CONVERSATIONAL ARGUMENTS IN SMALL GROUP DECISION MAKING: REASONING ACTIVITY AND PERCEIVED INFLUENCE OVER THE DECISION ARE KEYS FOR SUCCESS

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Abstract

This study explored decision making in small groups. There were 81 participants forming 21 ad-hoc groups of about four members each with the aim of reaching a joint decision. Correlations between participants' evaluations of satisfaction and group efficiency on the one hand, and perceived equality in the influence over the discussion and the decision on the other hand, revealed associations especially with regard to influence over the decision. Those perceiving equal influence over the decision experienced more satisfaction and efficiency. Conversational patterns in three successful versus three unsuccessful groups (based on the group mean level of evaluated satisfaction and group efficiency) were analyzed by use of Conversational Argument Coding Scheme. Successful groups had more reasoning activities, especially responses and justifications, than did unsuccessful groups.

Keywords

Conversational Arguments, Decision-making, Equality, Influence, Satisfaction, Small Groups,

Introduction

Consider two different groups at work. Members in the first group are all satisfied with the group's performance; they find that the group work efficient and are certain that everyone is involved in the discussion and in the decision-making process. Members in the second group are less satisfied with the group's performance and they do not believe that the group works efficiently. The members are also convinced that some group members are more active than others in the discussion and in the decision-making process. Is there anything in the decision-making process that creates these differences?

The role of social influence such as groupthink and how it affects group decision-making has a long history in social psychological research; one influential approach was Janis' studies of groupthink (1972). Since then, other researchers have examined different variables related to decision making in groups, such as social impact, minority influence, group polarization, groupthink etc. (Hogg & Vaughan, 2005; Janis, 1972; Latané & L'Herrou, 1996; Wood, Lundgren, Ouellette, Busceme

& Blackstone, 1994). More recent research has moved further to explore the mechanisms behind majority and minority influence in decision-making groups (Erb, Hilton, Bohner & Roffey, 2015; Levine & Tindale, 2015; Meyers, Brashers, & Hanner, 2000).

Previous research has revealed that poor group decisions are correlated with a bad exchange of information while good exchange of information leads to more correct decisions (Larson, Christensen, Franz, & Abbot, 1998). Other studies have found that information sharing and discussion leads to a better decision quality (Peterson, Owens, Tetlock, Fan, & Martorana, 1998; Tasa & Whyte, 2005). Previous research has revealed a number of different aspects that may be important for the outcome of group decision-making; e.g. personality, (Peeters, Rutte, Van Tuijl, Harrie, & Reymen, 2006), leadership (De Dreu, 2008; Mueller, 2010), and structural aspects such as the context, (Gouran & Hirokawa, 1996). However, in real life, probably the most common decision-making situation is that a group consists of different people with different personalities, with leaders who have different competences, and that they exist in different contexts.

An essential aspect for decision-making groups in order to achieve good results is that the participants are satisfied with the group's performance (DeStephen & Hirokawa, 1988). Satisfied group members who perceive that they have a strong influence and who have a positive experience of the decision-making process will also reach positive outcomes (Michie & Williams, 2003). Negative experiences and a perceived lack of influence may lead to frustration and attempts to solve conflicts rather than leading the group forward (Mason & Griffin, 2002; 2003; Spector, 1988). Moreover, satisfaction is correlated with the group's performance (Kong, Konczak, & Bottom, 2015).

An intuitive definition of group efficiency might be as the ease or speed with which a decision is reached. However, an effective team performance may need constructive information search and even disagreement among the group members (Kong, et al., 2015). If these ingredients are missing the lack of objections and questioning may preclude the group from achieving their goal (Gelfand, Major, Raver, Nishii & O'Brien, 2006; Graziano, Jensen-Campbell & Hair, 1996). Furthermore, efficiency may also be dependent on how the outcome is defined. The definition of outcomes or goals for the decision task is seldom problematized. Often the outcome measures are operationalized in achievement terms such as winning tokens or money (Brewer & Kramer, 1986; Ostrom, 2003). With this definition it is possible to define group efficiency objectively. However, in real life it is difficult to decide the quality of the decision objectively (Kolbe & Boos, 2009) and it has been stressed in the research literature the need for extending the repertoire of outcome measures (Kray & Thompson, 2005). In real life it is also sometimes up to the group themself to define the outcome. As a consequence it is difficult to de-

fine and choose an objective form of efficiency measure. Perhaps also the definition of group efficiency is in the eyes of the beholder, i.e. the group members.

