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Faculty of Psychology and Educational Sciences

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The Power Dynamics in Multiparty Collaboration Systems
Summary

Doctoral candidate: Sabina R. Trif

Scientific coordinator: Prof. univ. dr. Petru L. Curșeu

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Key-Words
multiparty systems, power, causal attributions, intergroup climate, collaborative intentions, aspirations, performance, emotions, emotional regulation

Chapter 1. General theoretical framework

The first chapter of this thesis presents the main concepts approached throughout the papers. The basic concepts are multiparty collaborative systems and power. Multiparty collaborative systems are complex, consisting of 3 levels - individuals, organized in groups, interacting at the system level (Curșeu & Schruijer, 2018). These complex systems deal with solving complex problems, which do not involve a clear definition, predefined directions for solving it, identifying a final solution. Moreover, they require the integration of multiple points of view (Curșeu & Schruijer, 2020).

Under these conditions, a theory underlying the thesis is that of Social Interdependence, which proposes the existence of two types of interdependence - positive and negative. The positive is characteristic of multiparty systems, in which one party cannot achieve its goal if not all other parties do (Johnson & Johnson, 2011).

The second central concept for this paper is power, being defined as the existence of an asymmetry in resource control (Magee & Smith, 2013), which leads to the control of other parties involved in the collaboration situation (Blau, 2017). Power can be analyzed from two perspectives - one focused on possession and one relational. In the case of possession, power has clear sources such as authority, access to resources, legitimacy (Gray & Hay, 1986; Hardy, 1994). The relational perspective starts from the idea that power is built in the interaction with others. Thus, it is necessary to create a group identity, in which processes of influence enable the development of power (Turner, 2005).

The present thesis consists of four papers that focus on understanding the dynamics of power in multiparty systems, including a theoretical review and 3 empirical studies. In turn, the study of these elements brings both theoretical and practical importance. At the theoretical level, the thesis integrates theoretical perspectives from various disciplines, such as Social Psychology, Management, Cognitive Psychology, or Sociology in order to explore the dynamics of power. Second, there is no theoretical framework that specifically focuses on power in these complex systems. It is important to identify a framework that can support the understanding of the effects of power in these complex systems. Third, power itself is a factor with multiple effects on the interaction, both positive and negative. Understanding these effects has the potential to lead to the development of balanced interactions. Fourth, power has been studied in terms of self-perception. However, given its relational nature, it is possible that power is divided into multiple effects, based on social perception. From a methodological point of view, since studies are often based on behavioral simulations, this thesis allows to refine and improve these simulations. Finally, at the practical level, the paper allows the establishment of positive interactions between participants along with recommendations for practitioners for evaluation, diagnosis, and development.

Chapter 2. Research objectives and general methodology

The general objective of this thesis is to understand the dynamics of power in multiparty systems.

More specifically, an objective is to understand the way in which power is conceptualized in literature, an objective achieved through the first study. Another objective of the thesis tackled by first study is to understand the dynamics of power through two theories relevant to this topic - Approach / Inhibition Model of Power (Keltner et al., 2003) and The Social Distance Theory of Power (Magee & Smith, 2013). Two other objectives, met by the second study, are to identify the difference in performance between individual and group, along with understanding the direct effect of power. The fourth objective is to identify the direct effects of power on the dynamics of the multiparty system. This objective is achieved through studies 2, 3, and 4. A final objective aims at the mechanisms of power, an objective achieved through studies 3 and 4. A methodological objective aims at the validation and development of behavioral simulations.

The general methodology consists of behavioral simulations, an effort to replicate in a miniature format the complex dynamics of a multiparty system (Curșeu & Schruijer, 2018; Fleștea et al., 2017; Schruijer & Vansina, 2008; Vansina & Taillieu, 1997; Vansina et al., 1998). Two such simulations are used in the thesis.

One of the simulations involves a negotiation situation. In this situation, 6 universities have to negotiate the distribution of a sum of money. The rule is that they cannot split the money equally, and if no consensus is reached, the entire amount is lost. There are three major universities and three small universities involved in the discussion, each with a pre-determined purpose. Each of the university representatives receives brief descriptions of the needs and objectives of the university. These hide information that can lead to reaching an integrative potential (fulfilling

everyone's goals) - two by two, universities have complementary needs. Thus, in pairs, one could give up part of the desired amount in exchange for the services of the other.

The second simulation is one based on decision-making. The simulation involved six representatives of the higher education environment. They had the task of deciding whether two articles of law were to be applied, postponed for a limited period of time, or postponed indefinitely.

Chapter 3. Original contributions

Study 1 - Power Differences and Dynamics in Multiparty Systems: A Systematic Literature Review

The theoretical review aims at analyzing the conceptualization of power in the literature dedicated to multiparty and the identification of a theoretical framework for analyzing the effects of power on emotional, cognitive and behavioral levels. To analyze the effects of power, the article focuses on two theoretical perspectives - The Social Distance Theory of Power (Magee & Smith, 2013) and the Approach / Inhibition Model of Power (Keltner et al., 2003). According to the theory of The Social Distance Theory of Power (Magee & Smith, 2013), power reflects the asymmetry in resource control, which results in the dependence of those with lower levels of power on those with higher levels of power. As a result, social distance is perceived differently (Magee & Smith, 2013). Thus, due to the self-sufficiency experienced by the powerful, they will perceive higher levels of social distance compared to those with low levels of power. In turn, this will lead to different approaches during social interaction (Magee & Galinsky, 2008). For example, in the context of multiparty systems, the social distance may be reflected in a lack of involvement in the task and collective goals.

The Approach / Inhibition model (Keltner et al., 2003) states that power leads to different consequences in stakeholder behavior. Thus, for those with high power levels, the approach system is activated, while for those with lower power levels the inhibition system is activated. Activation of the approach system leads to an uninhibited relational approach, reflected in taking initiative and engaging in interaction, guided by the desire to achieve their goals. Those with an activated inhibition system tend to approach the situation more cautiously, focusing on threats and responding to the possibility of being punished (Keltner et al., 2003). In the context of multiparty

systems, the Approach / Inhibition Model (Keltner et al., 2003) would predict that powerful stakeholders will be more involved with other parts of the system than powerless actors.

