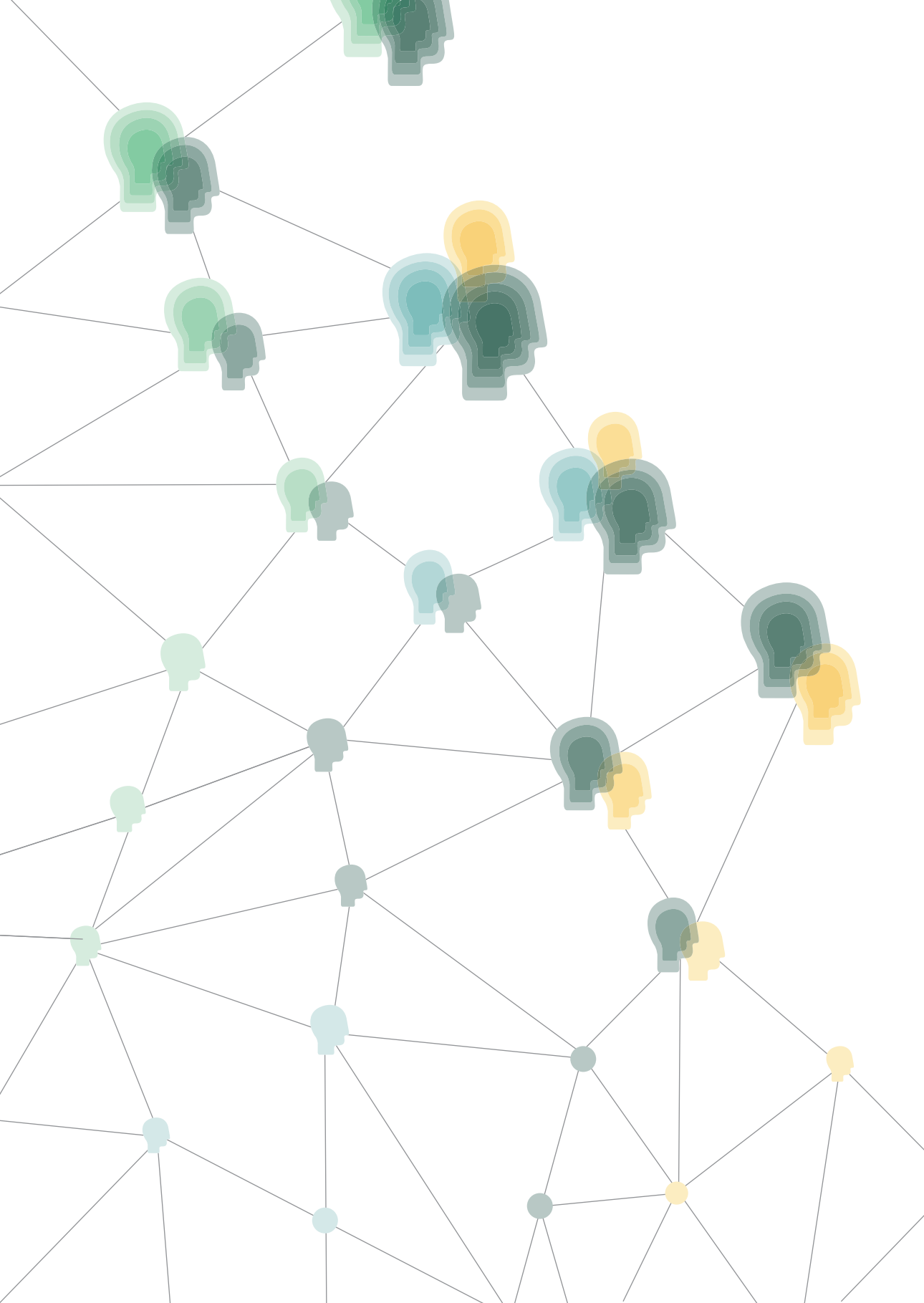
Understanding the impact of power on workplace innovation

A network analysis approach

Topete Quevedo, M.E.