Research on work motivation, employee participation and group influence indicates that it is important for people's health and performance to perceive that they have influence and that they can affect their working conditions (Michie & Williams, 2003; Slotegraaf & Atuahene-Gima, 2011). But, the conceptualization of influence is seldom problematized. The research that in some way has problemized the conceptualization of influence is linked to empowerment (Baird & Wang, 2010) or deliberation (Myers, 2012). The research concerning empowerment mainly focus on how to strengthen the group of employees. However, in which part or parts of the decision making process is it important to have influence is seldom made explicit. Furthermore, an underlying assumption is often that people gaining more influence is the same as an equal distribution of influence, but sometimes more influence for few leads to less influence for others. This is a risk that groups having to make a joint decision might encounter. There is, with other words, a need to study the influence over different parts of the decision-making process, for example involvement in the discussion leading towards a decision, on the one hand, and influence over the actual decision on the other hand and also the perceived equality of the distribution of the influence.

According to the functional theory of effectiveness in a group decision-making process (Gouran & Hirokawa, 1996), the group's understanding of a problem, the requirements of the group, the way in which alternatives are evaluated, and the selection of the best trade-off alternatives are crucial for group success (Gouran & Hirokawa, 1996; Kolbe & Boos, 2009). A key element for understanding group decision-making is to get a better understanding of the members' perceptions, thoughts, and feelings (Wiiteman, 1991). Research is somewhat contradictory as to how these aspects affect satisfaction and group performance. Different opinions have in some studies appeared to have positive effects (Schweiger, Sandberg & Ragan, 1986; Simmons, Pelled & Smith 1999; Slotegraaf & Atuahene-Gima, 2011). When a group entertains many different ideas, higher quality decisions are more likely to result (Barr & Gold, 2014, Gouran, 1982). Other studies claim that they may also lead to tension, antagonism and frustration among the group members (Behfar, Mannix, Peterson & Trochim, 2011; De Dreu & Weingart, 2003; Jehn, 1995). These contradictory results point to the need for more controlled research on the dynamics in the group processes leading to a joint decision.

To summarize, there is reason to believe that satisfaction with a group decision is related to how efficiently the group's work has been. As the definition of efficiency to some extent is dependent on how the outcome is conceptualized, and that often the outcome is decided upon by the participants themselves, efficiency then can be regarded as a subjective experience. Furthermore both satisfaction and per-

ceived efficiency may be related to influence. However influence can be operationalized as both influence in the process leading up to a decision and influence over the decision. As increasing influence does not necessarily imply an even distribution among group members it is important also to make this aspect explicit. Efficiency does not necessarily mean the ease or speed with which a decision is reached. Sooner it includes how the problem to be solved is elaborated – how information is shared, how different opinions and conflicts are handled. The aim of this study is to study these aspects based on a group experiment in a controlled laboratory setting. The study is divided into two parts. First, the relations between satisfaction, perceived efficiency, perceived equality of influence over the discussion and perceived equality of influence over the decision are analyzed quantitatively. The second part analyses the communication in the groups qualitatively, in order to investigate the pattern in groups differing in the level of decision satisfaction and perceived efficiency.

Methodology

Participants

Eighty-one undergraduate students (53 female and 28 male) from different study programs took part in the study. Their age varied between 18 and 45 years with a mean age of 22.4 years among men and 26.1 among women.

Procedure

The experiment was originally set up to study how effects of competition vs. cooperation and gender composition affect group decision-making (Löfstrand & Zakrisson, 2014). In the present study these experimental conditions are not investigated *per se*. Instead, they serve as control factors in the analysis of the relation between satisfaction, perceived group efficiency, and perceived equality of influence over the discussion and over the decision. The ambition was to have four participants in each group but as different circumstances (participants not showing up or coming late) changed this ambition. All in all, 17 of the groups had four participants, two groups had three participants and two groups had five participants. These groups were randomly assigned to one of two conditions: a) to assemble a team for a relay running competition with the goal of maximizing the chance of winning the competition (nine groups), or, b) to assemble a team with the goal of having fun and of maximizing the sense of community within the team (twelve groups). Due to the same reason as above there was an equal number of groups in each condition. Two groups consisted of men only, eight groups consisted exclusively of women, and 11 groups consisted of an equal number of men and women.