The two theories propose effects on the emotional, cognitive and behavioral levels for those involved in the interaction. At the level of emotional dynamics, The Social Distance Theory of Power (Magee & Smith, 2013) proposes differences in the degree of engagement promoted by emotions, while the Approach / Inhibition Model (Keltner et al., 2003) predicts differences in the valence of emotions. The Social Distance Theory of Power (Magee & Smith, 2013) also proposes the existence of empathic inaccuracy.

At the cognitive level, both theoretical perspectives state that those with high levels of power engage in stereotypes and see low-power stakeholders in an instrumental way (Keltner et al., 2003; Magee & Smith, 2013). The two theories, however, propose different mechanisms, with The Social Distance Theory of Power (Magee & Smith, 2013) being oriented towards abstraction and the Approach / Inhibition Model (Keltner et al., 2003) being oriented towards lower information analysis skills to the cognitive overload. Both theories propose the mechanism of reduced motivation (Keltner et al., 2003, Magee & Smith, 2013). The Social Distance Theory of Power (Magee & Smith, 2013) proposes, in addition, greater perceived differences between the powerful compared to the less powerful and higher levels of confidence in their case. Both theories propose a higher level of persuasion from the powerful (Keltner et al., 2003; Magee & Smith, 2013).

At the behavioral level, the powerful tend to set goals (Magee & Smith, 2013) and show goal-directed behaviors (Keltner et al., 2003; Magee & Smith, 2013). The less powerful present more analytical thinking, which can counterbalance the lack of feasibility orientation of the powerful (Keltner et al., 2003, Magee & Smith, 2013). Finally, the two theories are contradictory

in terms of the level of self-control - The Social Distance Theory of Power (Magee & Smith, 2013) proposes a higher level of self-control from the powerful, and the Approach / Inhibition Model (Keltner et al., 2003) predicts a lower level of self-control.

At the systemic level, we discuss 3 elements - mutuality of goals, entry into the institutional field and taking responsibility for the collaborative outcomes. The powerful will avoid mutual goals, relying on the powerless to sacrifice their own goals (Magee, 2020). One way to avoid mutuality is to exclude parts, with negative effects on the system (Curseu & Schruijer, 2017, Dewulf & Elbers, 2018). The Approach / Inhibition Model (Keltner et al., 2003) predicts responsibility on the part of the powerful.

Methodology

Four databases (ProQuest, Scopus, Web of Science and Google Scholar) were used for the review, based on the search string ("Multiparty collaboration" AND Power) AND (Emotions OR "Emotional Regulation" OR "Emotional Climate" OR Aspirations OR Attributions OR "Decision Making" OR "Decision Effectiveness" OR "Decision Comprehensiveness". 15 papers were selected for the analysis.

Results

The results show that, in the last decade, the conceptualization of power has shifted from a possession view to a social perspective. Regarding the effects of power, consequences of power have been identified both at the individual and the systemic level. At the individual level, the results show that people with higher levels of power see others from an instrumental and stereotypical perspective. Those with low levels of power see themselves through the lens of their own utility for the powerful. The powerful tend to process information automatically, and those with lower levels of power tend to analyze the information in depth. At the behavioral level, the

powerful tend to take over goal-setting processes, along with goal-oriented behaviors. Due to the high degree of abstraction in thinking, the powerful are not concerned with the feasibility of strategies. This factor can be counterbalanced by task conflict and minority dissent, which are characteristic of the less powerful. Thus, the behaviors of the powerful and the less powerful can be complementary. However, because positive interdependence is often not perceived, the level of collaboration decreases, with the suppression of diversity (of power) appearing, which reduces its positive effects. At the systemic level, the power differences lead to lower levels of goal mutuality, also marked by a lack of perception of positive interdependence. Moreover, by certain behaviors of exclusion or limitation of invitations to collaboration, certain important stakeholders are excluded, which limits the access of the results to the wide institutional field.

Discussion

The review has multiple implications, both theoretical and practical. At the theoretical level, the results show a change in perspective on power. This result is important because the transition from the possession perspective to a relational perspective promotes the identification of positive interdependence, which maximizes the results of the interaction.

Also at a theoretical level, the results show both the positive and negative impact of power differences, focusing on differences resulting from the way power is conceptualized. A relational perspective, which promotes positive interdependence, will lead to greater openness to power diversity, which will lead to benefits such as the use of analytical thinking by the less powerful.

The review also highlights factors from the two proposed theories that have not been studied yet — emotions, outcome responsibility, and self-control. Moreover, there are certain factors that were not included in these theories, but which would be relevant, such as trust.

At the practical level, the recommendations are aimed at establishing a positive interaction by establishing a relational perspective on power, along with accepting diversity and cultivating trust.

However, the review included only papers in English and was limited to the use of the two theoretical perspectives, elements that can be considered limits of the study.

Study 2 - Individual Versus Group Negotiation in Multiparty Systems. The Effect of Power and Aspirations on Negotiation Outcome

In order to make a decision in the context of multiparty systems, stakeholders need to engage in interactions that allow them to identify (or build) common ground so that each achieves their goals (Curșeu & Schrujier, 2017). Recent evidence on the outcome of negotiations shows that group outcomes (i.e., group synergy) may, in fact, be directly attributable to individual-level variables (Hüffmeier et al., 2019). When the best negotiators in the group ask relevant questions about interests, group processes do not add value to the outcome of the negotiations (Hüffmeier et al., 2019).

