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The Role of Counterfactual Thinking in Group Decision Making

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Abstract

The paper attempts to discuss the role of counterfactual thinking in the context of group decision-making. The paper presents a theoretical framework postulating relationships amongst different identified variables in the form of propositions in order to strengthen the arguments in favor of the theoretical framework. The paper argues that different types of counterfactual experiences i.e. self-referent and other-referent counterfactual experiences as well as different directions of counterfactual experiences i.e. upward and downward counterfactual experiences, are likely to activate a counterfactual mind-set which leads to increased information search and sharing in groups, thereby affecting the accuracy of group decision making outcome, i.e. decision accuracy. Moreover, by employing the concept of cognitive complexity, it is proposed that dispositional factors are also likely to play an important role in information search and sharing and consequent group decision-making accuracy.

The Role of Counterfactual Thinking in Group Decision Making

Introduction

Counterfactual thinking or “what might have been” scenario is one of the most pervasive phenomena taking place in human life. It is rather common place that individuals regret the choices they have made and the actions they have taken. Thinking about what might have been, about alternatives to our own past choices and actions, is central to human thinking and emotion. Such thoughts are called counterfactual thoughts.

Counterfactual thoughts are mental representations of alternatives to past events, actions, or states (Byrne, 2007; Epstude & Roese, 2008; Roese, 1997). It can be either *upward counterfactual*

emotional reactions and causal judgments. For instance Zeelenberg and Pieters (2007) demonstrated the impact of counterfactual thinking on judgment and decision making by focusing more on the emotion termed as *regret*. However, little investigation has been made if and how counterfactual mind-set affects future, unrelated tasks of information search and sharing along with decision making in groups. The past literature on the effects of priming reveals that, both social judgments of others (Higgins, Rholes, & Jones, 1977) as well as one's own actions can be influenced by discrete, although relevant constructs incidentally stimulated in a preceding event

decreasing the possibility of discovering a pattern in the terrorist clues (Senate Select Committee on Intelligence, & The House Permanent Committee, 2002).

The above instance clearly indicates that team members should find ways to congregate and integrate relevant information from one another in an effective manner to make an unbiased decision. However, group discussions are primarily symbolized by their propensity to emphasize on shared instead of unshared information. It has been found in previous studies that groups are inclined to focus on the information known to each individual as compared to what only a few members know (Stasser & Stewart, 1992; Larson et al., 1994; Winquist & Larson, 1998). This tendency indicates that group decisions are frequently biased towards shared information. Hence, building on the previous studies (Stasser & Stewart, 1992; Galinsky & Kray, 2004) it is suggested in this paper, that thinking about alternatives to past events ("if.....only" counterfactual thoughts) can be instrumental in resolving the biased information search and sharing in groups. Therefore, it is posited in the present work that stimulating different types and directions of counterfactual mind-sets is likely to amplify the sharing and search of exclusive information and eventually improve decision accuracy in teams, on the premise that counterfactual thinking increases the tendency for individuals to be more aware of relevant alternatives and engage in mental simulation during subsequent decision making (Galinsky & Moskowitz, 2000), thereby increasing information sharing and search along with improving decision accuracy.

The Theoretical Framework

We propose here a theoretical framework of relationships between independent, mediating, moderating and dependent variables as shown in Figure 1 below. The framework integrates counterfactual thinking, cognitive complexity in group decision making, further leading to accurate decision making. The model or framework anticipates positive relationship between self-referent/other-referent counterfactual experiences and group decision accuracy, although this relationship is anticipated to be high in the case of self-referent counterfactual experiences as compared to other-referent counterfactual experiences. Both self-referent and other-referent types of counterfactual experiences are expected to generate counterfactual thoughts which are

likely to activate counterfactual mind-set. Counterfactual mind-sets increase the propensity to share and search for more relevant information, thus enhancing decision accuracy in groups.