The participants in each group were placed around a table on which two sheets of paper were lying upside down. After the experimenter had read the instructions the group was told that they had 15 minutes in which to solve the task. One of the sheets contained the instructions (consisting of one of the conditions described above) and pictures of 20 target persons (10 men and 10 women) with information of their first names, ages, occupations, and favorite hobbies. The other sheet of paper contained the different relay sections of various lengths, and this is where the group wrote down their final decision. The session was filmed with three cameras set at different angles. After 15 minutes the session was ended. Immediately afterwards the participants completed a questionnaire in which they answered questions concerning their reflections of their experiences of the task. For example, the questionnaire, included questions concerning how satisfied they were with the decision, how efficiently they thought that the group had worked and how difficult the task had been. They also estimated each member's influence (including their own) on the discussion and on the final decision respectively. Finally, they were debriefed about the aim of the study and about how the data were to be handled. The dialogue of each group was transcribed.

Variables

Perceived satisfaction with the decision: The question read: *"How good do you think the decision was?"* The participants indicated their answers on a seven-step rating scale ranging from one (very bad) to seven (very good).

Perceived group efficiency: The question read: *"How efficient do you think the group's work was?"* The participants indicated their answers on a seven-step rating scale ranging from one (very bad) to seven (very good).

Perceived equality in the influence over the discussion: The participants were asked to indicate the percentage of how much each group member participated in the discussion. Those who assigned almost the same percentage to all group members (within a 5 % limit) were categorized as perceiving an equal distribution of influence over the discussion. Those who assigned an unequal percentage to the group members were categorized as perceiving an unequal distribution of influence over the discussion. The variable was dummy coded with perceived equal distribution of influence as one.

Perceived equality in the influence over the decision: The participants were asked to indicate the percentage of how much each group member participated in the decision. Those who assigned the same percentage (within a 5 % limit) to all group members were categorized as perceiving an equal distribution of influence over the decision. Those who assigned an unequal percentage to the group members were categorized as perceiving an unequal distribution of influence over the

decision. The variable was dummy coded with perceived equal distribution of influence as one.

Perceived task difficulty: This question was included as a control variable as task difficulty could affect satisfaction and group efficiency, regardless of the other variables. The question read: *"How hard was the task to solve?"* The participants indicated their answers on a seven-step rating scale ranging from one (very easy) to seven (very difficult). The questionnaire also included a question to which degree the participant knew the other group members on a seven-step scale ranging from one (not familiar with) to seven (very much familiar with).

Data Analysis

There were two kinds of analyses. One set analyzed the quantitative data; the relations between satisfaction, perceived efficiency and perceived equality in the influence over the discussion, perceived equality in the influence over the decision and perceived task difficulty including all 81 participants across the 21 groups by use of correlation and multiple regression analysis.

The second set analyzed the within group discussion qualitatively. Based on the group means for decision satisfaction and perceived group efficiency six of the 21 groups were selected for further analysis. Three groups were chosen with group means as high as possibly on these two variables. These were labeled "successful". The other three groups were chosen with group means as low as possible on these two variables. These were labeled "unsuccessful". The groups in the two categories were also matched according to experimental condition and gender composition. The transcripts from these six groups were subjected to the conversational argument-coding scheme (CACS; Canary & Seibold, 2010). The Conversational Argument Coding Scheme is a widespread coding scheme with the ambition of exploring arguments. Previous research has used the CACS in different contexts: to explore sex differences (Meyers, Brashers, Winston & Grob, 1997); to study majority vs. minority influence (Meyers, Brashers & Hanner, 2000); to study Instant-messaging interactions (Stewart, Setlock & Fussell, 2007), and in different circumstances such as city commission meetings (Beck, Gronewold & Western, 2012).

The CACS consists of five major categories. Firstly, *arguables,* is divided into two major parts. The first is called *generative mechanisms* containing assertions and propositions. The second is called *reasoning activities* and consists of elaborations, responses, amplifications and justifications. The second main category is *convergence markers* containing statements representing agreement and acknowledgement. The third category is called *prompters* containing statements such as objections and challenges. The forth category is labeled *delimitors* containing statements that provide a context for arguables or attempts to secure com-

mon ground or to remove possible objections. The last category is *non-arguables* contain process statements or statements unrelated to the task or incomplete statements impossible to categorize (Canary & Seibold, 2010; Meyers & Brashers, 2010; Seibold & Meyers, 2007). All in all there were 16 sub-categories. The inter-rater reliability between two judges was first tested on one group not included in the main analysis. The inter-rater reliability was 89 percent across the five categories, ranging from 80-92 percent for the sixteen sub-categories. One judge then coded the six selected groups.