Moreover, beyond these interindividual differences, process losses can occur. A process loss may be related to the amount of knowledge in the interaction. Because group members may decide to split into subgroups to optimize their information-seeking efforts and to fully explore the interests of other parties (Gibson & Vermeulen, 2003), each group member has access to different information. Finally, even if members ask the relevant questions, the group as a whole may not have the capacity or time to integrate this information. In addition, according to the information sampling model (Stasser & Titus, 1985), groups tend to focus their discussion on common knowledge rather than unique knowledge. Finally, due to the discontinuity effect (Insko et al., 1990), groups are considered to be more aggressive than individuals, being more involved in competition.

Thus, the **first hypothesis** states that in multiparty negotiations, groups obtain lower payoffs than their best individual members.

Furthermore, we consider power to have a significant effect on the outcome of the negotiations. According to the Social Distance Theory of Power (Magee & Smith, 2013), those

with higher levels of power tend to be proactive in goal-setting processes, formulating the problem, and taking the initiative in trying to solve it.

Thus, the **second** hypothesis states that organizational power (as illustrated by the budget size) has a positive effect on negotiation payoff.

According to the goal-setting theory of motivation (Locke & Latham, 2002), difficult goals tend to lead to the best results, especially when financial incentives are involved (Knight et al., 2001). Moreover, difficult goals are perceived as more attractive (Locke et al., 1981), positively affecting the energy invested and perseverance in the face of difficulties.

Thus, the **third** hypothesis states that aspiration levels have a positive effect on negotiation payoff.

More recent research shows that the relationship between goal difficulty and group performance has an inverted U-shape, as very difficult goals, which are not matched by resources, are demotivating for groups (Curșeu et al., 2014). Thus, available resources (power) are a factor that moderates the influence of the level of aspiration on the results of negotiations, in the sense that having sufficient resources can protect against the negative effect of high aspirations (Shinkle, 2002). According to the Social Distance Theory of Power (Magee & Smith, 2013) powerful stakeholders have access to more resources. Moreover, those with higher levels of power have more abstract thinking, which facilitates the identification of multiple trans-situational strategies, especially due to the fact that those with higher levels of power do not take into account the feasibility of plans (Magee & Smith, 2013).

Thus, the **fourth** hypothesis states that organizational power accentuates the positive effect of aspirations on negotiation outcomes.

Methodology

The study was conducted on 171 participants (145 women and 26 men) with a mean age of 20.7 years (sd = 2.54). Participants were randomly assigned to 60 groups that took part in ten rounds of simulation, each including six groups.

As a procedure, participants were involved in a behavioral simulation based on the exercise proposed by Mallinger (1999). The task was carried out in accordance with the methods aimed at studying synergy, the first part being dedicated to individual performance, followed by a group stage. Each simulation involved a negotiation task that had to be carried out between representatives of six universities who were instructed that a philanthropist is willing to donate 30 million $. Their task is to discuss and decide how to divide the amount so that each stakeholder agrees, provided that if no agreement is reached within the time available, the full amount will be lost. A rule also eliminates the possibility of dividing the amount equally.

The measurements included objective measurement of the amount obtained after each round of negotiations, together with the assessment of the power of each party through a round-robin procedure. Based on the round-robin procedure, we calculated two power indicators: self-rated power (power rated by each of the participating stakeholders) and power rated by others (average power rated by all other parties in each simulation, excluding self-rated power).

Power was manipulated on two levels - high power and low power. Aspirations were manipulated at 3 levels - small, medium, high. In order to verify the manipulations, we performed a MANOVA analysis. For the question concerning the budget, the power manipulation has a significant effect $F(1,154) = 91.87$ ($p < .001$), $\eta^2 = .37$, $\pi = 1$. The effect of aspiration manipulation was also significant for the level of reported budget size $F(1,154) = 5.20$ ($p = .007$), $\eta^2 = .06$, $\pi = .82$ and the interaction effect of organizational power and aspiration level was also significant

$F(1,154) = 5.23$ ($p = .006$), $\eta^2 = .06$, $\pi = .83$ showing that for budget size, the two manipulations were not orthogonal. For the question concerning the expected negotiation outcome, the effect of aspiration manipulation was significant $F(1,154) = 11.71$ ($p < .001$), $\eta^2 = .13$, $\pi = .99$ showing that the aspiration manipulation was effective. However, as for the other manipulation check, the effect of the organizational power on the expected payoff was also significant $F(1,154) = 168.72$ ($p < .001$), $\eta^2 = .52$, $\pi = 1$ and the interaction effect between the organizational power and aspiration level was also significant $F(1,154) = 70.89$ ($p < .001$), $\eta^2 = .48$, $\pi = 1$ showing that the organizational power manipulation overweighed the manipulation of the aspiration level.

Results

As the study studies synergy, hypothesis testing was done for strong synergy (comparing the best individual in the group with the group) and for weak synergy (comparing the individual average with the group).

For weak synergy, ANCOVA analyses do not show a significant difference ($F(1,53) = .05$ ($p = .82$), $\eta^2 = .001$, $\pi = .06$). Therefore, hyşpothesis 1 does not receive empirical support. Our analyzes show a significant interaction of the within-subject factor with the group size ($F(1,53) = 7,06$ ($p = .01$), $\eta^2 = .12$, $\pi = .74$). The effect of budget size is significant ($F(1.53) = 46.69$ ($p < .001$), $\eta^2 = .47$, $\pi = 1$), as is the effect of aspirations ($F(1.53) = 3.87$ ($p = .027$), $\eta^2 = .13$, $\pi = .68$). The interaction between the level of aspiration and the organizational dimension is also significant ($F(1,53) = 7,45$ ($p = .001$), $\eta^2 = .22$, $\pi = .93$). The interaction effect is presented in figure 1.

