	Supporting the Professional Co.
AS (COMMERCE undergrad at UBC): An outside food service company will not re-invest its profits in the University to the benefit of its target consumers (i.e., students).	**JK** (exchange student, Europe, no major): A professional company can offer more variety. They are likely to be more responsive to consumer needs. I think they will provide a more courteous service.
LR (COMM/ECON undergrad at UBC): The University has run the UBC Food Services for many years. It has a lot of experience in operating cafeterias.	**PA** (Research Associate in Engineering): A professional food service company will be able to lower the prices due to higher volume of business. They are likely to make the best use of resources and minimize waste.
PR (COMMERCE undergrad at UBC): Since the University's mandate is not to make a profit, prices will be lower as compared to a privately run service.	
KG (COMMERCE undergrad at UBC): I agree that the University should run the new cafeteria.	
RJ (COMMERCE undergrad at UBC): If the University manages the new cafeteria, students' suggestions will get prompter responses.	
EC (COMM/ECON undergrad at UBC): A University run cafeteria will provide more campus job opportunities to students.	

PLEASE CLOSE BOOKLET ONE AND PROCEED TO BOOKLET TWO.
PLEASE DO NOT RETURN TO BOOKLET ONE.

(COMMON COVER PAGE FOR ALL TREATMENTS)

Faculty of Commerce and Business Administration

University of British Columbia

BOOKLET TWO

MARCH 1992

1. Please **Circle** the Appropriate Number:

I think the University should run the new cafeteria.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

I think the professional company should run the new cafeteria.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

How confident are you that you have made the right judgement?

Very confident   1   2   3   4   5   6   7   Not at all confident

PLEASE GO TO THE NEXT PAGE. DO NOT RETURN TO THIS PAGE

2. I think the professional company should run the cafeteria: YES _____ NO _____

3. Please **Circle** the Appropriate Number:

If the cafeteria is run by the University, students' suggestions will get prompter responses.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

A professional company will be able to offer greater variety of food items.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

A professional company will not re-invest its profits in the University for the benefit of its target consumers (i.e., students).

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

As compared to the University, a professional company will make better use of resources.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

A University-run cafeteria will not be profit-oriented, hence prices will be lower.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

A professional company can lower the prices due to higher volume of business.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

PLEASE PROCEED TO THE NEXT PAGE. DO NOT RETURN TO THIS PAGE.

4. Please rate the university and the professional company on the following factors, using a five-point scale (5 = very good; 4 = good; 3 = average; 2 = poor; 1 = very poor):

	UNIVERSITY	PROFESSIONAL
Price	_____	_____
Food Variety	_____	_____
Efficient use of Resources	_____	_____
Receptive to Consumer needs	_____	_____
Other (specify)	_____	_____

_____

5. Please state the **number** of people in the group discussion who supported each alternative:

University _____ Professional Company _____

6. Please **Circle** the Appropriate Number:

In the group discussion, the persons supporting the University were <u>more</u> similar to me as compared to those supporting the professional company.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

PLEASE PROCEED TO THE NEXT PAGE. DO NOT RETURN TO THIS PAGE.

7. Please **Circle** the Appropriate Number:

While reading the group discussion summary, I was:

Paying a lot of attention 1 2 3 4 5 6 7 Paying very little attention

Concentrating very hard 1 2 3 4 5 6 7 Concentrating very little

I carefully considered the opinions on <u>both</u> alternatives before forming my own opinions.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

In the group discussion, the persons supporting the professional company were <u>more</u> believable than those supporting the University.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

In the group discussion, the persons supporting the University gave <u>more</u> useful information than those supporting the professional company.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

In the group discussion, the persons supporting the professional company expressed <u>more</u> novel (or original) opinions than those supporting the University.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

I think the group members with backgrounds similar to mine talked about issues that I myself would have considered.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

I think group members with backgrounds similar to mine provided me a <u>better</u> basis for evaluating my opinions on this topic, as compared to those with dissimilar backgrounds.

Strongly agree 1 2 3 4 5 6 7 Strongly disagree

PLEASE PROCEED TO THE NEXT PAGE. DO NOT RETURN TO THIS PAGE.

Please provide the following personal information. This information will be used for academic research purposes only. This information is strictly confidential.

1. AGE: _____

2. SEX: MALE ____ FEMALE ____

3. ETHNICITY (define it the way you want): _____

4. How would you define your political views:

left-oriented/liberal _____ right-oriented/conservative _____

neither left nor right-oriented _____ not sure _____

Were you instructed earlier (in Booklet One) that you will be asked to state your opinions **PUBLICLY** in front of your classmates :

YES _____ NO _____ NOT SURE _____

--- cut here ---

In order to show our appreciation for your effort and time, we would like to enter your name in a lottery, which consists of three cash prices: $100, $75 and $50. Please provide your name and contact phone number. Only winners will be contacted on or before April 30, 1992.

NAME _____ STUDENT# _____

PHONE# (**valid until April 30, 1992**) _____

THANK YOU FOR YOUR TIME AND COOPERATION.

APPENDIX 2

MAIN EXPERIMENT: TREATMENTS, STIMULUS AND MEASURES

1. This appendix contains the treatments, stimulus material and
    measures for the main experiment described in Chapter IV.
    The treatments and measures were presented separately in
    two different Booklets labelled One and Two.

2. The Booklets One and Two which contain the title "Administration
    Policy Survey" were given to high involvement subjects, and
    the Booklets with the title "Decision Making Study" were
    given to the low involvement subjects. The questionnaires
    contained in Booklet two were identical for both involvement
    groups, except for the title of the questionniare booklet.

3. In the following pages, the different treatments are labelled
    for easy identification.

(HIGH INVOLVEMENT COVER PAGE)

SIMON FRASER UNIVERSITY
ADMINISTRATION POLICY SURVEY

BOOKLET ONE

(LOW INVOLVEMENT COVER PAGE)

**SIMON FRASER UNIVERSITY
DECSION MAKING STUDY**

BOOKLET ONE

(HIGH INVOLVEMENT MANIPULATION)
INTRODUCTION

We would like you to participate in a survey that will provide the SFU Administration useful input on an important decision. This decision will directly or indirectly affect every student in SFU. Hence your input is important.

<u>Background</u>

Recently, a team of SFU scientists (to be called "inventors" henceforth) made a significant scientific breakthrough that has commercial potential. The new technology is based on the fuzzy logic theory. It has potential applications in many fields such as process control equipment, robotics and other areas of industrial automation.

How can the University best benefit from this invention? At SFU there is no policy that addresses this question. In light of this situation, the inventors have made an offer to the University. This offer requires SFU to participate in a joint venture with a private firm. The University is required to invest $2 million dollars which will enable the inventors to purchase additional equipment needed to carry out ongoing research in this area. The private hi-tech firm will invest $8 million and will undertake the manufacturing and marketing of the technology. The University can remain a silent partner and will not directly participate in the commercial venture, and thus will not violate the University's Charter. The inventors, who will provide the technology for this venture, the University and the private firm will each hold shares in the new venture, and will share any profits or losses. Since the technology is in a ready-to-market stage, the commercial success or failure of this venture will become apparent within a year.