Results

In order to test whether or not the experimental conditions had any effect on the main variables, three-way ANOVAs were carried out with gender, gender composition (single, mixed) and group task (competition vs. community) as between-factors, and the five self-rated evaluations (satisfaction with the decision, perceived group efficiency, perceived task difficulty, perceived equality in the influence over the discussion, and perceived equality in the influence over the decision) as dependent variables. These analyses used all 81 participants across the 21 groups. There were neither significant main effects nor significant interaction effects for any of the five dependent variables. Correlations between the five main variables were then carried out (see Table 1).

Table 1
Correlations between the five main variables, (N=81)

Variable	1	2	3	4	5
1. Decision satisfaction					
2. Group efficiency	.67***				
3. Task difficulty	-.43***	-.35**			
4. Perceived equal influence over the discussion	.22	.32**	-.21		
5. Perceived equal influence over the decision	.39***	.44***	-.33**	.31**	

** $p < .01$; *** $p < .001$

Firstly, perceived group efficiency correlated with decision satisfaction. Secondly, decision satisfaction correlated with perceived equality in the influence over the decision and with task difficulty. Thirdly, perceived group efficiency correlated with perceived equality in the influence over the discussion and over the decision, and also with task difficulty. Finally, perceived equality in the influence over the decision correlated moderately with perceived influence over the discussion.

Two multiple regression analyses were carried out to reveal whether perceived equality in the influence over the decision and over the discussion had any effect on decision satisfaction and perceived group efficiency. Task difficulty was included as a control variable. Since no correlation was found between decision satisfaction and perceived equality in influence over the discussion, it was excluded from the analysis. As can be seen in Table 2, both models are significant.

Table 2
Results from multiple regression analysis with Decision satisfaction and Perceived group efficiency as dependent variables

	Decision Satisfaction	Perceived group efficiency
	β	β
Task difficulty	-.34**	-.20
Perceived equality over the discussion	_	.18
Perceived equality over the decision	.28*	.32**
R	.50***	.52***
Df	2, 78	3, 77

* $p < .05$; ** $p < .01$; *** $p < .001$.

Both task difficulty and perceived equality in the influence over the decision had an impact on satisfaction. The model reveals that the more satisfied the participant was, the easier the task was experienced. Moreover, those who perceived the influence over the decision to be equal were more satisfied compared with those who perceived the influence as unequal. For evaluation of group efficiency, when taking all variables into account the only remaining significant contribution was perceived equality in the influence over the decision. Those perceiving the influence over the decision to be equal regarded the group work as more efficient than those perceiving an unequal influence over the decisions. To summarize then, it is evident that participants experienced that factors during the group session are vital for their

evaluation of the quality of their work. So the next part of this study explores the communication patterns in groups differing in their experienced satisfaction and efficiency.

Conversational Arguments

As mentioned above a subset of six groups were selected for a qualitative analysis of their communication patterns. Three groups were selected on the basis of their high means on decision satisfaction and perceived group efficiency, hence labeled successful groups. The other three groups were selected on the basis of their low means on decision satisfaction and perceived group efficiency, hence labeled unsuccessful groups. As can be seen in table 3 the selection of groups was adequate. There were significant differences between the successful and unsuccessful groups on decision satisfaction and on perceived group efficiency. Furthermore the successful groups had a significant lower mean on task difficulty than the unsuccessful groups.

As can also be seen in the table, the two categories differed in their means on perceived equality in influence over the discussion and over the decision, with the successful groups having higher means than the unsuccessful groups. Since their experiences during the group decision-making task could have been influenced by how well they knew each other (i.e. that the successful groups knew each other better), the participants were asked to indicate in the questionnaire the degree of familiarity with the other group members. The two categories were compared according to this variable; as can be seen in the last column in Table 3 this was not the case.

The six selected groups were analyzed according to the conversational argument schedule (Meyers & Brashers, 2010). As can be seen in Table 4 there were significant differences on two variables. For arguables there was a significant difference between the two kinds of groups on reasoning activities. The successful groups had more reasoning activities than the unsuccessful groups. Looking at the sub-categories for reasoning activities there were significant differences for justifications ($F=45.37$ $p<.05$) and responses ($F=30.03$ $p<.05$).

