**The Moderating Role of Elaboration in Majority-Minority Influence
in Group Decision-Making**

Laura D. Johnston

**A Thesis submitted to the Department of Psychology
in conformity with the requirements for
the degree of Master of Arts**

Queen's University

Kingston, Ontario, Canada

August, 2001

Copyright © Laura Dawn Johnston

National Library
of Canada

Acquisitions and
Bibliographic Services

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale
du Canada

Acquisitions et
services bibliographiques

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-63318-7

Canada

My gratitude and thanks...

To Dr. Lee Fabrigar, whose constant support and encouragement have kept me on track and made unbelievable achievements seem possible. I owe the completion of this work to Lee's patience and dedication to excellence that never seem to ebb, whether it's day or night. Working with Lee has inspired me to perform to the best of my ability and enjoy it! I am proud to have been supervised by Lee and look forward to our work together in the future.

To my committee, Drs. Rod Lindsay and Ron Holden, for being so generous with their time and suggestions. Thank you also to my external examiner, Dr. Stephen Arnold.

To my family, who never stopped believing that I could do anything. Your strength and love are inspiring. Thanks Mom and Dad for having faith that I could choose my own path and supporting me even when it differed from your wishes.

Especially to Steve, who I can never thank enough. You have supported this process without reservation and your confidence in me made me believe I could fly if I wanted to. This work is as much yours as it is mine, your love has guided me through it.

To my colleagues, whose shared exasperation has helped me to keep my sanity. To Angela and Jen, thank you for your assistance, for listening when things went wrong and for smiling when things went right. Our talks helped enormously. It was wonderful to know that I was not alone.

Table of Contents

List of Tables	v
Abstract	vi
General Introduction	1
Explanation of Majority-Minority Asymmetry	2
Factors Moderating the Magnitude of Minority Influence	7
Attitude Strength	9
Elaboration as a Determinant of Attitude Strength	12
Consequences of Elaboration for the Attributes of Strong Attitudes	14
Elaboration and Majority-Minority Influences	16
Overview of Two Experiments	19
Experiment One	20
Introduction	20
Method	22
Results	32
Discussion	46
Experiment Two	48
Introduction	48
Method	50
Results	53
Discussion	65

General Discussion	67
Summary of Results	67
Implications of Results	68
Limitations	71
Future Directions	72
References	77
Appendix A	82
Appendix B	102
Curriculum Vitae	105

List of Tables

Table 1: Mean Relative Faction Influence by Elaboration-Faction Asymmetry Condition (Experiment 1)	38
Table 2: Mean Relative Private Attitude Change by Elaboration-Faction Asymmetry Condition (Experiment 1)	41
Table 3: Mean Relative Ratings Of Faction Persuasiveness by Elaboration-Faction Asymmetry Condition (Experiment 1)	44
Table 4: Mean Relative Faction Influence by Elaboration-Faction Asymmetry Condition (Experiment 2)	58
Table 5: Mean Relative Private Attitude Change by Elaboration-Faction Asymmetry Condition (Experiment 2)	60
Table 6: Mean Relative Ratings Of Faction Persuasiveness by Elaboration-Faction Asymmetry Condition (Experiment 2)	63

Abstract

The ability of elaboration (active information-processing) to moderate majority and minority influence on a mock civil jury task was examined in 2 experiments. A 2 (faction membership: majority vs. minority) x 3 (elaboration-faction asymmetry condition: minority more elaboration vs. majority more vs. equal factions) x 2 (pre-discussion opinion: pro-defendant vs. pro-plaintiff) design was used with 6-person groups in experiment 1 and 3-person groups in experiment 2. Experiment 1 used an accountability manipulation to differentiate the level of elaboration for the 4 majority and the 2 minority members. Accountability was varied by giving different instructions about the use of the case materials, however it was not effective in manipulating the level of elaboration. Experiment 2 used a distraction technique during the reading of the case material to differentiate the elaboration of the 2 majority members and 1 minority member. The distraction manipulation was implemented followed by measures of elaboration. Groups discussed the case and decided on a unanimous verdict. Post-discussion measures were then taken. The distraction manipulation of elaboration in experiment 2 was effective as measured by a thought-listing task and self-report of carefulness of thinking. Experiment 2 also indicated that, overall, the majority had more influence on the group verdict, on the jurors' private attitude change, and on juror perceived persuasiveness than the minority. However, analyses of the elaboration-faction asymmetry's effect on relative measures of influence suggested that elaboration did not significantly moderate faction influence on any of the three influence measures. Thus, a majority-wins tendency was supported while the moderation of faction influence by elaboration did not meet statistical significance.

The Moderating Role of Elaboration in Majority-Minority Influence in Group Decision-Making

The scientific study of groups is relevant to our everyday lives. Groups are everywhere and no one escapes the impact of one group or another. Groups come in many forms, for example, families, unions at work, the committee of managers who choose the employee to layoff, the juries that decide a defendant's fate, therapy groups, policy-makers, and sports teams. Groups affect every facet of our lives and, therefore, it should be a priority for us to gain an understanding of the processes that occur within groups and how their decisions are made. Principal themes that have been studied in the area of groups are social facilitation and interference, deindividuation, social loafing, conformity, group decision-making, group polarization, cooperation and competition between groups, and group influence. Group influence is a topic that concerns the impact that group members have on each other within the group setting.

The study of group influence encompasses a multitude of factors thought to alter the way that people interact with one another in a group setting. Important theories have been put forth by Festinger (1954), in the form of social comparison theory, Latané (1981) with social impact theory, and the concept of minority influence by Moscovici (1976). Technological advances have introduced computer simulation models of group interactions such as the Social Decision Scheme model and the Social Transition Scheme model (Stasser, Kerr, & Davis, 1989). Each theory and theory-based model attempts to determine what aspects of group interaction predict the nature of that interaction and its ultimate conclusion. For example, Latané's social impact theory describes how aspects of the source of influence such as strength, immediacy, and number

can affect the impact of that source on target individuals.

One area that has been explored within each of the group influence theories has been the impact of different sized factions within a group. Particularly, the relative influences of majorities and minorities on the group decision-making process have been examined. Perhaps no other topic in the area of group influence has received more attention than the issue of majority/minority influence. The priority placed on this issue makes sense in light of the fact that most groups must make decisions in order to reach their goals and frequently the members will have varying opinions about the decision at hand. For example, in politics the purpose is to pass a new policy within parliament and in juries the goal is to arrive at a unanimous decision about the defendant's guilt. It would be an extremely rare occasion when all members of a group have the same opinion. Thus, there will most often be a majority opinion and a minority opinion. The question of interest is how does faction size affect influence within the group decision-making process. The intuitive notion is that because of the sheer imbalance in numbers, majorities will prevail. There are several theoretical reasons why one would predict that majorities would have more influence within groups than minorities.

Explanations of Majority-Minority Asymmetry

Normative influence is the pressure to conform to the viewpoint of the larger social group (Deutsch & Gerard, 1955). The minority may feel such pressure because of the greater rewards or punishments that the larger group may offer. For example, a member of the minority may feel that there are greater social rewards for converting to the majority opinion. They may be praised or may attain greater social status. On the other hand, if they persist in their minority view they

may be ostracized by the larger group or receive social disapproval. The larger the majority, the greater the power it has to promote conformity (Deutsch & Gerard, 1955). Thus, it is thought that normative influence promotes the compliance of the smaller faction in a group setting.

Another reason that members of the smaller faction may take on the opinion of the larger faction is their motivation to promote group locomotion. This process, as described by Festinger (1950), occurs when the individuals in the group are concerned with attaining the group's goal. Because the largest number of group members holds the majority position, the most expeditious means of reaching group consensus occurs when the members of the smaller faction take on the position of the majority. This understanding combined with situational pressure to reach a consensus may promote the tendency for the minority to comply with the opinion of the majority, if only for the sake of reaching a goal.

Both normative influence and group locomotion are a result of the greater social pressure that is characteristic of a larger group. That is, these influences by the larger faction are due primarily to the fact that there are more members in that group who can exert social pressure and not necessarily due to the validity and quality of the majority views. Thus, individuals in the minority may be swayed simply to improve themselves socially or to help attain the group goal quickly, but not because their opinions have actually changed to that of the larger faction. However, in addition to normative influence, there is another type of majority influence that also may have an impact on the real views of the smaller faction. It is called informational influence.

Informational influence is the pressure to alter opinions based on the quality and quantity of arguments communicated. The informational influence of the larger faction may be greater

than that of the smaller faction because of the resources that correspond to having more people to contribute to the discussion (Stasser et al., 1989). If each member of the group has a few pieces of information in support of their view, the group with the most members will overall have more arguments to present in the group discussion. Because of this fact, the informational content of the discussion will favour the majority view. As well, if it is assumed that within the group discussion each person receives equal speaking time, the group with more members will have more time to argue their opinion. The greater amount of time allotted to the majority view will contribute to the greater informational influence imposed on the minority by the majority. Thus, through informational influence, the majority is better able to argue and support their view and possibly influence the true opinion of the smaller faction rather than simply pressure them into compliance.

Thus, normative influence, group locomotion, and informational influence may all contribute to the finding that group decision-making outcomes tend to favour the majority view. Empirical data concur that the final conclusion of a decision-making group is more likely to resemble the pre-discussion opinion of the majority than that of the minority, a process called polarization (Stasser et al., 1989). In tasks with a response dichotomy such as guilty versus not guilty, this tendency of the larger faction to be most influential will result in the choice of the majority being most probable as the final verdict. Kalven and Zeisel (1966) demonstrated this “majority wins” tendency by interviewing the jurors of 225 criminal trials and using their report of their first-ballot votes to determine the faction sizes. Of the 215 juries that held an initial majority, 209 had final verdicts that were consistent with the initial majority vote. This result

suggests that there is a strong tendency for the initial majority opinion to become the final verdict in real juries.

In empirical studies using a mock jury task with six person juries, matching of the final verdict with the initial distribution of opinions depends on the decision rules assigned. Stasser, Kerr, and Bray (1982) discuss the two predominant decision rules that direct the jury as to the procedure for reaching a decision: a simple majority rule and a unanimity rule. In the case of the simple majority rule, the opinion of the majority becomes the final verdict whereas with the unanimity rule, every juror must agree with the final verdict. Not surprisingly, the “majority wins” tendency is stronger when the simple majority rule is assigned rather than the unanimity rule (Kerr et al., 1976). Furthermore, the overall finding of these studies with six person juries is that there is a majority-wins tendency even in the case of an assigned unanimity rule (Davis, Kerr, Stasser, Meek, & Holt, 1977; Kerr et al., 1976). That is, when juries started out with 6:0, 5:1, or even 4:2 ratios of majority to minority, the discussion tended to progress such that the final verdict was unanimous for the majority’s initial position. Therefore, in the case of jury tasks, a strong majority-wins tendency occurs. The majority opinion tends to prevail even in the case of a unanimity rule.

In the case of problem-solving tasks, the existence of “majority-wins” is also evident. Laughlin, Kerr, Davis, Halff, and Marciniak (1975) found that for intellectual tasks (tasks where a demonstrably correct answer exists e.g., word puzzles) where the group must form a single collective response, the majority response prevailed in most cases, whether right or wrong. That is, even when a wrong answer was the most prevalent in the group in the presence of one group

member with the right answer, the final response for the group was a wrong answer. In some cases where a correct minority held two people and they could demonstrate the correct answer, the minority could prevail. However, this was only in the case where the problem-solving task had a correct answer that could be clearly identified as the correct answer (Laughlin & Ellis, 1986). Furthermore, it required the influence of two members to convince the incorrect majority that the minority response was correct. It should be noted that the occurrence of decision-making tasks that have an unambiguous right answer is low in many domains of decision-making in the real world. Otherwise, the decision-making task would be simpler and would not generate such interest.

Therefore, based on studies of juries and problem-solving tasks, it seems that there is overwhelming evidence for the fact that majorities have greater influence over the decisions of groups. However, history would argue that majorities do not always win. Social movements, in general, suggest that change can occur by some process of a minority opinion growing to become a majority opinion. Examples such as the abolishment of slavery and women attaining the vote are examples within democratic society where a once minority opinion grew to become the majority opinion. Sometimes the change is instigated by a small but determined group. The existence of major changes in the life of a country based on the initial minority opinion achieving majority popularity demonstrates that there may be cases where the minority can prevail. What could make minority groups so powerful to affect decisions? The existence of minority influence in history despite the overwhelming strength of the majority-wins tendency suggests that there were facets of the context that aided their fight against the majority. Thus, determining these

factors is an intriguing area of research with implications for understanding previous victories of the minority and assisting their strength in organizations, juries, or committees of the future.

Factors Moderating the Magnitude of Minority Influence

Serge Moscovici was the first researcher to bring substantial attention to minority influence. Moscovici's theory of minority influence (1976) contains the critical aspect of determining what factors in group influence make it possible for the minority on an issue to persuade the majority. Several studies have examined the factors that affect minority influence.

In one of the early studies of minority influence, Moscovici, Lage, and Naffrechoux (1969) used a colour perception task to examine the influence of two confederates on four participants. The participants were asked to name the colour of blue stimulus slides and estimate the light intensity. Moscovici et al. used two types of influence to assess the impact of the minority, direct influence and latent influence. Direct influence is the ability to change the response in the majority to be the same as the minority members. The latent influence is examined in such a way as to determine if the minority has had any influence on the majority about the task at hand that may not show up in the form of giving the same response. When the minority consistently said that the slides were green, they had a small direct influence on the majority in that the majority reported that the slides were green on 8.42% of the trials. Subsequently, the latent influence was measured by asking the participants to sort green/blue stimulus cards into piles of green or blue. They found that many majority participants did not give an overt "green" response in the initial task but the minority had still altered their conception of the colour of the slides that showed up in this latent influence task. Individuals

exposed to the consistent minority placed cards in the green pile that control subjects considered blue. When the minority was inconsistent in their “green” responses, there was no impact on the majority. Hence, this study demonstrated that a consistent minority had a small direct influence on the majority, but a larger latent influence and that an inconsistent minority was not influential.

The results of this study are consistent with the concepts of normative and informational influences. That is, minorities may be influential to majority members when they indicate that they hold valuable information about the correct decision. Consistency indicates confidence in one’s responses and therefore, may cause the majority members to question their own judgement. However, the greatest normative influence will generally be held by the majority and therefore, majority members will be less likely to join the minority publicly, but instead may change their private opinion. A meta-analysis by Wood, Lundgren, Ouellette, Busceme, and Blackstone (1994) confirmed these conclusions.

Group characteristics, member characteristics, and other behaviours of minority members have also been examined empirically with respect to their impact on minority influence. Some of the factors that have been looked at that can be classified as group characteristics of the minority are size and cohesiveness. For example, the size of the minority can affect its impact on the majority. Studies have shown that the larger the minority, the greater its influence on the majority (Latané, 1996). Another group characteristic that has previously been examined is the cohesiveness of the minority. Cohesiveness relates to minority influence in that the more cohesive a group is, the more influence the members have on one another which in turn may combat the opposing influence of the majority and result in the maintenance of the minority view

(Latané, 1996).

Another class of factors that have been examined to explain minority influence is member characteristics. Status, competence, and likeability are three member characteristics that have been focussed on in previous studies. Kirchler and Davis (1986) found that the higher the status of minority members, the greater their power to influence the group outcome. Perceived competence and likeability of the minority members also increases their contribution to greater minority influence on the majority (Levine, 1989). A third type of factors that have been included in previous research of minority influence is the behaviour of the minority members. Confidence is an example of group members' behaviour that can have an impact on minority influence. Studies have shown that minority members who demonstrate greater confidence during their interaction with the majority group have a greater influence on the group outcome (Levine, 1989).

Therefore, many facets of the minority can enhance their ability to influence the majority. The more that the minority can combat the normative and informational influences of the majority and enhance those means of influence for themselves, the greater their impact on the group decision. One other area of research that is relevant to minority influence is that of persuasion and how attitude strength is a factor in one's ability to persuade.

Attitude Strength

At the heart of the whole question of majority/minority influence is the issue of persuasion. Often what one is trying to do in a group setting is persuade the other group members to alter their opinions to be consistent with your own. The study of majority/minority influence is

itself a study of whether or not an asymmetry exists in the persuasive impact of either faction. Based on the fact that majority/minority influence researchers are actually studying persuasion, one might expect a close interface to exist between the majority/minority research and theories of persuasion. However, although the process of persuasion has been studied extensively, very little of the persuasion research has been used in conjunction with the majority/minority literature. That is, persuasion is the obvious tactic used within groups to bring the opposing faction over to one's point of view but the vast majority of the theories and concepts in the persuasion literature have not been brought to bear on the study of majority/minority influence. Therefore, it seems productive to look at concepts from the persuasion literature to bring light to majority/minority influences. Attitude strength is one obvious concept within the persuasion literature that can be brought to bear on the group setting. The strength of the attitude can affect how members will behave during discussion, how much information they will contribute, and how resistant their own views are to change (Krosnick & Petty, 1995). Thus, attitude strength is one aspect of persuasion that may be particularly pertinent to the examination of majority-minority influence.