In order to make a sound decision, SFU hired a management consultant to access the market potential, competition etc. The consultant's report provided useful information in accessing the feasibility of the offer made by the inventors. In addition, the University will also be using input from students and faculty in the decision process. The final decision will be made shortly.

<u>SFU Administration Policy Survey</u>

As a first step towards getting input from students and faculty, the University recently asked a group of students and faculty to discuss the merits and demerits of the joint venture proposal. We would like you to read a summary of this group discussion, and then express your views on the joint venture. Your input can shape the University's decision in this matter.

PLEASE PROCEED TO THE NEXT PAGE.

(LOW INVOLVEMENT MANIPULATION)
INTRODUCTION

We would like you to participate in a study on **decision making**. Our focus is on understanding differences in decision making process across people. To facilitate this task, we will now present you with an actual decision problem faced by the McMaster University administration.

Problem at McMaster

Recently, a team of McMaster University scientists (to be called "inventors" henceforth) made a significant scientific breakthrough that has commercial potential. The new technology is based on the fuzzy logic theory. It has potential applications in many fields such as process control equipment, robotics and other areas of industrial automation.

How can the University best benefit from this invention? At McMaster University there is no policy that addresses this question. In light of this situation, the inventors have made an offer to the University. This offer requires McMaster University to participate in a joint venture with a private firm. McMaster University is required to invest $2 million dollars which will enable the inventors to purchase additional equipment needed to carry out ongoing research in this area. The private hi-tech firm will invest $8 million and will undertake the manufacturing and marketing of the technology. The University can remain a silent partner and will not directly participate in the commercial venture, and thus will not violate the University's Charter. The inventors, who will provide the technology for this venture, the University and the private firm will each hold shares in the new venture, and will share any profits or losses. Since the technology is in a ready-to-market stage, the commercial success or failure of this venture will become apparent within a year.

In order to make a sound decision, McMaster University hired a management consultant to access the market potential, competition etc. The consultant's report provided useful information in accessing the feasibility of the offer made by the inventors. The University will also be using input from students and faculty in the decision process. A final decision will be made shortly.

Decision Making Study

In the first phase of our ongoing study on decision making, we presented the McMaster decision problem along with a summary of the consultant's report (obtained from McMaster University) to a group of SFU students and faculty. We asked them to engage in a group discussion, focusing on the merits and demerits of the joint venture proposal at McMaster. We would like you to read a brief summary of this group discussion by SFU students and SFU faculty. Naturally, your opinions on this problem will not affect the final decision at McMaster University.

PLEASE PROCEED TO THE NEXT PAGE.

(MINORITY - SIMILAR; MAJORITY - DISSIMILAR)

Group Discussion

The group discussion was held in June 1992 to discuss obtain preliminary feedback from students and faculty. In the group discussion, both the student and faculty participants were randomly selected to ensure that their opinions represented their respective groups. The discussion group was made up of **12** participants - **8** were faculty members and **4** were students. The average age of the faculty members was 43.5 years and the average age of the students was 22 years. Each group discussion participant was aware of the findings of the management consultant. The group session lasted one hour. The opinions of the students as well as the faculty carried equal weight in the discussion. We would like you to read a brief summary of this group discussion.

PLEASE PROCEED TO THE NEXT PAGE.

(MINORITY - DISSIMILAR; MAJORITY - SIMILAR)

Group Discussion

The group discussion was held in June 1992 to discuss obtain preliminary feedback from students and faculty. In the group discussion, both the student and faculty participants were randomly selected to ensure that their opinions represented their respective groups. The discussion group was made up of **12** participants - **8** were students and **4** were faculty members. The average age of the faculty members was 43.5 years and the average age of the students was 22 years. Each group discussion participant was aware of the findings of the independent consultant. The group session lasted one hour. The opinions of the students as well as the faculty carried equal weight in the discussion. We would like you to read a brief summary of this group discussion.

PLEASE PROCEED TO THE NEXT PAGE.

(ORDER and POSITION ADVOCATED by each source was randomized)

Discussion Summary
The hour long group discussion ended without a consensus as to whether the University should enter this joint venture or not. Interestingly, all four of the students seemed very enthusiastic about this venture, while all the eight faculty members opposed this idea. Since the interests of students and faculty members seemed to differ and both sides maintained their positions consistently, we have summarized the different opinions separately for your convenience.

Supporters of the new venture: Four students. Summary of their arguments:

The University has not previously benefited from the inventions of its faculty. This joint venture gives the University an additional source of income, and profits from this venture can be used in upgrading many campus services such as library and computer labs. This project can create additional campus jobs for the students, for instance the University's share of the profits can be used to create summer jobs and Research Assistantships. This joint venture will bring the University closer to industry, which is important for making Canadian industry globally competitive. Involvement in this hi-tech venture will increase the prestige of the University as a major player in a state-of-the-art technology. In the long run, this venture is likely to trigger more industry support for the research activities on campus and will generate more research grants. According to the independent consultant, this technology is significantly superior to what available in the market currently, which is a distinctive competitive advantage. On the whole, there are more advantages than disadvantages to the University's involvement in this venture.

Opposers of the new venture: Eight Faculty members. Summary of their arguments:

Given reduced government funding to Universities and the economic downturn, how can the University raise $2 million? The University may have to cut back on other services to provide capital for this venture. The consultant's report mentions that several major hi-tech companies are doing their own in-house R&D in this area, which means heavy competition is likely. Since the total investment in this project is not very large, the joint venture partners cannot maintain a technological lead over big competitors. If the venture incurs losses, the University will have to recoup the money through other sources such as tuition hikes, which will affect the students. If this joint venture is established, in future the research activities on campus will be dictated by the industry, and the University will not only lose its independence but will also fail in its mission to carry out basic research. The professors engaged in this venture will spend more time in this venture and less time with the students, hence quality of education will be affected. While the University should benefit from this invention, a joint venture is not the answer.

PLEASE CLOSE BOOKLET ONE. DO NOT RETURN TO BOOKLET ONE
PLEASE PROCEED TO BOOKLET TWO.

SIMON FRASER UNIVERSITY
ADMINISTRATION POLICY SURVEY

BOOKLET TWO

(LOW INVOLVEMENT QUESTIONNAIRE COVER PAGE)

DECISION MAKING STUDY

BOOKLET ONE

PLEASE READ THE FOLLOWING INSTRUCTIONS:

1. This booklet contains a series of questions. Please answer ALL questions.

2. If there are specific instructions at the beginning of a question or at the end of a page, please follow them carefully.

3. We are interested in your first impressions/reactions to the questions. Please try to record your actual feelings/thoughts.

4. All responses will be kept strictly confidential. Please DO NOT identify yourself by name or any other means.

PLEASE PROCEED TO THE NEXT PAGE.

1. <u>Please **Circle** the Number that Closely Corresponds to Your Feelings/Opinions:</u>

I support the idea of the University being involved in this joint venture.

       Strongly agree 1 2 3 4 5 6 7 Strongly disagree

I think the University should not get involved in this joint venture.

       Strongly agree 1 2 3 4 5 6 7 Strongly disagree

I think the proposed joint venture is too risky.

       Strongly agree 1 2 3 4 5 6 7 Strongly disagree

I think the benefits of the proposed joint venture far outweigh the risks.