Publication date
2023



CHAPTER 5

DISCUSSION

Organizations' performance often depends on the creativity and innovation of their employees as novel ideas are crucial to navigate fast-changing markets and to outperform competitors. Workplace creativity and innovation are increasingly seen as a social activity because employees tend to innovate with others or are influenced by their social environment (Perry-Smith & Mannucci, 2017; Van Knippenberg, 2017). Conceptualizing creativity and innovation as a social activity means that employees' relationships with others play an important role in determining whether the outcome of a collaboration is creative (Amabile & Pillemer, 2012; Hoever et al., 2012; Sosa, 2011; Zhou & Hoever, 2014). Power is a pervasive and important characteristic of social relationships in the workplace that has been linked to creativity and innovation (Duguid & Goncalo, 2015; Galinsky et al., 2008; Gervais et al., 2013; Hildreth & Anderson, 2016; Ibarra, 1993; Keum & See, 2017; Sligte et al., 2011). However, empirical research on this relationship has almost exclusively focused on the individual-level and has been conducted in laboratory experiments in which either psychological or behavioral effects of power are examined separately.

To foster our knowledge on this relationship and find ways in which organizations can stimulate higher levels of creativity and innovations it is important to examine the effects of power on psychological states and behaviors simultaneously, as well as taking into account other social features, such as affective ties or informal social structures, found in the workplace. Adopting an interactionist perspective to study the effect of power on creativity and innovation is important because the effects of power may be constrained or amplified when employees rely on other social cues to guide their behaviors (Mischel, 1977; Rhodes et al., 2020) and when individuals have access to additional creativity-relevant resources conferred by the social structure in which they are embedded. Therefore, in this dissertation I examined the interacting effects of different power facets (i.e., formal and perceived power) with crucial behavioral, psychological and social structures featuring collaborations. In short, Chapter 2 and 3 focused on the effects of formal power (symmetric and asymmetric) on joint creativity and Chapter 4 assessed the effects of perceived power on individual innovation. Together, these chapters make important contributions to the literature on workplace creativity and innovation, the literature on power, and the literature on social networks that I will discuss in the following subsection. When referring to Chapter 2-4, I sometimes use a plural pronoun to acknowledge the contributions of my co-authors in this research.

5.1 THEORETICAL IMPLICATIONS

This dissertation contributes to the literature on workplace creativity and innovation that is concerned with their social side, as well as the literature on power and the literature on social networks linked to innovative performance. Overall, the present work enhanced our understanding of how and when power influences joint creativity at the dyadic level and

individual innovation. Regarding joint creativity, prior research has focused on highlighting the creative benefits of *dyads vs larger groups* (Bellis & Verganti, 2020; McGrath, 2015; Nijstad et al., 2003; Rouse, 2020). This dissertation advanced our knowledge by providing evidence on how social and psychological features *characterizing the dyads* explain variance in creativity. Concerning this, throughout Chapter 2 and 3 we assessed empirically the interacting effects of position power with other relevant psychological, behavioral, and social (network) characteristics on joint creativity. In Chapter 4 we assessed the interacting effect of network positions and perceived power on individual innovation. The theory and findings of these three essays fostered our knowledge on the interplay of power and social network structures on creativity and innovation because prior work linking power to these types of performance has almost exclusively focused on early stages of the innovation process and on the individual level (Duguid & Goncalo, 2015, Study 4; Galinsky et al., 2008; Gervais et al., 2013; Hildreth & Anderson, 2016, Study 1B and 4; Ibarra, 1993; Keum & See, 2017; Sligte et al., 2011, Experiment 1). Moreover, while in the workplace formal social structures (such as position power) and informal social structures co-exist, the social network literature explaining employee performance often focuses on one or the other (Carnabuci & Diószegi, 2015; Keum & See, 2017; Sosa, 2011; Tortoriello et al., 2015). Moreover, some network structures (such as brokering network positions) and power are often seen as one and the same in this literature (Burt, 2005; Kwon et al., 2020) whereas we showed that they vary independently. The specific contributions of this dissertation to these literature streams are detailed below.