Attitude strength has been defined as the extent to which an attitude possesses durability and has an impact (Krosnick & Petty, 1995). That is, some attitudes are more difficult to change and they affect people's lives in a more powerful way than do other attitudes. The strength of an attitude is measured by the degree to which it possesses qualities related to durability and impactfulness. Durable attitudes, and therefore strong attitudes, possess persistence in that they remain unchanged over a long period of time and they possess resistance, meaning that they can withstand attack from contradiction. The manifestations of impactfulness that have been used in

research are the ability of the attitude to affect information processing and judgements and to guide behaviour (Krosnick & Petty, 1995). The four characteristics of attitude strength, persistence, resistance, impact on information processing, and guidance of behaviour, have been measured in various ways in empirical studies. For example, resistance is usually assessed by challenging the attitudes with persuasive messages and measuring any attitude change (e.g., Ewing, 1942) and persistence has been measured as stability over time (e.g., Schuman & Presser, 1981). The four characteristics of strong attitudes also tend to co-occur. That is, attitudes that are highly consistent with behaviour may also be persistent. The reason for the overlap may simply be that the more often an attitude is expressed in behaviour the less likely it is to fade in memory and, therefore, it will persist (Krosnick & Petty, 1995). Thus, attitude strength is characterized by the four qualities and they frequently overlap. However, the issue that is of central interest to researchers is the cause of attitude strength. How and why does an attitude come to be strong?

There are four categories of determinants that have been found to predict or cause attitude strength: aspects of the attitude itself, attitude structure, beliefs about the attitude, and the process of forming the attitude. Aspects of the attitude such as extremity have been examined such that one may expect more extreme attitudes to be more durable than less extreme attitudes. With respect to attitude structure, properties such as attitude accessibility (how easily the attitude comes to mind), knowledge about the attitude object, ambivalence in evaluations, and consistency between the evaluation and the cognitive and affective information about the object have all been examined. One's subjective beliefs about the attitude and its object such as personal relevance, importance, and certainty have been looked at as determinants of attitude

strength. The final category of determinants of attitude strength that has been researched is that of the process of forming the attitude. The major focus of this area of study is the elaboration process.

Elaboration as a Determinant of Attitude Strength

One particular determinant of attitude strength that is particularly relevant to the discussion of persuasion within a group context is that of elaboration (Petty, Haugtvedt, & Smith, 1995). Elaboration refers to “the degree of thinking one does and has done about an attitude object’s attributes, its merits and drawbacks” (Krosnick & Petty, 1995, p. 7). That is, elaboration is an active process whereby one evaluates information and attempts to establish connections and comparisons with previous knowledge. Elaboration is not simply the process of memorizing information, but is the generated cognitive responses and inferences that are triggered by that information. Thus, the strength of an attitude is determined by the level of these cognitive responses. Elaboration is the most studied cause of attitude strength in the persuasion context because it is inherently a process variable, but it can be linked to contextual variables. Process variables are aspects of the formation of strong attitudes while contextual variables are facets of the attitude object itself that may induce the formation of strong attitudes by some other process. That is, contextual determinants such as personal relevance may affect attitude strength because they induce more elaboration about the message and thereby cause a stronger attitude. Therefore, elaboration is possibly one of the most proximal determinants of strength. Elaboration is also one of the very few determinants that have been linked to group processes. Hence, it seems that elaboration is a particularly pertinent starting point to examine the role of attitude

strength in the context of majority/minority influence.

The relationship of attitude strength to elaboration is the central concern of the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986) of persuasion. This model is based on the premise that attitudes can be formed through either thoughtful or non-thoughtful processes, and the more thought that is put into an attitude object the stronger the resulting attitude would be. The level of elaboration can be determined by both motivational and ability factors. Thus, the level of elaboration, as predicted by motivational and/or ability factors, is thought to be a determinant of attitude strength.

If elaboration is associated with attitude strength as the Elaboration Likelihood Model suggests, it follows that low levels of elaboration are related to weak attitudes and high levels of elaboration are related to stronger attitudes. Thus, altering the level of elaboration will impact the strength of the attitude. As indicated, motivation and ability are the two classes of factors that have been shown to affect the amount of issue-relevant thinking that occurs when an attitude object is encountered (Petty et al., 1995). Examples of highly motivating circumstances are: high personal relevance, high importance of the message, high need for cognition personality, and increased personal accountability to evaluate or discuss the message. Examples of situations which enable a message to be elaborated are: decreasing the distraction by external stimuli, presentation of the message at a reasonable pace, or decreasing the complexity of the message (Petty et al., 1995). Situations that affect motivation or ability to elaborate will either increase or decrease the level of elaboration and consequently impact the strength of the attitude that is formed. Motivation and ability factors have been utilized in studies that attempt to examine the

relationship between elaboration and attitude strength.

Consequences of Elaboration for the Attributes of Strong Attitudes

Many previous studies have examined the relationship between elaboration and the four aspects of attitude strength: persistence, resistance, influence on information processing, and guiding behaviour. A study by Chaiken (1980) examined elaboration's relationship to persistence by comparing participants who were told that they would be interviewed on their opinions about a persuasive message (high elaboration through motivation) to individuals told that they would be interviewed on another topic (low elaboration). That is, elaboration was manipulated by varying the extent to which they were expecting to be accountable for the information. The attitudes of the high elaboration group persisted over a two-week period whereas those of the low elaboration group decayed over this period. Haugtvedt and Strathman (1990) also performed a study examining the relationship between elaboration and attitude persistence. In this study, they used personal relevance to manipulate the level of elaboration by telling people prior to the presentation of a bicycle advertisement that the bicycle would be available locally or would only be in a distant location. They found that attitudes formed towards the bicycle ad for the high elaboration group were maintained over a two-day interval whereas those for the low elaboration group did not persist. Thus, high elaboration, induced by increasing motivation to elaborate, created attitudes that were persistent.

A study by Haugtvedt and Petty (1992) examined the relationship between elaboration and attitude resistance. They examined elaboration through differing levels of the personality variable "need for cognition". Need for cognition is a personality construct that describes the

extent to which people like to engage in cognitively stimulating tasks (Cacioppo & Petty, 1982). Individuals with a high need for cognition personality style tend to elaborate information to a greater extent than do individuals low on this personality style. They found that the attitudes of a high need for cognition (high elaboration) group were much more resistant to a counter-attitudinal message than those of a low need for cognition (low elaboration) group. Hence, the high levels of elaboration by the high need for cognition group resulted in more resistant attitudes than the low elaboration of the low need for cognition group. In another study, Petty, Haugtvedt, Heesacker, and Cacioppo (1995) used both motivation (personal relevance) and ability (distraction) to manipulate elaboration levels. They exposed the low elaboration group to a message advocating comprehensive exams under the conditions that they were told that the exams were proposed for a distant university and while engaging in a distracting additional task. The high elaboration group was told that the exams were proposed for their own university and were distracted to a much lesser degree. They found that the high elaboration group was more resistant to a subsequent counterattitudinal message than the low elaboration group. Thus, high levels of elaboration also predict the formation of more resistant attitudes than low levels of elaboration.

Sivacek and Crano (1982) examined how level of elaboration affects whether or not attitudes will guide the behaviour of signing a petition. Their participants were given a message about comprehensive exams and were divided into high and low personal relevance groups based on their self-reports of relevance. They were given the opportunity to sign petitions opposing the exams. This study found that the higher the level of personal relevance (high motivation to

elaborate), the higher the attitude-behaviour consistency. Therefore, the level of elaboration, as manipulated through personal relevance, affected whether or not attitudes guide behaviour.

Furthermore, Shavitt and Brock (1986) found that when they asked people to relate an advertisement for detergent to their own experiences (high motivation to elaborate) rather than memorizing the ad, or giving no instructions (low elaboration), the attitudes more highly corresponded with their choices of a detergent a week later. Thus, the level of elaboration when forming an attitude affects how much that attitude will guide behaviour.

Overall, these studies demonstrate that levels of elaboration do indeed affect the attributes that make up a strong attitude. Because of the relationship between elaboration and attitude strength, it seems plausible that level of elaboration is pertinent to majority-minority decision-making processes, particularly in the case where the minority has formulated their attitudes through a high level of elaboration. That is, if the pre-discussion attitudes of the minority members are strong based on a higher level of elaboration of the issue-relevant information, their opinions will be persistent over time, they will be resistant to the challenges and influences of the majority group, they will affect the way that their holders interpret and counteract the information presented by the majority, and they will guide the behaviour of the individual in the group discussion. Therefore, forming strong attitudes through the process of elaboration may help the minority group to offset and overcome the greater social pressure and informational influence of the majority group.

Elaboration and Majority-Minority Influences

The creation of strong attitudes in the minority by high elaboration of the issue at hand

may alter the tendency for the minority to concede to the majority viewpoint. This may occur for three reasons. Firstly, majorities tend to have greater influence in a group discussion because of normative influence and striving for group locomotion. If individuals in the minority have strong attitudes, their opinions will be more resistant to change, they will persist over time, they will see them as more important, be more confident in them, and they will behave more consistently with their attitudes. Thus, they may not give in to normative influences or group locomotion because they see their view as important and to behave as if they agree with the majority against their own attitude would cause discomfort in the form of cognitive dissonance (Festinger, 1954).

Secondly, they will have more resources to counter-argue those of the majority because strong attitudes based on high elaboration consist of many relevant thoughts and arguments about the issue. They will be able to combat the informational influence of the majority with the ability to create more of their own arguments. Therefore, they will not be persuaded as easily by the informational influence of the majority.

Thirdly, strong attitudes tend to guide behaviour, therefore, these individuals will not only be less persuaded by the greater influence of the majority but they will have more impact on the majority. This increased minority influence is because they are more likely to be active in discussion and promote their own view, and they are more likely to be effective at arguing their position. Thus, minorities that hold strong attitudes based on high levels of elaboration may be able to offset the normative and informational influences that cause the majority-wins tendency. Therefore, it is worthwhile to explore strength of attitude as a factor in minority influence in group decision-making processes.

To date very little research has been done on the relationship between attitude strength and group influence. One previous study has examined the role of attitude strength in decision-making processes within dyads. This paper, by Shestowsky, Wegener, and Fabrigar (1998), used a personality variable, need for cognition, to categorize the level of elaboration that in turn determined attitude strength. High need for cognition individuals tend to perform more elaboration by nature and have stronger resulting attitudes than low need for cognition individuals. They demonstrated that the outcomes of discussions between dyads where one partner was high need for cognition and the other was low need for cognition favoured the pre-discussion attitude of the high need for cognition individual. Thus, it was suggested that the greater influence of the high need for cognition individuals in group decision-making was due to the impact of their stronger attitudes on their ability to argue and persuade their counterpart. Hence, this study demonstrated that factors that affect attitude strength do impact influence within a group setting. However, some aspects of this line of research could be expanded upon.

Firstly, Shestowsky et al. (1998) provided only a single study and the findings need to be replicated in order to draw any confident conclusions. Secondly, the Shestowsky et al. (1998) study compared the impact of high and low levels of a personality variable, need for cognition, on group influence. It was assumed that high need for cognition leads to high elaboration and strong attitudes, but need for cognition was not directly manipulated. Because individuals with high need for cognition enjoy effortful cognitive activities, it may be that they will expend more effort at the discussion phase than others and this enjoyment of debate may simply cause them to talk more rather than affecting the strength of their attitudes. The increase in verbosity, in turn,

may cause the increased influence within the dyads. Thus, although it is plausible that elaboration caused an increase in attitude strength that was the mediator of influence, elaboration cannot be separated from other variables when a personality variable is used. Therefore, causal relationships between attitude strength and greater intra-dyad influence could not be concluded from this study because it was not certain if other aspects of high need for cognition individuals, besides the impact on elaboration and attitude strength, were causing the outcome. An experimental design that explicitly manipulates elaboration is required in order to determine whether elaboration causes differences in intra-dyad influence.

Furthermore, this study only examined dyads and did not explore how attitude strength may contribute to the influences within larger groups and between majorities and minorities in particular. Many of the decision-making groups encountered in the real world are made up of at least three people. For example, a jury never consists of only two individuals. Group phenomena such as normative influence cannot be explored in dyads. Majority/minority influence does not exist within dyads. In conclusion, there is much work to be done to expand upon the Shestowsky et al. (1998) study. Replication of a relationship between elaboration and group influence must be performed. An experimental study to rule out alternative explanations is required. Finally, the expansion of the dyad into larger groups adds the dimension of majority/minority influence that is a common part of group decision-making. Further research must determine whether attitude strength plays a role in larger group dynamics with unequal faction sizes.

Overview of Two Experiments

Two studies examined the role that elaboration plays in a group decision-making task

where the factions were of unequal size. Each study used elaboration as a moderator of attitude strength and determined how it affected the relative influence of the majority and minority in a mock jury task. The first study examined how elaboration-faction asymmetry, combined with faction membership, affected the outcome of majority-minority decisions in a group of 6. The majority consisted of 4 individuals and the minority had 2 individuals. The level of elaboration was manipulated by altering the motivation to elaborate.

The second study followed the same design except with two variations. The level of elaboration was manipulated using an ability factor rather than a motivational factor. Also, the number of participants was 3 rather than 6, with 2 participants in the majority and a lone individual in the minority. Thus, experiment 2 was intended to generalize the findings of experiment 1 to a smaller group setting and extend the study to the case where the minority member was alone rather than having an ally.

Thus, faction membership (majority versus minority) and elaboration-faction asymmetry (minority more elaboration versus majority more elaboration versus equal factions elaboration) were combined to determine how elaboration affected the dynamics between majority and minority in a mock jury task. It was hypothesized that possessing strong attitudes produced by high levels of elaboration would increase the power to influence the opposing faction, resulting in greater control over the final group decision.

Experiment 1

This study used 6-person groups to examine whether elaboration-faction asymmetry moderated the amount of influence that faction size had on the group outcome. The motivation to

elaborate was varied through accountability (Tetlock, 1992), which is the act of being “held responsible” (Webster’s Dictionary, 1989, p. 7). Intuitively, holding someone responsible for information should cause him/her to evaluate that information more carefully. For example, a student would be more motivated to evaluate information they will be tested on than information they will not be tested on. Empirical studies have shown that increasing the level of accountability for information caused increases in the elaboration of that information (Chaiken, 1980; Cvetkovich, 1978; Hagafors & Brehmer, 1983; McAllister, Mitchell, & Beach, 1979; Tetlock, 1983a). Tetlock (1992, p. 343) states that: “predecisional accountability to unknown audiences frequently motivates vigilant, complex, and self-critical thinking.” Based on these intuitive and empirical bases, it was expected that if the participants were informed that they would be required to discuss with a group and defend their views on the information they read (high accountability), they would be more motivated to be diligent in their information processing. In the low accountability condition where the participants were not instructed that they would be discussing the information, less processing of the information was expected to occur.

In addition to the effect of accountability, the context of minority influence was examined with respect to there being two group members in the minority, i.e., an ally was present. It was hypothesized that for groups that contained an elaboration asymmetry where the minority had elaborated more than the majority, their increased elaboration may have offset the tendency for the majority to have greater influence. The proportion of majority-wins outcomes would be lower in the minority-more elaboration asymmetry condition. In the majority-more elaboration

asymmetry condition, elaboration would only further increase the majority-wins tendency. When elaboration was not manipulated and the comparison was purely majority versus minority, the majority would tend to have more influence as expected but overall the proportion of majority-wins outcomes would be intermediate between that of the other two conditions.

Method

Participants

Ninety undergraduates at Queen's University (57 women and 33 men) participated in this study. They volunteered in order to gain extra credit in an introductory psychology course or an entry into a monetary draw. A minimum of 6 participants was recruited per session, resulting in 15 total groups.

Design and Procedure

A mock jury task was utilized in this study. In order to examine the effect of elaboration level on majority and minority influence, a 2 (faction membership: majority versus minority) x 3 (elaboration-faction asymmetry condition: minority more elaboration versus majority more elaboration versus equal faction elaboration) x 2 (pre-discussion opinion: pro-defendant versus pro-plaintiff) design was used. The group conditions were of six varieties based on which asymmetry condition was induced and which faction was given the pro-defendant versus pro-plaintiff legal analysis. For each session this group condition was chosen by determining which of the numbers one to six appeared first in the line of a random number table.

When the participants arrived for a session, they were each given a consent form (Appendix A, p. 82) to read and sign. The participants were randomly assigned to the majority

and minority factions with their accompanying elaboration conditions. They were seated at separate stations and provided with a package of materials about a civil case. The front page of the materials had different forms depending on whether the participant was assigned to a high elaboration condition or to a low elaboration condition (see Appendix A, p. 83). In the case of the high elaboration condition, the front page of the materials informed the participant that the materials should be read carefully because they would later be required to explain and defend their position in a group discussion. In the case of the low elaboration condition, they were only told to read the information contained in the booklet. Thus, in this study, elaboration was manipulated by varying the individual's accountability for the material.

