Toward a Better Understanding of the Interpersonal Effects of Power: Power Decreases Interpersonal Sensitivity, but not toward People within the Power Relationship

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I cannot believe it. Are these really the last words of my dissertation? I wrote this section – the most read section of a dissertation – already over a hundred times: While jogging, while driving, while trying to sleep. But never (yet) in real.

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II. ABSTRACT

Power and interpersonal sensitivity are two essential elements of human social behavior. Earlier findings suggest that positions of power decreases interpersonal sensitivity. However, until now, evidence on this relation rests exclusively on subjective and indirect measures as no research has objectively measured how power affects basic attention to others. Research within the first empirical chapter of this dissertation does so using reaction time paradigm that measures the extent to which people code their actions in reference to co-actors. Within this paradigm, power was manipulated by spatial elevation of the seating position of participants. Re-analyses of two existing datasets (Experiments 1a/1b), and a statistically well-powered confirmatory study (Experiment 2) provided robust converging evidence that a feeling of power generally decreases interpersonal sensitivity. Furthermore, based on the Situated Focus Theory of Power, I propose that although power may decrease interpersonal sensitivity toward people who are not directly relevant to their goals, the powerful should demonstrate *increased* interpersonal sensitivity toward targets within the power relationship, compared to the powerless. After all, the powerful can enjoy great advantages by displaying interpersonal sensitivity toward their subordinates. Research within the second empirical chapter of this dissertation firstly demonstrated that the powerful experience less social distance than the powerless toward the partner in a power relationship (Experiments 3a/3b). Next, three confirmatory studies orthogonally manipulated power and the relationship to the target and replicated the effect for social distance (Experiment 4), empathy (Experiment 5), and perspective taking (Experiment 6). These results qualify the notion that power necessarily reduces interpersonal sensitivity, and therefore lead to a better understanding of interpersonal effects of power.

III. PREFACE

"The fundamental concept in social science is Power, in the same sense in which Energy is the fundamental concept in physics." - Bertrand Russell, 1938

As a cooperative species. people's success depends largely on their interactions with and on the help they receive of others (Dawkins, 1976; Mead, 1934; Trivers, 2017). Therefore, one of the main challenges in successfully navigating through society is to know and understand others. Whether it is making the right offer in a job interview, buying the right gift for a friend, or trying to avoid bumping into others at a busy train station, it is crucially important to our long-term standing to be able to shift our attention to others, and to correctly interpret others' thoughts, behavior, and feelings. In other words, we have to be *interpersonally sensitive* (Hall & Bernieri, 2001).

Some factors influence the extent to which people switch their attention to others, or the extent to which people are able to correctly interpret others' thoughts, behavior and feelings. One factor that has repeatedly been suggested in the literature to decrease interpersonal sensitivity is power. Specifically, the idea that feelings of power, compared to feelings of powerlessness, lead people to be less sensitive toward the goals and needs of other people while increasing the focus on the self has been a leading thread in social cognitive research on the interpersonal effects of power. However, a comprehensive review on the used methodology in these studies raises questions about the certainty of the conclusions we draw from these findings. These concerns are reinforced by new findings in which power sometimes *increases* interpersonal sensitivity (e.g.

Chen, Lee-Chai, & Bargh, 2001; Côté et al., 2011; Schmid Mast, Jonas, & Hall, 2009; P. K. Smith & Hofmann, 2016), and a recent failed replication on the effect of power on perspective taking (Ebersole et al., 2016). These challenges gave rise to the two empirical aims of the current dissertation. The first am was to provide a basic and objective test of the hypothesis that power increases interpersonal sensitivity. The second aim was to test a possible moderator in the relationship between power and interpersonal sensitivity. Based on a comprehensive literature review and six empirical studies, I argue and provide evidence that power generally decreases interpersonal sensitivity but increases interpersonal sensitivity toward people within the power relationship.

Overview

The current dissertation consists of six chapters. The focus in the first chapter is to provide a broad literature overview on the effects of power on interpersonal sensitivity. I will outline literature on the dominant finding that power, compared to powerlessness, leads to reduced empathy, perspective taking, and attention to others, while it increases the focus on the self. In other words, I will present research findings that indicate a negative relationship between power and interpersonal sensitivity.

In the second chapter, I aim to qualify and nuance to this idea by outlining possible problems with the used methodology in existing literature, and by presenting contradictory research findings in existing literature that challenge the idea that power necessarily decreases interpersonal sensitivity in all contexts. More precisely, I will argue that the way in which power was manipulated in existing research may have led to demand characteristic effects, which may have confounded existing results. Moreover, the assumption that power decreases interpersonal sensitivity has mostly been inferred from downstream effects of cognition, instead of basic

measures of interpersonal sensitivity. Additionally, the used measures were mostly based on self-report. These concerns about the methodology are furthermore reinforced by some contradictory findings showing that power sometimes *increases*, rather than decreases, interpersonal sensitivity (e.g. Côté et al., 2011; Schmid Mast et al., 2009; P. K. Smith & Hofmann, 2016), and by a recent failed replication on the negative effect of power on perspective taking (Ebersole et al., 2016). In light of these concerns, the first empirical aim of the current dissertation is to provide a basic and objective test of the negative relation between power and interpersonal sensitivity.

In the third chapter – still before the two empirical chapters – I suggest a possible explanation for the inconsistent research in which power under circumstances *increases* rather than *decreases* interpersonal sensitivity. Following the Situated Focus Theory of Power (Guinote, 2007a, 2010b), I propose that powerful people should not show a *uniform decrease* in interpersonal sensitivity in *all* social relations, but rather a *strategic shift* in interpersonal sensitivity, with greater interpersonal sensitivity toward those social relations where exercising interpersonal sensitivity is to their benefit. Specifically, I propose that whereas power generally decreases interpersonal sensitivity, power should increase interpersonal sensitivity toward people within the power relationship. In other words, I propose that the relation between power and interpersonal sensitivity is moderated by whether or not the target person toward which interpersonal sensitivity is measured is part of the power relationship. Consequently, the second empirical aim of the current dissertation – which I will present at the end of the third chapter of the introduction – is to test this idea that power increases interpersonal sensitivity toward persons within the power relationship.

