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Social norms and framing effects as a polarization function in group decision making

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**SOCIAL NORMS AND FRAMING EFFECTS
AS A POLARIZATION FUNCTION IN GROUP DECISION MAKING**

**A Thesis
Presented to
the Faculty of the Department of Psychology
San Jose State University**

**In Partial Fulfillment
of the Requirement for the Degree
Master of Science**

**by
Scott R. Blucher
December 1998**

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ABSTRACT

SOCIAL NORMS AND FRAMING EFFECTS AS A POLARIZATION FUNCTION IN GROUP DECISION MAKING

by Scott R. Blucher

The purpose of this thesis was to investigate the effects of normative considerations on group decision making under both gain and loss circumstances. Participants were arranged in groups of three and given choice decisions involving risk posed in terms of either gains or losses. Prior to answering questions, each group was exposed to a normative consideration that was either consistent, inconsistent, or neutral with respect to the gain or loss frame of reference. As hypothesized, when the frame of reference was consistent with the normative consideration, group decisions polarized when compared to those groups receiving no norm. Conversely, when the frame of reference was inconsistent with the normative consideration, group polarization effects were neutralized. Implications of these results for decision making groups in organizational settings are discussed.

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SOCIAL NORMS AND FRAMING EFFECTS
AS A POLARIZATION FUNCTION IN GROUP DECISION MAKING

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Running head: GROUP DECISION MAKING

Footnotes

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Abstract

The purpose of this thesis was to investigate the effects of normative considerations on group decision making under both gain and loss circumstances. Participants were arranged in groups of three and given choice decisions involving risk posed in terms of either gains or losses. Prior to answering questions, each group was exposed to a normative consideration that was either consistent, inconsistent, or neutral with respect to the gain or loss frame of reference. As hypothesized, when the frame of reference was consistent with the normative consideration, group decisions polarized when compared to those groups receiving no norm. Conversely, when the frame of reference was inconsistent with the normative consideration, group polarization effects were neutralized. Implications of these results for decision making groups in organizational settings are discussed.

Social Norms and Framing Effects as a Polarization Function in Group Decision Making

Despite decades of research on the subject, group decision making remains the subject of interest in organizational research. As businesses push decision making down the organizational chart it is not surprising that small groups are the site of much work within large and small organizations. Furthermore, within these organizations, small groups are the agents of many of the important decisions to decision makers. The notion that groups are creatively stimulating to their members, catch errors, and balance biases to such a degree that interpersonal work is generally to be preferred to individual work alone has a long history. In his review of group decision making, Davis (1992) asserts it is uncertain whether conventional wisdom is to blame for the continued popularity of groups as solvers and deciders, but conventional wisdom has historically made a good case for labeling groups as moderators. That is, group decisions are widely believed to be middle of the road decisions, not extreme and not chancy (Davis, 1992). Thus, it appears that this widespread belief leads many people to the conclusion that groups are wisely cautious in the face of risk or uncertainty in contrast to individuals who might take a chance. The purpose of this study is to understand the issues driving group decision making and investigate the effects that decision content can have on decision outcome.

Group Polarization

In the early sixties, conventional wisdom pertaining to group decision making was challenged by an interesting empirical result. Groups were discovered to be more "risky"

on the average than comparable individuals responding privately (Wallach, Kogan & Bem, 1962). Basically, individuals were asked to rate on a 10-point scale the "minimum odds" necessary for them to recommend the apparently "riskier" of two alternative courses of action in a scenario called a choice dilemma. The choice dilemma features a character in a familiar social context that is faced with the choice between two options. One of these options is alleged to be riskier but with an outcome that is more desirable than the other. Small groups were then asked to make the same decision as a collective unit. The results showed that groups were apparently more inclined on the average than individuals to choose riskier outcomes. As a result, this phenomenon became known as the "risky shift."