After the accountability manipulation on the opening page, the participants were presented with a 250-word summary of a civil case that had been used previously in a study by Kruglanski, Webster, and Klem (1993) and the Shestowsky et al. (1998) study (see Appendix A, p. 84). The summary described how a plane crashed and resulted in a brush fire that then joined an existing natural fire. The combined fire then spread and destroyed a lumber company's timber. The airline company had postponed the aircraft's regular maintenance check beyond the recommended interval but the aircraft had crashed due to a malfunction of a part that would not have been checked during regular maintenance. The lumber company was suing the airline for negligence. All of the participants were presented with this summary. Next, they were presented with a legal analysis containing arguments that either favoured the defendant or the plaintiff, depending on their faction assignment (see Appendix A, p. 85-86). The legal analyses were structured such that they were similarly worded but with opposite conclusions. The pro-

defendant legal analysis stated “Thus, Brookes was not negligent because there is no evidence to suggest that a scheduled maintenance would have identified the problem before the fact” whereas the pro-plaintiff legal analysis stated “Thus, Brookes was negligent because a scheduled maintenance would probably have identified the problem before the fact.” Using the two different legal analyses for each faction attempted to ensure that the pre-discussion opinions of the majority members were the same, the pre-discussion opinions of the minority members were the same, and that the two factions were aligned such that the majority and minority began the discussion on opposing sides. This discrepancy between the factions and the uniformity within the factions were needed in order to assess the relative impact of each group on the other. If the group factions had overlapped in opinion prior to the discussion, the cause of any changes in opinion towards the other side could have been the influence of members of their own faction or the other faction. The influence of the opposing faction can only be identified if the factions begin with opposing opinions. When factions read the case materials with opposing legal analyses, the factions were much more likely to formulate the predicted opposing opinions allowing the influence to be measured.

After these materials were presented, instructions on how to form verdicts were given to the participants (see Appendix A, p. 87). The instructions indicated that a verdict of guilty meant that the defendant must pay for *all* of the damages and a verdict of not guilty meant that the defendant did not have to pay *any* damages. They were instructed that a reasonable doubt is not required for a not guilty verdict. Rather, the verdict should be chosen based on being either less than 50% sure that Brookes was negligent (not guilty) or more than 50% sure that Brookes was

negligent (guilty). Next the pre-discussion opinions of the participants were measured by asking them to indicate their verdict, both dichotomously and continuously (see Appendix A, p. 88). The strength of their attitude about the verdict was measured (see Appendix A, p. 89) and their level of elaboration was assessed with a thought-listing task (see Appendix A, p. 90-92).

The booklets were collected following the elaboration measures and the dichotomous pre-discussion verdicts were examined by the experimenter. On most occasions the side of the legal analysis read by each participant was consistent with the pre-discussion opinion of the participant. However, assuming that there was an optimistically high, 95% chance [as was found in Shestowsky et al. (1998)] that a participant would form an opinion that was the same as the bias of their legal analysis, the chance that the opinions of all six participants would follow their legal analyses was 72%. Thus, only approximately three out of four groups would meet the criteria of discrepancy between factions and uniformity of verdict within factions prior to the discussion.¹ In order to address this problem of inefficiency, extra participants were often recruited for the initial phase of the experiment. When more than 6 participants were present, jurors were chosen based on the requirement of 4 jurors having undergone the same elaboration condition and having the same pre-discussion verdict and 2 jurors having undergone the same elaboration condition and having the same, but opposing the majority's, pre-discussion verdict. If a valid group could be formed with more than one option for participants, the decision was made

¹ Only factions with opposing pre-discussion verdicts and uniformity of opinion within the factions with the designated number of participants in each faction were included in the group analyses. Six of the 18 groups initially attempted were discontinued based on the lack of alignment of pre-discussion opinions.

randomly. That is, if 7 participants were present and 2 could appropriately fill the sixth position of the jury (required elaboration condition and pre-discussion opinion), a random choice was made between the 2 participants. The departing participants were then separated from the others and debriefed.

Six participants were seated around a table where they were instructed that their role was to act as jurors in this civil case (see Appendix A, p. 93). They were assigned juror numbers by placing a number card in front of each participant and a jury foreman was chosen randomly. They were instructed to discuss the case and arrive at a unanimous decision of guilty or not guilty and to indicate decisions on continuous nine-point scales about the extent of guilt and how likely it is that the defendant is guilty. They were given a verdict record form on which the jury foreman recorded these decisions (see Appendix A, p. 94). They were told that they would have 15 min to reach a verdict. The experimenter then left the room so that the discussion could begin.

After the group had finished their discussion and returned their verdict record form, each participant was given a booklet containing a set of post-discussion measures. These measures included a selection of who was the most influential juror (see Appendix A, p. 95-96). They were told that they could consider themselves for this role. They also rated how effective the most influential juror was in their persuasive behaviours. They were asked to rate the least influential juror on the same criteria (see Appendix A, p. 97-98). Each participant's post-discussion opinion of the case was assessed with both a dichotomous and continuous verdict choice (see Appendix A, p. 99). The final measure given was the 18-item version of the Need for Cognition Scale (Cacioppo, Petty, & Kao, 1984), which measures the extent to which people enjoy effortful

thinking. It was administered for exploratory purposes and the results of this scale will not be reported within this document. The participants were debriefed using a debriefing form (see Appendix A, p. 100), thanked, and released.

Measures

Pre-discussion opinion measures. In order to assess the attitude of each participant after reading the case materials, participants were asked to give a verdict of guilty or not guilty for the airline. They were asked to rate on a 9-point scale the extent to which they thought the airline was definitely guilty or definitely not guilty and how likely it was that the airline was guilty of negligence ranging from extremely likely to extremely unlikely (see Appendix A, p. 88). An aggregate variable of the continuous verdict was formed by averaging the responses on each 9-point scale. The correlation of these continuous verdicts was 0.84, $p < .01$.

Attitude strength measures. Each participant was asked to report aspects of their attitude strength on 9-point scales (see Appendix A, p. 89). These questions included reporting how much thought they put into the materials in order to reach their verdict, how certain they were of their verdict, and the extent to which they were clearly on one side or the other or if their feelings were mixed. The responses on each scale were examined separately.

Thought-Listing Elaboration Measure. Another pre-discussion measure that was a thought-listing task (see Appendix A, p. 90-92). For this open-ended measure, participants were instructed to write down as many of the thoughts as possible that they had while reading the case material. Subsequently they were asked to score each thought on whether it was pro-guilty, pro-innocent, or neutral. Two independent raters coded whether each thought was issue-relevant

or issue-irrelevant with an inter-rater reliability of $r = 0.87$, $p < .01$. The extent of elaboration was assessed by the number of thoughts in total generated in response to the case and the proportion of thoughts that were issue-relevant versus not issue-relevant. One would expect that high elaborators would generate more thoughts overall than low elaborators. The proportion of relevant thoughts was used to discriminate between individuals who provided all case-relevant thoughts and individuals who gave thoughts but with few related to the case. It was expected that high elaborators had a greater proportion of relevant thoughts than low elaborators. The proportion of relevant thoughts was coded by dividing the number of issue-relevant thoughts by the total number of thoughts. As well, a favourability index was computed by dividing the difference between the number of pro-innocent thoughts and the number of pro-guilty thoughts by the total number of thoughts. This index assessed whether the thoughts leaned towards one side of the verdict or the other, that is, did they carry a particular valence or were they neutral? It was expected that high elaborators would be more favourable towards one side or the other than low elaborators.

Verdict measures. These measures were filled out based on the group post-discussion consensus (see Appendix A, p. 94). The same three questions were asked for the group verdict as for the individual pre-discussion opinions. A dichotomous guilty / not guilty verdict was requested as well as responses on two continuous scales reflecting their opinion about the airline's guilt and their assessment of the likelihood of the airline being guilty of negligence. An

aggregate group verdict was calculated by averaging the responses on the two continuous nine-point scales, which had a correlation of .25, $p = .47$.²

Post-discussion attitude measures. In order to assess whether the group verdict reflected individual private post-discussion opinions, the same three questions as on the pre-discussion opinion measures were given to each participant after the group had given its verdict (see Appendix A, p. 99). Again, a dichotomous guilty / not guilty verdict was requested as well as responses on two continuous scales reflecting their opinion about the airline's guilt and their assessment of the likelihood of the airline being guilty of negligence. An aggregate post-discussion verdict was calculated by averaging the responses on the two continuous 9-point scales, which had a correlation of .70, $p < .01$.

Persuasive behaviour measures. In order to determine the extent to which each participant thought that group members were persuasive, each participant was asked to rate the juror that they considered most influential and the juror that they considered least influential on four criteria (see Appendix A, p. 95-98). On a scale from 1 to 7, they were required to indicate how much they agreed that 1) they were effective in their persuasion that their pre-discussion opinion should become the verdict, 2) that they presented valid arguments in favour of the verdicts

² A small number of groups found a compromise by giving a dichotomous verdict that opposed their continuous verdicts. Conceptually, the dichotomous verdict and the first continuous verdict should be consistent in all cases. Therefore, a group's data was not included in the final analyses in the cases where the group's dichotomous verdict opposed its continuous verdict. In addition, 3 of the 11 groups gave continuous verdicts on opposing sides of the nine-point scale. This inconsistency in the 3 groups caused the low correlation of .25. All of the analyses affected by the group verdict were completed using both the aggregate and the two separate continuous verdicts. The results of all three sets of analyses were the same. Thus, for the sake of simplicity only the aggregate was used in reporting the results.

eventually reached, 3) they presented a great number of arguments in favour of the eventual verdict, and 4) they tried hard to argue in favour of their opinion. To address the extent to which other jurors thought that a particular juror was influential, individual frequency scores were computed from the selection of a juror as most and least influential. A most influential frequency score was coded as the number of jurors within a participant's group that selected that participant as most influential. Similarly, a least influential frequency score was coded as the number of jurors within a participant's group that selected that participant as the least influential juror. In addition, persuasive behaviour in the discussion was coded by averaging the responses on these four scales for the most influential and for the least influential. The correlations between the four measures ranged from .20 to .58 in the case of the most influential jurors and .59 to .82 in the case of the least influential jurors.

Member Influence. In an examination of group influence it was important to determine the impact that each group member had on the group verdict. That is, how much influence did each juror have on the public opinions of the other jurors and the compromise of those opinions in the form of the group verdict? To operationalize the concept of member influence, each juror's pre-discussion opinions were compared with the group's opinions. This member influence on the group verdict was calculated by taking the absolute value of the difference between the aggregate pre-discussion opinion of the group member and the aggregate of the continuous group verdict. A smaller discrepancy value for member influence indicated larger influence on the group verdict as it indicated that the group's opinion was close to the group member's pre-discussion opinion. Overall, it was expected that members of the majority would have more influence on the group

verdict than the minority members and, therefore, would have smaller values on this member influence measure. Elaboration was expected to affect this measure, in that, higher levels of elaboration would induce more influence on the group verdict and, therefore, a smaller value on the member influence measure.

Private attitude change. In addition to a member's influence on the group verdict, it was important to ascertain the extent to which the private opinions of jury members were affected by the group discussion and verdict. The public opinions expressed in the group discussion may or may not translate to private member opinions. A measure of private attitude change was formed to compute the magnitude of change in verdict opinion from the pre-discussion ratings to the post-discussion ratings. The extent to which each participant changed their opinion from their pre-discussion verdict to their post-discussion verdict was assessed by taking the absolute value of the difference between their aggregate continuous pre-discussion verdict and their aggregate continuous post-discussion verdict. A small value for private attitude change indicated that the intervening group discussion had little influence on the group member's private opinion on the verdict. A large value for private attitude change would suggest that the group discussion gave the group member information that caused them to change their rating of the verdict. It was expected that the influential effects of majority status jurors would induce more private attitude change in the minority members than the reverse. That is, minority members were expected to have higher private attitude change values than the majority members. However, this effect was expected to be weaker with private attitudes than it was with the public attitudes espoused in the group verdict (member influence). Furthermore, greater values of private attitude change were

expected in jurors with a lower elaboration level than in jurors with a higher elaboration level, as these jurors are better able to resist opposing opinions.

Aggregate Rating of Juror Persuasiveness. In order to assess the subjective level of influence that each group member imposed on the other jurors, an aggregate rating of juror persuasiveness was formed. This measure allowed the examination of how influential the other jurors felt that a particular juror was on the group verdict and attempted to tap into the perceived persuasiveness of each person over and above the numerical similarity of their initial opinion to the group verdict. This measure of the ability of each juror to influence the other jurors was coded by subtracting the number of times a juror was rated as the least influential from the number of times that juror was rated as the most influential. Thus, when there were 6 group members, the maximum influence was denoted by a score of 6 where every juror rated that group member as the most influential and none of them rated that group member as the least influential (In a 3-person group, the maximum would be 3). Alternately, the minimum influence would be coded by a score of -6 where every juror rated that group member as the least influential and none rated that group member as the most influential juror. It was predicted that majority members would have higher aggregate persuasiveness than minority members and that high elaboration would moderate this effect.

Results

Manipulation of Pre-Discussion Verdicts. In order to determine whether the legal analyses given to the participants caused them to have pre-discussion continuous verdicts that were consistent with the bias of the legal analysis, an ANOVA was performed. In the ANOVA,

the side of the legal analysis and the level of elaboration of each participant were the independent variables while the aggregate continuous pre-discussion verdict was the dependent variable. An alpha of .05 was used in all statistical analyses. As predicted, there was a significant main effect of legal analysis on the pre-discussion verdicts, $F(1, 62) = 121.93$, $p < .001$, indicating that the orientation of the legal analysis predicted the orientation of the aggregate continuous pre-discussion verdict. That is, participants who read a pro-defendant legal analysis were much more likely to give pre-discussion verdicts on the not guilty end of the nine-point scales ($M = 6.67$) and the same effect occurred with the pro-plaintiff legal analysis ($M = 2.39$). The level of elaboration (high or low based on accountability manipulation) did not significantly relate to the orientation of the pre-discussion verdicts, $F(1, 62) = 0.19$, $p = .66$. This result demonstrated that the level of elaboration did not cause participants to favour either the defendant or the plaintiff over the other. In addition, the interaction between legal analysis and level of elaboration was not significantly related to the pre-discussion verdicts, $F(1, 62) = 0.70$, $p = .41$. The lack of a significant interaction was important because it indicated that the legal analyses did not predict the pre-discussion verdicts differently based on the level of elaboration.

Manipulation of Level of Elaboration through Accountability. This study was designed based on the premise that the high accountability condition would cause a higher level of elaboration about the case than the low accountability condition. To test this assertion the level of elaboration was operationalized in two measures: the proportion of case-relevant thoughts in the thought listing and the self-report of attitude strength with reference to how carefully they had thought about the case material. ANOVAs were performed to test whether either of these

measures of elaboration varied with the accountability condition. Although the means were in the intended direction ($M_s = .95$ and $.93$), the accountability condition did not significantly affect the relevant proportion of thoughts in the thought listing, $F(1, 62) = 0.18$, $p = .67$, $d = 0.11$. The accountability condition also was not significantly related to the self-report of how carefully they had thought about the case material, $F(1, 62) = 0.29$, $p = .59$, with means of the low and high accountability conditions of 7.32 and 7.52, respectively. Thus, the two accountability conditions did not cause differences in the production of a greater proportion of case-relevant thoughts nor did the participants in each group feel differently about the amount of care they put into thinking about the case material. Furthermore, in order to explore the extent to which participants could judge how carefully they thought about the case compared to their actual relevant thoughts about the case, the correlation was calculated. The correlation of 0.16 between the jurors' perception of how carefully they thought about the case material and the proportion of case-relevant thoughts was not significant, $p = .19$. Thus, participants' perceptions of their elaboration were not significantly related to their proportion of relevant thoughts about the case. Overall, these results indicated that the accountability manipulation did not significantly affect the level of elaboration undertaken by the group members.³

Relative Member Influence by Faction. Given that the two accountability conditions did not significantly affect the amount of elaboration undertaken by the participants and the

³ The relationship between the accountability manipulation and self-reports of certainty about the pre-discussion verdict and the level of ambivalence about the case were assessed and insignificant results were found with $F(1, 62) = 0.14$, $p = .71$ and $F(1, 62) = 0.02$, $p = .90$, respectively. These two measures were used for exploratory purposes only with no specific expectations.

corresponding impact on attitude strength, it was not expected that the elaboration-faction asymmetry would be resultant. However, it was deemed important to at least explore the possibility that the accountability condition could have an impact at the group level that did not show up at the individual level. Furthermore, the effects of faction size still needed to be confirmed.