The unsuccessful groups hardly used any of these. The successful groups used more *justifications.* One example of the use of a justification in a successful group, which had the goal of creating a winning team, was: "*The chances of winning should be as good as possible"*.

Another example from a successful group with the goal of creating a sense of community was: "*But it's maybe better if everyone takes part"*. The successful groups also used *responses* more often. These were statements to defend arguables.

An example of a response in one successful group was: "*…that depends on what we think we need in order to get a good result".*

Another example of a response is found in a successful group was: "*But, there's no information given on that, we have the opportunity to use more runners as they can share a relay."* As seen in these examples, both justifications and responses are used independently of the goal set for the task. The reasoning activities serve to move the communication forward.

Table 3
Successful and unsuccessful decision-making groups

	Goal	Gender composition	Decision satisfaction	Perceived group efficiency	Task difficulty	Perceived influence over the discussion (percent)	Perceived influence over the decision (percent)	Familiarity with other group members
SUCCESSFUL GROUPS								
GROUP A	Non-comp	Women	6.50	6.50	2.00	0.50	1.00	4.25
GROUP B	Non-comp	Mix	6.50	6.25	2.00	0.50	0.75	2.75
GROUP C	Comp	Women	6.25	6.75	1.50	1.00	0.50	4.17
MEAN			6.42	6.50	1.83	0.67	0.75	3.72
SD			0.14	0.25	1.83	0.49	0.45	3.72
UNSUCCESSFUL GROUPS								
GROUP D	Non-comp	Mix	5.00	4.50	2.50	0.25	0.00	4.33
GROUP E	Non-comp	Women	3.00	4.25	4.25	0.00	0.00	4.67
GROUP F	Comp	Women	3.75	4.00	3.50	0.00	0.25	3.92
MEAN			3.92	4.35	3.42	.08	.08	4.30
SD			1.01	0.25	0.88	0.29	0.50	0.38
F			18.00**	121.50***	8.80**	12.53**	18.56***	1.20

*** p <.01 *** p < .001*

The other significant difference was for non-arguables, which can be an indication of the successful groups generally talking more. As can be seen in Table 4 the successful groups systematically had more of all conversational categories although not all differences were significant. This can be an indication of a more complex communication pattern in the successful groups

Table 4

Conversational Arguments used in successful and unsuccessful groups, number of statements of each category

	Successful groups	SD	Unsuccessful groups	SD	F
Arguables:	181.33	85.23	118.33	84.65	1.65
Generative mechanisms	131	75.82	120.67	46.36	.05
Reasoning activities	51.00	14	9	15.59	12.05*
Convergence Markers	72,7	30.67	55	13.23	0.84
Promptors	23,3	10.69	18.7	1.15	.57
Delimitors	20.00	16	6.33	5.51	1.96
Non-arguables	112	21.22	52	13.75	16.7**

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

Discussion

This study explored and found that perceived equality in the influence over the decision was related to both satisfaction and perceived group efficiency while perceived equality in the influence over the discussion was only related to perceived group efficiency and not satisfaction, although in the regression analysis this impact disappeared completely. There is a lot of research concerning positive outcomes of influence in the work place (Mason & Griffin, 2003; Michie & Williams, 2003; Seibold & Meyers, 1996; Simmons et al, 1999). However, less research has been conducted concerning differences between perceived influence over the discussion and perceived influence over the decision. In the workplace, it is most common that employee influence is measured by surveys in which employees indicate how much they believe themselves to be involved. Never are questions asked about differences between various forms of influence such as the difference between influence over the decision and influence over the discussion. This study demonstrates how important it is to differentiate between different forms of influence.

The first analysis was built on evaluations made on an individual level, which means that there could be different opinions within each group of satisfaction, efficiency, perceived equality in the influence over the decision and the discussion. However, the analysis for a sub set of groups corroborated the results. Groups that

differed in their mean values of satisfaction and perceived group efficiency also differed in their mean values of perceived equality in the influence over the discussion and the decision. Moreover, the differences cannot be explained away as a result of the members in the successful groups knowing each other better as no such difference was found.