Chapter 2 provided evidence with a laboratory experiment that joint creativity varies between low and high position power collaborations. We do so by testing a more nuanced view for the effects of position power on joint creativity that comprised behavioral and psychological features of collaborations. Contrary to prior research suggesting that interactions among high-power members result in more power struggles (Greer et al., 2017; Greer & Chu, 2020), we found that, at the dyadic level, power struggles are not triggered by high position power collaborations. Instead, this study showed how power struggles impact differently the creative outcomes of high vs low position power collaborations. Power struggles benefit the joint creativity of low position power collaborations (vs high position power collaborations) as they increase the autonomous motivation of this types of dyads. Finding that high position power collaborations achieve lower joint creativity than low position power collaborations is in line with the findings of Hildreth and Anderson (2016). However, this study also explained why power struggles can be functional in collaborations. In addition, our subgroup analyses showed that when power struggles are infrequent or absent, high position power can achieve higher joint creativity than low position power, a relationship that has not, to the best of my knowledge, been established at this point.

In Chapter 3 we found another relevant power configuration in dyads that explain variance in joint creativity: power asymmetry. Two intraorganizational network studies showed that power asymmetric dyads achieve higher joint creativity than power symmetric dyads.

This finding diverges from the common expectation that hierarchy is detrimental for creativity and innovation (Anderson & Brown, 2010) and it provides evidence that there are creative benefits associated with *unequal* formal rank beyond the individual level (Keum & See, 2017). Furthermore, we identified a social structure that reduces the difference in joint creativity between power asymmetry and power symmetry: Simmelian friendship ties. We argued that power asymmetry and Simmelian friendship ties are social structures (respectively, formal and informal) that promote effective conflict resolution, and positive affect (Krackhardt, 1998; Kwaadsteniet & van Dijk, 2010; Pillemer & Rothbard, 2018; Tiedens & Fragale, 2003; Wiltermuth et al., 2015) and that Simmelian friendship ties are, thus, more useful for power symmetric dyads as they tend to face more collaborative challenges than power asymmetric ones.

Chapter 3 and 4 make notable contributions to the social network literature. Chapter 3 answers a recent call to integrate formal and informal social structures to explain performance in the workplace (Hunter et al., 2020; Maoret et al., 2020; McEvily et al., 2014) by examining the interplay between power asymmetry and Simmelian friendship ties to explain joint creativity. In addition, our robustness checks corroborated that relational *affective* factors and *triadic* affective structures matter for creative performance (Gómez-Solórzano et al., 2019; Sosa, 2011; Wu et al., 2016) where the role of "friendship cliques" was found to be a crucial and unique communal mechanism influencing the relationship between power (a)symmetry and joint creativity.

In Chapter 4, we conducted an intraorganizational network study and found that the effect of brokerage on individual innovation is contingent on individuals' perception of power over alters. We argued that individuals achieve higher innovation in brokering than in closed network positions due to the effects power has on flexible and global information processing and disinhibited behaviors that help them to process the heterogeneous information and overcome the action problem associated with brokering network positions. Our theory and findings contribute to the growing literature taking a contingency view for the effects of brokerage on innovation (Carnabuci & Diószegi, 2015; Soda et al., 2019; Stea & Pedersen, 2017). This research stream has mostly focused on individuals' idiosyncratic characteristics (Carnabuci & Diószegi, 2015) and on the attributes of their work environment (Soda et al., 2019; Stea & Pedersen, 2017) as boundary conditions and less on focal individuals' perceptions of their alters. In addition, our work complements recent work that considered the effect of the interplay between brokering network position and actors' perception on innovation (Iorio, 2022). Whereas Iorio (2022) focused on how focal actors' innovation depend on the perception of alters toward focal actors, our work shows that focal actors' perceptions of alters also matter.

Furthermore, our findings contribute to the literature examining the relationship between power and network cognition. Following prior research, one would expect that individuals perceiving higher power over others are likely to forsake their network advantage and underperform in the workplace. For instance, individuals perceiving higher power over others have been found to have poorer network accuracy (Simpson et al., 2011) and recognize fewer

brokerage opportunities (Landis et al., 2018). In contrast, we found that regardless of whether individuals perceiving higher power over alters are less aware of their brokering position or the opportunities it offers, the cognitive and behavioral effects of perceived power are strong enough to help them reach higher levels of innovation.