In order to explore the influence that the factions had upon each other, the first goal was to assess the relative amount of impact that the factions had on the group verdict. In the previous analyses, the members of the group were treated as independent participants because they had not interacted yet. However, in the group discussion and post-discussion analyses it could not be assumed that the group members were acting entirely independently of one another. Thus, a group level variable was created to represent the difference in influence between the factions⁴. Due to the fact that each group member's influence on the verdict was not independent from that of the other members of that same group, it was necessary to create one aggregate measure for each group. That is, a single measure of relative influence by factions was created for each group that could be compared with the other groups without violating an assumption of independence. For each group a difference score was computed for the average amount of influence members of the minority had over the aggregate group verdict, compared with the average amount of

⁴ Analyses were attempted using the individual observations and specifying a regression model with dummy-coding to account for the lack of independence. However, the many redundancies in the data set made the specification very complex and Shestowsky et al. (1998) found that the test statistics were quite similar for the specified regression model and analyses with the group level variable. Therefore, only the group level variable analyses were performed.

influence members of the majority had over the aggregate group verdict. This measure was constructed to determine if, on average, the majority members' pre-discussion opinions were closer to the final group verdict than that of the minority members. It was expected that members with greater influence on the group verdict would have pre-discussion verdicts more similar to the group verdict than members with less influence.

For each member, this influence on the group verdict was found by calculating the difference between his/her average continuous pre-discussion verdict and the average continuous group verdict, and taking the absolute value. For each faction, the average of member influence was computed. Finally, the average majority influence was subtracted from the average minority influence. Because a small value for member influence indicated greater influence over the group verdict, a positive value for the relative faction influence indicated that, on average, the majority faction members were more effective at influencing the group verdict. A value of zero indicated equal influence of the factions and a negative value indicated that the minority was more effective at influencing the group verdict than the majority. In order to assess whether members of a particular faction had more influence on the group verdict than members of the opposing faction, a single sample t test was performed. The mean relative faction influence of 0.86 was compared to a value of zero and was found to be not significantly different from zero, $t(10) = 1.15$, $p = .28$, $d = 0.73$. A mean of 0.86 for relative faction influence indicated that the majority faction had, on average, almost one unit more influence on the group verdict than the minority faction. Thus, despite the pro-majority mean, this result suggests that neither faction had significantly more influence on the group verdict than the other. However, the low statistical

power due to the inclusion of only 11 valid groups may be the true cause of this finding rather than an equality of influence between factions.

In addition to assessing faction influence based on faction size, faction influence on the group verdict was examined due to elaboration asymmetry between the factions. That is, does the relative measure of faction influence reflect whether the elaboration asymmetry consisted of a majority more elaboration condition, a minority more elaboration condition, or an equal factions elaboration condition? It was expected that majority members would have the most influence on the group verdict relative to the minority members in the case of a majority-more elaboration asymmetry and, therefore, this condition would have the most positive value of relative member influences. The least positive value of relative faction influence was anticipated in the case of a minority-more elaboration condition. That is, when the minority members had elaborated to a greater extent than the majority members an attenuation of the majority influence was expected. In the case of an equal faction asymmetry condition an intermediate value of relative faction influence was expected. An ANOVA was performed to determine if elaboration asymmetry affected the relative influence measure. The findings were not significant, $F(2, 8) = 0.26$, $p = .78$, $d = 0.48$ suggesting that the elaboration asymmetry condition did not affect the relative member influence of the factions on the group verdict. Furthermore, the means for each asymmetry condition, as shown in Table 1, were not in the expected order of magnitude. That is, it was anticipated that the majority-more elaboration condition would have the highest mean, not the lowest mean of -0.08, and the lowest mean would be of the minority-more elaboration condition, not that of 1.04. The nonsignificant result for this analysis was not surprising given that the

Table 1

Mean Relative Faction Influence by Elaboration-Faction Asymmetry Condition

Elaboration-Faction Asymmetry Condition	<u>M</u>	<u>SD</u>
Majority-More Elaboration (<u>N</u> = 3)	-0.08	1.56
Equal Factions Elaboration (<u>N</u> = 5)	1.33	1.21
Minority-More Elaboration (<u>N</u> = 3)	1.04	1.56

Note. The hypothesized alignment of means in decreasing order by condition was majority-more elaboration, equal factions elaboration, and then minority-more elaboration.

accountability conditions did not significantly affect the level of elaboration of the participants as measured in this study.

Relative Private Attitude Change by Faction. The second goal in examining the relative influence of the factions on each other was to determine whether faction membership was related to the extent to which group members' private opinions of the case changed from pre-discussion to post-discussion. A group member may publicly endorse, for example, the opinion of the majority based on normative pressure, but retain his/her own opinion privately. On the other hand, information brought forth in the group discussion from either the majority or the minority members may change one's private opinion without necessarily forcing the public exposure of that change in the group discussion. Thus, private opinion change was seen as a necessary variable to explore in fully assessing the impact of the factions on each other.

Similar to the measure of relative faction influence, a group level variable was created to provide independent units of measure. This group level variable was formed to represent the relative amount of private attitude change that occurs in the minority compared to the majority of each group. This variable was computed in the same manner as the relative faction influence variable. That is, the absolute value of the difference between his/her average continuous pre-discussion verdict and his/her average continuous post-discussion verdict was calculated for each group member. For each faction, the average private opinion change was computed. Finally, the average majority private opinion change was subtracted from the average minority private opinion change. A small value for private attitude change suggested little change in verdict from pre-discussion to post-discussion. Thus, a positive value for relative private attitude change

indicated that the majority changed less from pre-discussion to post-discussion than the minority in a group. A value of zero indicated that the factions were equal in their average private attitude change. A negative value denoted a minority that, on average, changed their verdicts to a lesser degree than the majority. It was expected that the private opinions of the majority members would change less than those of the minority members, but that this effect would be less strong than in the case of member influence on the group verdict because of the decrease in normative pressure on private opinions.

A single-sample t test was done in order to examine the value of the average relative private attitude change over the groups. This mean value of -0.27 was compared to zero, the value representing equal private attitude change for the factions. Although the negative value of the mean suggested more influence on private attitude change by the minority faction, this test found that the average relative private attitude change was not significantly different from zero, $t(10) = -0.55$, $p = .59$, $d = 0.35$. Thus, there was no evidence that the majority members had less or more private attitude change than the minority members. The effect of elaboration-faction asymmetry on the relative private attitude change was addressed. As with the relative faction influence group variable, it was expected that the value of the relative private attitude change would decrease in magnitude from the majority-more elaboration condition to the equal factions elaboration condition to the minority-more elaboration condition. The trend of the means for relative private attitude change, as seen in Table 2, were not in the predicted direction. That is, while the majority more elaboration condition had the highest mean as expected, the lowest mean

Table 2

Mean Relative Private Attitude Change by Elaboration-Faction Asymmetry Condition

<u>Elaboration-Faction Asymmetry Condition</u>	<u>M</u>	<u>SD</u>
Majority-More Elaboration (<u>N</u> = 3)	0.21	1.04
Equal Factions Elaboration (<u>N</u> = 5)	-0.55	0.80
Minority-More Elaboration (<u>N</u> = 3)	-0.29	1.04

Note. The hypothesized alignment of means in decreasing order by condition was majority-more elaboration, equal factions elaboration, and then minority-more elaboration.

was not that of the minority-more elaboration condition. Furthermore, an ANOVA found that the elaboration asymmetry condition did not significantly affect the relative private attitude change between the factions, $F(2, 8) = 0.17$, $p = .85$, $d = 0.66$.

Relative Ratings of Faction Persuasiveness. The third goal of examining the influence of the factions on each other was to determine a group member's persuasiveness as perceived by the other jurors. It was an assumption that any differential influence by the factions, if it occurred, would be the result of the persuasive behaviours that were engaged in during the group discussion. That is, a juror had impact on the group verdict and the private attitudes of the other jurors by way of his/her persuasive behaviour. I wanted to ascertain whether the influence of the persuasive behaviours were overt enough to be perceived by the group members. To get at the extent to which jurors were engaging in noticeably active persuasive attempts, the subjective perceptions of each juror as to who were the most influential and the least influential jurors were obtained. As described earlier, each group member had a score of the number of jurors who selected him/her as the most influential subtracted by the number of jurors who selected him/her as the least influential. A group variable was computed that represented the relative ratings of juror persuasiveness within the group discussion between the two factions. The average rating of juror persuasiveness was calculated for each faction and that of the minority was subtracted from the majority. A resulting positive value indicated that, on average, the majority contained more influential juror members (as rated by other jurors) than the minority. A value of zero indicated that the factions were, on average, equivalent while a negative value indicated that the minority members were rated as more influential than the majority members.

A single-sample t test was performed to assess whether the relative juror persuasiveness denoted equality between the members of the factions or if one faction's members tended to be more persuasive than the other's as judged by fellow jurors. The mean relative juror persuasiveness of -1.34 was compared with a value of zero that denoted equality between the factions. The direction of the mean suggested that the minority faction was perceived as more persuasive in the group discussion as selected by other jurors than the majority faction. However, the analysis indicated that the difference was not significant, $t(10) = -1.80$, $p = .10$, $d = 1.14$ suggesting that there was no evidence that either faction was superior to the other with respect to persuasive behaviour in the jury setting. An ANOVA was also performed to assess whether elaboration-faction asymmetry affected the relative juror persuasiveness. As with the other measures of inter-faction influence, it was expected that the value of the relative juror persuasiveness would decrease in magnitude from the majority-more elaboration condition to the equal factions elaboration condition to the minority-more elaboration condition. The differences between the means, seen in Table 3, were not significant, $F(2, 8) = 0.83$, $p = .47$, $d = 0.04$, and the mean differences were not as expected. That is, the majority-more elaboration condition had the lowest mean instead of the highest mean as expected. Furthermore, the minority-more elaboration condition had the second lowest mean rather than the lowest mean. Thus, the elaboration-faction asymmetry attempted in the study did not affect the relative levels of juror persuasiveness between the factions.

Relationship between Faction Persuasiveness and Faction Influence. Despite the lack of correspondence between the accountability condition and the level of elaboration and the

Table 3

Mean Relative Ratings Of Faction Persuasiveness by Elaboration-Faction Asymmetry Condition

Elaboration-Faction Asymmetry Condition	<u>M</u>	<u>SD</u>
Majority-More Elaboration (<u>N</u> = 3)	-2.92	1.45
Equal Factions Elaboration (<u>N</u> = 5)	-0.60	1.13
Minority-More Elaboration (<u>N</u> = 3)	-1.00	1.45

Note. The hypothesized alignment of means in decreasing order by condition was majority-more elaboration, equal factions elaboration, and then minority-more elaboration.

consequential lack of elaboration-faction asymmetry conditions, a further analysis of the group influence was warranted. A major premise of this study was that the persuasive behaviours of jurors within the group discussion caused the influence of the factions. It was hypothesized that the extent of persuasive behaviour in the discussion would vary as a function of the elaboration-faction asymmetry because the level of elaboration affects the amount of persuasive behaviour. That is, the relative amount of juror persuasiveness by faction would favour the majority most in the majority-more elaboration condition, followed by the equal faction elaboration condition, and finally the minority-more elaboration condition. Thus, the understanding of the majority-wins process has been that the reason that majorities have greater influence is that, in general, they engage in more persuasive behaviours than minorities and when the amount of persuasive behaviour is varied the magnitude of influence will vary with it. Thus, juror ratings of the relative persuasiveness of the factions in the group discussion should predict the relative amount of influence of each faction on the group verdict and the private opinions. On a group level, the more that ratings of juror persuasiveness favoured the majority, the more that member influence on the group verdict should favour the majority. To test this hypothesis, a regression was performed with the relative faction persuasiveness variable predicting the relative level of faction influence within the groups. The relative faction persuasiveness significantly predicted the relative faction influence, $\beta = 0.87$, $p < .01$. Thus, jurors' perception of which faction was engaging in the most persuasive behaviour was consistent with the actual influence of that faction on the group verdict.

Relationship between Faction Persuasiveness and Private Attitude Change. Similar to member influence, it was expected that the persuasive behaviour of jurors in the group discussion, as perceived by the other jurors, would be related to their impact on the private attitudes of the other jurors. On a group level, the more that ratings of juror persuasiveness favoured the majority, the more that private attitude change should be induced by the majority as compared to the minority. This expectation was tested by a regression analysis that assessed the ability of the relative juror persuasiveness variable to predict the relative private attitude change of the factions. The relationship was found to be marginally insignificant with $\beta = 0.55$, $p = .08$. Thus, the jurors' perception of which faction was engaging in the most persuasive behaviour in the group discussion was not significantly related to their actual impact on the private attitudes of the other jurors. It was reasonable to expect that persuasive behaviour in the group would affect the group verdict more than private attitudes. However, this lack of significance was marginal and may be the product of a lack of power.

Discussion of Experiment One

The primary results of experiment one indicated that: 1) the legal analyses were successful in creating similar pre-discussion opinions in the participants and this success was not differentiated by the accountability condition, 2) there was no evidence that the accountability manipulation was effective in varying the level of elaboration undertaken by the participants, 3) there was no evidence that the majority was more influential on the group verdict, private attitudes, or in persuasive behaviour, 4) the elaboration-faction asymmetry did not significantly moderate the effect of faction size, and 5) jurors' perceptions of persuasive behaviour were

significantly predictive of the actual influence on the group verdict but were only marginally predictive of private attitude change. Of note is the lack of a trend towards a majority effect on the three influence measures. The majority-wins tendency is a robust finding in much of the research. The fact that only one of the three means for faction influence on the group verdict, private attitude change from pre- to post-discussion, and faction persuasiveness demonstrated a value consistent with a more influential majority indicated some of the difficulty with this study.

Two reasons why experiment 1 may have failed with respect to manipulating elaboration are the accountability manipulation itself and the use of the thought-listing task. The accountability manipulation may simply have been too weak to create the required discrepancy in elaboration. In the low accountability condition, the participants were merely told to read the information and to fill out some measures while the high accountability group was told that they would have to defend and explain their position with other participants. Perhaps the low accountability group performed more elaboration than anticipated when told they may have to fill out some measures. Furthermore, many participants of this study find the case materials inherently interesting and therefore would tend to elaborate somewhat without external motivation. Therefore, some motivation based on anticipation of measures and interest in the case may have attenuated the difference between the groups. The high accountability group may have highly elaborated the case but low accountability group may still have been too high to create a meaningful difference. Secondly, with motivation as the mode by which elaboration was varied, the thought-listing task may have attenuated any discrepancy in elaboration created by accountability. That is, participants that were not motivated to elaborate because of the low

accountability condition may have become motivated when asked to write down any thoughts that they had about the case material. They may not have wanted to admit that they had few thoughts about the case and, therefore, began to generate more through elaboration. Thus, the use of the thought-listing measure, while informative, may have undermined the manipulation of elaboration by inducing motivation in the low motivation participants. Both of these problems were addressed in the undertaking of experiment 2.

A final objection to the procedure of experiment 1 was the number of participants. The lack of statistical power for the analyses indicated that perhaps more participants should be invested. However, the means within the analyses did not line up in a way that suggested that more participants would be able to enhance any findings. Thus, based on this lack of the appropriate trends in the means, the lack of utility of the accountability manipulation, and the vast consumption of participants that the 6-person groups required, it was decided that it would not be fruitful to invest further participants in this experimental design. The focus was placed on determining the problems in this experiment and improving upon them with a study of 3-person groups.

Experiment 2

The purpose of experiment 2 was initially conceptualized to assess if alternatives to accountability were effective in varying elaboration level and to generalize experiment 1 to smaller groups and minorities where there was no ally present. However, based on the failure of the accountability manipulation to invoke measurable differences in elaboration, the focus of this second study was aimed at utilizing a more effective means of determining elaboration. While

motivation to elaborate was more difficult to control, an ability factor such as distraction hinders elaboration even against the wishes of the target (Petty, Wells, & Brock, 1976). That is, distraction during exposure to a message hinders encoding of the information itself such that elaboration of the message cannot occur to the same extent. Furthermore, a task such as thought-listing should not pose such a threat by inducing elaboration when the encoding of the information has been disrupted and, therefore, cannot be elaborated upon. Thus, distraction was used in this second study in the hope that it would impact the level of elaboration to an extent that the consequences of different levels of elaboration could be explored.

Experiment 2 was very similar to experiment 1 in design and pre- and post-discussion measures, but the group size was decreased to three participants, with two in the majority and one in the minority. This decrease to three-person groups was an improvement on the logistically challenging 6-person groups. Not only were the 6-person groups difficult to align for the required configuration of pre-discussion opinions, but 6 participants collapsed into only one unit of measure meant many participants invested for minimal data points. Thus, the use of 3-person groups in experiment 2 aimed to maximize the use of participants and increase statistical power. Experiment 2, as Experiment 1, aimed to examine the hypothesis that factions with higher levels of elaboration had more influence on the outcome of a group decision-making task than they ordinarily would with lower elaboration. It was hypothesized that for groups that contained an elaboration asymmetry where the minority had elaborated more than the majority, their increased elaboration may offset the tendency for the majority to have greater influence. Thus, experiment 2 examined these hypotheses with a smaller group size that required a smaller sample size and

could determine if elaboration had an impact in the smallest group where unequal factions still exist. Also, the minority faction in this study contained one participant and could therefore explore whether elaboration would aid a minority with no ally.