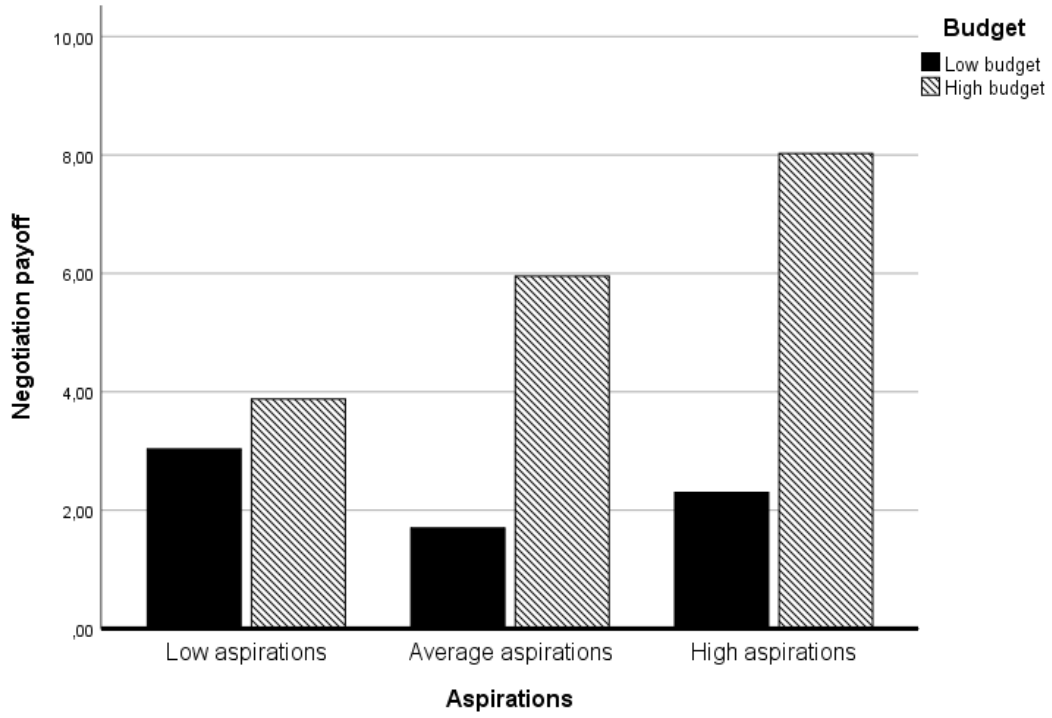


Figure 1. Interaction effect between aspirations and power for weak synergy

For strong synergy, the results reproduce the previous effects, but in this case the effect of the within-subjects factor is significant (F (1.53) = 13.05 (p = .001), η^2 = .20, π = .94). The effect of budget size is significant F (1.53) = 49.79 (p <.001), η^2 = .48, π = 1, supporting Hypothesis 2. In addition, the effect of aspirations is significant F (1.53) = 5.22 (p = .009), η^2 = .17, π = .81 (support hypothesis 3) and their interaction is also significant F (1,53) = 13.15 (p <.001), η^2 = .33, π = 1, thus supporting hypothesis 4. The interaction effect is presented in figure 2.

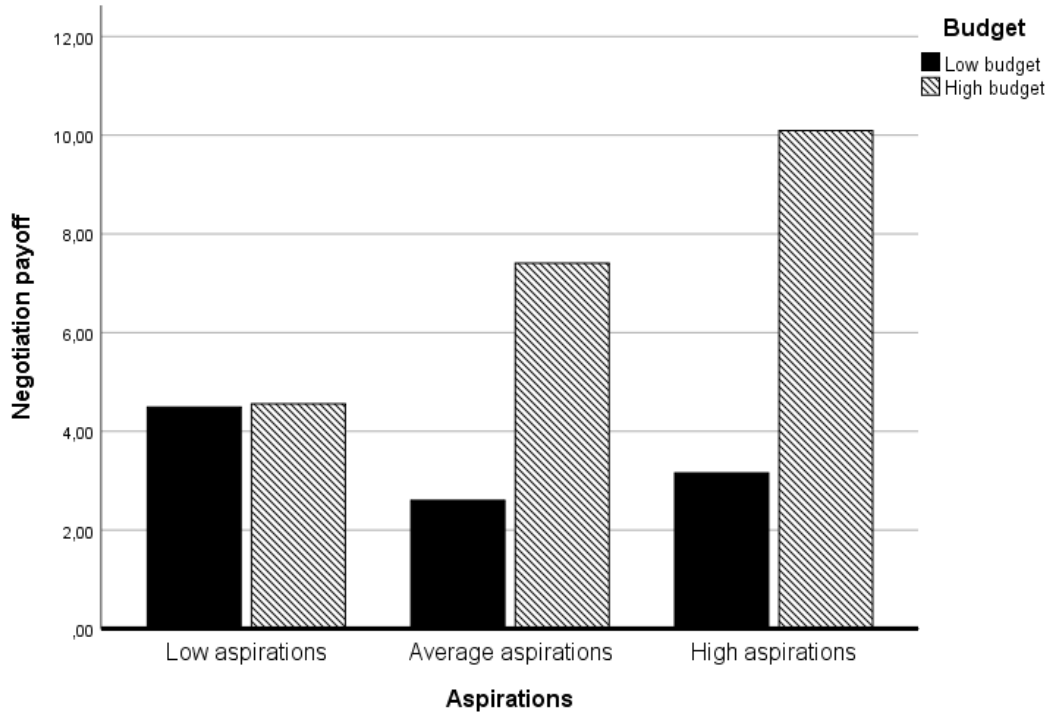


Figure 2. Interaction effect between aspirations and power for strong synergy

Discussion

The results discussed above have several theoretical and practical implications. In terms of theoretical implications, the study is the first to directly test the strong and weak synergy in multiparty negotiations, showing that groups do not perform better than the best individual negotiators. Moreover, we contribute to the literature on power (Magee & Smith, 2013), showing that access to resources (as illustrated by the size of the budget) increases the results of negotiations. We also add to the literature on motivation (Locke & Latham, 2002), showing that high aspirations have positive effects, especially when they are matched by access to substantial resources.