This study revealed differences between groups where the participants perceived the decision-making process as more or less successful. There were more participants in the successful groups who perceived the decision-making process (both decision and discussion) as being equal. Participants in the successful groups had more reasoning activities. They gave each other more responses and also used more defending arguments (justifications) than the unsuccessful groups did. This indicates a higher grade of processing activity, such as, for example, sharing information, something that previous research has revealed to be more important for successful decision-making (Peterson, Owens, Tetlock, Fan & Martorana 1998; Tasa & Whyte, 2005). Moreover, successful groups used more non-arguables in the discussion than the non-successful groups did, indicating a more complex type of conversation in the successful groups. This suggests that they generated more ideas, which lead to a higher quality of decisions (Gouran, 1982). This might seem as a paradox; that "a lot of talking" in fact is beneficial and leading to more efficient decision making.

An interesting result concerning arguables that there were no differences between successful and unsuccessful groups regarding generative mechanisms, which means proposals, suggestions. But there were differences regarding how these statements were elaborated upon by use of reasoning activities. This means that it is not the amount of input information that is important for the decision making process. Instead it is what the group allows the members to do with it.

Greater differences between the groups according to conversational arguments could have been expected. For example, successful groups might have used more objections and challenges (prompters) than the less successful groups, but this was not found. Why then could more differences not be found? One possible explanation could be that the successful groups had a more complex discussion pattern containing reasoning activities in a way that made the use of objections or challenges unnecessary. Another explanation could be that this study only involved three successful and three unsuccessful decision-making groups. More groups could have made more differences between them visible.

Drawbacks in most decision-making research are that the goals of the decision-making task are seldom manipulated and are mainly expressed in extrinsic, achievement terms. To parry for differences as a result of the goal setting this study was set up with two different goals for the task, one competitive and one community; no differences were found between them. The ANOVA analyses did not find

any effect on any of the five variables. This makes the results of this study more generalizable, at least for these two different conditions for group decision-making. Other factors that could be of importance are gender and gender composition. It is sometimes asserted that men tend to form hierarchical social structures while women tend to form more equality-based structures (Mast, 2002; Schmid, Mast, Bombari, & Mast, 2011). Research also indicates that the salience of gender characteristics in negotiation tasks, or manipulation of status position, influences the experienced power and performance (Keshet, Kark, Pomerantz-Zorin, Koslowsly, & Schwarzwald, 2006; Kray, Thompson, & Galinsky, 2001; Kray, Reb, Galinsky & Thompson, 2004). Thus gender is a complex factor that could influence in various ways. In the present study both gender and gender composition (single/mixed) of the groups were used. However, none of them had any impact on the five main variables. This also strengthens the applicability of the present results.

Conclusions

The results in this study respond to the question in the introduction, *what in the decision-making process creates different experiences of success?* The results indicate the importance of equality in decision-making. The results correspond to the functional theory (Gouran & Hirokawa, 1996). A correct understanding of the problem is easier if you have a more complex discussion, for example, more reasoning activities on equal terms. Plenty of discussion and the fact that everyone is involved is an important key for reaching a decision with a high level of satisfaction. Proposals are found in all groups but there is a difference between them in how they treat the proposals.

However, more research needs to be done. One example of future research could be to study how perceived influence over the decision versus real influence over a decision correlate. Future studies could also involve other topics more closely related to working life such as decisions over recruitment or work environment. The asymmetry between the participants linked to the perceived influence could be interesting to study, especially concerning participants differing from the group norms in terms of perceived influence. For example when there is not a consensus regarding the distribution of influence. It would also be interesting to test conversational arguments in real life decision-making groups. In the present study we found no differences between men and women or between groups with different gender composition. This might have to do with the fact that participants were all students. Furthermore they were randomly assigned to ad-hoc groups meaning that they initially were equal regarding the task they had to solve. This is seldom the case in real life where there are inherited differences in power and status. Future research could thus look more into differences between men and women in real

life, especially in groups with an unequal distribution of men and women. This as previous research (Wood et al, 1994, Schmid et al, 2011, Pratto & Stewart, 2012) all has found that there are important differences between men and women in the communications patters, dominance (power). Finally is there definitely a need to explore if these results are stable in natural environments.

References

Baird, K., & Wang, H. (2010). Employee empowerment: Extent of adoption and influential factors. *Personnel Review, 39*(5), 574-599.

Barr, S., & Gold, J. M. (2014). Redundant visual information enhances group decisions. *Journal of Experimental Psychology: Human Perception and Performance, 40*(6), 2124-2130.