Method

Participants

One hundred and seventy-four undergraduates at Queen's University (142 women and 32 men) participated for extra credit in an Introduction to Psychology course. Participants were recruited at a minimum of 3 per session, with a total of 58 groups.

Design and Procedure

The design of the conditions in this study is identical to that of experiment 1. That is, a 2 (faction: majority vs. minority) x 3 (elaboration-faction asymmetry: minority more elaboration vs. majority more elaboration vs. equal faction elaboration) x 2 (pre-discussion opinion: pro-defendant vs. pro-plaintiff) design was used. The only alteration to the experiment 1 procedure was the manipulation of elaboration. As with experiment 1, the condition that was implemented for each session was randomly ordered.

When the participants arrived for each session participants were randomly assigned to the majority and to the minority without their knowledge. Consent forms (see Appendix A, p. 82, all materials and measures that differ for experiment 2 are in Appendix B) were given out, read and signed by the participants. They were each seated at separate computers that were used to present the material. All of the participants were presented with the same 250-word case summary that

was described for experiment 1 (see Appendix A, p. 84). They were given a legal analysis on computer containing arguments that either favoured the defendant or the plaintiff, depending on their faction assignment (see Appendix A, p. 85-86).

While the participants were reading the case summary and the legal analysis, the elaboration manipulation was implemented using a distraction technique. The distraction was intended to hinder the amount of information from the case summary and legal analysis that could be encoded for elaboration. The distraction consisted of words played in the headphones of each participant at varying rates. The participants were asked to write down any verbs that were heard in the headphones. Most participants assumed that the verb listing was used to assess their ability to perform two tasks at once. For those individuals assigned to either a low elaboration-majority or a low elaboration-minority, words were heard at a rate of one word per five seconds. For individuals in a high elaboration or same elaboration faction, the words were heard at a rate of one word per twenty seconds. The distraction persisted throughout the reading of the case summary and legal analyses. Because it was necessary for low elaborating participants to have an opinion about what side they were on before they entered into the discussion, pro-plaintiff or pro-defendant cues were placed in the legal analysis that could be picked up with non-thoughtful processing. For example, the phrase "The defendant is guilty" was bolded and in capital letters so that they could easily pick up this cue even when distracted.

After the materials were presented, judge's instructions on the formation of the verdict were given and the pre-discussion opinions of the participants were measured on computer by asking them to indicate on 9-point scales their opinion regarding the airline's guilt, their

assessment of how likely it is that the airline was guilty of negligence, and to reach a dichotomous decision of guilty or not guilty (see Appendix A, p. 88). The strength of their attitudes and their levels of elaboration were measured in the same manner as described for experiment 1 (see Appendix A, p. 89-92).

As in experiment 1, extra participants were often recruited for the initial part of this experiment. After the participants completed the elaboration measures, they were each asked to mark their dichotomous pre-discussion verdict on paper (see Appendix B, p. 102). These verdicts were collected and used to determine which participants had verdicts that allowed for a viable group with a majority of two and an opposing minority of one. If more than one participant could fill the same position in the group, the choice was made randomly. The individuals excluded from the group discussion were debriefed at this time.

Subsequently, the 3 group members were placed in the same room where they were instructed about their roles as jurors in this civil case (see Appendix B, p. 102). They were assigned juror numbers and a jury foreman was chosen randomly. They were asked to discuss the case and arrive at a unanimous decision of guilty or not guilty and decisions on continuous scales about the degree of guilt and of how likely it was that the defendant was guilty. They were given a verdict record form on which to record their decisions (see Appendix A, p. 94). They were told that their discussion would be recorded and that when recording began they must each announce their juror number so that their role in the discussion could be followed. They were told that they have 15 min to reach a verdict. The experimenter then left the room so that the discussion could begin.

After the group had finished their discussion and returned their verdict record form, each participant was given the same set of post-discussion measures as described in experiment 1 (see Appendix A, p. 95-99). The participants were then debriefed (see Appendix B, p. 103), thanked, and released.

Measures

The measures for experiment 1 were used for experiment 2. The correlations between the measures included in aggregate measures were very similar for experiment 1 and experiment 2 with one exception. The correlation between the groups' continuous verdicts for experiment 1 was .25, $p = .47$, while the correlation between the same measures for experiment 2 was .72, $p < .01$. Perhaps the greater discrepancy between the two continuous verdicts in experiment 1 was due to a more complex compromise process when 6 jurors were involved than with only 3 jurors.

Results

Manipulation of Pre-Discussion Verdicts. In order to determine whether the legal analyses given to the participants caused them to have pre-discussion continuous verdicts that were consistent with the bias of the legal analysis, an ANOVA was performed. In the ANOVA, the side of the legal analysis and the level of elaboration of each participant were the independent variables while the aggregate continuous pre-discussion verdict was the dependent variable. An alpha of .05 was used in all statistical analyses. As predicted, there was a significant main effect of legal analysis on the pre-discussion verdicts, $F(1, 158) = 162.44$, $p < .001$, with a mean of 2.84 for the plaintiff legal analysis and a mean of 6.13 for the defendant legal analysis. These results indicated that the orientation of the legal analysis predicted the orientation of the aggregate

continuous pre-discussion verdict. The level of elaboration (high or low based on the distraction manipulation) did not significantly relate to the orientation of the pre-discussion verdicts, $F(1, 158) = 1.61, p = .21$. This result demonstrated that the level of elaboration did not cause participants to favour either the guilty or not guilty verdict over the other. In addition, the interaction between legal analysis and level of elaboration was not significantly related to the pre-discussion verdicts, $F(1, 158) = 0.18, p = .67$. The lack of a significant interaction was important because it indicated that the manipulation of the legal analyses worked equally well over both levels of elaboration.

Manipulation of Level of Elaboration through Distraction. This study was designed based on the premise that the high distraction condition would cause a lower level of elaboration about the case than the low distraction condition. To test this assertion, the level of elaboration was operationalized in two measures: the proportion of case-relevant thoughts in the thought listing and the self-report of attitude strength with reference to how carefully they had thought about the case material. ANOVAs were performed to test whether either of these measures of elaboration varied with the distraction condition. The distraction condition significantly affected the relevant proportion of thoughts in the thought listing, $F(1, 156) = 4.14, p < .05, d = 0.27$. That is, the proportion of case-relevant thoughts in the thought-listing task was higher in the low distraction condition ($M = 0.90$) than in the high distraction condition ($M = 0.81$). The distraction condition was significantly related to the self-report of how carefully they had thought about the case material, $F(1, 158) = 10.75, p < .01$, and $M_s = 6.5$ and 5.5 for low and high distraction, respectively. Thus, the two distraction conditions created differences in the production of a

greater proportion of case-relevant thoughts and in self-reports of the amount of care they put into thinking about the case material. Furthermore, in order to explore the extent to which participants could judge how carefully they thought about the case compared to their actual relevant thoughts about the case, the correlation was calculated. The participants' perceptions of how carefully they thought about the case material and the proportion of case-relevant thoughts they listed were significantly correlated, $r(158) = .42, p < .01$. Thus, participants' perceptions of their elaboration were significantly related to their proportion of relevant thoughts about the case. Overall, these results indicated that the distraction manipulation significantly affected the level of elaboration undertaken by the group members as assessed by these two related measures.⁵ The difference created in elaboration by distraction was significant but modest.

Relative Member Influence by Faction. Given that the two distraction conditions did significantly affect the amount of elaboration undertaken by the participants and the corresponding impact on attitude strength, it was expected that the elaboration condition and its interaction with faction size could have an impact on the interaction between the group members. Thus, the group level analyses were carried out.

In order to explore the influence that the factions had upon each other, the first goal was to assess the relative amount of impact that the factions had on the group verdict. As in experiment 1, the pre-discussion analyses assumed independence between the participants, but

⁵ For exploratory purposes, additional analyses of the relationship between the distraction manipulation and self-reports of certainty about pre-discussion verdict and the level of ambivalence about the case were assessed and insignificant results were found with $F_s(1, 158) = 0.54$ and 1.53 and $p_s = .46$ and $.22$, respectively. These analyses suggested that the distraction

the discussion and post-discussion analyses cannot do so. Therefore, a group level variable was created to represent the difference in influence between the factions. This relative faction influence variable was formed in exactly the same manner as in experiment one. A positive value for the relative faction influence indicated that, on average, the majority faction members were more effective at influencing the group verdict. A value of zero indicated equal influence of the factions and a negative value indicated that the minority was more effective at influencing the group verdict than the majority. In order to assess whether members of a particular faction had more influence on the group verdict than members of the opposing faction, a single-sample t test was performed. The mean relative faction influence of 1.62 was compared to a value of zero and was found to be significantly different from zero, $t(53) = 5.35$, $p < .01$, $d = 1.47$. Overall, members of the majority faction had significantly more influence on the group verdict than the members of the minority faction. This finding confirms the pervasive research finding that majorities tend to have more influence than minorities.

In addition to assessing faction influence based on faction size, faction influence on the group verdict was examined due to elaboration asymmetry between the factions. That is, does the relative measure of faction influence reflect whether the elaboration-faction asymmetry consisted of a majority-more elaboration condition, a minority-more elaboration condition, or an equal factions elaboration condition? It was expected that majority members would have the most influence on the group verdict relative to the minority members in the case of a majority-more elaboration asymmetry and, therefore, this condition would have the most positive value of

conditions did not create distinctions in the self-reports of certainty in the pre-discussion verdicts

relative member influences. The least positive value of relative member influence was anticipated in the case of a minority-more elaboration condition. That is, when the minority members had elaborated to a greater extent than the majority members an attenuation of the majority influence was expected. In the case of an equal faction asymmetry condition an intermediate value of relative faction influence was expected. An ANOVA was performed to determine if elaboration asymmetry affected the relative influence measure. The findings were not significant, $F(2, 51) = 0.15$, $p = .87$, $d = 0.31$, suggesting that the elaboration-faction asymmetry condition did not significantly affect the relative faction influence on the group verdict. The means for each asymmetry condition, shown in Table 4, were not in the expected order of magnitude in that the relative faction influence was slightly higher in the equal factions elaboration condition than the majority-more elaboration condition. However, the mean was lowest in the minority-more elaboration condition as expected. Thus, these findings suggest that although the means were close to the expected order of magnitudes, the elaboration-faction asymmetry conditions did not significantly moderate the effects of faction membership on member influence.

Relative Private Attitude Change by Faction The second goal in examining the relative influence of the factions on each other was to determine whether faction membership was related to the extent to which group members' private opinions of the case changed from pre-discussion to post-discussion. Private opinion change was seen as a necessary variable to explore in fully assessing the impact of the factions on each other. Similar to relative faction influence, a group

and ambivalence about the case between the two conditions.

Table 4

Mean Relative Faction Influence by Elaboration-Faction Asymmetry Condition

Elaboration-Faction Asymmetry Condition	<u>M</u>	<u>SD</u>
Majority-More Elaboration (<u>N</u> = 17)	1.68	0.55
Equal Factions Elaboration (<u>N</u> = 20)	1.78	0.51
Minority-More Elaboration (<u>N</u> = 17)	1.38	0.55

Note. The hypothesized alignment of means in decreasing order by condition was majority-more elaboration, equal factions elaboration, and then minority-more elaboration.

level variable was created to provide independent units of measure. This group level variable was formed to represent the relative amount of private attitude change that occurs in the minority compared to the majority of each group. This variable was computed in the same manner as in experiment 1. A positive value for relative private attitude change indicated that the majority changed less from pre-discussion to post-discussion than the minority in a group. A value of zero indicated that the factions were equal in their average private attitude change. A negative value denoted a minority that, on average, changed their verdicts to a lesser degree than the majority. It was expected that the private opinions of the majority members would change less than those of the minority members, but that this effect would be less strong than in the case of faction influence on the group verdict because of the decrease in normative pressure on private opinions.

A single-sample t test was done in order to examine the value of the average relative private attitude changes over the groups. This value of .78 was compared to zero, the value representing equal private attitude change for the factions. This test found that the average relative private attitude change was significantly different from zero, $t(53) = 3.15$, $p < .01$, $d = 0.87$. The majority members had less private attitude change than the minority members. The effect of elaboration-faction asymmetry on the relative private attitude change was addressed. As with the member influence group variable, it was expected that the value of the relative private attitude change would decrease in magnitude from the majority-more elaboration condition to the equal factions elaboration condition to the minority-more elaboration condition. The trend of the means for relative private attitude change, as seen in Table 5, was in the expected direction. That

Table 5

Mean Relative Private Attitude Change by Elaboration-Faction Asymmetry Condition

Elaboration-Faction Asymmetry Condition	<u>M</u>	<u>SD</u>
Majority-More Elaboration (<u>N</u> = 17)	1.03	0.44
Equal Factions Elaboration (<u>N</u> = 20)	0.88	0.41
Minority-More Elaboration (<u>N</u> = 17)	0.41	0.44

Note. The hypothesized alignment of means in decreasing order by condition was majority-more elaboration, equal factions elaboration, and then minority-more elaboration.

is, the mean was highest in the case of the majority more elaboration condition, intermediate in the case of the equal factions elaboration condition, and lowest in the case of the minority-more elaboration condition. Furthermore, the weakening of the majority effect is trivial in the case where the factions had equal elaboration but divided the majority effect to less than half in the minority-more elaboration condition. However, an ANOVA found that the elaboration asymmetry condition did not significantly affect the relative private attitude change between the factions, $F(2, 51) = 0.53$, $p = .59$, $d = 0.06$. Thus, these findings suggest that the elaboration-faction asymmetry conditions, although they followed the hypothesized trend, did not significantly moderate the effects of faction membership on private attitude change.

Relative Faction Persuasiveness. The third goal of examining the influence of the factions on each other was to determine a group member's persuasiveness as perceived by the other jurors. It was an assumption that any differential influence by the factions, if it occurred, would be the result of the persuasive behaviours that were engaged in during the group discussion. That is, a juror had impact on the group verdict and the private attitudes of the other jurors by way of his/her persuasive behaviour. We wanted to ascertain whether the influence of the persuasive behaviours were overt enough to be perceived by the group members. The computation of the relative faction persuasiveness variable followed the same procedure as in experiment 1. A resulting positive value indicated that, on average, the majority contained more influential juror members (as rated by other jurors) than the minority. A value of zero indicated that the factions were, on average, equivalent while a negative value indicated that the minority members were rated as more influential than the majority members.

A single-sample t test was performed to assess whether the relative faction persuasiveness denoted equality between the members of the factions or if one faction's members tended to be more persuasive than the other's as judged by fellow jurors. The mean relative faction persuasiveness of 0.83 was compared with a value of zero that denoted equality between the factions. The mean was significantly larger than zero, $t(53) = 2.25$, $p < .05$, $d = 0.62$, suggesting that the majority faction was superior to the minority faction with respect to persuasive behaviour in the jury setting. An ANOVA was performed to assess whether elaboration-faction asymmetry affected the relative faction persuasiveness. As with the other measures of inter-faction influence, it was expected that the value of the relative faction persuasiveness would decrease in magnitude from the majority-more elaboration condition to the equal factions elaboration condition to the minority-more elaboration condition. This difference between the means was not significant, $F(2, 51) = 0.40$, $p = .67$, $d = 0.12$, however, the means, seen in Table 6, were in the expected relationship. That is, the majority-more elaboration condition had the highest value of relative faction persuasiveness, while the minority-more elaboration condition had the lowest value, and the equal faction elaboration condition had an intermediate value. Thus, although the means followed the expected trend these findings suggest that the elaboration-faction asymmetry conditions did not significantly moderate the effects of faction membership on faction persuasiveness.