Moreover, the framework also takes into account the effect of direction of counterfactual experiences i.e. upward and downward counterfactual experiences. Again the model anticipates positive relationship between both upward and downward counterfactual experiences and group decision accuracy. However, it is expected that upward counterfactual experiences will have high positive relation with group decision accuracy as compare to downward counterfactual experiences.

Finally, the framework considers the potential moderating role of cognitive complexity affecting the strength of relationship between relevant information search and sharing as well as group decision making accuracy. We discuss below the rationale for each of the independent variables and moderating variables on the group decision accuracy as the outcome variable.

Insert Figure 1 about here

Counterfactual Mind-Sets and Group Decision Making Accuracy

Counterfactual thoughts are frequently expressed as conditional propositions that link an antecedent and a consequent event and are often depicted by an expression of "if only..." (Roese, 1994). Individuals recreate their past through these counterfactuals. Previous studies revealed that counterfactual thoughts are frequently triggered when an event nearly occurred (Kahneman & Varey, 1990) or when antecedents to that event were salient in one way or another (Roese, 1997; Kahneman & Tversky, 1982). Moreover, thinking about "what might have been" can affect our future approach towards problem solving and performance (Roese, 1994), even in an unrelated context (Galinsky & Moskowitz, 2000).

Stasser and Stewart (1992) argued that framing a task as a problem with a single answer enhanced the sharing of exclusive information as compared to framing the task as a subjective, critical one. Framing is explained as a process of structuring, integrating and interpreting information cues in a given event (Lewicki, Saunders & Barry, 2006). In the present research, it is proposed that this awareness of alternative and converse realities that result from exposure to counterfactual scenarios can exert an influence on subsequent information search and sharing behavior as well as judgment in groups by activating a mental simulation mind-set in which various alternatives are considered. Galinsky and Moskowitz (2000) argued that salient counterfactual raises awareness of multiple options which enables individuals to make better decisions, possibly because of exposure to a counterfactual mind-set in a previous, unrelated context. This led people to ask more hypothesis-disconfirming questions, increased cognitive flexibility and assisted in overcoming functional fixedness, apparently by increasing the accessibility of alternative hypotheses.

There is enormous body of research on counterfactual mind-set focused on individual decision making (Galinsky & Moskowitz, 2000; Wolf, 2010). The fact that counterfactual mind-sets can influence individual decision making does not necessarily suggest that it will have similar impact on group decision making as well. In reality, researches have shown that, manipulations which influence individual decision making do not affect group decision making on several occasions, rather have effects contradictory to the ones they have on individual decision making. For instance, accountability manipulations was found to have favorable impact on individual decision making (Tetlock, 1992), whereas damaging effects on group decision making (Stewart, Billings & Stasser, 1998). Moreover, it was also noticed that creating group norms in one context had more pronounced impact when the same group involved in discussion and arrived at a judgment unlike when every group member took a similar decision individually (Postmes, Spears & Cihangir, 2001).

It is proposed in the present research, that self-relevant and upward directed counterfactual thoughts or experiences can be instrumens en e v a n 5 . 4 (S p e a r s & C i h a n

larger percentage of the entire information accessible to team members consists of the shared information and so a tentative hypothesis might be formulated by them which is consistent with that common information, as not only individuals but groups are prone to verify their hypotheses by testing them in a biased manner (Schulz-Hardt, Frey, Luthgens & Moscovici, 2000), as a result unshared information is least likely to be attended. However, if unshared information is noticed, shared information is still paid more attention (Larson, Foster-Fishman & Keys, 1994), this signifies a motivational

one. Stasser and Stewart (1992) also determined that a problem-solving frame promoted more focus on significant pieces of information, as opposed to a subjective frame, due to which the groups looked for consensus so as to attain closure on the task. Postmes, Spears and Cihangir (2001) reported that constructing group norms that encouraged critical thinking and questioning as opposed to group norms that promoted consensus, led to greater acknowledgement of exclusive information and higher precision in decision making. Still there is lack of conclusive findings on this issue and the precise nature of the process remains unclear requiring systematic investigation. Hence, it is anticipated that counterfactual mind-sets, similar to group norms (Postmes et al., 2001), can be stimulated prior to as well as independent of a group information sharing and decision-making session. Given that activating counterfactual thinking encourages an enduring cognitive orientation (Galinsky & Moskowitz, 2000), it is anticipated that counterfactual stimulation will improve group information search and sharing as well as the decision accuracy, even when the information sharing and decision making context is functionally not related to the context in which counterfactual thoughts were actually