Beck, S. J., Gronewold, K. L., & Western, K. J. (2012). Intergroup argumentation in city government decision-making: The wal-mart dilemma. *Small Group Research, 43*(5), 587-612

Behfar, K.J., Mannix, E.A., Peterson, R.S., & Trochim, W.M. (2011). Conflict in small groups: The meaning and consequences of process conflict. *Small Group Research, 42,* 127-176.

Brewer, M. B., & Kramer, R. M. (1986). Choice behavior in social dilemmas: Effects of social identity, group size, and decision framing. *Journal of Personality and Social Psychology, 50*(3), 543-549

Canary, D.J., & Seibold, D.R (2010). Origins and development of the Conversational Argument Coding scheme *Communications Methods and Measures*, 4:1-2, 7-26,

De Dreu, C.K.W. (2008). The virtue and vice of workplace conflict: Food for (pessimistic) thought. *Journal of Organizational Behavior, 29,* 5-18.

De Dreu, C.K.W., & Weingart, L.R. (2003). Task versus relationship conflict, team performance and team satisfaction: A meta-analysis. *Journal of Applied Psychology, 88,* 741-749.

DeStephen, R.S., & Hirokawa, R.Y. (1988). Small group consensus: Stability of group support of the decision, task process, and group relationships. *Small Group Behavior, 19, 227-239*

Erb, H., Hilton, D. J., Bohner, G., & Roffey, L. (2015). The minority decision — A risky choice. *Journal of Experimental Social Psychology, 57*, 43-50.

Gelfand, M. J., Major, V. S., Raver, J. L., Nishii, L. H., & O'Brien, K. (2006). Negotiating relationally: The dynamics of the relational self in negotiations. *Academy of Management Review*, *31*, 427-451.

Gouran, D. S., & Hirokawa, R. Y. (1996). Functional theory and communication in decision-making and problem-solving groups: An expanded view. In R. Y.

Hirokawa & M. S. Poole, Communication and group decision making (2nd ed., pp. 55–80). Beverly Hills, CA: Sage.
Gouran, D.S. (1982). *Making decisions in groups.* Glenview, IL: Scott, Foresman
Graziano, W. G., Jensen-Campbell, L. A., & Hair, E. C. (1996). Perceiving interper- sonal conflict and reacting to it: The case for agreeableness. *Journal of Personality and Social Psychology*, *70*, 820-835
Hogg, M.A. & Vaughan, G.M. (2005). Social psychology (4th edn). London: Person-Prentice Hall.
Janis, I.L. (1972), Groupthink: Psychological studies of policy decisions and fiascos (2nd edn). Boston: Houghton Mifflin.
Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly, 40*(2), 256-282.
Keshet, S., Kark, R., Pomerantz-Zorin, L., Koslowsky, M., & Schwarzwald, J (2006). Gender, status and the use of power strategies. *European Journal of Social Psychology, 36,* 105-117.
Kolbe, M., & Boos, M. (2009). Facilitating Group Decision-Making: Facilitator´s subjective theories on group coordination. *Forum Qualitative Socialforschung* vol 10, No 1.
Kong, D. T., Konczak, L. J., & Bottom, W. P. (2015). Team performance as a joint function of team member satisfaction and agreeableness. *Small Group Research, 46*(2), 160-178
Kray, L.J., Reb, J., Galisky, A.D., & Thompson, L. (2004). Stereotype reactance at the bargaining table: The effect of stereotype activation and power on claiming and creating value. *Personality and Social Psychology Bulletin, 30,* 399-411
Kray, L. J., & Thompson, L. (2005). Gender stereotypes and negotiation performance: An examination of theory and research. *Research in organizational behavior: An annual series of analytical essays and critical reviews, vol 26.* (pp. 103-182)
Kray, L.J, Thompson, L., & Galinsky, A. (2001). Battle of the sexes: Gender stereotype confirmation and reactance in negotiations. *Journal of Personality and Social Psychology, 80,* 942-958.
Larson, J. R., Jr., Christensen, C., Franz, T. M., & Abbott, A. S. (1998). Diagnosing groups: The pooling, management, and impact of shared and unshared case information in team-based medical decision making. *Journal of Personality and Social Psychology, 75*(1), 93-108.
Latané, B., & L'Herrou, T. (1996). Spatial clustering in the conformity game: Dynamic social impact in electronic groups. *Journal of Personality and Social Psychology, 70*(6), 1218-1230.

Levine, J. M., & Tindale, R. S. (2015). Social influence in groups. *APA handbook of personality and social psychology, volume 2: Group processes.* (pp. 3-34) American Psychological Association, Washington, DC.