Relationship between Faction Persuasiveness and Faction Influence. Despite the lack of a significant correspondence between the elaboration-faction asymmetry within the group context and the relative levels of faction influence, private attitude change, and faction persuasiveness, a

Table 6

Mean Relative Faction Persuasiveness by Elaboration-Faction Asymmetry Condition

Elaboration-Faction Asymmetry Condition	<u>M</u>	<u>SD</u>
Majority-More Elaboration (<u>N</u> = 17)	1.32	0.67
Equal Factions Elaboration (<u>N</u> = 20)	0.68	0.62
Minority-More Elaboration (<u>N</u> = 17)	0.53	0.67

Note. The hypothesized alignment of means in decreasing order by condition was majority-more elaboration, equal factions elaboration, and then minority-more elaboration.

further analysis of the group influence was warranted. A major premise of this study was that the persuasive behaviour of jurors within the group discussion caused the influence of the factions. It was hypothesized that the extent of persuasive behaviour in the discussion would vary as a function of the elaboration-faction asymmetry because the level of elaboration affects the amount of persuasive behaviour. That is, the relative amount of juror persuasiveness by faction would favour the majority most in the majority-more elaboration condition, followed by the equal faction elaboration condition, and finally the minority-more elaboration condition. Thus, our understanding of the majority-wins process has been that the reason that majorities have greater influence is that, in general, they engage in more persuasive behaviours than minorities and when the amount of persuasive behaviour is varied the magnitude of influence will vary with it. Thus, juror ratings of the relative persuasiveness of the factions in the group discussion should predict the relative amount of influence of each faction on the group verdict and the private opinions. On a group level, the more that ratings of juror persuasiveness favoured the majority, the more that faction influence on the group verdict should favour the majority. To check this hypothesis, a regression was performed with the relative faction persuasiveness variable predicting the relative level of faction influence within the groups. The relative faction persuasiveness was significantly predictive of the relative faction influence, $\beta = 0.51$, $p < .01$. Jurors' perception of which faction was engaging in the most persuasive behaviour was consistent with the actual influence of that faction on the group verdict.

Relationship between Faction Persuasiveness and Private Attitude Change. Similar to faction influence on the group verdict, it was expected that the persuasive behaviour of jurors in

the group discussion, as perceived by the other jurors, would be related to their impact on the private attitudes of the other jurors. On a group level, the more that ratings of juror persuasiveness favoured the majority, the more that private attitude change should be induced by the majority as compared to the minority. This expectation was tested by a regression analysis that assessed the ability of the relative faction persuasiveness variable to predict the relative private attitude change of the factions. The relationship was found to be significant with $\beta = 0.48$, $p < .01$. Thus, jurors' perception of which faction was engaging in the most persuasive behaviour was consistent with the actual influence of that faction on private attitude change.

Discussion of Experiment 2

When comparing the results of experiment 1 with experiment 2, it appears that distraction was a more successful means of varying elaboration than accountability. The two levels of distraction caused differing proportions of case-relevant thoughts on the thought-listing task and differing self-reports of care when thinking about the case. That is, increasing the distraction caused the participants to write more case-irrelevant thoughts and decreased how much they reported thinking carefully about the case material than the low distraction condition. The accountability manipulation did not affect either of these measures of elaboration. Furthermore, the expected finding that majority members have more influence in decision-making tasks than minority members was confirmed with the faction influence variable, the private attitude change variable, and the faction persuasiveness variable. That is, the majority members were found to be more persuasive by subjective assessment of their peers than the minority members, they affected the group verdict more than the minority members, and they had more impact on the private

opinions of the minority members than the minority members had on them. Thus, faction size played a significant role in the magnitude of faction influence within the group.

Despite the success of confirming the strength of majority influence, the moderation of this influence by the elaboration-faction asymmetry was not demonstrated. Although the means were in the expected order of magnitude in two of the three measures of influence and the minority-more elaboration condition consistently held the lowest mean, the effect was not powerful enough to reach significance. There may be several reasons for this lack of significant moderation and from these reasons, stem the goals of future research. It may be that the elaboration manipulation was not strong enough. Although a distraction of hearing words every five seconds may be enough to affect the level of elaboration, it may not cause enough disparity in elaboration to create meaningful differences in behaviour in the group setting. Perhaps the distraction technique should be amplified to one word every three seconds in order to maximize the difference in the two conditions. As well, a motivational factor such as accountability could be added to the ability factor of distraction to further enhance the effect.

Another reason for the lack of carryover from elaboration level to group behaviour may be the use of the thought-listing task. This task, in itself, may cause the participants to further elaborate the case material that they were able to encode during the distraction, which may attenuate the difference between the conditions. It was expected that this attenuation occurred less with the distraction manipulation than with the accountability manipulation. However, it may be that the distraction while reading the case was enough to create lowered levels of elaboration, but when asked to list their thoughts on the thought-listing task, participants were

able to compensate somewhat for their distraction and elaborate the case material to an extent they would not have ordinarily. Thus, two targets for amplifying the elaboration manipulation are an increase in the frequency of distraction in conjunction with motivational factors, and the elimination of the thought-listing task from the current procedure.

General Discussion

Summary of Results

In this study of the moderating role of elaboration in majority-minority influence, the two experiments varied in their level of success. The primary finding of experiment 1 was that the manipulation of elaboration by accountability was ineffective, in that the relevant proportion of case-relevant thoughts and the self-report of careful thinking about the case were not affected by the accountability conditions. Secondly, no consistent and compelling evidence of the majority-wins tendency was found in any of the three influence measures, faction influence on group verdict, relative private attitude change by faction, and relative faction persuasiveness. Thirdly, there was no indication that the elaboration-faction asymmetry conditions moderated faction influence with any of the three measures of such influence as suggested by the trend of the means and the statistical findings. The absence of moderation by elaboration-faction asymmetry was not surprising in light of the absence of the manipulation of elaboration by accountability. Thus, experiment 1 was not successful in creating differing levels of elaboration through accountability, nor were the resulting analyses of the group influence process significant.

Experiment 2 had greater success than experiment 1. The distraction manipulation was effective in creating differing levels of elaboration as measured in both the proportion of case-

relevant thoughts and the self-report of careful thinking about the case. Furthermore, there was good evidence that the majority faction had more influence in the group discussion as assessed by all three measures of influence. That is, the majority had greater influence on the group verdict, greater influence on private attitude change, and had more perceived persuasive behaviour than the minority faction. In examining whether the elaboration-faction asymmetry condition was able to moderate the amount of faction influence, the results were not significant. However, the pattern of the means matched the predicted trend perfectly for two of the measures of influence, and somewhat for the third measure of influence. Thus, the means suggest that some moderation of faction influence may have occurred due to the elaboration-faction asymmetry but that the effect was not powerful enough to attain significance. What are the implications of such results?

Implications of Results

The implications of the findings of experiment 1 and experiment 2 are twofold. First, there was not sufficient effect size or power in the analyses of experiment 1 to examine an effect. The t tests used to examine the main effect of relative influence between the factions had power of less than .20 based on a medium effect size (Cohen, 1988). However, based on the absence of any expected trends it was not deemed prudent to invest more participants to increase power. In experiment 2, the power of the t tests to examine a medium effect size for faction influence was greater than .80. Hence, experiment 2 could examine the existence of a majority-wins tendency. In experiment 2, the majority-wins tendency for group decision-making was confirmed. That is, members of the majority faction tended to have more influence on the group verdict, on the

private verdicts of the other group members, and were perceived as more persuasive by the other group members than members of the minority faction. This finding contributes to this already well-established trend in the literature. Secondly, the implications of the findings on elaboration are unclear and will require more research to delineate. Experiment 1 was ineffective for manipulating elaboration and therefore elaboration's effects could only be examined using experiment 2. In experiment 2, elaboration, although effectively manipulated, did not significantly moderate faction influence. The effect size was small with a consequently low power of less than .10 to find it significant. However, the means held a trend that suggested that a small amount of moderation may have occurred and, in general, it was in the expected direction. There may be many explanations for finding the means in the expected direction but a very small effect size and lack of significance.

It may be that the majority effect was too powerful to be easily attenuated by elaboration. That is, perhaps a majority that is double the size of the minority invokes far too much influence on the minority for elaboration to intervene. The difference in influence may simply be too great to overcome with elaboration differences. Possibly in the case of less unbalanced factions, such as a majority of three faced with a minority of two, elaboration could successfully moderate the impact of the majority on the minority. With less difference in normative influence and informational influence between the two factions, elaboration may be able to bridge the gap. Another possible reason for the impotence of elaboration was that the elaboration manipulation was simply not powerful enough. The distraction technique may have been sufficient to differentiate the proportion of case-relevant thoughts and the self-reports of careful thinking

about the case, but not strong enough to impact the persuasive behaviour within the group or its impact on the other group members. That is, while distraction may have created individual differences in the amount of thinking that was done about the case, the difference in the elaboration by each faction must be quite large to affect how they act in the group setting. Strong attitudes must be formed by the high elaboration group, compared to the low elaboration group, in order to provoke them to speak up about their opinion to the other jurors and resist the opinions of the other faction in the group setting. Perhaps if the differentiation of the levels of elaboration were increased, the differences would show up in the persuasive behaviour within the group setting and moderation of the faction influence would occur.

Finally, it may be the case that our hypothesized relationship between elaboration and faction influence is wrong. That is, maybe elaboration does not affect the amount of influence that a particular faction has over the other at all. However, if elaboration is not related to influence within a group, how might the Shestowsky et al. (1998) study be reinterpreted? In the Shestowsky et al. study, individuals high in need for cognition had more influence within the dyad than individuals low in need for cognition. Due to the discrepancy in enjoyment of elaboration that is found between individuals high and low in need for cognition, the explanation for the imbalance of influence for dyads with opposing levels of this personality variable was postulated to be the discrepancy in elaboration. However, there are other factors associated with the need for cognition personality variable that may be alternative explanations for the discrepancy in influence. It may well be that individuals high on need for cognition elaborate to a greater extent but they may also be motivated to engage in more discussion of the case than

individuals low in need for cognition. Consequently, this motivation to be involved in the discussion may have given them more influence within the group rather than a difference in attitude strength. Hence, there may be alternative explanations for the Shestowsky et al. study other than elaboration. This reinterpretation is simply speculation as the current data does not resolve this question. Further research is required to determine if elaboration may be successful in moderating majority influence when the majority is less powerful or the strength of the elaboration manipulation is increased or if the central hypothesis should be altered.

Limitations of Results

Prior to addressing the means by which future research may elucidate the current findings, the issue of generalizability should be mentioned. Limits on generalizability of the current results may be induced by both the nature of the sample and the nature of the group context. In terms of sample, it may be the case that students of an introductory psychology class are not representative of the general population. With respect to the jury task, these students understand that they are not making decisions that will affect real people. One may suggest that this lack of realism in the jury setting would make these participants less invested in the final verdict and decrease their effort to make good decisions than in the case of a real jury. On the other hand, these participants were only required to read the case and make a unanimous decision over less than one hour. They did not have to sustain motivation and concentration over an extended period as in some jury trials. Based on the existence of real-world consequences but the requirement of extended concentration on the case, it is hard to say whether these participants or

a real jury would be the most motivated and able to carefully weigh the information in the case and reach a unanimous decision.

With respect to the group context, the results of this study should only be limited to tasks with ambiguous answers and it should be understood that tasks with clearly correct responses may give greater credence to quality than quantity. The size of the group may alter the results of a similar study, with the relative faction sizes affecting the amount of influence. Furthermore, the means of manipulating elaboration may be more or less effective with different groups of people in different contexts. In particular, the accountability manipulation was used with university students who tend to devote a lot of energy to cognitive activity. Accountability may not be able to raise their elaboration to a great extent because it is already at a high level, whereas other groups may not have this intrinsic motivation allowing awareness of accountability to be more effective. Therefore, although it is not assumed that the results of this study can be generalized to all people based on its lack of real-world consequences, limited time span, and inclusion of generally cognitively motivated participants, there is no clear group of people that it could not apply to. The motivation and ability to elaborate in the laboratory and in the real-world are not distinct processes and are affected by a multitude of factors. Only more research can discern the particular contexts where groups do not make decisions based on normative and informational influences.

Future Directions

Future research should attempt to differentiate between the three explanations of elaboration's lack of moderation of faction influence. The most prudent means of examining

these alternatives would be to first determine if elaboration could successfully moderate the majority influence if the elaboration manipulation were strengthened. That is, is there any strength of elaboration where the majority influence would be attenuated? In order to assess this possibility, several changes could be made to the current procedure.

First, the distraction technique could be changed to create a greater discrepancy between the high elaboration and low elaboration conditions. The high elaboration group could receive a very low frequency of words such as one word per 30 s while the low elaboration group could receive a very high frequency of words such as one word per 3 s. Furthermore, the cover story for having the participants perform the reading of the case and writing down verbs at the same time could be utilized to enhance the discrepancy in elaboration. Both elaboration conditions could be informed that the study is interested in dual processing but the primary task could be different between the conditions. That is, the high elaboration condition could be instructed that reading the case is their primary task and therefore, should be their primary focus while the low elaboration group could be instructed that writing down the verbs is their primary task and should be their focus. Therefore, the motivation for elaborating the case material would be different in the two conditions. In addition, accountability could be used in conjunction with the distraction technique. Along with the instructions for the high elaboration group, they could be informed that they will have to discuss and defend their position on the case. The low elaboration group would not be informed about any further use of the case material. Hence, with the strengthening of the distraction technique in conjunction with two motivational cues for elaborating the case material, the discrepancy between the elaboration conditions should be quite

large. If in fact elaboration is capable of moderating group influence, the majority should be most influential when it also has greater elaboration than the minority and least influential when the minority has greater elaboration than the majority.

Second, the thought-listing task would be eliminated from the experimental procedure. The thought-listing task provides a large amount of information such as the amount of thinking that is performed, which verdict the thoughts are favouring, and the proportion of the thoughts that are relevant to the case. Although this task provides useful information about the thinking process of the participants, the task itself may also induce more thinking about the case. That is, when participants are asked to recall and record their thoughts about the case the task may motivate them to think about the case more than they otherwise would have. This increase in elaboration based on this task may occur because it may make them more aware of the little thinking that they previously performed or simply bring to mind the information for further processing. In any case, the potential disruption of the elaboration levels by the thought-listing may attenuate any previously existing differences between elaboration conditions, and therefore is problematic. A study could be performed without the use of this measure. The utility of this measure lies in its ability to test whether a particular manipulation of elaboration is effective. A subset of participants could be given the manipulation and then given the thought-listing task to assess whether elaboration was affected. If it was successfully indicated that the manipulation of elaboration is working, subsequent participants could be given the experimental procedure excluding the thought-listing task, with only the related self-report measure of carefulness of thinking included as an estimate of elaboration. Based on the successful manipulation check, any

moderation of the group influence could be confidently seen as the result of the elaboration differences. This use of the thought-listing task for a manipulation check but its exclusion from the full experimental procedure would make use of its benefits while avoiding its pitfalls.

Third, another means of improving upon the experimental procedure to assess elaboration's moderation of faction influence involves the process of coming to a group decision. In both experiments 1 and 2, a few groups produced verdict ratings in which the dichotomous verdict was guilty but the first continuous verdict rating was on the not guilty side of the scale and vice versa. In addition, some groups rated their initial continuous verdict on one side of the scale but their second continuous verdict (the likelihood of negligence) on the opposing side of the scale. This inconsistency made it difficult to determine whether the unanimous group opinion was guilty or not guilty and how to accurately represent the group's decision with any numerical value. It was thought that this inconsistency represented a form of compromise where, rather than compromising within each verdict measure, they split the three verdicts among them such that one faction may have had more influence on the dichotomous verdict while the other faction had more influence on one or more continuous verdicts. However, despite this speculation, the exact decision rules used on the three verdict measures could not be discerned and therefore, clouded the representation of the group verdict. To avoid this problem in future studies, rules of selecting the group verdicts would be clearly outlined to discourage this means of compromise.

Fourth, to examine the strength of the majority where elaboration is effective in attenuating influence, groups with less unequal factions could be utilized. That is, in the present studies the majorities were double the size of the minorities, but it is possible to have a majority

with less numerical advantage in a group. Decreasing the imbalance in majority-minority size could allow the exploration of elaboration's success with less numerically strong majorities. For example, elaboration's moderation of influence within groups with 3 participants in the majority and 2 participants in the minority could be assessed. Research of this nature would determine if the inability of elaboration to moderate the majority influence in experiment 2 was due to the strength of the majority in numbers.

Finally, one additional alteration of the experimental procedure may be used in future studies to test the hypothesized relationship between elaboration and faction influence. Continuing in the vein of the Shestowsky et al. (1998) study, the personality variable of need for cognition could be combined with the study of faction influence. That is, although Shestowsky et al. examined need for cognition's impact on influence within dyads, it would be of interest to determine whether need for cognition would be related to the influence that majorities and minorities have upon each other.

In conclusion, experiments 1 and 2 have laid the foundation for a line of research that will determine if elaboration can indeed moderate majority-minority influence. Furthermore, new research combining the need for cognition personality variable and influence between unequal factions within a group decision-making setting may logically follow from a study that clarifies the present hypothesis. By exploring these many directions, the true nature of whether the amount of active information-processing that one does can compensate for the number of foes that seek to thwart one's influence will be evaluated. This research is followed in the hopes that a very thoughtful and, consequently, persuasive David can beat Goliath.