The main practical implication of our results relates to the delegation of individuals compared to groups in multiparty negotiations. According to the results, we recommend the strategy of sending the best negotiator as a representative, equipped with questioning skills, namely

questions related to interests (Hüffmeier et al., 2019). It is also important that the goals set are high, but that the negotiators are equipped with the necessary resources to meet them.

The study also has a number of limitations, including the sample of students and the realism of the task.

Study 3: An attributional account of power in multiparty negotiations

Power reflects asymmetric access to socially valued resources and the ability to influence other participants by controlling these desirable resources (Anderson & Brion, 2014). In a multiparty collaboration framework, in which individuals engage in intra- and inter-group interactions to solve the task, the level of power held by various participants in the system could be explained by a process of social perception and social inference. As such, actors in social systems engage in a process of social perception of the power that they and others have (Reeder & Brewer, 1979). We rely on the compositional analysis of interpersonal perception (Kenny et al., 2006) and the social relations model (Kenny and Albright, 1987; Kenny, 1994) that distinguish between actor and partner evaluations in interpersonal interactions to argue that power perception in multiparty negotiations is an interpersonal perception process with three components. Thus, we evaluate power from 3 perspectives - self-attributed power, power attributed to others, and power attributed by others.

Based the approach/inhibition model of power (Keltner et al., 2003) and self-enhancement (Pfeffer & Fong, 2005) we argue that power influences the causal attributions that take place regarding the final result.

According to the approach – inhibition model of power (Keltner et al, 2003), those with high levels of power have an activated approach system that is characterized by less inhibited behaviors, more positive emotions and more automatic information processing. As a consequence, these groups tend to be more proactive, taking initiative in interactions and negotiations. Conversely, those with low levels of power and an activated inhibitory system that leads to inhibition, vigilance and more negative emotions. In consequences, their behavior in interactions is more cautious and restricted.

The high levels of effort resulting from the more proactive behaviors of those with high levels of power will be perceived as signals of effort invested towards the outcome. Thus, highly powerful groups will perceive themselves as the cause for the outcome, leading to internal causal attributions. In contrast, perceiving others as being more powerful lead to external causal attribution due to the perceived dependence and lack of action.

According to the self-enhancement perspective (Pfeffer & Fong, 2005), social actors have a desire to perceive the self and one's actions, traits, and attitudes as positive. An important part of this is that social actors have a tendency to assume the self as the cause of the positive outcomes. Given that highly powerful groups are already displaying more outcome-oriented behaviors, in order to keep the positive emotions up, they will tend to overestimate their contribution and underestimate the others' contribution. Conversely, perceiving other groups as powerful will lead to other elements of the self-enhancement effect - affiliation with higher-power social actors (Pfeffer & Fong, 2005). More specifically, they will acknowledge the contribution of those seen as powerful in order to secure a privileged position in their eyes.

Perceptions of high levels of power held by parties in an MPS will be associated with increased participation, internal attributions for the outcomes and, hence, an increased sense of control. When high-power groups see themselves as responsible for the outcome (i.e. they make internal attribution), they are aware that they also have to take into consideration the other groups during multi-party negotiations. This way, their efforts will be translated in perceptions of auspicious intergroup climate and a willingness to further engage in collaborative relations. However, if stakeholders make external attributions for intergroup outcomes (such is the case of less powerful groups), future interactions are not perceived to be under their control (Weiner, 1985)

and, as a consequence, they are likely to perceive the intergroup climate as threatening and will be less likely to engage in future collaboration.

Consequently, we propose the following hypotheses

Hypothesis 1. Self-rated power (H1a) and power attributed by others (H1b) are negatively associated with external attributions for intergroup outcomes. Power attributed to others is positively associated with external attributions for intergroup outcomes (H1c).

Hypothesis 2. The association of self-rated power (a), power ascribed by others (b) and power attributed to others (c) with intergroup climate and future intergroup collaborative intentions is partially mediated by external attributions.

Methodology

The study included 113 master students, with an average age of 22 years. They were organized into 30 groups evenly distributed in five simulations.

Participants took part in simulations in which they have to decide how to divide a sum of money. The simulations were comprised of two parts. In the first part, groups were put in a competitive mindset in which they were told that only one group could receive the money and they had to present a pitch to convince a philanthropist to hand them the sum of money. Then they are put in a cooperative mindset, being told that the philanthropist decided to unequally split the money and they have to reach consensus on how to divide the sum.

Power was evaluated with a single item and a round robin procedure, rating the power of his/her own group, as well as the power level for all the other groups in the simulation.

Causal attributions were measured with a single item, where a high score is indicative for external attributions and a low score is indicative for internal attributions.

Intergroup climate was evaluated with a single item, where a low score is representative for a threatening climate and a high score is representative for an auspicious intergroup climate.

Stress was evaluated with a single item, where a low score reflects lack of stress and a high score reflects a stressful environment.

Future collaborative intentions were evaluated with a single item, a low score indicating no intentions for future collaboration and a high score indicating future collaborative intentions.

Results

After checking the possibility of aggregating the data, we went to test the hypotheses. We used two models, one with data centered at the average level and one with data centered at the simulation level. To test the direct hypotheses, we used Mixed Models in SPSS. Hypotheses H1a, H1b and H1c are fully supported by the data. Power attributed by others negatively, yet only marginally significantly (in Model 1: B = -0.23, SE = 0.12, p = .06; in Model 2: B = -0.27, SE = 0.12, p = .05), predicted external attributions, and H1b received marginal support. Power attributed to others positively and significantly predicted external attributions (in Model 1: B = 0.19, SE = 0.07, p = .008; in Model 2: B = 0.17, SE = 0.07, p = .02), while self-attributed power negatively and significantly predicted external attributions (in Model 1: B = -0.14, SE = 0.05, p = .004; in Model 2: B = -0.13, SE = 0.05, p = .006).