Risky shift research unfortunately induced many investigators to perceive the phenomenon from the perspective of the dependent variable, risk taking, rather than to think in broader theoretical terms. Teger and Pruitt (1967) changed this perception and established that a shift to greater caution (termed "cautious shift") could also be reliably demonstrated given certain choice-dilemma items. In particular, items which elicit relatively risky initial tendencies (e.g., 60% chance everyone will die and a 40% chance that everyone will live) generally evoke further shift toward the risky extreme after discussion, while items that elicit relatively cautious initial tendencies (e.g., 50% chance that everyone will live) are more likely to evoke further shift in the cautious direction. This finding lead investigators to realize that the designation of the term "risky shift" was a misnomer and there was a need to restate these findings into more general terms. The

cautious shift, when coupled with the earlier risky shift findings was given a new more general label; group polarization (Moscovici & Zavalloni, 1969).

As research on group polarization increased, Tversky and Kahneman (1981) were able to demonstrate that the willingness of decision makers to take risk depends considerably on whether a gain or loss is perceived to be at stake. These researchers define the term “decision frame” as a “decision maker’s conception of the acts, outcomes, and contingencies associated with a particular choice” (p. 453). A decision frame influences an individual’s perspective on a choice dilemma and may determine not only the relative importance of different issues, but also the characteristics of the final decision. For example, the researchers posed a choice problem to individuals in which two alternative programs are proposed to combat an unusually deadly Asian disease. One program has a certain outcome and the other has a chance outcome with an equivalent expected value. The results show that when the alternative programs are stated in terms of lives saved (i.e., positively), 72% of the subjects preferred that certain alternative. When the alternatives are framed as lives lost (i.e., negatively), 78% prefer the risky program, even though the net outcome is the same for both decision frames. In short the researchers suggest individuals are inherently more averse toward placing a gain in jeopardy than they are toward risking a loss.

The framing effect documented by Tversky and Kahneman (1981) focused entirely at the level of the individual. Paese, Bieser, and Tubbs (1993) set out to examine the effects of framing on group decision making. Based on the research in the area of

group polarization, the researchers proposed that framing effects at the group level are likely to be even stronger than those at the individual level. They hypothesized that if a decision is framed positively, the average individual preference should be to avoid risk, and the group should display even greater risk aversion as a result of polarization. On the other hand, if the same decision is posed negatively, the average individual preference should be to take a risk, and the group should subsequently display even greater risk taking. As hypothesized, when the same frame was presented to both individuals and in groups, individual level framing effects became larger in groups.

Theoretical Explanations for Group Polarization

There are several theoretical explanations for the group polarization effect. The first two, social comparison/cultural values explanation and the persuasive arguments explanation, date back to the late sixties and early seventies and enjoy substantial empirical support yet neither theory has won complete acceptance. A third more contemporary explanation which uses self-categorization theory to explain the polarization phenomenon continues to gain acceptance. A brief discussion of each theoretical explanation follows.

Social comparison/cultural values. The social comparison/cultural values explanation for group polarization originated during the first round of risky shift research. Isenberg (1986) states that according to this perspective, people are constantly motivated both to perceive and to present themselves in a socially desirable light. In order to accomplish this, an individual must be continually processing information about how

other people present themselves, and adjusting his or her own self-presentation accordingly.

This theory argues that many people desire to be perceived as more favorable than what they perceive to be the average tendency. Once an individual finds out how most other people present themselves, the individual presents him or herself in a somewhat more favorable light. According to the social comparison theory then, when all members of an interacting group engage in the same comparing process, the result is an average shift in the direction of greater perceived social value (Isenberg, 1986).

To illustrate this phenomenon, Blascovich, Ginsburg and Howe (1975) set up a study using blackjack. Three experimental conditions were formed, one individual condition, one group without discussion condition, and one group with discussion condition. Each subject played 20 hands of blackjack individually and then played 20 hands in their respective experimental condition. In the group without discussion, subjects heard each other's bets but did not discuss them. In the group with discussion, subjects placed one collective bet after reaching consensus. The results showed that the individual condition did not increase the size of their bets between the first and second blocks of 20 hands whereas both group conditions did show increases. The authors interpreted these findings explaining that norms of risk or caution are escalated only when the norm is observable by the individual. Furthermore, group members associate ability and skill with riskiness or caution and thus become more risky or cautious in order to appear more skillful.