References

- Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. Journal of Personality and Social Psychology, 42, 116-131.
- Cacioppo, J. T., Petty, R. E., & Kao, C. (1984). The efficient assessment of need for cognition. Journal of Personality Assessment, 48, 306-307.
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. Journal of Personality and Social Psychology, 39, 752-766.
- Cohen, J. (1988). Statistical power analysis for the behavioural sciences. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cvetkovich, G. (1978). Cognitive accommodation, language, and social responsibility. Social Psychology, 41, 149-155.
- Davis, J. H., Kerr, N. L., Stasser, G., Meek, D., & Holt, R. (1977). Victim consequences, sentence severity, and decision process in mock juries. Organizational Behavior and Human Performance, 18, 346-365.
- Deutsch, M., & Gerard, H. B. (1955). A study of normative and informational social influences upon individual judgment. Journal of Abnormal and Social Psychology, 51, 629-633.
- Ewing, T. N. (1942). A study of certain factors involved in changes of opinion. Journal of Social Psychology, 16, 63-88.
- Festinger, L. (1950). Informal social communication. Psychological Review, 57, 271-282.
- Festinger, L. (1954). A theory of social comparison processes. Human Relations, 1, 117-140.

- Hagafors, R., & Brehmer, B. (1983). Does having to justify one's decisions change the nature of the judgment process? Organizational Behavior and Human Performance, 31, 223-232.
- Haugtvedt, C. P., & Petty, R. E. (1992). Personality and persuasion: Need for cognition moderates the persistence and resistance of attitude changes. Journal of Personality and Social Psychology, 63, 308-319.
- Haugtvedt, C. P., & Strathman, A. (1990). Situational personal relevance and attitude persistence. Advances in Consumer Research, 17, 766-769.
- Kalven, H., & Zeisel, H. (1966). The American jury. Boston, MA: Little, Brown.
- Kerr, N. L., Atkin, R. S., Stasser, G., Meek, D., Holt, R. W., & Davis, J. H. (1976). Guilt beyond a reasonable doubt: Effects of concept definition and assigned decision rule on judgments of mock jurors. Journal of Personality and Social Psychology, 34, 282-294.
- Kirchler, E., & Davis, J. D. (1986). The influence of member status differences and task type on group consensus and member position change. Journal of Personality and Social Psychology, 51, 83-91.
- Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty & J. A. Krosnick (Eds.), Attitude strength antecedents and consequences (pp. 1-24). Mahwah, NJ: Lawrence Erlbaum Associates.
- Kruglanski, A. W., Webster, D. M., & Klem, A. (1993). Motivated resistance and openness to persuasion on the presence or absence of prior information. Journal of Personality and Social Psychology, 65, 861-876.
- Latané, B. (1981). The psychology of social impact. American Psychologist, 36, 343-356.

- Latané, B. (1996). Strength from weakness: The fate of opinion minorities in spatially distributed groups. In E. Witte & J. H. Davis (Eds.), Understanding group behavior - Consensual action by small groups (pp. 193-219). Mahwah, NJ: Lawrence Erlbaum Associates.
- Laughlin, P. R., & Ellis, A. L. (1986). Demonstrability and social combination processes on mathematical intellectual tasks. Journal of Experimental Social Psychology, 22, 177-189.
- Laughlin, P. R., Kerr, N. L., Davis, J. H., Halff, H. M., & Marciniak, K. A. (1975). Group size, member ability, and social decision schemes on an intellectual task. Journal of Personality and Social Psychology, 31, 522-535.
- Levine, J. M. (1989). Reaction to opinion deviance in small groups. In P. B. Paulus (Ed.), Psychology of group influence (2nd ed., pp. 187-231). Hillsdale, NJ: Lawrence Erlbaum Associates.
- McAllister, P. W., Mitchell, T. R., & Beach, L. R. (1979). The contingency model for the selection of decision strategies: An empirical test of the effects of significance, accountability, and reversibility. Organizational Behavior and Human Performance, 24, 228-244.
- Moscovici, S. (1976). Social influence and social change. London: Academic Press.
- Moscovici, S., Lage, E., & Naffrechoux, M. (1969). Influence of a consistent minority on the responses of a majority in a color perception task. Sociometry, 32, 365-380.
- Petty, R. E., & Cacioppo, J. T. (1986b). The elaboration likelihood model of persuasion. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 19, pp. 123-205). New York: Academic Press.

- Petty, R. E., Haugtvedt, C. P., Heesacker, M., & Cacioppo, J. T. (1995). Message elaboration as a determinant of attitude strength: Persistence and resistance of persuasion. Unpublished manuscript, Ohio State University, Columbus, OH.
- Petty, R. E., Haugtvedt, C. P., & Smith, S. M. (1995). Elaboration as a determinant of attitude strength: Creating attitudes that are persistent, resistant, and predictive of behavior. In R. E. Petty & J. A. Krosnick (Eds.), Attitude strength antecedents and consequences (pp. 93-130). Mahwah, NJ: Lawrence Erlbaum Associates.
- Petty, R. E., Wells, G. L., & Brock, T. C. (1976). Distraction can enhance or reduce yielding to propaganda: Thought disruption versus effort justification. Journal of Personality and Social Psychology, 34, 874-884.
- Schuman, H., & Presser, S. (1981). Questions and answers in attitude surveys: Experiments on question form, wording, and context. New York: Academic Press.
- Shavitt, S., & Brock, T. C. (1986). Self-relevant responses in commercial persuasion: Field and experimental tests. In J. Olson & K. Sentis (Eds.), Advertising and consumer psychology (pp. 149-171). New York: Praeger.
- Shestowsky, D., Wegener, D. T., & Fabrigar, L. R. (1998). Need for cognition and interpersonal influence: Individual differences in impact on dyadic decisions. Journal of Personality and Social Psychology, 74, 1317-1328.
- Sivacek, J., & Crano, W. D. (1982). Vested interest as a moderator of attitude-behavior consistency. Journal of Personality and Social Psychology, 43, 210-221.
- Stasser, G., Kerr, N. L., & Bray, R. M. (1982). The social psychology of jury deliberation:

- Structure, process, and product. In N. L. Kerr & R. M. Bray (Eds.), The psychology of the courtroom (pp. 221-256). New York: Academic Press.
- Stasser, G., Kerr, N. L., & Davis, J. H. (1989). Influence processes and consensus models in decision-making groups. In P. B. Paulus (Ed.), Psychology of group influence (pp. 279-326). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Tetlock, P. E. (1983). Accountability and the complexity of thought. Journal of Personality and Social Psychology, 45, 74-83.
- Tetlock, P. E. (1992). The impact of accountability on judgment and choice: Toward a social contingency model. In M. P. Zanna (Ed.), Advances in experimental social psychology (Vol. 25, pp. 331-376). San Diego, CA: Academic Press.
- Webster's Dictionary. (1989). Miami, FL: P.S.I. & Associates, Inc.
- Wood, W., Lundgren, S., Ouellette, J. A., Busceme, S., & Blackstone, T. (1994). Minority influence: A meta-analytic review of social influence processes. Psychological Bulletin, 115, 323-345.

Appendix AConsent Form

This study is about decision-making processes in legal matters. If you participate you will be asked to read some information and answer some questions about your opinions on the information. Your participation in this study and any information that you provide is strictly confidential. Participation in this study should take less than one hour and you will receive one credit. If at any time you wish to discontinue your participation, you may do so without penalty.

If you are willing to participate in this study and understand that your participation is strictly voluntary please sign your name and place the date below.

Signature

Date

Instructions on Cover of Case Materials for Experiment 1 (High Accountability Condition)

In this package of materials are the case summary and the legal analysis for you to read and some measures for you to fill out. **PLEASE READ THE CASE MATERIALS CAREFULLY BECAUSE LATER YOU WILL BE REQUIRED TO EXPLAIN AND DEFEND YOUR POSITION** on the case in a group discussion. You may begin reading the case information now.

Instructions on Cover of Case Materials for Experiment 1 (Low Accountability Condition)

In this package of materials are the case summary and the legal analysis for you to read and some measures for you to fill out. You may begin reading the case information now.

Case Summary

You are reading a summary of a civil case in which the plaintiff, the Timberwolf Lumber Company, is suing the defendant, Brookes Airlines, for negligence. The Timberwolf Lumber Company is arguing that Brookes Airlines was negligent in the maintenance of its aircraft thus leading to a crash which contributed to the destruction of the lumber company's timber.

In the Green Mountains, Timberwolf owns several hundred acres of valuable hardwood trees specifically cultivated for use in construction. On April 22, 1992, an aircraft owned by Brookes Airlines crashed 2.2 miles north of Timberwolf's land, producing a large brush fire on the timber-dry land. At the same time, another fire started by natural causes moved from the northwest towards Timberwolf's land. The two fires joined and spread quickly into the lumber company's timber before fire fighters arrived to bring it under control.

Fire investigators testified that the movement of the brush fire caused by the plane, in the absence of the natural fire, might have completely missed the timber on the Timberwolf land. They also felt that the natural fire, in the absence of the fire caused by the plane, might have been brought under control before already en route. There was general agreement, however, that once the two fires joined, the resulting fire was so much more intense, that it quickly moved onto Timberwolf land and caused the reported damage. Brookes Airlines is a cargo delivery service. At the time of the aforementioned crash, the company was providing delivery service for BioMedical Incorporated. They were transporting a donated organ to the site where the transplant operation was to be performed. The Federal Aviation Administration (FAA) investigation determined that the crash resulted from an engine malfunction which caused the pilot to lose control of the aircraft. It was later revealed that faced with a recession being experienced by the air transport industry, Brookes had initiated a number of cost saving measures. One of these measures was to delay the performance of preventative maintenance on its airplanes beyond the intervals of time suggested by the FAA guidelines.

The Timberwolf Lumber Company is suing Brookes Airlines for negligence in dispatching the flight to Vermont despite knowledge that the plane was overdue for scheduled preventative maintenance. Brookes Airlines does not believe they should be held responsible for the damages because they claim that the flight was appropriately dispatched, and that the natural fire would have occurred regardless of the brush fire caused by the plane crash. Brookes' company engineers testify that the scheduled maintenance would not have prevented the subsequent crash because the source of the problem that caused the crash was in a component that would not have been checked during a normal scheduled maintenance. Unlike Brooke's engineers, Timberwolf's engineers claim that though the component that malfunctioned was not specifically listed for examination during a standard scheduled maintenance, many mechanics go beyond the standard list and evaluate this component because on this particular make and model of airplane, that component has been known to malfunction and is therefore often checked during a scheduled routine analysis. Brookes' engineers further testify that examination of the component which caused the crash might not have revealed the impending malfunction.

Timberwolf Lumber Company claims that the flight should not have been dispatched without the required maintenance. They are asking for full restitution for damages incurred

Legal Analysis - Why the Defendant is Innocent

(by Brian Johnston Attorney-at-Law)

The first issue that must be taken into consideration concerns the question of whether or not the crash of the plane was the direct cause of the loss of the Timberwolf company's lumber. The facts seem to indicate that the crashing of the plane and the ensuing fire could not have been the direct cause of the loss of Timberwolf's lumber. **THE BURDEN OF PROOF FOR THIS ISSUE LIES ON THE PLAINTIFF, THE TIMBERWOLF LUMBER COMPANY**, in that they must prove that the evidence could successfully pass a "but for" test, meaning that but for the crash of the plane and the ensuing fire, the natural fire already in progress would not have damaged the lumber company's timber. **THE PLAINTIFF DOES NOT SUCCESSFULLY PASS THE "BUT FOR" TEST** because as indicated by the fire experts' testimony, there is not clear evidence that the natural fire by itself would have missed the Timberwolf land and left the lumber undamaged. Fire experts testified that the fire initiated by the crashing of the plane would probably have missed the Timberwolf property if it had not been joined by a natural fire which was already in progress. Thus, the direct cause of the damage to Timberwolf lumber would be the natural fire.

The second issue of importance concerns whether or not the engine malfunction that caused the plane crash would have been avoided if maintenance had been performed as scheduled. This is a critical issue because even if the plane crash caused a fire, it must be demonstrated that Brookes failed to exercise that degree of care which a person of ordinary prudence, a reasonable person, would exercise under the same circumstances. The component that caused the plane crash was not scheduled to be checked, and even if it had been checked, there is no guarantee that the malfunction would have been detected despite the expertise of the mechanics. **THUS, BROOKES WAS NOT NEGLIGENT** because there is no evidence to suggest that a scheduled maintenance would have identified the problem before the fact. The malfunction which occurred was unlikely to be discovered through standard maintenance, and the occurrence of such a malfunction was infrequent enough that a prudent man would have flown the plane. **THUS, BROOKES AIRLINES WAS NOT NEGLIGENT** in requiring the pilot to do so. Without evidence that the malfunction could have been identified before the fact had **BROOKES EXERCISED REASONABLE CARE**, any number of factors could have caused the plane to crash.

Finally, in this case, as in many negligence cases, the plaintiff attempts to argue that the defendant was negligent just by the fact that the accident happened. In other words, Timberwolf Lumber Company attempts to shift the burden of proof to Brookes Airlines so that Brookes would have to prove that they were not negligent. However, as has been demonstrated through previous arguments, **THE QUESTION OF NEGLIGENCE HAS ALREADY BEEN REFUTED. BROOKES EXERCISED PRUDENCE** in the care of its planes because it did have the aircraft checked, just at slightly longer intervals of time than FAA guidelines suggest. This extension of the time intervals between performance of scheduled maintenance is not against the law and cannot be blamed for the accident that occurred.

Legal Analysis - Why the Defendant is Guilty

(by Brian Johnston Attorney-at-Law)

The first issue that must be taken into consideration concerns the question of whether or not the crash of the plane was the direct cause of the loss of Timberwolf's lumber. The facts seem to indicate that the crashing of the plane and the ensuing fire must have been the direct cause of the loss of Timberwolf's lumber. **THE BURDEN OF PROOF FOR THIS ISSUE LIES ON THE PLAINTIFF, THE TIMBERWOLF LUMBER COMPANY**, in that they must prove that the evidence could successfully pass a "but for" test. This means that but for the crash of the plane and the resulting fire the natural fire already in progress would not have damaged the lumber company's timber. **THE PLAINTIFF SUCCESSFULLY PASSES THE "BUT FOR" TEST** because fire experts testified that although the fire initiated by the crashing of the plane joined a natural fire, the natural fire itself probably would not reach the Timberwolf land and, thus, would have (1) burned itself out, or (2) been under control quickly by the fire fighters who were then en route had it not been joined by the Brookes' airplane fire. Thus, the direct cause of the damage to Timberwolf lumber would be the fire caused by the plane crash.

The second issue of importance concerns whether or not the engine malfunction that caused the plane crash would have been avoided if maintenance had been performed as scheduled. This is a critical issue because although the plane crash caused the fire, it must also be demonstrated that Brookes was indeed negligent. In other words, it must be made clear that **BROOKES AIRLINES FAILED TO EXERCISE THAT DEGREE OF CARE** which a person of ordinary prudence, a reasonable person, would exercise under the same circumstances. Even though the component that caused the plane crash was not scheduled to be checked, if the scheduled maintenance had been performed by a competent mechanic, there is a high likelihood that the component that malfunctioned would have been discovered and replaced. **THUS, BROOKES WAS NEGLIGENT** because a scheduled maintenance would probably have identified the problem before the fact. The malfunction that occurred was known to occur in the particular make and model plane that was being flown, and a prudent man would not have flown the plane without first making sure that the component had been checked for defects. Thus, **BROOKES AIRLINES WAS NEGLIGENT** in requiring the pilot to do so.

Finally, in this case, as in many negligence cases, the negligence of the defendant may be inferred from the mere fact that the accident happened. **BROOKES DID NOT EXERCISE PRUDENCE** in the care of its planes because it is reasonable to assume that the malfunction that caused the pilot's loss of control could have been prevented if scheduled maintenance had been conducted within FAA guidelines. Furthermore, although Brookes did not break any laws by allowing the amount of time between the performance of scheduled maintenance to extend beyond those prescribed by the FAA, **SUCH SHORTCUTS TO SAVE MONEY ARE OFTEN TO BLAME FOR SUCH ACCIDENTS** as the one that occurred.

Judge's Instructions

The case summary you read is based on the depositions of the witnesses (or plaintiff and defendant). Depositions are interviews taken under oath by the lawyers, in the presence of a court reporter who records everything verbatim. It is your task to decide what you believe to be the true facts of the case.

When coming to a decision about this case, there are several considerations that you must keep in mind. First, there is no legal precedent which means that there is not a previously decided case which is recognized as the authority in this case and would provide the resolution to the case at hand. You must come to a decision without any assistance from resolutions determined in prior cases.

In this case, you will be asked to reach three kinds of verdicts. For the first verdict, you must reach one of the following judgements:

- 1) the defendant must pay the plaintiff for all of the damages;

OR

- 2) the defendant does not have to pay the plaintiff for any of his damages

In other words, there is no partial award for damages. You must reach a decision either for the plaintiff or for the defendant.

Remember that, unlike criminal cases, in a civil case a juror need not be convinced beyond a reasonable doubt in order to decide on a verdict. If you are more than 50% sure that the defendant was negligent, then you must return a verdict of guilty. If you are less than 50% sure that the defendant was negligent, then you must return a judgement of not guilty for the first type of verdict.