Löfstrand, P., & Zakrisson, I. (2014). Competitive versus non-competitive goals in group decision-making. *Small Group Research, 45*(4), 451-464

Mason, C. M., & Griffin, M.A. (2002). Group task satisfaction: Applying the construct of job satisfaction to groups. *Small Group Research, 22,* 271-312

Mason. C.M.,& Griffin, M.A. (2003). Identifying group task satisfaction at work. *Small Group Research 34:413* 413-435

Mast, M. S. (2002). Female dominance hierarchies: Are they any different from males'? *Personality and Social Psychology Bulletin, 28*(1), 29-39.

Meyers, R.A., Brashers, D.E., Winston, L & Grob, L (1997). Sex differences and group argument: A theoretical framework and empirical investigation. *Communication studies, 48,* 19-41

Meyers, R.A., & Brashers, D.E. (2010). Extending the conversational argument coding scheme: Argument categories, units and coding procedures. *Communication Methods and Measures, 4,* 27-45.

Meyers, R. A., Brashers, D. E., & Hanner, J. (2000). Majority-minority influence: Identifying argumentative patterns and predicting argument-outcome links. *Journal of Communication, 50*(4), 3-30

Michie, S. & Williams, S. (2003). Reducing work related psychological ill health and sickness absence: a systematic literature review. *Occupational & Environmental Medicine. 60*(1), 3-9.

Mueller, C. A. (2010). *Influence of transformational leadership style on decision-making style and technology readiness: A correlation study.* ProQuest Information & Learning

Myers, C. D. (2012). *Information use in small group deliberation* (Order No. AAI3480116).

Ostrom, E. (2003). Toward a behavioral theory linking trust, reciprocity, and reputation. *Trust and reciprocity: Interdisciplinary lessons from experimental research.* (pp. 19-79) New York, NY: Russell Sage Foundation.

Peeters, M. A. G., Rutte, C. G., V an Tuijl, Harrie F. J. M., & Reymen, I. M. M. J. (2006). The big five personality traits and individual satisfaction with the team. *Small Group Research, 37*(2), 187-211

Peterson, R., Owens, P., Tetlock, P.E., Fan, E. & Martorana, P. (1998). Group dynamics in top management teams: Groupthink, vigilance, and alternative models of failure and success in organizations. Organizational Behavior and Human Decision Processes, 73, 77-99.

Pratto, F., & Stewart, A. L. (2012). Group dominance and the half‐blindness of privilege. *Journal of Social Issues, 68*(1), 28-45.

Schmid, P. C., Mast, M. S., Bombari, D., & Mast, F. W. (2011). Gender effects in information processing on a nonverbal decoding task. *Sex Roles, 65*(1-2), 102-107.

Schweiger, D.M., Sandberg, W.R., & Ragan, J.W. (1986). Group approaches for improving strategic decision making: A comparative analysis of dialectical inquiry, devil´s advocacy, and consensus. *Academy of Management Journal, 32,* 745-772.

Seibold, D.R., Meyers, R.A., (1996). Communication and influence in group decision making. In R.Y. Hirokawa & M.S. Poole (Eds.), *Communication and group decision making* (2nd ed., pp. 242-268). Beverly Hills, CA: Sage

Seibold, D.R., Meyers, R.A., (2007) Group argument: A Structuration perspective and research program. *Small Group Research, 38*, 312-336

Simons, T., Pelled, L.P., & Smith, K.A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal, 42,* 662-673.

Slotegraaf, R.J., & Atuahene-Gima, K. (2011). Product development team stability and new product advantage: The role of decision-making processes. *Journal of Marketing, 75,* 96-108.

Spector, P. E. (1988), Development of the Work Locus of Control Scale. *Journal of Occupational Psychology, 61,* 335–340.

Stewart, C. O., Setlock, L. D., & Fussell, S. R. (2007). Conversational argumentation in decision making: Chinese and U.S. participants in face-to-face and instant-messaging interactions. *Discourse Processes, 44*(2), 113-139.

Tasa, K., & Whyte, G. (2005). Collective efficacy and vigilant problem solving in group decision making: A non-linear model. *Organizational Behavior and Human Decision Processes, 96,* 119-129

Wiiteman, H. (1991). Group member satisfaction: A conflict-related account. *Small group research, 22,* 24

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*(3), 323-345.

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