The fourth and fifth chapters are the two empirical chapters of the dissertation, one chapter for each empirical aim. In fourth chapter, I will provide more basic and objective evidence of the negative relation between power and interpersonal sensitivity. By means of two

re-analyses of existing data sets as well as one experimental study I show that feelings of power decrease attention to other people. In all the three experiments, power was manipulated by a vertical arrangement of participants' seating positions. Participants where either placed in a chair on an elevated (high power) or normal (low power) position. This vertical arrangement unconsciously led to differences in reaction times between low and high sitting participants at a vertical joint Simon reaction time paradigm, which is a measure of automatic attention to others. I end the empirical chapter with a critical look at these studies, and with a discussion about how the empirical findings of these studies fit in the existing literature.

In the fifth chapter, I test the proposed moderator of the relation between power and interpersonal sensitivity within three important areas of interpersonal sensitivity and on related behavior. With two pilot studies and three confirmatory studies I demonstrate that – whereas power formerly has been found to *increase* social distance, and to decrease empathy, perspective taking and helping behavior – power *decreases* social distance and increases empathy, perspective taking and helping behavior toward people within the power relationship. I end the empirical chapter with a critical look at these studies, and with a discussion about how these empirical findings fit in the existing literature.

In the sixth chapter, I provide a general discussion of the research findings. I will start with summarizing the research findings, continued with how these findings fit within the general, and more critical existing literature, and end with practical implications and future recommendations.

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1. INTRODUCTION

Power plays a crucial role in human social behavior (Fehr, Herz, & Wilkening, 2016). It greatly influences economic, political, and social interactions by influencing perception, cognition, and behavior of the power-holder (for reviews, see Galinsky, Rucker, & Magee, 2015; Gruenfeld & Anderson, 2003; Lammers & Galinsky, 2009). With power being a fundamental feature and basic force of human relations (S. T. Fiske, 1993; Russell, 1938), it should not come as a surprise that feelings of power affect a person's interpersonal perception (Gruenfeld, Inesi, Magee, & Galinsky, 2008) and behavior in social situations (Keltner et al., 2003). The current chapter begins with an overview of the development of research on power over the years, followed by how power is and has been defined, and by an outline of five major theories based on which effects of power can be explained. Thereafter, the focus lays on how power affects interpersonal sensitivity, by discussing its effects on three important aspects of interpersonal sensitivity: social distance, empathy, and perspective taking.

Social Power

Power is a ubiquitous phenomenon that fluently and quickly helps people to make sense of their (social) surroundings (S. T. Fiske, 1993; Zitek & Tiedens, 2012). Already from a very young age – as early as 3 years – children are able to detect signs of social power (Charafeddine et al., 2015; Chiao et al., 2008). As categorizing one's surroundings by these signs of power helps people to learn and remember about their surroundings, people mostly prefer more over less hierarchical structures (Zitek & Tiedens, 2012). Power is present in almost all aspects of human life, for example in the family (for a review, see Bugental, Lyon, Krantz, & Cortez, 1997), at the workplace (for a review, see Anderson & Brion, 2014), and in romantic relationships (for a

review, see Gray-Little & Burks, 1983), and discussed by people from many different disciplines, such as play writers, philosophers, and politicians.

The development of research on power

Because of the great importance of power in human relations (S. T. Fiske, 1993; Russell, 1938) researchers within social psychology have studied interpersonal effects of power for decades. Systematic analysis of power within social psychology however started at the end of World War II, and – as identified by Galinsky and his colleagues (2015) – went through three 'waves' of research. In the first wave that started after World War II, the predominant research focus was to study the negative effects of power, such as egoism, antisocial behavior or corruption. This negative focus was most likely influenced as a response to the gruesome crimes perpetrated by the Nazi regime. Inspired by, and in line with these gruesome observations, the influential Milgram Experiment for example demonstrated that power indeed can have tremendous negative effects by showing that people seriously harm other people through obeying orders of their superiors, even if apparently causing serious injury and distress (Milgram, 1963).

Another influential study on negative effects of power, known as the Stanford Prison Experiment (Haney, Banks, & Zimbardo, 1973), addressed interpersonal effects of power. In this study normal college students were assigned to the role of guard or prisoner in a simulated prison. The experiment was planned to last two weeks but had to be aborted after only six days, due to the effects of the study on the participants. The assigned guards behaved sadistically and subjected some prisoners to psychological torture, who thereupon showed signs of depression and of extreme stress. Whereas the methods, results and generalizability of the conclusions of these two studies are to date heavily discussed and questioned (e.g. Carnahan & McFarland, 2007; Gray, 2013; Perry, 2013; Reicher, Haslam, & Smith, 2012), the existence itself, as well as the

impact of these studies, demonstrates how the concept of power at the time was closely tied to negativity. Findings of a third and less criticized influential study on negative effects of power indicated the corruptive influence of power, through results showing that when giving participants power over unknown subordinates, this leads them to devalue, disrespect and disregard their subordinates (Kipnis, 1972).

During following second wave of power research – which evolved throughout the 1970s and 1980s and lasted until the beginning of the 21st century – there was a steep increase in research on social power in the year 1990 (as can be seen in Figure 1). Researchers similarly focused on negative effects of power during this wave, but now from a more cognitive viewpoint and based on theories rather than folk wisdom, in line with other social psychological research of that time (for a review, see Galinsky et al., 2015). For example, in a comprehensive review, Fiske (1993) proposed that feelings of power lead to stereotyping through a decreased attention to other people, whereas feelings of powerlessness lead to an increased attention on individuating information of other people. Other researchers studied interpersonal effects of power from a cognitive viewpoint through studying differences in people's ability to express and decode social information. More precise, they proposed that women are better in decoding and expressing social information because they generally fulfill less powerful roles in society. This was supported by empirical findings that the gender difference in decoding and expressing social information disappeared when switching the power roles between men and women within an experiment (Henley & LaFrance, 1984; Snodgrass, 1992).

The third wave of research on social power (as indicated by Galinsky et al., 2015) was initiated by the introduction of The Behavioral Approach/Inhibition Theory of Power (explained later on, Keltner et al., 2003), which provided a theoretical framework for explaining previous effects of social power and for developing new theories; and by the introduction of a new priming

paradigm to manipulate power (the 'episodic priming task', explained later on, Galinsky, Gruenfeld, & Magee, 2003), which enabled researchers to manipulate power in a convenient way (for similar reasoning, see Galinsky et al., 2015). In this third wave of power, the focus shifted from studying only negative, toward studying also differentiated and positive effects of social power. In other words, whereas the research focus of power in the first and second wave was mainly on negative behaviors such as egoism, antisocial behavior or corruption, in the third wave the focus shifted toward also studying prosocial effects of power (for similar reasoning, see Galinsky et al., 2015). However – demonstrating the strong existing link between power and negativity – some researchers still framed positive consequences of power quite negatively, for example by naming them "behaviors that violate norms in prosocial ways" (Gruenfeld & Anderson, 2003, pp. 277).