Finally, the findings of these three essays (Chapter 2 to 4) respond to recurrent calls to explore more interactionist perspectives in workplace creativity and innovation research that accounts for actor-context interactive effects (Zhou & Hoever, 2014; 2023) by examining novel models encompassing: (in)formal social structures, behaviors, and psychological states.

5.2 PRACTICAL IMPLICATIONS

The findings of this dissertation have implications for practitioners wishing to stimulate higher levels of joint creativity in dyads and individual innovation in the workplace. In the following paragraphs I provide some data-driven recommendations for each type of performance.

For joint creativity, following the findings from Chapter 2 and 3, practitioners are advised to consider the social dynamics that arise given the social cues accompanying formal power, informal social structures, and affective ties. Regarding power composition, when arranging work around dyads it is more stimulating for joint creativity when the collaborators have different formal rank or both have the same levels of low rank. On the one hand, power asymmetry in dyads facilitates conflict resolution and positive affect because collaborators tend to act in accordance to their role in the formal hierarchy and their behavioral complementarity helps them to reduce competitive behaviors (Galinsky et al., 2012; Greer & van Kleef, 2010; Wiltermuth et al., 2015) and evoke more enjoyable social interactions (Dryer & Horowitz, 1997; Tiedens et al., 2007; Tiedens & Fragale, 2003). On the other hand, while power symmetric dyads can experience collaborative challenges, the findings of Chapter 2 showed that power struggles can boost the joint creativity of low power collaborations (compared to high power collaborations) because they can be experienced as energizing.

As for high power collaborations, the results of a subgroup analysis (Chapter 2) suggest that it is important that power struggles between high power collaborators are avoided so that they can achieve higher levels of joint creativity. Therefore, for dyads where both members have equal high power it is important to make the "power pie" bigger and pair high power individuals with different power bases (e.g., different expertise) or put them in charge of different aspects of the project so that their perceived power remains high, and potential feelings of threat or power struggles are less likely to occur. Instead of suggesting to stimulate "power struggles" in low power collaborators to boost joint creativity (Chapter 2), I suggest that practitioners find ways to increase the autonomous motivation of low power collaborators when they work in creative projects as autonomous motivation is "how" they achieve high performance and power struggles may escalate or coincide with other detrimental types of conflict. For example, when

assigning a creative tasks to low power collaborators managers can give them full autonomy on how to do the task and motivate them to challenge each other's ideas in a constructive way as these actions may lead to more autonomous and energizing social interactions.

Concerning affective ties, Chapter 3 showed that Simmelian friendship ties boost the joint creativity of power symmetric and power asymmetric dyads. It is possible that triadic arrangements of friendship ties help to maintain high levels of positive affect and effective conflict resolution throughout creative projects. Therefore, practitioners are advised to provide opportunities for the creation of affective ties such as organizing social events in which employees may interact in a more informal way. Since friendship cliques are the type of structures that convey the normative power of affective groups, team leaders may put more efforts in fostering affective ties in their supervised teams because formal teams may bring more opportunities for embeddedness and for the emergence of closed triads.

Regarding individual innovation, the findings of Chapter 4 show that perceived power over others and brokering network positions are useful for this type of performance. As individuals in leadership positions often feel greater power over others due to their job role, organizations motivated to increase innovation organically could involve individuals occupying leadership positions, such as team managers, in intrapreneurial endeavors. Based on my literature review, perceiving power over others helps to process the information flowing through their networks more globally and flexibly. Since brokering network positions tend to be sources of non-redundant information, stimulating the sense of power of employees in brokering positions when engaged in innovation projects can be a promising strategy. If firms cannot employ social network analyses to identify network brokers, organizations could carry out temporal job rotations of employees in unconnected teams and assign the brokering employee (i.e., the rotated employee) as a project lead for initiatives aimed to boost innovation.