       Strongly agree 1 2 3 4 5 6 7 Strongly disagree

How confident are you that your judgement on this issue is right?

       Very confident 1 2 3 4 5 6 7 Not at all confident

After reading the discussion summary, I have sympathy for the side with which I disagree.

       Strongly agree 1 2 3 4 5 6 7 Strongly disagree

I carefully considered the opinions of all group members before forming my own opinion.

       Strongly agree 1 2 3 4 5 6 7 Strongly disagree

As an SFU student, I am concerned about whether the joint venture is started or not.

       Strongly agree 1 2 3 4 5 6 7 Strongly disagree

The opposers of joint venture presented <u>more</u> believable arguments than the supporters.

       Strongly agree 1 2 3 4 5 6 7 Strongly disagree

I think in the group discussion, the supporters of the venture were <u>less</u> credible than the opposers.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

Whether the joint venture is actually started or not, is not relevant to my life as a student at SFU.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

My feelings towards the persons supporting the venture:

Very favourable   1   2   3   4   5   6   7   Very unfavourable

My feelings towards the persons opposing the venture:

Very favourable   1   2   3   4   5   6   7   Very unfavourable

The arguments of the supporters of the venture were <u>more</u> consistent than the arguments of the opposers.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

The opposers of the venture provided <u>more</u> novel and original arguments than the supporters.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

On most issues, I think I am <u>more</u> likely to agree with other SFU students than SFU faculty.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

It is likely that the students in the group discussion and I have similar tastes and preferences.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

It is likely that I share <u>more</u> common beliefs with the SFU students, rather than the faculty, who participated in the group discussion.

Strongly agree   1   2   3   4   5   6   7   Strongly disagree

PLEASE PROCEED TO THE NEXT PAGE. DO NOT RETURN TO THIS PAGE.

Please <u>**Circle**</u> <u>the Number that Closely Corresponds to Your Feelings/Opinions:</u>

If the University participates in the joint venture, its success or failure will have important consequences for SFU students.

        Strongly agree 1 2 3 4 5 6 7 Strongly disagree

The students in the group discussion provided arguments which I had not previously considered.

        Strongly agree 1 2 3 4 5 6 7 Strongly disagree

In my life, I am usually quite conservative and do not take risks.

        Strongly agree 1 2 3 4 5 6 7 Strongly disagree

I believe in taking risks.

        Strongly agree 1 2 3 4 5 6 7 Strongly disagree

2. Are you familiar with the technology discussed in this study (**Circle One**):   YES NO
   If YES, tell us where you heard about it and what you know about it:

_____

_____

3. In the group discussion summary you read, how many SFU students:
   Supported the venture: _____   Opposed the venture: _____

   In the group discussion summary you read, how many SFU faculty members:
   Supported the venture: _____   Opposed the venture: _____

PLEASE PROCEED TO THE NEXT PAGE. DO NOT RETURN TO THIS PAGE.

Please provide the following personal information. This will be used for research purposes only.

Age: _____   Sex: _____

Ethnicity/Nationality (optional): _____

Major Field of Study: _____   Year of Study: _____

Courses enrolled this term (specify course numbers): _____
_____

THANK YOU FOR YOUR TIME AND COOPERATION.

TABLE 1: Test of Main Effects for Pretest 1

TREATMENT	MEANS	T-VALUE	DF	SIG[1]
SIMILARITY				
High (n = 22)	1.50	1.64	40	0.054
Low (n = 20)	0.00			
ISSUE-INVOLVEMENT				
High (n = 20)	1.30	1.05	40	0.150
Low (n = 22)	0.32			
RESPONSE-INVOLVEMENT				
Private/Low (n = 22)	1.13	0.79	40	0.22
Public/High (n = 20)	0.40			

[1] One-tailed test.

TABLE 2: Pilot Study - Reliability of Measures

CONSTRUCT	NO.OF ITEMS	CRONBACH'S ALPHA
ATTITUDE	2	0.92
INVOLVEMENT (Manipulation Check)	3	0.77
SIMILARITY (Manipulation Check)	2	0.67
BELIEFS	6	0.77
SOURCE CREDIBILITY	3	0.52

TABLE 3: Pilot Study - Rotated Factor Matrix

VARIABLE	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
URUN	.53477	.60657	.30312	
PRUN	.54475	.59562		
CONFID				-.74446
SUGRESP		.78332		
VARIETY	.70244			
REINVES		.38735		.36621
RESORCE	.66411	.30729		
PROFIT		.64875		
VOLUME	.74566			
SIMILMC	-.33296	-.62947		
ATTENT			.89100	
CONCTR			.89501	
CONALT			.64394	
BELIEVE	.67080	.34080		
USEFUL		.63980		
NOVEL	.61715			
SIMTALK	.40255	-.30277	.30388	.33644
Percentage Variance Explained	29%	13.4%	8.9%	6.6%

NOTE: All Factor Loadings above 0.30 are shown.

TABLE 4: Pilot Study - Similarity X Involvement X Response ANCOVA

Dependent Variable = ATTITUDE

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
COVARIATES[1]					
Position	8.546	1	8.546	8.696	.004
Political-View	2.604	1	2.604	2.649	.106
MAIN EFFECTS					
Similar	.023	1	.023	.023	.880
Involvement	.022	1	.022	.022	.882
Response	.068	1	.068	.069	.793
INTERACTION EFFECTS					
Sim X Inv	2.509	1	2.509	2.553	.113
Sim X Res	2.201	1	2.201	2.239	.137
Inv X Res	1.575	1	1.575	1.602	.208
Sim X Inv X Res	.002	1	.002	.002	.961
EXPLAINED	18.572	9	2.064	2.100	.035
RESIDUAL	107.126	109	.983		
TOTAL	125.697	118	1.065		

[1] Position refers to the position advocated by the source, which could favour the university or the private franchise. Political-view refers to the individual's political orientation - ranging from liberal to conservative.

TABLE 5: Main Study - Reliability of Measures

CONSTRUCT	NUMBER OF ITEMS	CRONBACH'S ALPHA
SIMILARITY-FELT	3	0.94
INVOLVEMENT-FELT	3	0.84
SOURCE CREDIBILITY[1]	2	0.69
FEELINGS	2	0.83
ATTITUDE	2	0.82
RISK AVERSION	2	0.84

[1] It should be noted that the measure used for credibility was different
from the measures used previously in the literature (e.g., Feick and Higgie 1992).
In this research, the measures of credibility required the subjects to compare
to different sources and then state which source was more credible.