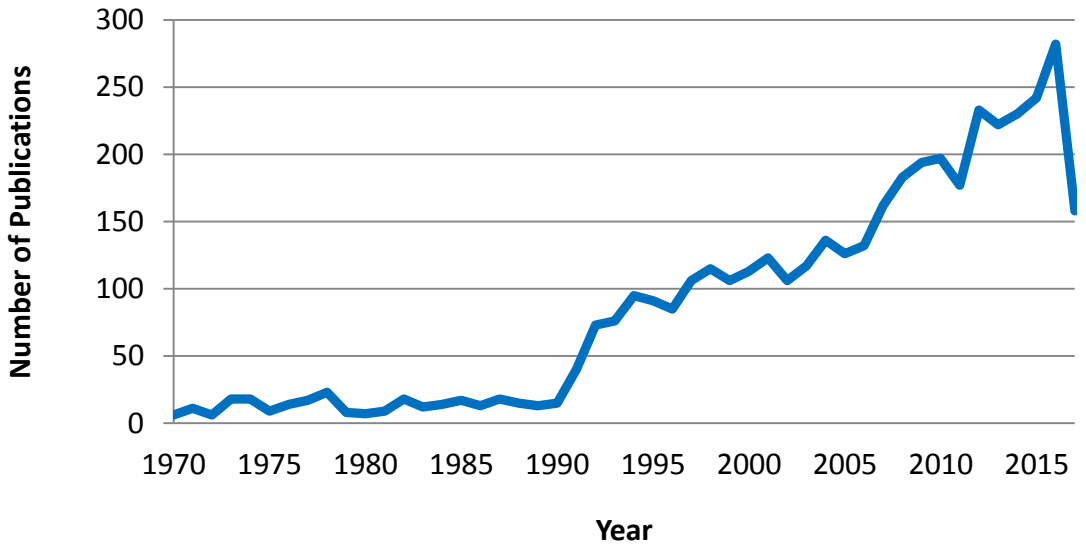

Figure 1. Number of publications per year within social psychology with the terms 'social power' or 'power' and excluding the terms 'statistical power', 'predictive power' and/or 'nuclear power' in the abstract, title, and/or keywords. Results were obtained using the Web of Science search engine.

Defining Power

Whereas there have been used many different definitions of social power, in the current dissertation social power is defined as *having the capacity to influence others through different means* (Fiol, O'Connor, & Aguinis, 2001; French & Raven, 1959; Sturm & Antonakis, 2015). The mentioned definition consists of three components, starting with the power holders' *capacity* to influence others, which relates to the extent to which the power holder feels that he/she is able to exercise power. The second component is the *social influence*, thus the influence that the power holder exerts over others, or the effect that the power holder elicits at others. The third component signifies that this influence can be exerted through different *means*, such as characteristics of the power holder (e.g. charisma, expertise, internal needs) or more contextual characteristics (e.g. the possibility to exert punishments or rewards, or ones status or hierarchical position in a group) (for a review, see Sturm & Antonakis, 2015).

The means through which power can be exerted relate to the various ways in which power differences arise and can be enforced (for similar reasoning, see Sturm & Antonakis, 2015). For example, in social relationships, the means can be relational factors such as dependence (Emerson, 1962) or asymmetric control over valued resources (Keltner et al., 2003; Magee & Galinsky, 2008), where the powerful have more control over resources than the powerless. Importantly, these resources can be the powerful's own, as is the case for personal power, or of others, as is the case for interpersonal/social power (Lammers, Stoker, & Stapel, 2009; Overbeck & Park, 2006). The current dissertation focuses on the latter type of power, thus on social power.

Many researchers define power strictly in terms of controlling resources (Galinsky et al., 2003; Galinsky, Magee, Inesi, & Gruenfeld, 2006; Goldstein & Hays, 2011; Jordan, Sivanathan, & Galinsky, 2011; Magee & Galinsky, 2008), but others disagree with this by arguing that 'controlling' can be seen as an *outcome* of, rather than an *element* of power (e.g. Sturm &

Antonakis, 2015). They consider this to be problematic, because defining a phenomenon by its' outcome may undermine the nature of that phenomenon and makes it impossible to empirically test the specific nature of the relationship between the phenomenon and it's supposed outcome (MacKenzie, 2003).

Power differences can also arise from and are enforced through personal or situational factors (Anderson & Brion, 2014; Galinsky et al., 2015; Rucker, Galinsky, & Dubois, 2012; Sturm & Antonakis, 2015). Personal factors for example are basic human motives such as an increased dominance motive (e.g. McClelland, Koestner, & Weinberger, 1989), personality traits such as increased conscientiousness (e.g. Anderson & Kilduff, 2009; Brunell et al., 2008), or communication styles such as having a higher index of gaze while speaking related to the gaze while listening (e.g. Dovidio & Ellyson, 1982; Hall et al., 2005). Situational factors for example are centrality, where people who are more central within a social network on average have more power than those who are less central (Brass, 1984; Bunderson, 2003), being able to administer rewards or punishments (e.g. Keltner et al., 2003), or entering on a higher level in an established hierarchical structure within an organization (Brass & Krackhardt, 2012). Situational factors can also have a physical origin, such as someone's height (Frieze, Olson, & Good, 1990; Martel & Biller, 1987; Persico, Postlewaite, & Silverman, 2004; Schubert, Schubert, & Topolinski, 2013) or mere spatial elevation (Giessner & Schubert, 2007; Schubert et al., 2013; Schubert, 2005), where being tall or being in a high position is related to the experience of having power.

Main theories and findings of research on power

Different theories of power were developed since the steep increase of research on power in about the year 1990 (see Figure 1). In the following, I will discuss five main theories and findings based on which (interpersonal) effects of power have been explained.