Persuasive arguments. The persuasive arguments explanation for group polarization as argued by Vinokur and Burnstein (1978) states that in order to make a decision or state a position, individuals draw upon the subjectively available pool of pro and con arguments. This is what occurs in the prediscussion, or pretest, phase of polarization studies. Through discussion with others, individuals are exposed to an expanded pool of novel pro and con arguments. Because the group as a whole initially has a clear tendency to favor one side or the other of an issue, the expanded pool will contain more novel arguments favoring that tendency.

To illustrate this, Kaplan and Miller (1977) composed 24 six person groups, half of which were in a redundant condition, and half were in a novel condition. Each subject in the redundant condition received six arguments, and the arguments were in the exact same order for each subject. Each subject in the novel condition received the same six arguments, but in a given group every subject received the six arguments in a different order. If subjects showed a recency effect and recalled the most recent argument, subjects in the redundant condition should recall the same argument, whereas subjects in the novel condition should recall different arguments. To the extent that recalled arguments were discussed more in the groups, subjects in the novel condition should be exposed to more novel arguments and thus should shift more. As predicted, the novel arguments groups showed a greater polarization effect.

Vinokur and Burnstein's (1978) exploration into whether novel arguments were any more effective in causing shifts in predicted directions than non-novel arguments

showed that novelty leads to persuasiveness only when the argument is perceived as credible. Thus, novel arguments have informational impact likely to produce cognitive change. The result of this change is in the form of increased support for and greater confidence in one's original tendency, which is expressed as a more extreme endorsement of that tendency (i.e., polarization). In short, the research done by Vinokur and Burnstein suggests that (a) novel arguments during group discussion are more effective in causing choice shifts than nonnovel arguments, and (b) choice shifts occurred in the direction of the novel arguments. Lamm (1988) succinctly captures the persuasive arguments theory as providing a seemingly simple explanation of polarization. He contends that the very fact of a biased distribution of members' positions leads to a biasing of arguments in favor of the dominant side of the issue. If among these arguments some group members see a sufficient number as novel and valid, then a strengthening of the initial tendency can be expected.

Although both the social comparison theory and the persuasive arguments theory have substantial empirical support, Isenberg (1986) asserts that each theory has several conceptual weaknesses and problematic findings in that under certain circumstances each will predict incorrectly the direction polarization will occur. In sum, it appears both social comparison and rational argumentation work together in the group decision making influence process and depending upon the social context one theory will edge the other. With this in mind it is easier to understand why neither theory has yet won complete acceptance. Turner, Wetherell, and Hogg (1989) claim that the two theories represent

two distinct processes of social influence. The social comparison and persuasive arguments theories illustrate what the researchers call the two-process dependency model of social influence. Hogg, Turner, and Davidson (1990) illustrate these two distinct processes as follows:

True cognitive change (real opinion change) on the basis of information received from others which helps to disambiguate or confirm the veracity of perceptions, opinions, and so forth (i.e., informational influence or persuasive arguments), versus simple behavioral compliance under surveillance by others in order to obtain social approval or avoid social censure (normative influence or social comparison/cultural values). (p. 79)

Because there seems to be two separate processes competing against one another in that neither the social comparison theory nor the persuasive arguments theory has been able to win a clear victory, researchers are divided in terms of solving this two process dependency problem. Isenberg (1986) suggests to retain this two-process model and attempt to understand how each process interacts with the other. Other researchers (e.g., Hogg, et al., 1990) suggest quite a different approach to the problem. This approach has been called self-categorization theory.