TABLE 6: Parameter Estimates of Reliability Models

General Reliability Model		Equal Msmt Units Model		Parallel Forms Model	
Λ^1	Θ	Λ^2	Θ	Λ^3	Θ^4
1.00*	0.33	1.00	0.34	1.00	0.35
1.02	0.30	1.00	0.32	1.00	0.35
0.93	0.42	1.00	0.40	1.00	0.35
1.00*	0.52	1.00	0.48	1.00	0.40
1.27	0.22	1.00	0.31	1.00	0.40
1.08	0.43	1.00	0.40	1.00	0.40
1.00*	0.25	1.00	0.44	1.00	0.49
0.67	0.66	1.00	0.56	1.00	0.49
1.00*	0.15	1.00	0.19	1.00	0.32
0.80	0.45	1.00	0.43	1.00	0.32
1.00*	0.18	1.00	0.21	1.00	0.30
0.85	0.41	1.00	0.39	1.00	0.30

Φ^5	Φ^5	Φ^5
0.67	0.65	0.65
0.48	0.62	0.60
0.75	0.51	0.50
0.85	0.73	0.69
0.82	0.72	0.70

GOODNESS-OF-FIT INDEX:

$\chi^2 = 47.91$	$\chi^2 = 59.95$	$\chi^2 = 73$
df = 44	df = 51	df = 58
p = 0.317	p = 0.18	p = 0.08

GOODNESS-OF-FIT DIFFERENCE:

Model 1 and Model 2	Model 2 and Model 3
$\chi^2 = 12.04$	$\chi^2 = 13.69$
df = 6	df = 2
p = 0.05	p < 0.005

---

* = one variable in each column constrained to be equal 1.0 (Bagozzi 1980, p180).

1 = the first three items are measure of felt similarity, the next three indicate felt involvement, and of the last six measures, two each represent source credibility, source feelings and attitudes respectively in that order.

2 = all Λs constrained to equal one (see Bagozzi 1980, p181)

3 = all Λs constrained to equal one (see Bagozzi 1980, p181)

4 = error variances of indicators of common true-scores constrained to be equal
(i.e., $\theta_{11} = \theta_{22} = \theta_{33}$; $\theta_{44} = \theta_{55} = \theta_{66}$; ......$\theta_{11,11} = \theta_{12,12}$)

5 = the Φ matrix was a symmetric matrix; only the diagonal elements are shown here.

Table 7: Summary of Manipulation Checks for Main Study

Treatment	Test Used	Statistic	df	Sig
SIMILARITY[1]	Chi-square	10.09	61	0.005
INVOLVEMENT $(High_{mean} = 17.55)$ $(Low_{mean} = 13.19)$	T-test	4.71	70	0.001

[1] Further examination of the data showed that the significant chi-square was because a greater proportion of the subjects (70%) expressed felt similarity or identification with other students, and a much smaller proporation of the sample expressed felt similarity with the faculty members (30%).

TABLE 8: Main Study - Similarity X Involvement ANCOVA

Dependent Variable = ATTITUDE

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
COVARIATES					
Risk-aversion	27.386	1	27.386	3.085	.084
Gender	1.396	1	1.396	.157	.693
MAIN EFFECTS					
Similarity	84.735	1	84.735	9.545	.003
Involvement	.740	1	.740	.083	.774
INTERACTION EFFECTS					
Sim X Inv	36.927	1	36.927	4.160	.043
EXPLAINED	149.957	5	29.991	3.378	.009
RESIDUAL	585.918	66	8.878		
TOTAL	735.875	71	10.364		

Table 9: Path Analysis - CREDIBILITY and FEELINGS as Criterion Variables

Model	Criterion	Predictors[1]			R^2
		SIM-F	INV-F	CRED	
1	CREDIBILITY	0.499 (0.001)	0.202 (0.050)		0.328
2	FEELINGS	0.441 (0.001)	0.037 (0.777)		0.202
3	FEELINGS	0.173 (0.219)	-0.132 (0.300)	0.529 (0.001)	0.366

[1] SIM-F stands for SIMILARITY-F; INV-F stands for INVOLVEMENT-F; and CRED stands for CREDIBILITY. Numbers reported under the predictor variables are betas, with the significance level within parantheses.

Table 10: Path Analysis - ATTITUDE as the Criterion Variable

Model	Criterion	Predictors[1] SIM-F	INV-F	CRED	FEEL	R^2
74-183						
4	ATTITUDE	0.443 (0.005)	-0.132 (0.379)			0.218
5	ATTITUDE	0.344 (0.050)	-0.139 (0.340)	0.256 (0.110)		0.274
6	ATTITUDE	0.101 (0.600)	-0.201 (0.334)	0.204 (0.334)	0.492 (0.05)	0.518

[1] SIM-F stands for SIMILARITY-F; INV-F stands for INVOLVEMENT-F; CRED stands for CREDIBILITY; and FEEL stands for FEELINGS. Numbers reported under the predictor variables are betas, with the significance level within parantheses.

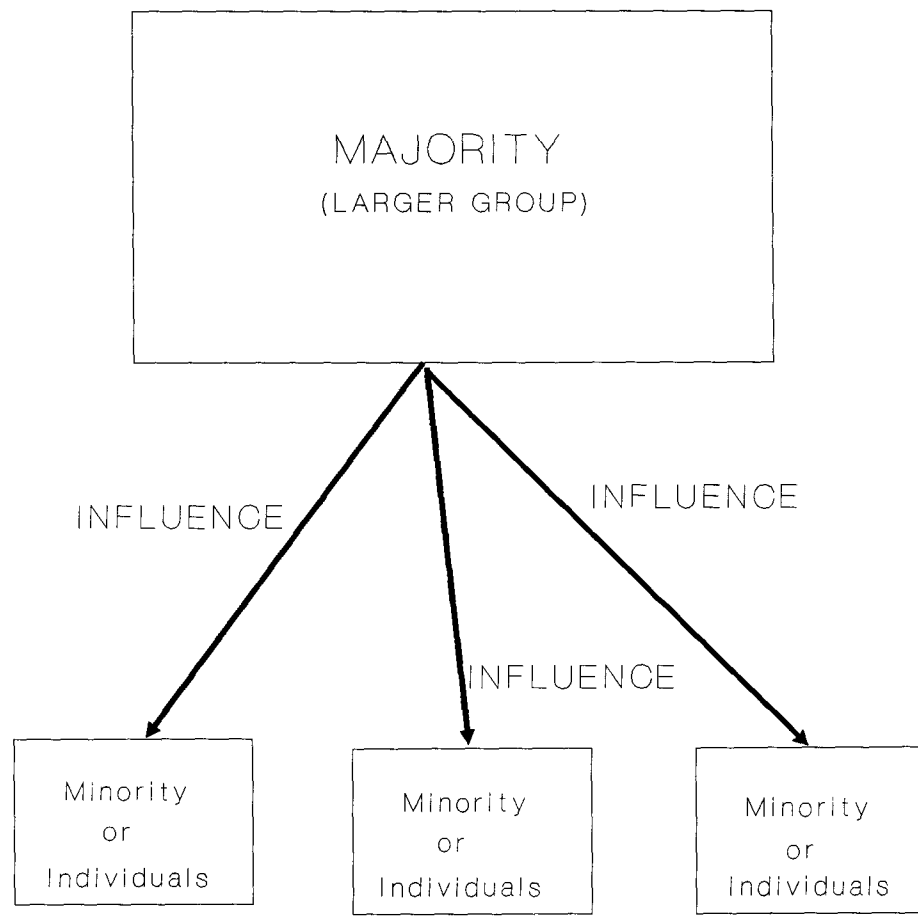# FIGURE 1: Conformity Influence Model

FIGURE 2: Dual Influence Model

MAJORITY
(LARGER GROUP)