To test the mediation hypotheses, we used the MLmed Macro in SPSS (Rockwood & Hayes, 2017). Of the indirect effects tested, only two were significant (Table 1). The first significant indirect effect (effect = -0.08, SE = 0.05, 95% CI = [- 0.19; - 0.01] is the intragroup

mediation of external attributions in the relationship between the power attributed to others and future collaboration intentions. The second significant mediation was the indirect inter-group effect of the power attributed by the others on the inter-group climate (effect = - 0.16, SE = 0.10, 95% CI [-0.40; - 0.002].

Table 1. Overview of the indirect effects estimated in the multi-level mediation

Path	Within Indirect effect (SE)	95% CI	Between Indirect effect (SE)	95% CI
Power ascribed TO others→External attributions→Future collaborative intentions	**-0.08*** (0.05)	**[-0.19; -0.01]**	-0.001 (0.05)	[-0.10;0.10]
Power attributed BY others→External attributions→ Future collaborative intentions	0.57 (5.60)	[-10.70; 12.41]	0.004 (0.07)	[-0.14;0.15]
Self-attributed power→External attributions→Future collaborative intentions	0.08 (0.26)	[-0.43; 0.66]	0.001 (0.03)	[-0.06;0.06]
Power ascribed TO others→External attributions→Intergroup climate	0.04 (0.04)	[-0.01;0.12]	-0.02 (0.12)	[-0.28; 0.23]
Power attributed BY others→External attributions→ Intergroup climate	-0.31 (3.3)	[-7.80;6.58]	**-0.16*** (0.10)	**[-0.40; -0.002]**
Self-attributed power→External attributions→Intergroup climate	-0.05 (0.16)	[-0.42;0.26]	-0.06 (0.05)	[-0.18;0.02]

Note: * $p < .05$ (the significant indirect effects are marked in bold)

Discussion

These results have multiple implications. In terms of theoretical perspectives, this study adds to the literature on power, providing an alternative, phenomenological view of power, describing power as attributed to the self, attributed to others, and attributed by others. Our multilevel analysis shows that the three forms of power explored in our study influence attributions and, ultimately, collaborative intentions and perceptions of the intergroup climate in complex

ways. At the practical level, this study can provide a basis for interventions aimed at managing power differences in multigroup systems. Furthermore, this study may encourage practitioners to include round-robin assessments in workgroups, as they may highlight subtle differences in team dynamics.

Regarding limits of the study, we can reference the sample of students, the use of self-reporting for measurements, and the inherent limits of behavioral simulation.

Study 4: Are powerful stakeholders happier? An empirical test of the Approach/Inhibition Model in the context of multiparty collaborative systems

According to the approach/inhibition model, individuals with higher power levels have an activated approach system, which is characterized by uninhibited behavior, positive emotions, and automatic information processing. One reason for these higher levels of activation may be the low number of social constraints imposed on powerful stakeholders and exposure to more resources, which are under their control (Keltner et al., 2003). The model itself also proposes the idea that those with higher levels of power tend to experience positive emotions, and those with lower levels of power experience negative emotions (Keltner et al., 2003).

Because multiparty systems are made up of multiple interacting stakeholders, self-reported power levels are not the only ones relevant. Stakeholders with reduced power pay attention to the goals of the powerful, looking for possible ways to integrate their own goals with theirs (Keltner et al., 2003). Translated into behaviors, strong stakeholders may perceive this validation regarding their status, leading to positive emotions. Moreover, when low-income individuals recognize others as strong, they realize the constraints imposed on them (Keltner et al., 2003), which leads to more negative emotions.

Therefore, we propose the following hypotheses:

H1: Self-attributed power (H1a) and power attributed by others (H1b) are positively associated with positive emotions. Power attributed to others is negatively associated with positive emotions (H1c).

H2: Self-attributed power (H2a) and power attributed by others (H2b) are negatively associated with negative emotions. The power attributed to others is positively associated with negative emotions (H2c).

Individuals are not passive in the face of emotions, making use of strategies such cognitive reappraisal, which is focused on operating on antecedents, or suppression, which is a response-focused strategy (Goldin et al., 2008). Reappraisal is related to downregulations of negative emotions and upregulation of positive emotions (McRae et al., 2012), while suppression aimed at the lack of emotional display, which is costly at an emotional level (Jackson et al., 2000; Gross, 2002).

Because those with higher levels of power tend to be more proactive, reward-sensitive, and more uninhibited (Keltner et al., 2003), it is possible that the strategy they are using is reappraisal, less suppression. Because those with lower power levels tend to be environmentally reactive and attentive to risk and punishment, they are more likely to engage in suppression and less reappraisal.

Thus, we propose the following hypotheses:

H3: The association of self-rated power (H3a), power ascribed by others (H3b), and power attributed to others (H3c) with positive emotions is partially mediated by reappraisal.

H4: The association of self-rated power (H4a), power ascribed by others (H4b), and power attributed to others (H4c) with positive emotions is partially mediated by suppression

H5: The association of self-rated power (H5a), power ascribed by others (H5b), and power attributed to others (H5c) with negative emotions is partially mediated by reappraisal.

H6: The association of self-rated power (H6a), power ascribed by others (H6b), and power attributed to others (H6c) with negative emotions is partially mediated by suppression.

Team emotional regulation is the ability of team members to manage their emotions so that they can focus on team goals and objectives (Lin et al., 2013). Those with higher levels of power have an activated approach system, which involves focusing on team goals and acting in their direction (Keltner et al., 2003). This could mean that strong teams will find the right strategies to manage their emotions so that they can achieve their goals and be able to engage in task conflicts without negative consequences. Moreover, those with lower power levels tend to engage in avoidance behaviors, being less likely to engage in team emotions.

Therefore, we propose the following hypotheses:

H7: The association of self-rated power (H7a), power ascribed by others (H7b), and power attributed to others (H7c) with positive emotions is partially mediated by team emotional regulation.