Self-categorization theory. Hogg, et al., (1990) use self-categorization theory to explain group phenomena such as social influence in terms of social identity processes. In particular, self-categorization theory rejects traditional distinctions between normative and informational influence on which the social comparison versus persuasive arguments controversy is based. The authors state "that persuasive influence, the private acceptance of others' arguments and positions, is mediated by others' perceived informational validity and their social normative value and that these are the same thing" (p.79). In short, this

model explains polarization as a conformity phenomenon in which individuals who identify with a group conform through a process of self-categorization to the local norm which best represents the group. The authors state that the direction and extent of the polarization is governed by the “salient social frame of reference” which determines the position of the ingroup norm. For example, a group of moderate vegetarians would perceive their norm to be roughly the mean of their individual positions, unless they were confronted by a group of vegans, in which case the norm would be polarized away from more extreme vegetarianism, or by meat eaters, in which case the group would be polarized in the opposite direction, towards extreme vegetarianism.

Evidence for the self-categorization theory of group polarization continues to grow. Hogg, et al., (1990) report that social identity is implicated in group polarization and can override persuasive arguments and cultural values effects. These authors found that subjects conformed to what they estimated to be the relevant norm of their group, under conditions in which the norm was polarized as a function of the salient subjective frame of reference. Furthermore when an ingroup was confronted by a risky outgroup, the ingroup polarized toward caution. When the ingroup was confronted by a cautious outgroup the ingroup polarize toward risk. These results are in opposition with regard to both the persuasive arguments and social comparison/cultural values approaches. Both theories would predict either no polarization effect or an effect in the direction opposite to the one obtained in the experiment. These authors concluded that whether the ingroup

norm is polarized or not depends on the social comparative context within which the ingroup defines itself.

Based on the literature reviewed for this study it can be concluded that group polarization is a complex social phenomenon. Furthermore, there are several theories that dominate the literature and none have won complete acceptance. Of the theories, self categorization offers the most flexible and robust explanation given its focus on the context in which the group decision takes place. The availability of research combining the effects of social context (i.e., norms) and group polarization is limited (Hogg & Turner, 1987). Nevertheless, available evidence suggests that social norms have the potential to exaggerate or even override framing effects in the polarization process through self categorization. Self categorization theory implicates the importance of social norms and conformity to these norms in the group polarization process. Hogg, et al., (1990) suggest that regardless of whether decisions are framed positively or negatively, it is possible some group decisions are driven primarily by normative considerations that dictate either caution or risk-taking. In short, it is conceptually possible that social norms play a significant role in the decision making process through both conformity and the processing of relevant information.

Purpose and Hypotheses

The purpose of this study is to assess the effects of normative considerations on group decision making under both positive and negatively framed circumstances. Based on the literature presented, an experiment was conducted in which framing and social

normative considerations were manipulated at the group level. It was hypothesized that when decisions are presented to groups along with a norm that is consistent with respect to group frame, the mean risk preference of the group is expected to be greater (i.e., more extreme) in the negative frame and less (i.e.; more extreme) in the positive frame when compared to the mean risk preference of groups where no norm was introduced (polarization effect). This polarization hypothesis is displayed in Figure 1. On the other hand, when decisions are presented at the group level along with a norm that is inconsistent with respect to the group frame, group means are expected to be less (i.e.; less extreme) in the negative frame, and greater (i.e.; less extreme) in the positive frame (neutralization effect). This neutralization hypothesis is displayed in Figure 2. Together the hypotheses are illustrated in Figure 3.

Method

Participants

Two hundred and eighty eight students (164 females and 124 males) from undergraduate courses in psychology at a major west coast University voluntarily participated in the experiment for course credit. Within each session, subjects were randomly divided into decision making groups. As each of these groups had exactly three members, there was a total of 96 groups. Each group was randomly assigned to one of six conditions. There were 16 groups in the N/NN, N/RS, N/RA, P/NN, P/RS, and P/RA conditions respectively where N refers to negative frame, P refers to positive frame,

Figure 1. Hypothesized polarization effects.