5.3 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This dissertation presents some limitations that open avenues for future research. In this section, I will focus on the main theoretical and empirical limitations that can help scholars advance further our understanding of the effects that power has on workplace creativity and innovation when considering the three reported essays (Chapter 2, 3 and 4) in their entirety.

The first theoretical limitation is that I theorized (Chapter 3) and tested (Chapter 2 and 3) the effects of power asymmetry by focusing on one type of hierarchical differentiation in each essay. Chapter 2 tested the effect of formal manager-employee relation as a power asymmetry (there called "moderate position power") and Chapter 3 focused on a general hierarchical differentiation in terms of formal rank. However, it is still possible that other power asymmetric configurations (e.g., high power asymmetry vs low power asymmetry or leader-follower hierarchy vs hierarchy between colleagues) may influence creativity and innovation

differently. While I focused my theoretical explanations around the behavioral and psychological consequences of power, I acknowledge that formal power in the workplace also involves control over *resources* (Magee & Galinsky, 2008) that may have a bearing on creativity and innovation. Future research can investigate these effects by examining other interactionist models that consider resources, apart from behavioral and psychological attributes, as the effects of power on joint creativity are complex to disentangle. For instance, one can expect two competing explanations for the effect of *high* power asymmetry, where two individuals have a large power dispersion (e.g., an entry-level employee and a senior-level employee) on innovation. On the one hand, one can expect that high power asymmetry leads to higher levels of joint innovation as the high power member may not feel threatened by a collaborator who is far in rank and, thus, can operationalize controlled resources. On the other hand, one can argue that a high power asymmetry leads to low levels of joint innovation as the low power member may feel threatened and thus overly comply to the high power member's ideas. To be able to assess the effects of multiple power asymmetric configurations, the empirical research will most likely require larger samples than the ones used in this dissertation.

The second theoretical limitation is that I focused on general creative (Chapter 2 and 3) and innovative (Chapter 4) performance, sometimes referred to as "innovative work behaviors" in the literature (de Jong & den Hartog, 2010), and I did not consider other relevant creative outcomes such as radical and incremental innovation. Future research can build on the theory and findings of this dissertation to explain the effects that power has on radical and increment innovation. Based on the behavioral and psychological effects power has on individuals it is more likely that high levels of power will be more useful for radical innovation as power promotes disinhibited behaviors and global and flexible information processing which are often necessary to develop and implement radical innovations which diverge more than incremental innovations from existing practices (Yu & Choi, 2022).

Regarding the main empirical limitation, I tested the theoretical mechanisms with a laboratory experiment only in Chapter 2 while the causal inferences for Chapter 3 and 4 were based on past empirical and theoretical research. Although I provided some evidence for the proposed theoretical mechanisms by ruling out alternative mechanisms in robustness checks (Chapter 3 and 4) and by using a lagged dependent variable (Chapter 4), these efforts may not suffice to prove causality empirically. Future research could take a longitudinal or a multi-method approach (e.g., a survey in the workplace complemented with a laboratory experiment) to study the effect of power on workplace creativity. For instance, building from the findings of Chapter 3, future research could conduct a longitudinal study where *conflict resolution* and *positive affect*, our proposed theoretical mechanisms, are measured in a time-lagged survey at an organization to test their mediating role in the relationship between power asymmetry, Simmelian friendship ties and joint creativity.

Another promising avenue for future research is to examine the role of *context* in power's relationship with creativity and innovation. This dissertation examined similar empirical

contexts: the laboratory experiment (Chapter 2) and the intraorganizational network analyses (Chapter 3 and 4) featured firms based in The Netherlands where creative ideas were important for performance. However, there are reasons to believe that contexts such as *national culture* and *organizational goals* can amplify or mitigate the effects of power on creativity and innovation as they may interact with employees' psychological states and behaviors.