2002; Roese, 1994). In the similar vien, Roese (1994) demonstrated that instructing participants to generate counterfactual thoughts regarding how their performance could have been better on a preceding anagram task resulted into improved performance on a subsequent anagram task. Counterfactual mind-sets have been shown not only to impact individual decision making, but also appear to help groups overcome coordination problems such as sharing unique information (Galinsky & Kray, 2004). Counterfactual thinking has also been shown to increase the scrutiny of persuasive message content (Krishnamurthy & Sivaraman,

Proposition 3: Self-relevant upward counterfactual groups will make decisions more accurately as compared to other-relevant upward counterfactual groups.

Cognitive Complexity and Information Search and Sharing and Decision Making in Groups

The success of any organization is basically dependent upon the accurate decision making practices. Rise in intensity of competition and rapid technological growth has pressured organizations to utilize work groups and teams largely in pursuit of this their organizational objectives (Sundstrom et al., 2000). Growing organizations perform decision tasks that are no longer simple and repetitive, rather they are more intricate and complex and beyond the management and capability of a single individual. Teams or work groups play an important role in solving the increasing complexity of a task because numerous group tasks still include an assortment of cognitive processes (for instance, critical thinking, problem solving, judgment, and decision making) and also involve various types of cognitive demands, for example, pooling and organizing assets or efforts of individual members (Cooke et al., 2003). Subsequently, the comprehension of team level cognition can pick up vitality to understand group behavior and practices in a better way so that performance variations between teams can be explained.

Generally, in context of decision making, accurate decisions cannot be made without sufficient amount of information (Kiesler & Spoull, 1982). Hence, the specific manner in which a group seeks out as well as handles information is of immense importance in developing a framework for accurate group decision-making. In order to make accurate decision few scholars have recognized the significance of cognitive complexity, according to which organizational problems are considered from multiple perspectives (Bartunek, Gordon, & Weathersby, 1983). Although, the concept of cognitive complexity was originally developed to illustrate the information processing distinctiveness among individuals (Driver, 1987), in the present work it is considered relevant to extend its moderating effects on information sharing and search as well as group decision accuracy.

Dispositional factors, therefore, are very likely to play an important role in the manner individuals make decisions. Scholars have expansively investigated numerous

dispositional variables which affect decision making choices for example, tolerance for ambiguity, self-efficacy, risk taking and cognitive motivation (Markman, Balkin & Baron, 2002; Forbes, 2005). In spite of, common scholarly conformity that the majority of these dispositional characteristics can be traced back to differences in information processing (Iederan, Curseu & Vermeulen, 2009), the role of group cognition in decision making and counterfactual thinking remains somewhat underexplored. Hence, the role of cognitive complexity in decision-making is considerably important to enhance our understanding in this area.

Cognitive complexity characterizes the complexity of an individuals' cognitive structure. Cognitive complexity is defined by two main structural components that are "differentiation and integration". Differentiation represents the capability to perceive numerous dimensions in a stimulus instead of a single dimension only, whilst integration indicates the capability to identify various relations amongst different characteristics (Schroder, Driver, & Streufert, 1967).