Figure 2. Hypothesized neutralization effects.

Figure 3. Hypothesized polarization and neutralization effects.

NN refers to "no norm," RS refers to "risk seeking" norm, and RA refers to "risk averse" norm.

Framing and Norm Manipulations

Groups of three individuals were randomly assigned where half of the groups were given a positively framed decision case, while the other half were given negatively framed versions of a choice dilemma. Within each of these conditions, groups were randomly assigned to one of the following three norm manipulation conditions: (a) risk averse norm, (b) risk seeking norm, or (c) no norm. These manipulations resulted in six group frame/norm conditions: N/NN, N/RS, N/RA, P/NN, P/RS, and P/RA, where N refers to negative frame, P refers to positive frame, NN refers to "no norm," RS refers to "risk seeking" norm, and RA refers to "risk averse" norm.

Procedure

The experiment was introduced as a general investigation of group decision making. At the outset of each session, participants were randomly assigned to three-person groups and a packet containing an "introduction" and a choice dilemma problem was administered to each group. The "introduction" to the case included a brief description of the situation explaining the nature of the impending group decision and ended with a vernacularism which acted as the normative consideration for each group. For the purposes of this study two vernacularisms were used (see Appendix A). The Risk Averse groups were told "one hen in the hand is better than two in the bush." The Risk Seeking groups were told "nothing ventured, nothing gained." The No Norm groups did

not receive a vernacularism. A volunteer was solicited from each group to record their collective choices on the choice dilemma. Groups were then instructed to discuss their preferences and reach consensus on each item. The case was a revised version of a choice problem developed by Kogan and Wallach (1964) (see Appendix B). The case dealt with the monetary decisions of a hypothetical company. It consisted of nine items with each item involving a discrete choice between a certain option (A) and a risky option (B). Whereas option A was the same across all nine items, option B varied in terms of percentages associated with the desirable (e.g., earning \$10 million) and undesirable (e.g., earning nothing) outcomes; the percentage associated with the desirable outcome always increased from 10% on item 1 to 90% on item 9. In addition, on item 5, the certain value of option A was always equivalent to the expected value of option B. Completion of this group task marked the end of the experiment.

Risk Preference Measures

As previously indicated, there were nine items in the choice problem administered to each participant, and each item involved a discrete choice between a certain option (A) and a risky option (B). Given this format, choosing A more often than B across the nine items would indicate risk aversion, whereas choosing B more often than A would indicate a preference for taking risk. Therefore, risk preference was measured by assigning a score of -1 each time A was circled, and a score of 1 each time B was circled. These scores were then added across the nine items to yield a risk preference score for that particular case. The lowest possible score was -9 (indicating extreme risk aversion) and

the highest possible score was 9 (indicating an extreme preference for risk-taking). To test the hypothesized polarization and neutralization effects, it was necessary to compute measures of risk preference for each group. This was simply the risk preference score computed on the group's choices.

Results

Table 1 displays the group mean risk preference for each of the norm by frame conditions. The study followed a 2 x 3 factorial design representing the two levels of framing (i.e., positive and negative) and the three levels of norming (i.e., no norm, consistent norm and inconsistent norm). The mean group risk preference scores were analyzed using a 2 x 3 ANOVA. The results of this analysis are presented in table 2. Although the main effect for Frame reached statistical significance it was of little interest because a significant two-way (Norm x Frame) interaction was obtained, $F(2, 90) = 30.69, p < .01$. This interaction indicates that mean group risk preference varied across the six different experimental conditions. At this point further analysis was required to test the two hypotheses and pinpoint the factors responsible for the significant interaction.