Regarding national culture, prior research has shown that it explains variance in several work-related processes and outcomes (Daniels & Greguras, 2014; Taras, Kirkman & Steel, 2010) and that self-serving mentalities and self-serving behaviors triggered by resource inequality (a proxy of power asymmetry) tend to be more salient in countries with high income inequality (Ronay, Maddux, & Von Hippel, 2020). As noted above, we found that power asymmetry was beneficial for joint creativity at the dyadic level while prior research has mostly argued that the dysfunctional power dynamics that harm joint performance result from social comparisons where power is typically a salient social cue for people due to the benefits (drawbacks) of having high (low) power (Greer et al., 2017). Notably, The Netherlands is not a hierarchical society as this country has a low score of power distance[1] with a score of 38 out of 100 (Hofstede Insights, 2022) and has high income equality among its citizens with a Gini index[2] (index of 26 out of 100) below the median (The World Bank Group, 2023b)[3]. Is power asymmetry more or less beneficial for workplace *joint* creativity in hierarchical countries? As managerial implications are seldom universal, future research could examine the effect that power asymmetry has on joint creativity in countries that are different from The Netherlands in terms of power distance and income inequality. Perhaps our main theoretical mechanisms (i.e., positive affect and conflict resolution) are more noticeable in non-hierarchical societies where power should not trigger *negative* social comparisons (Greer et al., 2017) and where power asymmetry may be seen and experienced as an efficient coordination mechanism instead of a crucial social cue of differentiation that increases people's desperate desire to be among the few individuals who have more resources (Ronay et al., 2020). Therefore, researchers interested in exploring the generalizability of our findings can perform a cross-cultural investigation such as examining the effect of power asymmetry on joint creativity within a single firm with operations in different countries (for a similar empirical approach see Robert, Probst, Martocchio, Drasgow & Lawler, 2000) or via a comparative study between hierarchical and non-hierarchical countries (for a review of cross-cultural empirical research designs see Daniels, 2014).

[1] Power distance is a cultural dimension that captures the extent to which people expect and accept that power is distributed unequally (Hofstede Insights, 2022).

[2] The World Bank Group (2023a, para. 3) defines the Gini index as a measurement of "the extent to which the distribution of income or consumption among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality."

[3] The Gini index of 26 corresponds to the year of 2020 which is most recent year available for The Netherlands. In this year, data was available for other 50 countries.

In addition to national culture, further research is needed on the effects of organizational goals on the relationship between power and creativity because there is extensive research arguing that powerful individuals are goal-oriented (Guinote, 2017). Although the generation of creative ideas can occur in any domain (Amabile, 1996; Oldham & Cummings, 1996) perhaps the effects of power on creativity and innovation are bounded to creativity-oriented organizations. Future research can test whether perceived power over others and formal power asymmetry have the same positive effect on creativity and innovation in organizations that prioritize other goals such as efficiency. This is an important research avenue for practice and theory because organizations in all domains can benefit from novel ways of working that may be suppressed by power holders if they do not perceive creativity to be relevant for individual or firm performance. In addition, empirical examinations may wish to include relevant individual-level traits that may moderate the relationship between (perceived and formal) power and creativity and innovation (e.g., openness to experience) in firms where innovation is not prioritized, thereby deriving context-specific managerial implications that boost innovation organically. Such interaction models can potentially contribute to the person-in-situation creativity research which is currently calling for interactionist perspectives associated with motivated behavior (van Knippenberg & Hirst, 2020).

5.4 CONCLUSION

Workplace creativity and innovation are crucial to firms' performance. As employees often innovate with others or are influenced by their social environment it is essential for organizations to understand how and when pervasive characteristics of social relationships, such as *power*, enhance or hinder creativity and innovation. Throughout three essays, I developed and empirically tested three comprehensive frameworks in which I considered the interplay of power (formal and perceived) with other psychological, behavioral, and informal social network characteristics featuring collaborations. Overall, this dissertation shows that formal and perceived power help to explain variance in workplace creativity and innovation and that they interact with (affective and instrumental) social network structures to shape these outcomes. We extend prior research by showing that, at the dyadic level, the relationship between power (high levels or asymmetric) and joint creativity and individual innovation is not strictly negative. Working with colleagues who are (formally or perceived as) more or less powerful can, under certain conditions, enhance outcomes that are crucial to organizations' performance. Similarly, high power collaborators can, with infrequent power struggles, achieve creative outcomes.