Power-as-control Theory

The Power-as-control Theory (S. T. Fiske, 1993) was originally proposed to explain why power and stereotyping mutually reinforce each other, but has often been cited to explain general effects of power in terms of decreased motivation/ability to attend to others (e.g. Galinsky et al., 2006; Guinote, 2007b; P. K. Smith & Magee, 2015). The theory provides three reasons explaining why power decreases attention to others and therefore leads to stereotyping. Specifically, the theory states that powerful people do not *need* to attend to others to control their own outcomes, they are *less able* to attend to others because they have to fulfill demanding tasks which leave them with little attentional capacity, and they may not *want* to attend – if they have a high need for dominance.

S. T. Fiske (1993) supports her theory with empirical evidence, for example evidence showing that people pay attention to people who control their outcomes (e.g. Dépret & Fiske, 1993; Neuberg & Fiske, 1987; Ruscher & Fiske, 1990), and that this attention increases with the amount of power that these people have (Dépret & Fiske, 1993).

Approach/Inhibition Theory of Power

The Approach/Inhibition Theory of Power (Keltner et al., 2003), is a global, cognitive-based theory explaining (interpersonal) effects of power based on approach and avoidance motivation. The theory states that power relates to behavioral approach, whereas powerlessness relates to behavioral inhibition. Specifically, having power is related to being in reward-rich environments where one can act in a behaviorally unconstrained way, and this triggers approach-related positive affect, automatic information processing, disinhibited behavior, and attention to rewards. On the contrary, powerlessness triggers negative mood, controlled information processing, inhibited social behavior, and attention to threat, punishment and others' interests.

Keltner and colleagues (2003) substantiate their theory with a broad array of research findings. For example, they describe research in which power was related to baseline positive mood and to experiencing positive emotions such as happiness and amusement, and in which powerlessness was related to experiencing and expressing negative, inhibition-related emotions such as embarrassment and fear (Anderson, Langner, & Keltner, 2001). As another example, they state that power increases automatic information processing, supported by research showing that high power persons are more likely to stereotype others than are low power persons (Dépret & Fiske, 1993; S. T. Fiske, 1993; Goodwin, Gubin, Fiske, & Yzerbyt, 2000).

Situated Focus Theory of Power

The Situated Focus Theory of Power (Guinote, 2007a, 2010b) complement the Approach/Inhibition Theory of Power (Keltner et al., 2003) by incorporating a goal-component. The theory proposes that power only activates approach that is in line with the goals of the person who experiences power (Guinote, 2007b, 2007c), rather than activating approach at all random events. In other words, the theory proposes that power does not lead to a uniform activation of approach behavior, but to a strategic activation of approach behavior in goal-relevant situations. Adding the goal component enables researchers to explain effects of power in more complex situations, for example situations that elicit more than one approach-tendency. In these situations, power should only activate the approach-tendency that is in line with the active goal.

Guinote (2007a, 2010b) supports her theory with different studies in which participants who were primed with power, compared to participants who were primed with powerlessness, were more goal-focused and less distracted by goal-irrelevant information (Guinote, 2007b, 2007c). For example, in one described task, participants were presented with pictures of graspable objects and had to indicate whether these depicted objects were in an upright or

inverted position. The uprightness of the objects was goal-relevant information, whereas the side at which the objects were graspable was goal-irrelevant information. Reaction times indicated that participants who were primed with power where uninfluenced by the side at which the objects were graspable, whereas participants primed with power were not (Guinote, 2007a, Experiment 2), supporting the idea that power increases goal-focus, and thereby leads people to be less distracted by goal-irrelevant information.

Abstraction Hypothesis

The Abstraction Hypothesis (P. K. Smith & Trope, 2006) explains effects of power in terms of abstraction level. The theory proposes that people with high power perceive and process information in a more abstract way than people with low power, meaning that they are more able to "see the bigger picture, to plan ahead, to keep an eye on higher goals" (P. K. Smith & Trope, 2006, p. 579). This relation is bidirectional: Abstract thinking can both lead to power, and help to maintain power. According to the theory – in which power is defined as asymmetrical dependency (Lee & Tiedens, 2001; Overbeck & Park, 2001) – power-holders are and feel independent from others, which leads them to feel more distinct, and also more psychologically distanced from others. This sense of psychological distance gives rise to abstract information processing (P. K. Smith & Trope, 2006). People with high power see and attend to information by focusing on the gestalt ('zoomed out') (Navon, 1977): They focus on primary features of an object, trace patterns and structures to indicate the goal-relevant aspects, and categorize stimuli on a higher level (P. K. Smith & Trope, 2006), whereas people with low power see and attend to information by focusing on details ('zoomed in') (Navon, 1977): they perceive and evaluate objects more in terms of it's secondary aspects (P. K. Smith & Trope, 2006).

P. K. Smith and Trope (2006) supported their hypothesis with different experiments in which findings indicated that power increases conceptual and perceptual attention to the gestalt rather than details. For example, in their second Experiment, participants who were primed with high compared to low power were more likely to describe a list of 25 behaviors (e.g. 'reading') in abstract (e.g. 'gaining knowledge') as compared to concrete (e.g. 'following lines of print') terms (P. K. Smith & Trope, 2006, Experiment 2). This indicates that power increases conceptual attention to the gestalt rather than details.

Social Distance Theory of Power

The Social Distance Theory of Power (Magee & Smith, 2013) is a theory that explains effects of power in interpersonal terms. The logic of the Social Distance Theory of Power consists of two principles. First, the theory states that a power relationship increases the feeling of social distance between the high and low power person in a power relationship, to a greater extent for the high-power person (how this exactly happens, will be discussed in the upcoming section, p. 25). Second, this greater experience of social distance leads the powerful person to engage in more abstract information processing (termed 'higher construal', following the Construal-Level Theory, Trope & Liberman, 2010) than the low power person. This abstract information processing, in turn enables to explain and predict an extensive array of interpersonal effects of power.

P. K. Smith and Magee (2015) substantiate the first principle of their theory – power increases social distance – with findings indicating that powerful persons are less motivated to attend to (S. T. Fiske, 1993), and affiliate with (Copeland, 1994; Van Kleef et al., 2008) low power counterparts than vice versa, and with findings indicating that power leads people to prefer individual over communal tasks (Lammers, Galinsky, Gordijn, & Otten, 2011). Furthermore, they

argue that the second principle of their theory – higher experience of social distance leads to higher construal, in other words to more abstract information processing – enables to predict and explains an extensive array of interpersonal effects. For example, that power relates to comparing oneself to others based on dissimilarities, being less susceptible to social influence, to a lower responsiveness to other's needs, a lower accuracy in mental state inference, less socially engaging emotions such as guilt and more socially disengaging emotions such as pride (Magee & Smith, 2013).