To test the first hypothesis, that a polarization effect will occur when the norm is consistent with the frame of reference (i.e., risk seeking norm with a negative frame; a risk averse norm with a positive frame), a 2 (positive frame vs. negative frame) x 2 (no norm vs. consistent norm) interaction contrast was conducted. The results of this analysis are displayed in table 3. A significant two-way interaction was found, $F(1, 90) = 15.65, p < .01$, indicating differences in mean risk preference between the two frames depends on

Table 1: Mean Group Risk Preference by Frame and Norming Variables

	M	SD
Variable		
NEGATIVE FRAME		
No Norm	1.38	1.50
Consistent Norm (Risk Seeking)	2.65	1.77
Inconsistent Norm (Risk Averse)	-0.34	1.45
POSITIVE FRAME		
No Norm	-1.24	1.35
Consistent Norm (Risk Averse)	-3.27	1.98
Inconsistent Norm (Risk Seeking)	0.13	1.63

Note. Group risk preference levels ranged from -7.0 to 5.0.

Table 2: Analysis of Variance for Mean Risk Preference

Source	SS	df	MS	F
Norm (N)	0.44	2	0.22	0.08
Frame (F)	176.04	1	176.04	67.79**
N x F	159.40	2	79.70	30.69**
Error	233.75	90	2.59	
Total	569.63	95		

** $p < .01$.

Table 3: Interaction Contrast of Mean Risk Preference (Hypothesis #1)

Source	SS	df	MS	F
Norm (N)	0.39	1	0.39	0.15
Frame (F)	239.27	1	239.27	113.23**
N x F	40.64	1	40.64	15.65**
Error		90	2.59	

** $p < .01$.

the type of norm. In order to identify the specific norm conditions responsible for the significant interaction, simple effects analyses were conducted within each frame. As shown in table 4, a significant difference emerged in the negative frame condition, $F(1, 90) = 4.99, p < .05$. Specifically, those groups receiving a norm consistent with the negative frame ($M = 2.65$) polarized with respect to mean risk preference when compared to those groups receiving no norm ($M = 1.38$). In the positive frame condition a significant difference also emerged, $F(1, 90) = 12.71, p < .01$, with groups receiving a consistent norm ($M = -3.27$) showing polarized mean risk preferences as compared to those groups receiving no norm ($M = -1.24$). For ease of interpretation these results are displayed in figure 4.

To test the second hypothesis, that a neutralization effect will occur when the norm is inconsistent with the frame of reference (i.e., risk averse norm with a negative frame; risk seeking norm with a positive frame), a 2 (positive frame vs. negative frame) x 2 (no norm vs. inconsistent norm) interaction contrast was conducted. The results of this analysis are displayed in table 5. As shown, a significant two-way interaction was found, $F(1, 90) = 13.89, p < .01$ indicating differences in mean risk preference between the two frames depends on the type of norm. In order to identify the norm conditions responsible for the significant interaction, simple effects comparisons were conducted within each frame condition. As table 6 depicts, a significant difference was found in the negative frame condition $F(1, 90) = 8.99, p < .01$. This indicates that groups receiving a norm inconsistent with the negative frame ($M = -.34$) neutralized with respect to mean risk

Table 4: Simple Effects of Mean Risk Preference (Hypothesis #1)

Source	SS	df	MS	F
No Norm versus Consistent in the Negative Frame	12.95	1	12.95	4.99*
No Norm versus Consistent in the Positive Frame	33.01	1	33.01	12.71**
Error		90	2.59	

* $p < .05$. ** $p < .01$.

Figure 4. Results from framing and norm manipulations (hypothesis #1).

Table 5: Interaction Contrast of Mean Risk Preference (Hypothesis #2)

Source	SS	df	MS	F
Norm (N)	0.25	1	0.25	0.10
Frame (F)	20.25	1	20.25	7.82**
N x F	36.06	1	36.06	13.89**
Error		90	2.59	

** $p < .01$.

Table 6: Analysis of Simple Effects of Mean Risk Preference (Hypothesis #2)

Source	SS	df	MS	F
No Norm versus Consistent in the Negative Frame	23.36	1	23.36	8.99**
No Norm versus Consistent in the Positive Frame	14.80	1	14.80	5.70*
Error		90	2.59	

* $p < .05$. ** $p < .01$.

preference when compared to those groups receiving no norm ($M = 1.38$). Likewise, in the positive frame condition a significant difference was also found, $F(1, 90) = 5.70$, $p < .05$, with groups receiving the inconsistent norm ($M = .13$) showing neutralized mean risk preference when compared to those groups receiving no norm ($M = -1.24$). For ease of interpretation the results are displayed in figure 5. The results for both the negative and positive frame conditions are displayed in figure 6.