However, previous studies have tried to investigate cognitive complexity as a predictor of human performance in a broad range of domains for instance, predictive accuracy (Bieri, 1955; Crockett, 1965), interpersonal attraction as well as sociability (Adama-Webber, 2001), communication (Burleson & Samter, 1990), attribution (Streufert & Nogami, 1984), leadership (Zaccaro, 2001), negotiation (Pruitt & Lewis, 1975), creativity (Quinn, 1980), and decision making (Choi, 2010; Gruenfeld, 1995; Iederan, Curseu & Vermeulen, 2009). But the majority of the studies focused on investigating the effects of cognitive complexity at the individual level task performance (Hendrick, 1979; Stone, Sivitanidee, & Magro, 1994), and not the group or team level task performance.

Cognitive complexity suggests that individuals vary in their capacity to process information as per their level of cognitive complexity for instance; individuals who are more cognitively complex will be inclined to seek out for a wider range of information, cautiously consider all the pertinent factors related to an issue and then amalgamate them into a coherent position and utilize extensive information to arrive at a conclusion, while less complex individuals are likely to utilize comparatively less information to

make a decision and consider only one perspective and maintain it with dogmatic obstinacy (Driver, 1987; Gruenfeld & Hollingshead, 1993). Few studies have further confirmed that individuals high on cognitive complexity interpret information in a multidimensional way and incorporate information more competently, as compared to people low on cognitive complexity, (Schroder, Driver, & Streufert, 1967). Accurate decision making is difficult to be achieved without sufficient amount of information. Kiesler and Spoull (1982) have proposed that the quality of a decision is a function of the number of options available in a particular decision-making context. One of the focal ideas in cognitive complexity theory is that individuals vary in their information-seeking behaviors when they perform different cognitive activities like, problem solving, decision making, and planning. These activities are principally dependent on their cognitive complexity levels (Driver, 1987). Moreover, cognitively complex decision-makers are capable of synthesizing the relationship of different information. People high on cognitive complexity are likewise more likely to be logical in decision making tasks and invest more time so as to analyze the information in sight (Curseu, 2006).

Organizational decision making involves intense environmental complexity, uncertainty, and volatility (Cyert & March, 1963). Therefore, the cognitive complexity of the decision maker is a central requirement for a successful decision-making process. Therefore we propose:

> *Proposition 4: Groups high on cognitive complexity will share and seek for more information as well as make more accurate decisions as compared to groups low on cognitive complexity*.

Discussion and Implications

In this paper, an attempt has been made to address how counterfactual thinking and cognitive complexity affect group decision making. We also make an effort to formulate a theoretical model (figure 1) to integrate these contextual and dispositional variables and present a comprehensive picture of decision making in groups. In order to do that we develop a set of propositions regarding the independent, mediating and moderating effects of pertinent variables on group decision accuracy.

The present work has implications for researchers as well as practitioners. First, the proposed model, after empirical testing and validation will bridge some important gaps by postulating the role played by counterfactual thinking and cognitive complexity in information search and sharing as well as decision making literature. Empirical research will extend our understanding of information sharing in groups and counterfactual thinking in a number of important ways. It will bring to our awareness whether the activation of different types of counterfactual mind-set at the group level has different effects on group performance in terms of information search and sharing along with decision making, which can help us provide explanation for the tendency of groups to be unduly influenced by commonly held information. Second, most of the research on counterfactual thinking and decision making has focused on other-referent and individual decision making, the present work will be an extension in the field of counterfactual thinking and decision making by incorporating self-referent and group decision making. It would also clarify the beneficial effect of counterfactual thinking on information sharing and search as well as decision making. Third, it is also suggested that dispositional factors are also likely to have an impact on the process of information search and sharing as well as complex group decision making. The present paper argues that cognitive complexity will enhance the relationship between information search and

traits. Therefore, selection of the team, designing of the group, and training of the team can be developed accordingly.

Conclusion

This paper focused and strengthened the current scholarly dialogue on counterfactual thinking and its role in enhancing group decision accuracy. Activating a cognitive mind-set that makes thoughts about alternative realities salient, might serve as a useful cue for groups to share and consider all of the information that their members' posses and this approach can have positive effects on group information search and sharing as well as decision making in groups. This notion reverberates

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