Social Distance

Social Distance– along with temporal, spatial, and hypothetical distance – is one form of the cognitively interrelated forms of Psychological Distance (Trope & Liberman, 2010). According to The Construal-Level Theory of Psychological Distance (Trope & Liberman, 2010), an object is psychologically distant, when it is not part of one's direct experience, and therefore has to be construed in the mind. The extent to which the object has to be construed – also called 'the level of construal', is equivalent to the size of the (temporal, spatial, hypothetical, or social) distance (Liberman, Trope, & Stephan, 2007). When referring to *social* distance, the object of reference is the mental state of a person. Hence, social distance is the extent to which one has to construe the thoughts, feelings and wishes of a target person (Liviatan, Trope, & Liberman, 2008).

For example, one might feel quite similar to the high school friend who does the same sports and likes partying as much as oneself, but feel rather dissimilar to a neighbor who seems to have a different sleeping rhythm, musical taste, and political opinion. Because of this similarity, it is easier to construe the thoughts, feelings and wishes of the high school friend than those of the

neighbor. The perceived (dis)similarity between oneself and the high school friend, respectively between oneself and the neighbor, gives rise to differences in the experience of social distance.

Social distance can be considered as a prerequisite of interpersonal sensitivity, because it influences the abstraction level in which social information is perceived, processed and stored (Fujita, Henderson, Eng, Trope, & Liberman, 2006; Trope & Liberman, 2003, 2010; Wakslak, Trope, Liberman, & Alony, 2006). Specifically, social distance between two persons relates to the level of abstraction with which they represent each other's thoughts, feelings, and actions. For example, even though one's friend and one's neighbor might one day carry out the same behavior – buying chocolate, for example – one might value these two behaviors differently. Specifically, where the socially close friends' behavior may be represented with more concrete features (buying chocolate of a specific brand, for example), the behavior of the socially distant neighbor may be represented with more abstract features (shopping at the supermarket, for example). Abstract representations thus mainly consist of global features that are relevant to the goal with which they are represented, and miss specific features such as those relevant to the context (Liberman et al., 2007; Trope & Liberman, 2010). The abstract representations related to social distance therefore are, by definition, less sensitive than the more concrete representations related to social closeness. Hence, social distance is negatively related to interpersonal sensitivity, which – to recapture – is defined as "the ability to sense, perceive accurately, and respond appropriately to one's personal, interpersonal, and social environment" (Hall & Bernieri, 2001, pp. 3).

Social distance is cognitively related to different mental constructs. As in the example with the high school friend and the neighbor, one such construct is interpersonal similarity. That is, the factors that determine social distance (another's thoughts, feelings and wishes) are more easy to construe for persons similar to oneself, than for persons dissimilar from oneself (Liviatan et al., 2008; Stephan, Liberman, & Trope, 2011). Therefore, social distance is often measured

through familiarity or similarity ratings toward a target person (Stephan et al., 2011). Another related construct is spatial distance (Matthews & Matlock, 2010, 2011; Winter & Matlock, 2013), through social distance is as well measured. For example, choosing a more distant seat from a target person (Holland, Roeder, Van Baaren, Brandt, & Hannover, 2004; Macrae, Bodenhausen, Milne, & Jetten, 1994), placing a chair further away from a target person (Case, Conlon, & Maner, 2015), or drawing oneself farther away from a target person in a ground plan (Matthews & Matlock, 2011) all are assumed to reflect increased social distance.

The relation between power and social distance

That power decreases social distance has been prevalent in the literature already since the beginning of the systematic research on power within social psychology (e.g. Fiedler & Chemers, 1967; Raven, Bertram & Kruglanski, 1970; Sampson, 1966). At the time in which researchers mainly explored negative effects of power, increasing social distance was considered a motivated process of the powerful to facilitate corruption, manipulation, or exerting influence. For example, in a classical study where power increased corruption, corrupt behavior was related to decreased concern over subordinates, and decreased interest to socially meet up with subordinates, or in other words, to increased social distance (Kipnis,1972).

Later research considered the positive relation between power and social distance as being more automatic and inherent to the concept of power. Specifically, powerful people are goal focused, meaning that they spend determined attention to whatever goal they pursue, and neglect everything in the periphery of their goal focus (Guinote, 2007c, 2007d; Slabu & Guinote, 2010). As the powerful do not need other people for attaining their goals (French & Raven, 1959; Galinsky et al., 2015; Keltner et al., 2003; Magee & Galinsky, 2008), other people are not part of their goal focus. Therefore, powerful persons do not construe the thoughts, feelings and whishes

of other people, and thus they experience social distance. This reasoning is supported by research on downstream effects on cognition, for example findings indicating that power decreases attention to others (for a review, S. T. Fiske, 1993), protects people from social influence (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008), increases peoples' wish to work and play alone (Lammers et al., 2011), and decreases social distance toward others (Case et al., 2015).

Reflecting the strong link in the literature between power and social distance, Magee and Smith (2013) reviewed the research related to this topic and introduced the Social Distance Theory of Power. According to the theory, social distance results from the combination of (1) motivation to affiliate with another person, and (2) an inaccurate calibration between the expected and actual affiliation motivation of that other person (Lawler & Yoon, 1996). Within dyadic power relationships, low power persons depend on the high power persons (Copeland, 1994; Emerson, 1962), which motivates them to affiliate with the high power persons (S. T. Fiske, 1993; S. T. Fiske & Berdahl, 2007). Furthermore, because low power persons are at least unconsciously aware that the powerful are not motivated to affiliate with them, their calibration between the expected and actual affiliation motivation of their high power opponents is relatively accurate, leading to a low experience of social distance. In contrast, high power persons do not depend on the low power persons (Copeland, 1994; Emerson, 1962), leading to a low motivation to affiliate with them (S. T. Fiske, 1993; S. T. Fiske & Berdahl, 2007). Furthermore, the powerful are aware of the low power person's dependence and motivation to affiliate, but make cynical attributions to actual affiliation attempts of low power persons. They even act in ways that diminish the affiliation attempts of low power persons (Inesi, Gruenfeld, & Galinsky, 2012). Therefore, high power persons have an inaccurate calibration between expected and actual

affiliation motivation of their low power opponents, leading to a high experience of social distance (Magee & Smith, 2013).