H8: The association of self-rated power (H8a), power ascribed by others (H8b), and power attributed to others (H8c) with negative emotions is partially mediated by team emotional regulation.

Methodology

This study involved 239 participants, 196 women and 43 men, with a mean age of 22.64 (sd = 3.83). Participants formed 54 groups evenly distributed in nine negotiation simulations.

The simulation procedure was consistent with multiparty behavioral simulations (Curșeu & Schruijer, 2018; Fleștea et al., 2017; Vansina et al., 1998). The simulation task involved the interaction between representatives of the organizations involved in educational decisions in

Romania. They were tasked with deciding whether two articles of the education law (on the ranking of universities and university funding) should be adopted immediately, postponed or eliminated.

During the simulation, data were collected from participants in four stages.

Data about power was collected with a round robin procedure with a single item.

Positive and negative emotions were evaluated using the PANAS scale (Watson et al., 1988). The scale is composed of 20 total items, 10 for positive emotions and 10 for negative emotions. For positive emotions, Alpha Cronbach values for internal consistency ranged from 0.90 to 0.92 and for negative emotions the values ranged between 0.76 and .80.

For reappraisal and suppression, we used the Emotion Regulation Questionnaire (ERQ) (Gross & John, 2003). The scale is composed of 10 items, six of them measuring reappraisal. For suppression the Alpha Cronbach had a value of 0.78 and for reappraisal it was 0.81.

For team emotional regulation we used items for team emotional regulation from the team emotional intelligence scale proposed by Curșeu and the collaborators (2012). The range for Alpha Cronbach was from 0.72 to 0.78.

Results

Before testing the hypotheses, we checked the extent to which team-level aggregation is possible. ICC (1 and 2) and RwG did not support team-level aggregation.

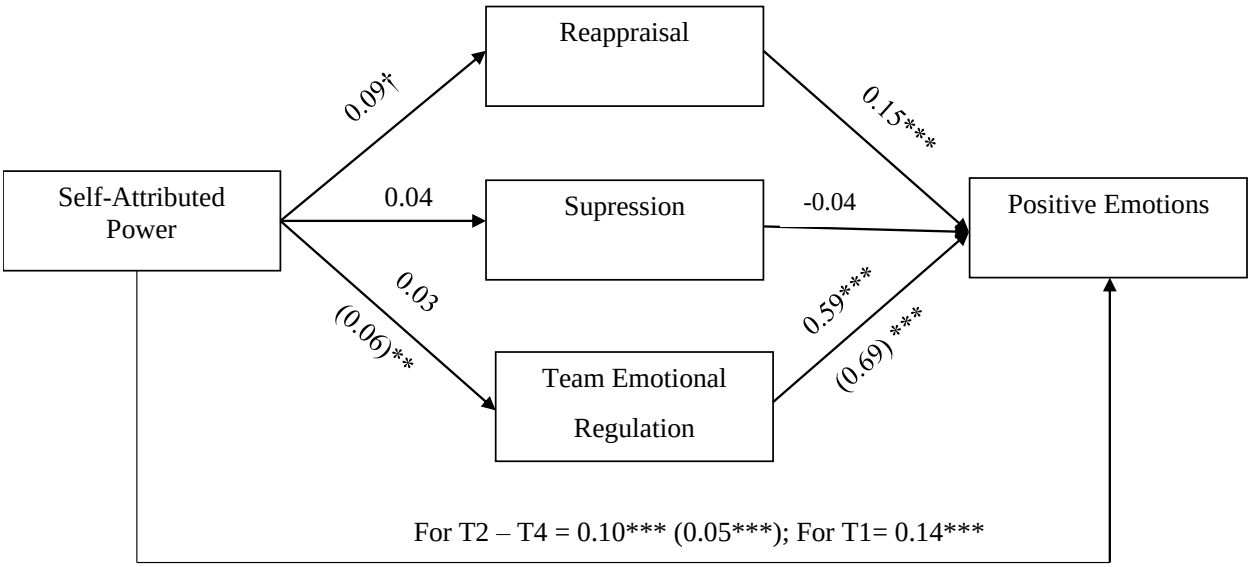
To test hypotheses 1 (a to c) and 2 (a to c) we used a mixed-models procedure in SPSS with random intercept. Only hypothesis 1a is supported by data. Self-attributed power significantly

predicted positive emotions (B = 0.08, SE = .02, p = .000). Hypotheses 1b, 1c, 2a, 2b, 2c were not supported by the data analysis.

To test the mediation hypotheses, we further analyzed only the data for self-attributed power, given that it was the only one with significant direct effect, only for positive emotions. Thus, we tested whether the direct relationship between self-attributed power and positive emotions is explained by reappraisal (3a), suppression (4a), and team emotional regulation (7a). We used the MLmed SPSS Macro (Rockwood & Hayes, 2017) for emotional regulation and the PROCESS Macro for reassessment and suppression.

A single mediation effect was significant. The significant indirect effect was the mediation between groups (times) of the group emotional regulation on the relationship between self-attributed power and positive emotions (effect = 0.05, SE = 0.01, 95% CI [0.02; 0.08]). Figure 3 presents the summary of the mediation analyses results.

Figure 3. Summarized mediation analyses results



Note: unstandardized coefficients are presented in the model, the coefficients for the between group effects are presented in parentheses. †p < .10. * p < .05. ** p < .01. ***p<.001

Discussion

The proposed study has multiple implications, both theoretically and practically. First, we add to the power-oriented literature by analyzing power in a way aligned with the perspective of social perception (Kenny, 1994). Second, we directly test the proposal of the approach/inhibition model (Kelter et al., 2003) on how power is related to emotions in multiparty systems. We show that high power levels are related to positive emotions, as the model states. However, the relationship between power and negative emotions was not supported by our data. Since power has been conceptualized from a relational point of view, future studies could aim to explore the role played by the definition of power in these emotional dynamics. Third, we tested potential explanatory mechanisms for the effect that power has on emotions, mechanisms related to emotion regulation - reappraisal, suppression, and team emotional regulation. At a practical level, the results can provide a basis for understanding power and its effects, while intervening in promoting positive emotional management techniques.