You will also be asked to generate two verdicts on more continuous scales that index the extent to which you believe the defendant to be guilty of negligence, and how likely you feel it is that the defendant is guilty.

Initial Opinion Measures

We are interested in investigating what opinion jurors hold simply on the basis of reading the case summary, legal analysis, and judge's instructions. We would like to know what you think of the defendant, Brookes Airlines, so far.

If you had to personally give a verdict of guilty or not guilty at this point (with guilty meaning that Brookes Airlines would pay for all of the damages to Timberwolf Lumber Company, and not guilty meaning that Brookes Airlines would pay no damages), which verdict would you return? (circle one)

Guilty

Not Guilty

Next, please read each statement carefully and circle the ONE number on each scale that BEST represents your opinion:

You are asked to indicate your opinion concerning whether the defendant is guilty or not guilty of negligence in this case. In your opinion, the defendant is

-4	-3	-2	-1	0	1	2	3	4
Definitely <u>guilty</u> of negligence in this case					Definitely <u>not</u> guilty of negligence in this case			

How likely is it that the defendant, Brookes Airlines, was negligent?

-4	-3	-2	-1	0	1	2	3	4
Extremely likely					Extremely unlikely			

Attitude Strength Measures

How carefully have you thought about the case material you read?

Overall, how certain are you of your verdicts concerning the guilt of the defendant?

Would you say that you are strongly on one side or the other regarding this case, or would you say that your feelings are mixed?

Thought-Listing Task

We are interested in what thoughts came into your mind while you were reading the case material. That is, as you read the information, you probably had positive reactions and thoughts to what you were reading, negative reactions and thoughts to what you were reading, or neutral or unrelated reactions and thoughts. Whatever you thought is perfectly fine. We are simply interested in knowing what those thoughts were.

On the next page you will find a series of boxes. Simply list what it was that you were thinking about while you read the case material in the boxes. Write down the first idea that comes to mind in the first box, the second idea in the second box, etc. Please put only one thought or idea in each box.

Only try to record those ideas, reactions, and thoughts that you were thinking while you were actually reading the information. Do not worry about grammar or complete sentences.

Use only as many boxes as you need. If you can remember only 4 thoughts, use only four boxes. If you can remember more, use as many boxes as you need. But you do not have to use each and every box, only as many boxes as thoughts that you had.

Please begin now and spend at least 3 minutes, but no more than 10 minutes, listing the thoughts you had.

--

--

--

--

--

--

--

Thought-List Rating Instructions

We now want you to read back over the thoughts that you have listed on the previous page. FOR EACH BOX THAT YOU HAVE WRITTEN A THOUGHT, read the thought and decide if that thought is consistent with the defendant being innocent, consistent with the defendant being guilty, or neutral toward the defendant's guilt or innocence.

If the thought was consistent with the defendant being innocent, place a plus (+) by the box.

If the thought was consistent with the defendant being guilty, place a minus (-) by the box.

If the thought was neutral towards the guilt or innocence of the defendant, place a zero (0) by the box.

Make sure that there is either a plus sign (+), a minus sign (-), or a zero (0) by each of the boxes that you have written a thought in.

Instructions to Participants in Groups of Six (Experiment 1)

AT THE START OF DELIBERATIONS:

As jurors, you are asked to arrive at a unanimous decision regarding judgements of guilt of the defendant, Brookes Airlines. Your verdict is to be recorded on a verdict record form which should be filled out by the jury foreperson. In this session, Juror # ____ will be the jury foreperson. All the foreperson must do is record the verdict on this record for the group and return it to me once a verdict has been reached.

You are asked to render three verdicts as a group. One is the traditional guilty/not guilty verdict. Also, because we want a more sensitive measure, we ask that you come to agreement as a group on two continuous scales: one concerning the likelihood of negligence and the other concerning the extent to which you think the defendant is guilty.

You will have up to and no more than fifteen minutes to arrive at your decisions. I will close the doors so you will not be distracted. If you finish early you may send the jury foreperson out to get me so that we can continue with the experiment. I will let you know when there are five minutes remaining (if you take that long).

Verdict Record

TO BE COMPLETED BY THE FOREPERSON OF THE JURY

Juries are to arrive at THREE verdicts as a group:

Please reach an overall decision as to whether the defendant, Brookes Airlines, is guilty or not guilty of negligence. A guilty verdict means that Brookes Airlines pays for all damages to Timberwolf Lumber Company; a not guilty verdict means that Brookes Airlines pays for no damages.

The defendant, Brookes Airlines, is (circle one):

Guilty

Not Guilty

Rather than deciding only whether the defendant is "guilty" or "not guilty" as is traditionally done in trials, you are also asked to use a more sensitive (continuous) scale to indicate the likelihood of the defendant's guilt. As a group, arrive at a SINGLE POINT on the following scale:

On the charge of negligence, the defendant, Brookes Airlines, is:

-4	-3	-2	-1	0	1	2	3	4
Definitely <u>guilty</u>					Definitely <u>not guilty</u>			

Again as a group, arrive at a SINGLE POINT on the following scale. How likely is it that the defendant, Brookes Airlines, was negligent?

-4	-3	-2	-1	0	1	2	3	4
Extremely likely					Extremely unlikely			

Ratings of Most Influential Juror

To get a better sense of what transpired during discussions, we ask that you please rate some of your fellow jurors on specific characteristics. First, you are asked to indicate the juror in your group that was most influential in the discussion, and rate him/her on these characteristics. Please keep in mind that these ratings will be kept completely anonymous. At no time will names be associated with juror numbers.

In my opinion, the juror who was the most influential in the discussion was Juror # ____.
(Note that you are not precluded from choosing your own Juror #, i.e. you may choose yourself)

What do you think that person's opinion was before you discussed the case? He/She most likely thought that the defendant was:

-4	-3	-2	-1	0	1	2	3	4

Definitely <u>guilty</u>					Definitely <u>not</u> guilty			

Please respond to the following statement by circling the number corresponding to how much you agree with each statement:

The person was effective in persuading jurors that his/her pre-deliberation opinion should become the verdict.

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree/disagree	Slightly agree	Moderately agree	Strongly agree

The person presented valid arguments in favour of his/her opinion.

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree/disagree	Slightly agree	Moderately agree	Strongly agree

The person presented a great number of arguments in favour of his/her opinion.

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly	Moderately	Slightly	Neither	Slightly	Moderately	Strongly
disagree	disagree	disagree	agree/disagree	agree	agree	agree

The person tried hard to argue in favour of his/her opinion.

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly	Moderately	Slightly	Neither	Slightly	Moderately	Strongly
disagree	disagree	disagree	agree/disagree	agree	agree	agree

Ratings of Least Influential Juror

Next, you are asked to indicate the juror in your group that was *least* influential in the discussion, and rate him/her on the same characteristics. Again, these ratings will be kept confidential.

In my opinion, the juror who was the least influential in the discussion was Juror # ____.
(Note that you are not precluded from choosing your own Juror #, i.e. you may choose yourself)

What do you think that person's opinion was before you discussed the case? He/She most likely thought that the defendant was:

-4	-3	-2	-1	0	1	2	3	4
Definitely <u>guilty</u>					Definitely <u>not guilty</u>			

Please respond to the following statement by circling the number corresponding to how much you agree with each statement:

The person was effective in persuading jurors that his/her pre-deliberation opinion should become the verdict.

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree/disagree	Slightly agree	Moderately agree	Strongly agree

The person presented valid arguments in favour of his/her opinion.

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree/disagree	Slightly agree	Moderately agree	Strongly agree

The person presented a great number of arguments in favour of his/her opinion.

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree/disagree	Slightly agree	Moderately agree	Strongly agree

The person tried hard to argue in favour of his/her opinion.

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree/disagree	Slightly agree	Moderately agree	Strongly agree

Post-Deliberation Personal Opinions

ENTER YOUR JUROR NUMBER: ____

In studies on group decision-making we often find that perceptions/opinions of individual group members do not always match those of the group as a whole. At this point, we would like to know your personal opinion regarding the defendant's guilt:

We would like your opinion as to whether the defendant, Brookes Airlines, is guilty or not guilty of negligence. A guilty verdict means that Brookes Airlines pays for all damages to Timberwolf Lumber; a not guilty verdict means that Brookes Airlines pays for no damages.

The defendant, Brookes Airlines, is (circle one):

Guilty

Not Guilty

In your opinion, the defendant, Brookes Airlines, is:

-4	-3	-2	-1	0	1	2	3	4
Definitely <u>guilty</u> of negligence in this case					Definitely <u>not guilty</u> of negligence in this case			

How likely is it that the defendant, Brookes Airlines, was negligent?

-4	-3	-2	-1	0	1	2	3	4
Extremely likely					Extremely unlikely			

Debriefing Form - Experiment 1

Past research has indicated that there is a tendency for the pre-discussion opinions of majorities to have more influence on the outcome of a group decision-making task than the pre-discussion opinions of minorities. Several factors have been examined to determine what context will offset or reverse the tendency for the majority to be more influential, but very little research has examined whether the amount of thinking that one does about an issue plays a role in influencing group discussions. People tend to make decisions about a subject through either a thoughtful process or a non-thoughtful process. Elaboration is characterized by the amount of thoughtful processing that one performs on an object or issue. This study proposes that the more one elaborates the information on an issue the more resistant their opinion will be to change and they will contribute more and better arguments in a discussion. Thus, it is proposed that if the minority performs more elaboration, this may intervene in the tendency for majorities to have more influence on the group decision.

When you arrived for this session, four of you were assigned to the majority position and two of you were assigned to the minority position. The case materials that you were given to read differed depending on your assignment to these groups. You either received a pro-defendant or a pro-plaintiff legal analysis. The individuals in the opposite faction received the opposing legal analysis. Thus, when you started the discussion those in the majority had the opposite opinion from those in the minority.

The amount of thinking that each of you performed about the case was also varied by altering how accountable you thought you were for the information. In your session, either the majority or the minority members were told before they read the case information that they would be expected to explain and defend their position on the case. Telling people that they will be accountable for the information tends to increase the amount that they think and elaborate the information. Thus, for either the majority or the minority, thinking (elaboration) about the case information was increased by telling them that they will be held accountable for their position on the case. This created a situation where one faction had a higher level of elaboration than the other faction.

The assignment to either the majority or minority was performed to test whether or not being in the majority or the minority affects how much influence you have on the group decision. We expect that members of the majority will overall have more influence on the group decision than members of the minority. Also, inducing accountability for the case material was varied to test whether or not the amount of elaboration of the case material will affect the relative influences of the majority and minority members. We expect that when members of the minority were able to think more about the case material than members of the majority, the minority members will have at least as much influence on the group decision as members of the majority. Thus, we expect that greater elaboration of the case material will offset the impact of being in the majority.

Please note that all materials presented were invented for research purposes only. The trial, all testimony and the analyses were constructed for research purposes and do not describe real people or companies, nor do these materials provide an accurate description of current

Canadian or American law.

Your participation is greatly appreciated. In the event that you have any complaints, concerns, or questions about this research, please feel free to contact Dr. Lee Fabrigar (533-6492). Should this approach not remove your dissatisfaction, you may contact Dr. Alistair MacLean, Head of the Department of Psychology, at 533-2480.

Finally, it would be appreciated if you do not discuss this experiment with anyone else who may be eligible to participate (i.e., other intro psychology students), as such prior knowledge might lead to unwanted effects.

If you are interested in learning more about this area, you may wish to consult the following references:

Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty, & J. A. Krosnick (Eds.), Attitude Strength Antecedents and Consequences (pp. 1-24). Mahwah, NJ: Lawrence Erlbaum Associates.

Latane, B. (1996). Strength from weakness: The fate of opinion minorities in spatially distributed groups. In E. Witte, & J. H. Davis (Eds.), Understanding Group Behavior ~ Consensual Action by Small Groups (pp. 193-219). Mahwah, NJ: Lawrence Erlbaum Associates.

Appendix B

Initial Opinion Measure for Aligning Groups

We are interested in investigating what opinion jurors hold simply on the basis of reading the case summary, legal analysis, and judge's instructions. We would like to know what you think of the defendant, Brookes Airlines, so far.

If you had to personally give a verdict of guilty or not guilty at this point (with guilty meaning that Brookes Airlines would pay for all of the damages to Timberwolf Lumber Company, and not guilty meaning that Brookes Airlines would pay no damages), which verdict would you return? (circle one)

Guilty

Not Guilty

Instructions to Participants in Groups of Three (Experiment 2)

AT THE START OF DELIBERATIONS:

As jurors, you are asked to arrive at a unanimous decision regarding judgements of guilt of the defendant, Brookes Airlines. Your verdict is to be recorded on a verdict record form which should be filled out by the jury foreperson. In this session, Juror # ____ will be the jury foreperson. All the foreperson must do is record the verdict on this record for the group and return it to me once a verdict has been reached.

You are asked to render three verdicts as a group. One is the traditional guilty/not guilty verdict. Also, because we want a more sensitive measure, we ask that you come to agreement as a group on two continuous scales: one concerning the likelihood of negligence and the other concerning the extent to which you think the defendant is guilty.

Also, you should be aware that your discussion will be recorded so that we can examine the process used in jury decision-making tasks. So that we can match voices with juror numbers we ask that you indicate your juror numbers aloud before beginning your discussion. So when the tape starts rolling, each of you should introduce yourself by saying, "Hello, I am Juror # 1", or #2, etc. As with all aspects of this study, these tapes will be completely confidential and at no time will they be identified with your name. Try to speak clearly and not too softly.

You will have up to and no more than fifteen minutes to arrive at your decisions. I will close the doors so you will not be distracted. If you finish early you may send the jury foreperson out to get me so that we can continue with the experiment. I will let you know when there are five minutes remaining (if you take that long).

Debriefing Form - Experiment 2

Past research has indicated that there is a tendency for the pre-discussion opinions of majorities to have more influence on the outcome of a group decision-making task than the pre-discussion opinions of minorities. Several factors have been examined to determine what context will offset or reverse the tendency for the majority to be more influential, but very little research has examined whether the amount of thinking that one does about an issue plays a role in influencing group discussions. People tend to make decisions about a subject through either a thoughtful process or a non-thoughtful process. Elaboration is characterized by the amount of thoughtful processing that one performs on an object or issue. This study proposes that the more one elaborates the information on an issue the more resistant their opinion will be to change and they will contribute more and better arguments in a discussion. Thus, it is proposed that if the minority performs more elaboration, this may intervene in the tendency for majorities to have more influence on the group decision.

When you arrived for this session, two of you were assigned to the majority position and one of you was assigned to the minority position. The case materials that you were given to read differed depending on your assignment to these groups. You either received a pro-defendant or a pro-plaintiff legal analysis. The individuals in the opposite faction received the opposing legal analysis. Thus, when you started the discussion those in the majority had the opposite opinion from those in the minority.

The amount of thinking that each of you performed about the case was also varied with the use of a distraction technique. In your session, the majority and the minority members had distracting words played in their headphones at different rates while they were trying to read the case materials. Thus, for either the majority or the minority, thinking (elaboration) about the case information was hindered a lot or a little by distraction.

The assignment to either the majority or minority was performed to test whether or not being in the majority or the minority affects how much influence you have on the group decision. We expect that members of the majority will overall have more influence on the group decision than members of the minority. Also, the presence or absence of distraction while reading about the case were varied to test whether or not the amount of elaboration of the case material will affect the relative influences of the majority and minority members. We expect that when members of the minority were able to think more about the case material than members of the majority, the minority members will have at least as much influence on the group decision as members of the majority. Thus, we expect that greater elaboration of the case material will offset the impact of being in the majority.

Please note that all materials presented were invented for research purposes only. The trial, all testimony and the analyses were constructed for research purposes and do not describe real people or companies, nor do these materials provide an accurate description of current Canadian or American law.

Your participation is greatly appreciated. In the event that you have any complaints, concerns, or questions about this research, please feel free to contact Dr. Lee Fabrigar (533-6492). Should this approach not remove your dissatisfaction, you may contact Dr. Alistair

MacLean, Head of the Department of Psychology, at 533-2480.

Finally, it would be appreciated if you do not discuss this experiment with anyone else who may be eligible to participate (i.e., other intro psychology students), as such prior knowledge might lead to unwanted effects.

If you are interested in learning more about this area, you may wish to consult the following references:

Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty, & J. A. Krosnick (Eds.), Attitude Strength Antecedents and Consequences (pp. 1-24). Mahwah, NJ: Lawrence Erlbaum Associates.

Latané, B. (1996). Strength from weakness: The fate of opinion minorities in spatially distributed groups. In E. Witte, & J. H. Davis (Eds.), Understanding Group Behavior – Consensual Action by Small Groups (pp. 193-219). Mahwah, NJ: Lawrence Erlbaum Associates.