The theory furthermore proposes that the experienced distance between high and low power persons is reinforced by its consequences on construal-level (Magee & Smith, 2013; Trope & Liberman, 2010). Specifically, by experiencing social distance, power holders have an abstract representation of objects and people, which hinders the development of close relationships (Rubini & Kruglanski, 1997), and relates to lower feelings of familiarity with other persons (Stephan, Liberman, & Trope, 2010). In other words, high level construal might reinforce the power holders' sense of social distance (Magee & Smith, 2013).

In summary, downstream effects on behavior and cognition strongly indicate a positive link between power and social distance. The Social Distance Theory of Power (Magee & Smith, 2013) explains this link by suggesting that – compared to the powerless – the powerful are less motivated to affiliate, and less accurate in indicating the affiliation motivation of their power opponent. As social distance can be considered a prerequisite of interpersonal sensitivity, the positive relation between power and social distance implies a negative relation between power and interpersonal sensitivity.

Empathy

Empathy was introduced in the English language (Titchener, 1909) as a translation of the German word *Einfühlung* which at the time was an old concept given new meaning in the psychology of aesthetics (Lipps, 1903). The word literary means 'feeling into' and described the resulting feeling of ones' imagined projection into a piece of art. However, *Einfühlung* or Empathy were not restricted to experiences with art – the concepts could also apply to

experiences resulting from projecting oneself into other 'objects', such as animals, non-living objects, or people (Gallese, 2003; Greiner, 2011).

To date, empathy describes the process of having an emotional response at observing another person's emotion, and this emotional response is most likely similar to the emotion of that other person (e.g. Eisenberg, Shea, Carlo, & Knight, 2014). For example, encountering a sad, heart-broken friend who just broke up with 'the love of his life'. Encountering this friend might elicit all kinds of emotions, but most likely elicits empathic distress (Hoffman, 2008), meaning that the sadness is adopted. This is especially the case with particularly close friends (McIntosh, 2006) and might even instigate helping behavior, or other behavior aiming at releasing the friends' sadness (Hoffman, 2008).

Although there is not one commonly used definition, different research areas have recognized and agreed upon two components that constitute empathy (Jackson, Meltzoff, & Decety, 2005). The first component signifies empathy to encounter an affective reaction to another's emotion, and often, this reaction is similar to that others' emotion. Therefore, to experience empathy, one should be able to *detect and understand another's emotional states* (Decety & Jackson, 2004). The second component of empathy signifies that one should be aware that the *source* of the emotional reaction *is the other person*. In other words, to experience empathy, one should be able to make a self-other distinction (Decety & Jackson, 2004; Jackson et al., 2005). As empathy is the ability to infer and experience the emotions of another person (Gallese, 2003), it is the emotional component of the ability to sense, perceive accurately, and respond appropriately to one's personal, interpersonal, and social environment. In other words empathy can be described as the emotional component of interpersonal sensitivity (Hall & Bernieri, 2001).

The Perception Action Model, or PAM (Preston & de Waal, 2002), is a model to explain the underlying mechanism of empathy. According to the PAM, which is based on existing theories and a broad scope of motoric, neuroanatomic and emotional evidence, a person gets access to another person's emotional state through the unconscious and automatic activation of own neural and bodily representations of a subjectively similar emotional state as the observed person (de Waal, 2008; Preston & de Waal, 2002). In other words, according to the PAM, observing another person's emotional state automatically and unconsciously activates a similar state in the observer. This process helps the observer to recognize the emotions of the observed person. As it is essential for empathy to differentiate between emotional activation caused by the self and activation generated by the perception of the other, empathy is only experienced after full development of self-representation (Lewis, 1999) – which is a cognitive representation of the self (see Lewis, 2002) –, and is highly correlated with the development of self-other differentiation (Meltzoff & Moore, 1977).

Different interpersonal and social factors relate to the extent to which empathy is perceived. Intrapersonal factors that moderate the experience of empathy are for example the observer's attention (Gu & Han, 2007), emotional state (Silani, Lamm, Ruff, & Singer, 2013), and experience with the context of the observed person (Lamm, Nausbaum, Meltzoff, & Decety, 2007). Social factors that moderate the experience of empathy are for example agency over the source of the observed person's emotion (Akitsuki & Decety, 2009), group memberships of the observer and observed person, and similarity and liking (Hein, Silani, Preuschoff, Batson, & Singer, 2010; McIntosh, 2006; Mobbs et al., 2010; Xu, Zuo, Wang, & Han, 2009). Hence, empathy and social distance are interrelated: social closeness relates to similarity (Liviatan et al., 2008) and liking (Stephan et al., 2010), and to the extent to which two persons identify themselves with each other (Liberman et al., 2007; Trope & Liberman, 2010).

Empathic distress sometimes instigates a motivation to help (de Waal, 2008; Eisenberg & Miller, 1987a; Hoffman, 2001). Helping can therefore be considered a behavioral component of interpersonal sensitivity. Whether and when an observer will help the observed person depends on the amount of distress experienced either or both by the observer and the observed person. Higher distress increases the probability of helping behavior (Eisenberg & Miller, 1987b; Hoffman, 2001, 2008). In turn, the resulting decrease in stress at the observer determines whether the empathic distress is reduced (Hoffman, 2001, 2008).

The relation between power and empathy

Research findings on the relation between power and empathy strongly suggest a negative relation between the two. For example, studies show that a higher sense of power across contexts and relationships (Anderson & Galinsky, 2006) is associated with less empathic distress and compassion when listening to highly emotional life experiences of others (Van Kleef et al., 2008).

Furthermore, people with power in a negotiation are less sensitive to the emotional expressions of their opponents, compared to people who have less power in the negotiation. Specifically, whereas angry and happy expressions generally lead to better negotiation outcomes, powerful negotiators do not tend to change their offers when opponents show happy or angry expressions (Van Kleef, De Dreu, Pietroni, & Manstead, 2006). Powerful negotiators also ask less empathically motivated questions than their powerless opponents (Van Kleef, De Dreu, & Manstead, 2004). These findings indicate that power decreases emotion recognition of, and/or empathic concern over negotiators.