The limits of the study are oriented towards the type of participants and the structure of the task.

Chapter 4. General conclusions and discussion

Theoretical implications

First, we were interested in how power is conceptualized in such complex systems. The dominant perspective has changed over time - previous studies focus on power as possession, while more recent literature sees power from a relational perspective. Thus, even if stakeholders enter into a situation of collaboration with certain inherent levels of power, this may change. To secure their position, powerful parties need to engage in interaction and collaborate with others. On the part of those with lower levels of power, the relational view of power can have a positive effect, because they do not have to depend on those who are powerful.

Along with investigating the conceptualization of power, another objective of the thesis focused on identifying a theoretical framework that could be used for future studies on multiparty collaboration systems. We first identified some important positive and negative aspects of power. For example, high levels of power are important for formulating goals and strategies (Olekalns & Smith, 2007; Curșeu & Schruijer, 2020). Those with low levels of power make an important contribution through task conflict and dissent (Fleștea et al., 2017). We also identified a potential interaction effect between intent and the effect of persuasion on low-power parties. Because the powerful stakeholders tend to be more convincing (Keltner et al., 2003), such attempts to influence could act as a double-edged sword, depending on the intentions of others. From the negative side effects, we identified behaviors that are detrimental to the integrative dimension of collaborative outcomes. According to Curșeu and Schruijer (2020), the strong parties can exclude those with low levels of power.

We also identified some areas of conflict between the two theories that have not yet been investigated, such as emotions and self-control. In the fourth study, we used this theoretical

perspective, analyzing the relationship between power and emotions. In addition, we have identified elements that only one of the theories addresses - such as causal attributions. This observation served as the basis for the third study in the thesis.

Moreover, in terms of the purpose of power dynamics analysis, we identified elements that were overlooked by these two theories (Theory of Social Distance (Magee & Smith, 2013) and the Approach / Inhibition Model (Keltner et al., 2003)). One variable that emerged in the analysis was confidence (Hardy & Phillips, 1998; Olekalns et al., 2007; Fleştea et al., 2017).

A third objective we proposed was to understand the effect of using groups compared to individuals. This goal addresses an important gap in the literature, as the difference between individual and group outcomes in multiparty negotiation is still poorly understood (Hüffmeier et al, 2019). The results of the second study showed that in situations where the integrative potential of negotiation is not transparent and the parties have to engage in exploration to find and define it, individuals can perform better than groups.

A fourth theoretical implication is to investigate the direct effect that power has on the results of the interaction. Moreover, since we have conceptualized power as the size of the budget, we emphasize the importance of access to resources. In addition, we were interested in other results on which power could have an impact. Thus, we have shown the importance of power in terms of causal attributions and in terms of emotions. Interestingly, if for causal attributions there was an effect of power seen from the perspective of social perception, for emotions it was not.

The final theoretical goal was related to the explanatory mechanisms of the effects of power on the future collaborative intentions of the stakeholders involved in multiparty systems. The results showed that, despite the lack of power, if seen as relational, stakeholders are motivated to

move beyond the status quo and change their own positions. We also showed that when others are seen as strong, they get involved in internal causal attributions, which makes them perceive the climate as positive. The last study showed that group emotional regulation plays an important role in explaining the relationship between power and positive emotions.

Methodological implications

In terms of methodological implications, the present studies are an effort to validate the use of behavioral simulations to capture processes and dynamics in complex environments, which are difficult to observe in more realistic environments.

Second, our structured approach involved a clear initial level of power (for example, having a certain budget). This allowed us to observe through objective indications how power levels had an influence on the outcome of the negotiations (e.g. budget size, university size). Moreover, the addition of more structure to the task ensures a common understanding of the issue at hand, allowing the interaction to proceed in a set direction.

Practical implications

From a practical point of view, the thesis offers several directions for practitioners, managers, and facilitators working with such systems. First, knowing that power vision can modulate power dynamics in such a context, practitioners may choose to frame power from a relational perspective.

Secondly, we have shown that groups are not necessarily better than individuals, which can guide future decisions regarding the choice of representatives in a collaborative situation. Moreover, the results point to the importance of providing the resources needed to meet the demands of a complex situation.

Third, the results of all four studies discuss elements that should be taken into account when preparing the collaboration situation. As the systematic review has shown, trust plays an important role in these contexts. Practitioners should consider this idea and work to build trust before starting the collaboration. In addition, the results on the explanatory mechanisms of power play an important role in practice. By understanding the role that causal attributions play in future collaborative intentions and in the intergroup climate, practitioners could make visible the contributions of low-powered parties to further encourage their involvement. Moreover, the results on the importance of group emotional regulation indicate that practitioners should prepare stakeholders to deal with emotions that may hinder goal achievement.

Our results could be aimed at those in leadership positions, as they are perceived as having high levels of power. There are clear power discrepancies between the leader and their subordinates, which can lead to suboptimal collaborative results and performance.

The instruments we have used can have important implications for practice. Because we used a round-robin procedure to assess power, we have shown that this method can help identify the subtle dynamics of the various relevant phenomena. This method can also guide in providing 360 feedback.

Finally, this PhD thesis can encourage practitioners to integrate behavioral simulations when faced with certain issues in their organizations. In this way, subtle dynamics can occur in these miniature settings that mimic real-life interactions.

Limits

A first limitation regards the literature that we used as a theoretical basis for our approach is the fact that we used only papers in English. Second, empirical data were obtained from students,

which may limit the possibility of generalizing the results. Third, the fact that we used a behavioral simulation while trying to reproduce the natural setting of an interaction may not be completely representative. Future studies should try to replicate the results in organizations. Fourth, there may be problems with collecting data from single sources - the individual. Finally, two of the studies were not experimental, thus limiting any causal claims.

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