INFLUENCE

INFLUENCE

INFLUENCE

Minority
or
Individuals
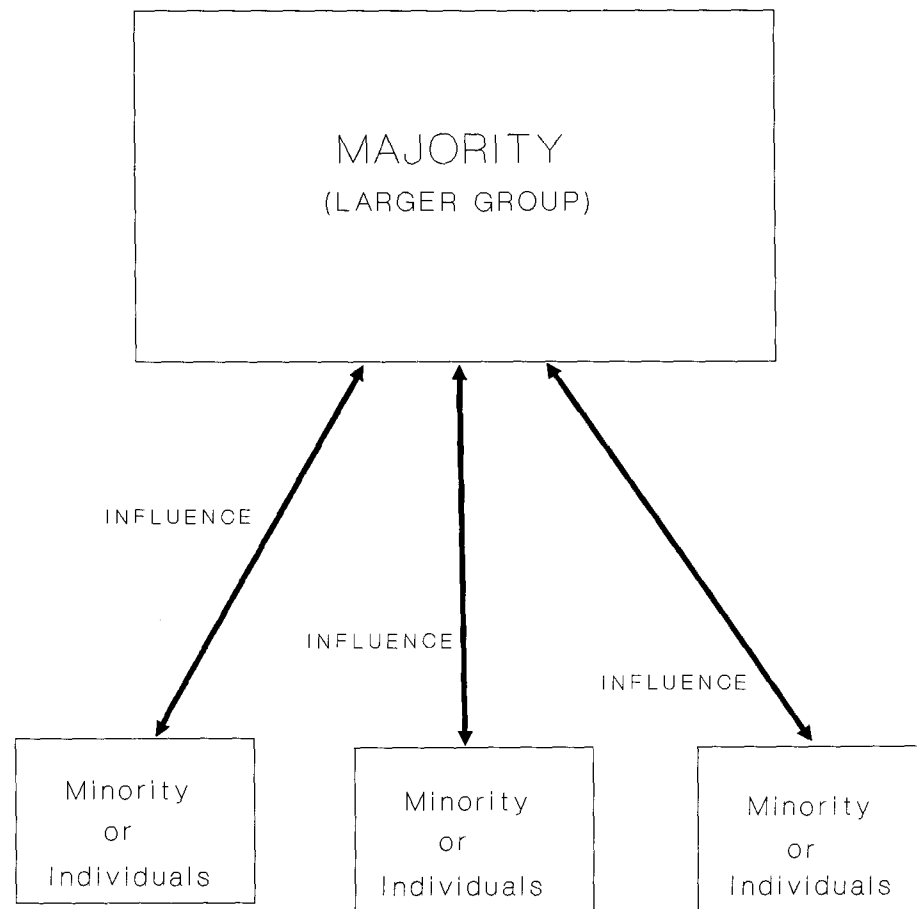
Minority
or
Individuals

Minority
or
Individuals

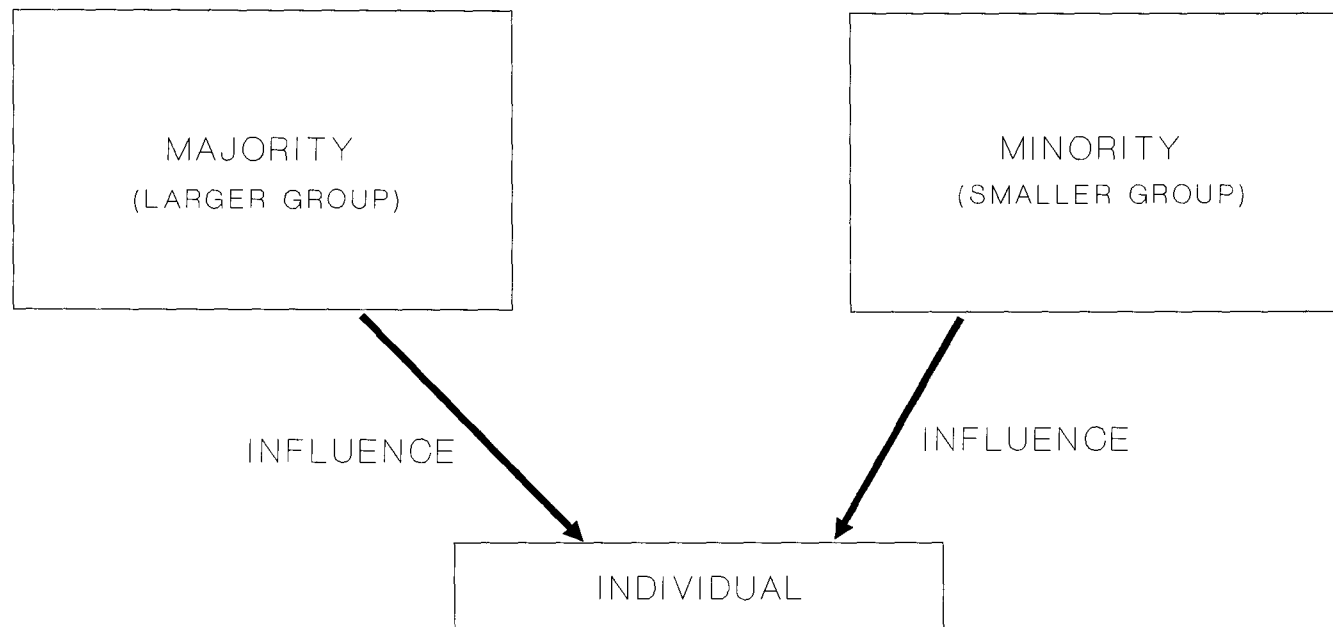FIGURE 3: Simultaneous Social Influence Model

FIGURE 4: General Reliability Model (True-Scores)
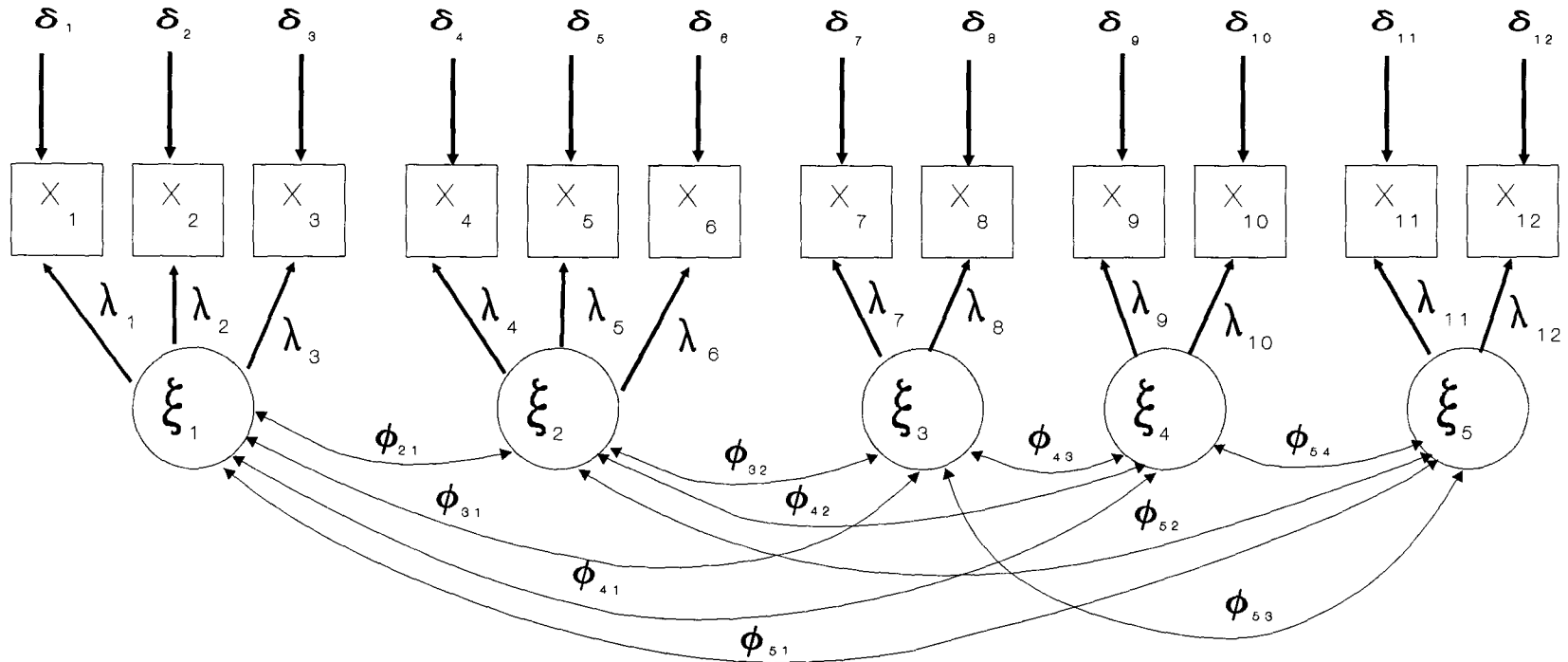
FIXED PARAMETERS