The idea that power decreases emotion recognition is supported by findings showing that power decreases a person's ability to accurately perceive facial emotional expressions (Galinsky

et al., 2006, Experiment 3). These findings were explained by power-induced feelings of independence: Powerful people do not depend on others for valued resources, and therefore, power decreases the extent to which people pay attention to meaningful psychological experiences of other persons (Galinsky et al., 2006, Experiment 3). As recognizing an emotional state of another is considered to be a precursor to empathy (Trevarthen, 1979), a power-induced decrease in emotion recognition at least partially explains the negative relation between power and empathy.

The negative relation between power and empathy can also be explained through consequences of power on abstraction level, or in other words someone's processing style (Woltin, Corneille, Yzerbyt, & Förster, 2011). Specifically, high and low power are related to abstract and detailed visual processing, respectively (P. K. Smith & Trope, 2006; P. K. Smith, Wigboldus, & Dijksterhuis, 2008; Woltin et al., 2011). These processing styles define how people perceive and process incoming information. A detailed information processing style, which is also related to social closeness (Liberman & Förster, 2009, Experiment 3), implies a narrow conceptual and perceptual scope in which someone focuses on details, whereas an abstract processing style, which is related to social distance (Liberman & Förster, 2009, Experiment 3), implies attending to the whole gestalt (Navon, 1977). Because focusing on details facilitates experiencing a self-other distinction (i.e. Liberman & Förster, 2009), and because self-other distinction is a core component of empathy (e.g. Decety & Jackson, 2004; Preston & de Waal, 2002), Woltin and colleagues (2011) argue that the low power's detailed information processing style is positively related to empathic concern. Indeed, they found a negative relationship between experimentally manipulated power and a measure of empathy (Woltin et al., 2011).

Together, regarding previous research findings, there is much consensus about the negative relation between power and social distance. However, there is less consensus about the underlying mechanism of this relationship. The negative relationship between power and empathy is either explained by the powerful's lower sensitivity to emotional expressions (Van Kleef, De Dreu, & Manstead, 2004, Experiment 3; Van Kleef, De Dreu, Pietroni, & Manstead, 2006), by the powerful's independency (Galinsky et al., 2006), by their abstract information processing style (Woltin et al., 2011), or by a combination of these processes. Most relevant for the aim of the current dissertation, research findings repeatedly show a negative relation between power and empathy, which indicates that power decreases interpersonal sensitivity.

Perspective Taking

Perspective taking – or a person's cognitive capacity to consider the world from other people's viewpoints (Davis, 1983; Galinsky, Maddux, Gilin, & White, 2008; Parker, Atkins, & Axtell, 2008) – allows an individual to anticipate the behavior, emotions, perceptions, motivations and reactions of another person (Davis, 1983; Galinsky, Maddux, et al., 2008; Parker et al., 2008) and has long been recognized as a crucial aspect of proper interpersonal behavior. For example, early findings indicate a positive relation between perspective taking and social competence (Davis, 1983), and describe that perspective taking can lead to great gestures of altruism (Batson, 1991, 1998). Also, the ability to consider or understand another's perspective has been described as a crucial breakthrough in a child's cognitive development (Piaget, 1932), and as an essential component in the development of moral reasoning (Kohlberg, 1976).

In earlier research, perspective taking, which is a deliberate process, has been mixed up or confounded with the more automatic process of empathy (Davis, 1983). This mixing up happened even though the distinction between empathy and perspective taking exists already for more than

250 years (e.g. A. Smith, 1759). In early studies of perspective taking, researchers focused rather on empathy than on perspective taking, by examining people's emotional responses after taking the perspective of other persons (Batson, 1991), or by examining both emotional and cognitive aspects within one 'empathy' measure (Feshbach & Roe, 2016; Hogan, 1969; Mehrabian & Epstein, 1972).

However, even though perspective taking and empathy clearly interrelate with each other (e.g. Davis, 1983) and affect certain measures similarly (e.g. measures of self-other overlap, Batson, 1997; Davis, Conklin, Smith, & Luce, 1996), they also differ on certain aspects. Perspective taking has different neural correlates than empathy (Shamay-Tsoory, Aharon-Peretz, & Perry, 2009), and women generally score higher than men on measures of empathy but not on measures of perspective taking (Davis, 1983; Hoffman, 1977; Mehrabian & Epstein, 1972). Taking an opponents' perspective in a negotiation has positive effects: It helps to discover hidden agreements and to create and claim resources at the bargaining table. However, empathy rather has detrimental effects: It disturbs one's ability to discover a possible deal and to achieve individual profit (Galinsky, Maddux, et al., 2008). Furthermore, various show that the social responses after imagining how another person feels in a situation (resembling perspective taking) differs from imagining one's own emotional reactions in that particular situation (resembling empathy) (Batson, Early, & Salvarani, 1997; Lamm, Batson, & Decety, 2007; Stotland, 1969; Underwood & Moore, 1982). Thus, whereas empathy is the automatic emotional component of interpersonal sensitivity, perspective taking is the more deliberate and cognitive component of interpersonal sensitivity.

Let us recall the heart-broken friend, who just broke up with his girlfriend. In that situation, 'taking over' the sadness of the friend is a result of empathy, but knowing the thoughts

and wishes of the friend, and being able to anticipate the friend's behavior is a result of perspective taking.

Perspective taking has beneficial effects in an interpersonal setting. For example, it leads people to feel closer to each other, and motivates helping behavior (Batson, 1997; Batson, Chang, Orr, & Rowland, 2002; Trötschel, Hüffmeier, Loschelder, Schwartz, & Gollwitzer, 2011). It also fosters the coordination of actions between in- and out-group members (Müller, Kühn, et al., 2011), and eliminates processes of bias such as stereotyping and in-group favoritism (Galinsky & Moskowitz, 2000). For example, taking the perspective of a racial out-group member automatically activates positive interracial evaluations, increases salience of racial inequalities, and increases the out-group member's evaluations of face-to-face interactions with the perspective taker (A. R. Todd, Bodenhausen, Richeson, & Galinsky, 2011). Moreover, in negotiations, perspective taking leads negotiators to find out an opponent's wishes and motivations (Galinsky, Maddux, et al., 2008), or diminishes the emergence of negotiation impasses (Trötschel et al., 2011), which both lead to better results for all negotiating partners. Only in contexts where positive negotiation outcomes of one party automatically lead to negative outcomes for the other party (i.e. distributive contexts), perspective taking leads to egoistic instead of more prosocial outcomes (Trötschel et al., 2011).