Discussion

The results of the experiment support the hypotheses: normative consideration manipulations, measured in terms of mean risk preference, polarized when consistent with the imposed frame and neutralized when inconsistent with the imposed frame when compared to the mean risk preference of groups where no norm was introduced. These results provide considerable support for the idea that decision content can be an important determinant of risk preferences, above and beyond the influence of gain/loss frames of references imposed upon groups in the decision making process. These findings are concurrent with results from Hogg, et al., (1990) which suggest that group polarization, as convergence on a polarized group norm, is a function of the available frame of reference and to some extent the degree of identification within the group.

At the level of group preferences, the results of this study are highly consistent with those of previous research on framing (e.g. Kahneman & Tversky, 1979) with individual preferences. Positive framing consistently lead to mean group preferences that

Figure 5. Results from framing and norm manipulations (hypothesis #2).

Figure 6. Results from framing and norm manipulations.

were risk-averse, whereas negative framing lead to risk-seeking preferences. Moreover, the results of this study conform to the self-categorization theory of group polarization in that subjects adhered to what they estimated to be the relevant norm of their group. Thus, it appears that risk preferences elicited by the initial frame may serve as anchors that influence the level of risk preferred by the group.

Generalizations of the current findings are, of course, limited by a variety of methodological factors. For example, having used hypothetical decision making scenarios and a sample consisting of college students, generalizability is somewhat limited. Furthermore, risk seeking and risk adverse norms were operationalized by using simple vernacularisms. For the purposes of this project, the operationalizations undertaken make sense, but other idioms are possible and might raise interesting questions.

Implications for Organizations

The present results do however have some notable implications for organizations. It appears that when group members share a common frame of reference at the group level, the group decision may polarize toward either greater caution or risk taking, depending upon whether the shared decision frame is positive or negative. Additionally, it appears that deliberate introduction of a normative consideration can reduce or even neutralize such polarization effects. These finding reinforce the notion that directive leader behavior may inhibit effective group decision making (Whyte, 1989). For example, leaders play a major role in shaping the frame of reference for which the group

will use. To the extent that leaders impose their own frame of reference, the group decision is more likely to be biased toward either too much or too little caution. Thus, leaders should guard against imposing their own frame of reference on the group, and instead encourage the group to discuss the decision from multiple points of view.

These results may also be useful for improving group decision making. In the current study, when group members framed the problem in a way consistent with the riskier alternative, the group process strongly favored that alternative. For this particular decision problem, neither alternative is correct or optimal, but many problems faced by real decision making groups are defined by alternatives that could lead to better or worse outcomes. If particular frames of reference favor less than optimal alternatives, it would seem sensible to openly discuss different ways of framing the problem early in the decision process. This may prevent early consensus on sub-optimal alternatives.

Conclusion and Suggestions for Future Research

The most important conclusion to emerge from this study is that decision content can be an important determinant of group risk preference. This experiment utilizes two separate frames of reference: the positive frame and the negative frame. Both produced polarization and neutralization effects concurrent with the norm imposed in accordance with the self-categorization analysis of social influence, conformity, and group polarization. Thus, it appears that for such decisions, factors such as what the group is discussing (e.g. money vs. life or death issues) have an effect on overall risk preference. Progress in the area of group decision making would be well served with investigations

involving direct observations of actual groups at work. Direct observation would enable researchers to identify the appropriate social motives and comparison processes at work. Such research will help in further discriminating between the effects of both framing and norm influence in the group polarization phenomenon.