$$\lambda_1 = \lambda_4 = \lambda_7 = \lambda_9 = \lambda_{11} = 1.0$$

FREE PARAMETERS

$$\lambda_2 \ \lambda_3 \ \lambda_5 \ \lambda_6 \ \lambda_8 \ \lambda_{10} \ \lambda_{12}$$

$$\delta_1 - \delta_{12}$$

$$\phi_{21} - \phi_{54}$$

LATENT VARIABLES
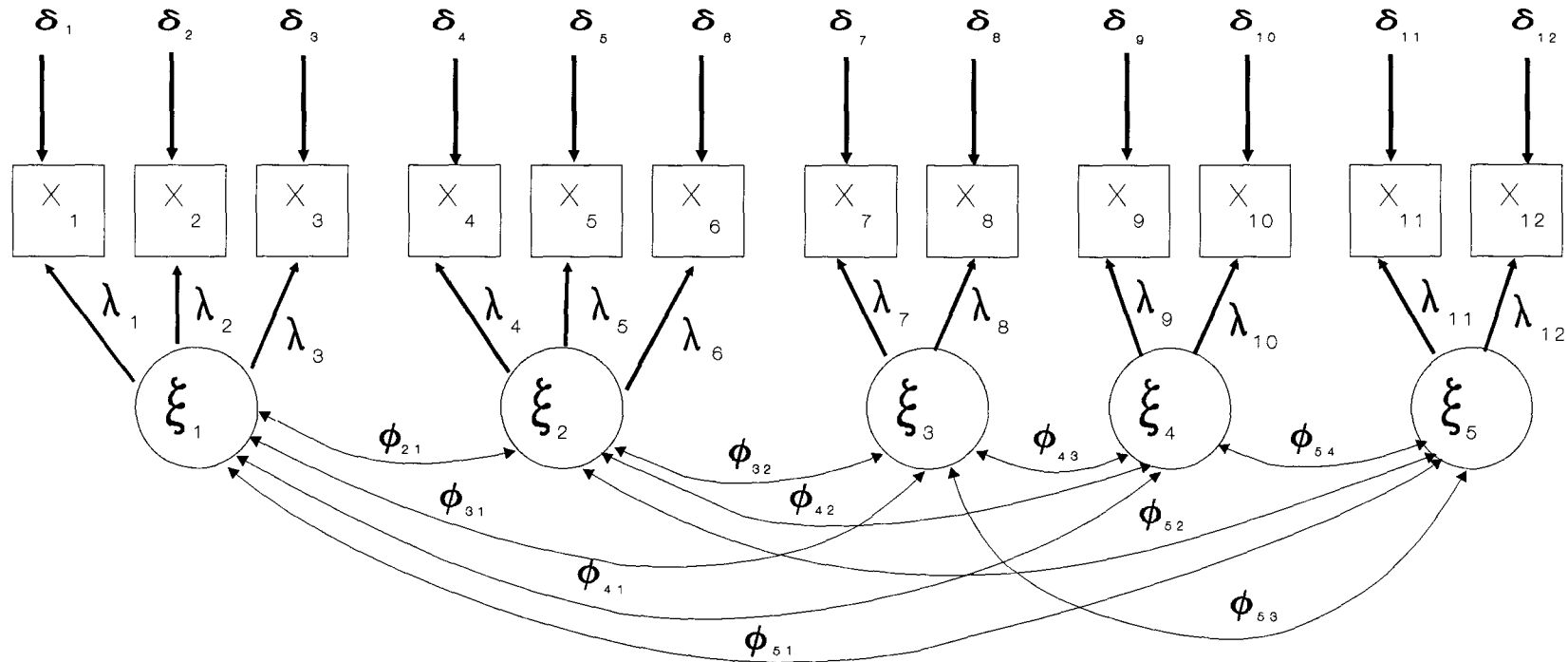
ξ_1 = SIMILARITY

ξ_2 = INVOLVEMENT

ξ_3 = SOURCE CREDIBILITY

ξ_4 = SOURCE FEELINGS

ξ_5 = ATTITUDE

FIGURE 5: Equal Units Reliability Model

FIXED PARAMETERS

All λs = 1.0

FREE PARAMETERS

All δs

All ϕs

LATENT VARIABLES
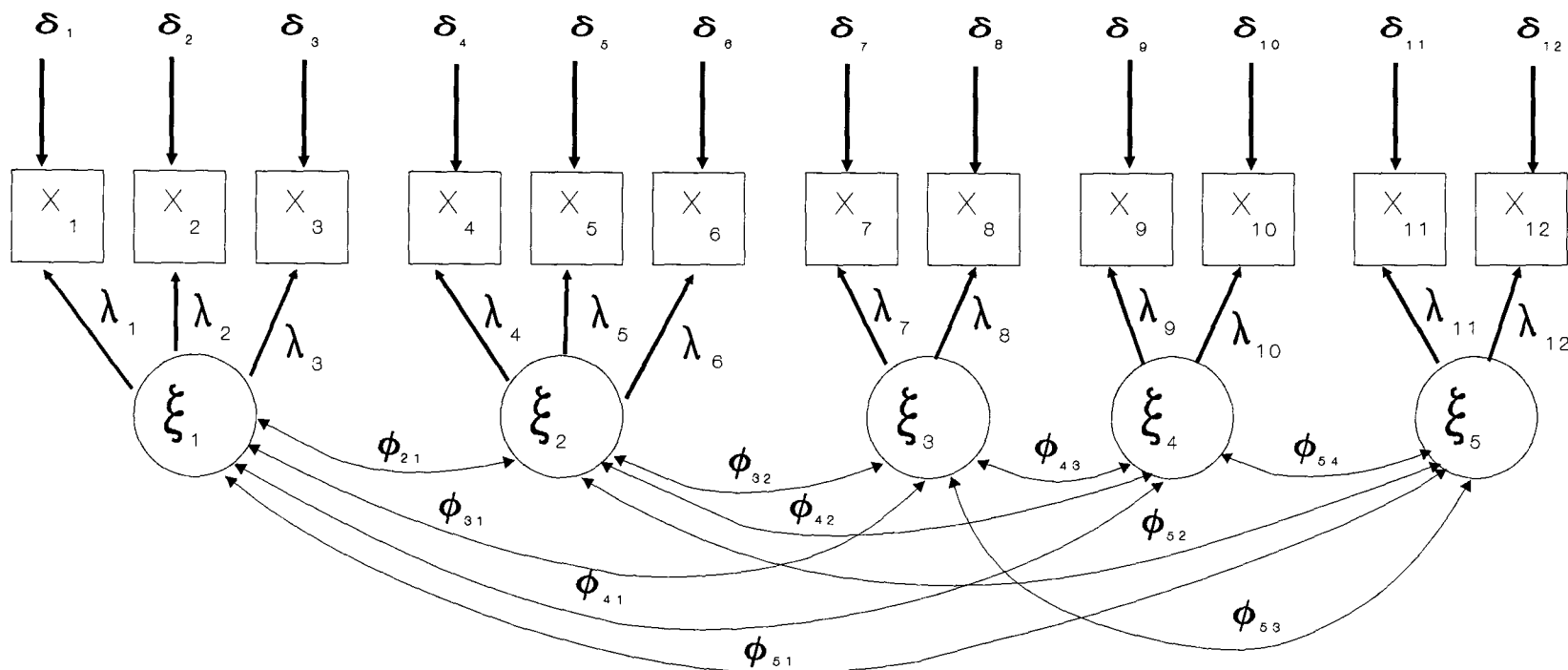
ξ_1 = SIMILARITY

ξ_2 = INVOLVEMENT

ξ_3 = SOURCE CREDIBILITY

ξ_4 = SOURCE FEELINGS

ξ_5 = ATTITUDE

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δ_1 δ_2 δ_3 δ_4 δ_5 δ_6 δ_7 δ_8 δ_9 δ_{10} δ_{11} δ_{12}

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8 X_9 X_{10} X_{11} X_{12}

λ_1 λ_2 λ_3 λ_4 λ_5 λ_6 λ_7 λ_8 λ_9 λ_{10} λ_{11} λ_{12}

ξ_1 ξ_2 ξ_3 ξ_4 ξ_5

ϕ_{21} ϕ_{32} ϕ_{43} ϕ_{54}

ϕ_{31} ϕ_{42} ϕ_{52}

ϕ_{41}

ϕ_{51} ϕ_{53}

PARAMETERS

All λs = 1.0

All ϕs

All Error Variances of Indicators
Constrained to be Equal

$\delta_1 = \delta_2 = \delta_3$; $\delta_4 = \delta_5 = \delta_6$ and so on.

LATENT VARIABLES

ξ_1 = SIMILARITY

ξ_2 = INVOLVEMENT

ξ_3 = SOURCE CREDIBILITY

ξ_4 = SOURCE FEELINGS

ξ_5 = ATTITUDE
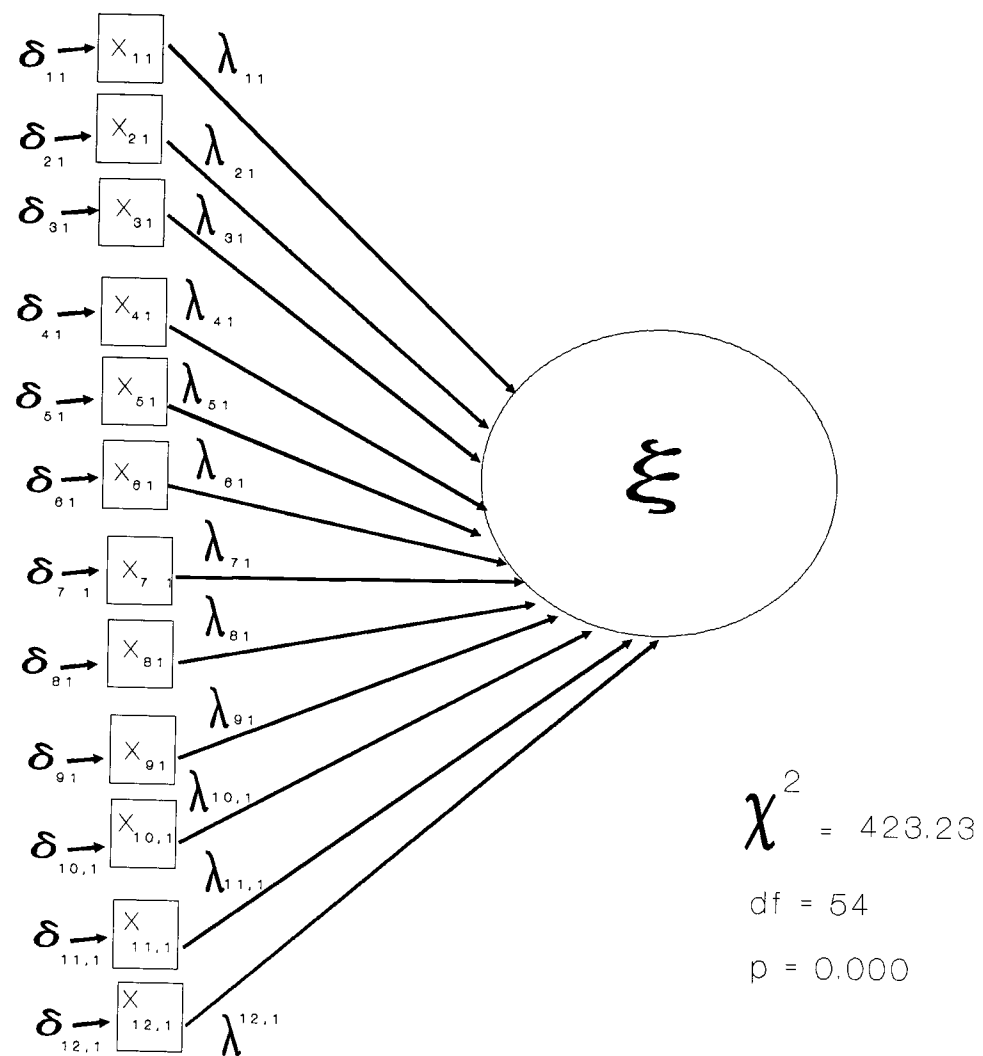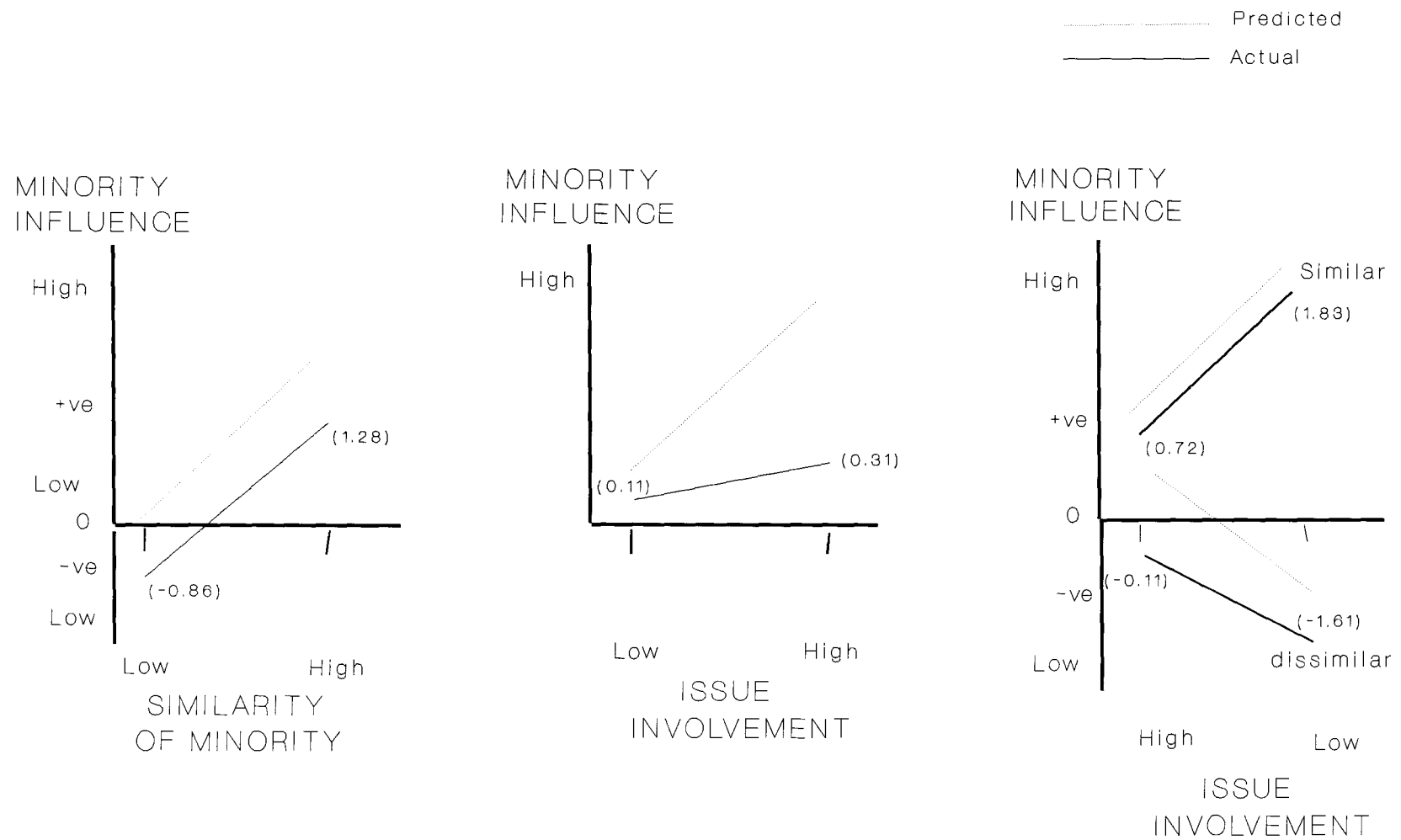
FIGURE 7: Single Factor Confirmatory Factor Model