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Appendix A

Normative Consideration Manipulations

Risk Averse Norm

The CEO of Wickets Inc. has encharged the three of you, her top analysts, with deciding an important business strategy. She apologizes for not being able to stay because a “situation” has developed at corporate headquarters and she has to be there. She expresses her complete confidence in the committee’s ability to reach a decision that will ultimately benefit the company. Her parting words are, “just remember: one hen in the hand is better than two in the bush.”

Risk Seeking Norm

The CEO of Wickets Inc. has encharged the three of you, her top analysts, with deciding an important business strategy. She apologizes for not being able to stay because a “situation” has developed at corporate headquarters and she has to be there. She expresses her complete confidence in the committee’s ability to reach a decision that will ultimately benefit the company. Her parting words are, “just remember: nothing ventured nothing gained.”

No Norm

The CEO of Wickets Inc. has encharged the three of you, her top analysts, with deciding an important business strategy. She apologizes for not being able to stay because a “situation” has developed at corporate headquarters and she has to be there. She expresses her complete confidence in the committee’s ability to reach a decision that will ultimately benefit the company.

Appendix B

Choice Dilemma Questionnaires

Positively Framed Choice Dilemma

A company has \$20 million in total assets and is about to expand. The company has the choice of building a plant in Region 1 where returns would be moderate, or building a plant in Region 2 with an unstable economic climate where returns could be zero or very high. For each of the nine items below, assume that A is the consequence of building in Region 1 and B is the consequence of building in Region 2.

For each of the following items circle the alternative, A or B, that you would recommend.

1. A. Earning \$5 million	B. 10% chance of earning \$10 million,
90% chance of earning nothing.
2. A. Earning \$5 million	B. 20% chance of earning \$10 million,
80% chance of earning nothing.
3. A. Earning \$5 million	B. 30% chance of earning \$10 million,
70% chance of earning nothing.
4. A. Earning \$5 million	B. 40% chance of earning \$10 million,
60% chance of earning nothing.
5. A. Earning \$5 million	B. 50% chance of earning \$10 million,
50% chance of earning nothing.
6. A. Earning \$5 million	B. 60% chance of earning \$10 million,
40% chance of earning nothing.
7. A. Earning \$5 million	B. 70% chance of earning \$10 million,
30% chance of earning nothing.
8. A. Earning \$5 million	B. 80% chance of earning \$10 million,
20% chance of earning nothing.
9. A. Earning \$5 million	B. 90% chance of earning \$10 million,
10% chance of earning nothing.

Negatively Framed Choice Dilemma

A company has \$20 million in total assets and is about to downsize. The company has the choice of closing a plant in Region 1 where losses would be moderate, or closing a plant in Region 2 with an unstable economic climate where losses could be zero or very high. For each of the nine items below, assume that A is the consequence of closing a plant in Region 1 and B is the consequence of closing a plant in Region 2.

For each of the following items circle the alternative, A or B, that you would recommend.

1. A. Losing \$5 million	B. 10% chance of losing nothing,
90% chance of losing \$10 million.
2. A. Losing \$5 million	B. 20% chance of losing nothing,
80% chance of losing \$10 million.
3. A. Losing \$5 million	B. 30% chance of losing nothing,
70% chance of losing \$10 million.
4. A. Losing \$5 million	B. 40% chance of losing nothing,
60% chance of losing \$10 million.
5. A. Losing \$5 million	B. 50% chance of losing nothing,
50% chance of losing \$10 million.
6. A. Losing \$5 million	B. 60% chance of losing nothing,
40% chance of losing \$10 million.
7. A. Losing \$5 million	B. 70% chance of losing nothing,
30% chance of losing \$10 million.
8. A. Losing \$5 million	B. 80% chance of losing nothing,
20% chance of losing \$10 million.
9. A. Losing \$5 million	B. 90% chance of losing nothing,
10% chance of losing \$10 million.

IMAGE EVALUATION TEST TARGET (QA-3)

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