$\delta_{11} \rightarrow X_{11}$ λ_{11}

$\delta_{21} \rightarrow X_{21}$ λ_{21}

$\delta_{31} \rightarrow X_{31}$ λ_{31}

$\delta_{41} \rightarrow X_{41}$ λ_{41}

$\delta_{51} \rightarrow X_{51}$ λ_{51}

$\delta_{61} \rightarrow X_{61}$ λ_{61}

$\delta_{71} \rightarrow X_{7\,1}$ λ_{71}

$\delta_{81} \rightarrow X_{81}$ λ_{81}

$\delta_{91} \rightarrow X_{91}$ λ_{91}

$\delta_{10,1} \rightarrow X_{10,1}$ $\lambda_{10,1}$

$\delta_{11,1} \rightarrow X_{11,1}$ $\lambda_{11,1}$

$\delta_{12,1} \rightarrow X_{12,1}$ $\lambda_{12,1}$

ξ

$\chi^2 = 423.23$

df = 54

p = 0.000

FIGURE 8: Main Hypotheses and Results[1]

Predicted
Actual

MINORITY INFLUENCE — SIMILARITY OF MINORITY

High, +ve, Low, O, -ve, Low
(1.28)
(-0.86)
Low — High

MINORITY INFLUENCE — ISSUE INVOLVEMENT

High
(0.11) (0.31)
Low — High

MINORITY INFLUENCE — ISSUE INVOLVEMENT
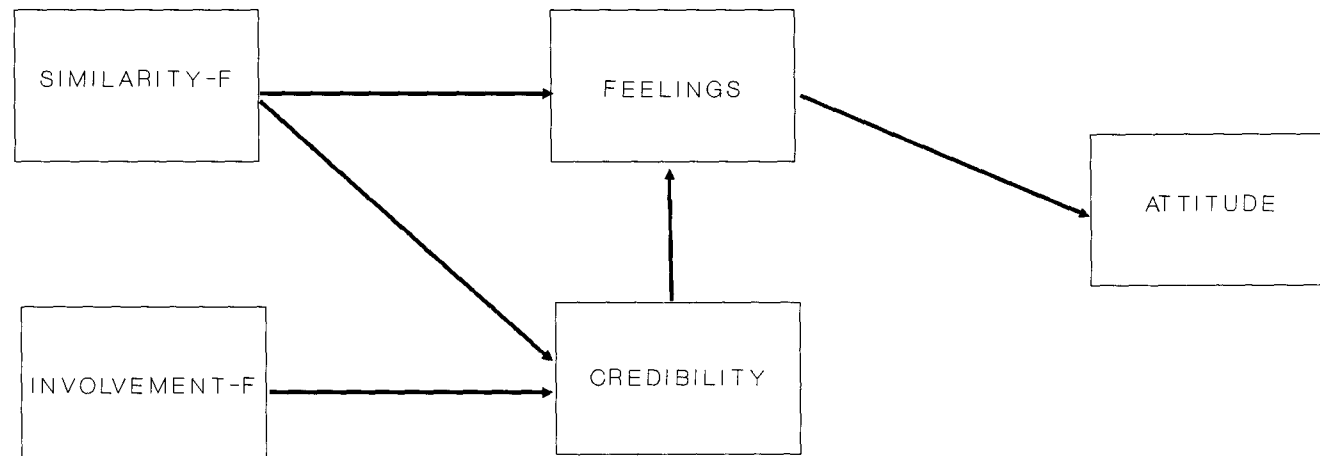
High, +ve, O, -ve, Low
Similar (1.83)
(0.72)
(-0.11)
(-1.61) dissimilar
High — Low

1 = Figure not drawn to scale; cells means are in paranthesis

FIGURE 9: Mediating Effects of Credibility and Feelings

NOTE: Only significant paths are shown in this figure.

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