Notably, even though perspective taking has mainly prosocial outcomes, the motivation to take someone's perspective taking can be egoistic (Neale & Bazerman, 1983; Trötschel et al., 2011). As perspective taking allows an individual to anticipate the behavior, emotions, perceptions, motivations and reactions of another person (Davis, 1983; Galinsky, Maddux, et al., 2008; Parker et al., 2008), it is used to gather valuable information – such as the opponent's thoughts, motives and/or strategy – with which one can maximize one's own profits in a negotiation (Galinsky, Maddux, et al., 2008; Neale & Bazerman, 1983; Trötschel et al., 2011).

The relation between power and perspective taking

Downstream effects of power on cognition indicate a negative relationship between power and perspective taking. The powerful show greater selfishness in their decisions (Dubois, Rucker, & Galinsky, 2015) and show greater attention to their own physical feelings (Guinote, 2010a). They take other's visual and cognitive viewpoints less into account than powerless people do. They are less likely than the powerless to spontaneously adopt another person's visual perspectives (Galinsky et al., 2006, Experiment 1). In a study in which participants where asked to write an 'E' on their forehead after a prime of high or low power, participants in the high power condition less often wrote the 'E' in the perspective readable to others. Moreover, the powerful reason from their own vantage point when interpreting a message, rather than taking into account other person's knowledge (Galinsky et al., 2006, Experiment 2a and 2b). The negative relation between power and perspective taking is as well supported by a negative correlation between individual difference measures of power and perspective taking (Galinsky et al., 2006, Experiment 4).

That power decreases perspective taking also becomes clear through findings indicating that power increases social stereotyping and social objectification. Specifically, the powerful pay less detailed attention to other people (S. T. Fiske, 1993; Goodwin et al., 2000; Keltner & Robinson, 1997; Kipnis, 1972), and more attention to stereotype-consistent information (Goodwin et al., 2000), both resulting in social stereotyping (S. T. Fiske, 1993; Keltner & Robinson, 1997). Likewise, the powerful objectify others, as they socialize with those people needed for goal attainment, rather than those people they like (Gruenfeld et al., 2008).

The rationale that power decreases perspective taking can furthermore be inferred from studies showing that power protects people from social influence. Whereas people's attention is normally automatically drawn to social cues which influence behavior, decreased perspective

taking leads to less attention to social cues, and to less influence from these social cues (Galinsky et al., 2008). When having to come up with a creative idea such as a new product label or when drawing a new, unknown creature, feelings of power lead people to be less influenced by given examples (Galinsky et al., 2008, Experiments 1 & 2). Also, when forming an opinion, power leads people to be less influenced by opinions of others (Galinsky et al., 2008, Experiment 3). Power leads people to rely on their own ideals when deciding whether or not to trust a negotiation partner, rather than on situational information about the intention of the negotiation partner (Galinsky et al., 2008, Experiment 4).

Together, the negative relation between power and perspective taking can be inferred from different lines of research. Power decreases people's tendency to take into account other's visual and cognitive perspectives (Galinsky et al., 2006), increases the reliance on own ideas and opinions (Galinsky, Magee, et al., 2008), increases egoism, social stereotyping and objectification (Gruenfeld et al., 2008), all indicating that power leads people to consider the world from their own, rather than from other people's viewpoints. Accordingly, it indicates that power decreases interpersonal sensitivity.

Summary: Power, and its relation to interpersonal sensitivity

Summarized, as power – defined as having the capacity to influence others through different means (Fiol, O'Connor, & Aguinis, 2001; French & Raven, 1959; Sturm & Antonakis, 2015) – is a central component in society, it has intrigued people from social psychology for decades. Power can arise and be enforced through different factors, such as relational, personal or situational factors. These factors are defined the different *means* through which influence is enabled (Sturm & Antonakis, 2015). Effects of power are mostly explained through it's effect on behavioral approach (Approach/Inhibition Theory of Power, Gruenfeld & Anderson, 2003), goal-

focus (Situated Focus Theory of Power, Guinote, 2007, 2010b), abstract information processing style (Abstraction Hypothesis, P. K. Smith & Trope, 2006), or through interpersonal effects (Social Distance Theory of Power, Magee & Smith, 2013).

In the current thesis, I focus on the effect of power on interpersonal sensitivity. Different converging findings indicate that power decreases interpersonal sensitivity, in other words decreases the extent to which persons shift attention to others, and to which they correctly interpret others' thoughts, behavior, and feelings.

First, research findings indicate that power increases social distance, a prerequisite of interpersonal sensitivity. This takes place in a motivated way, to facilitate processes like corruption, manipulation, or exerting influence (Fiedler & Chemers, 1967; Raven, Bertram & Kruglanski, 1970; Sampson, 1966), or in a more automatic way, as a side effect of having an increased goal-focus combined with a decreased attention toward everything in the periphery of that focus (Guinote, 2007c, 2007d; Slabu & Guinote, 2010) or due to an inaccurate calibration between expected and actual affiliation motivation of other persons (Magee & Smith, 2013).

Second, research findings indicate that power decreases empathy, an emotional component of interpersonal sensitivity. Power decreases emotion recognition (Galinsky et al., 2006, Experiment 3) and is related to less affection when confronted with other people's emotions (Van Kleef, De Dreu, & Manstead, 2004, Experiment 3; Van Kleef, De Dreu, Pietroni, & Manstead, 2006). This relation may be explained by a lower sensitivity to emotional expressions (Van Kleef, De Dreu, & Manstead, 2004, Experiment 3; Van Kleef, De Dreu, Pietroni, & Manstead, 2006), by a feeling of independence (Galinsky et al., 2006), by an abstract processing style (Woltin et al., 2011), or by a combination of these processes.

Third, research findings indicate that power decreases perspective taking, a cognitive component of interpersonal sensitivity. Power is related to selfishness (Dubois et al., 2015),

increased attention to own physical feelings (Guinote, 2010a) and reliance on own visual and cognitive viewpoints (Galinsky et al., 2006), leading to social stereotyping (S. T. Fiske, 1993; Goodwin et al., 2000; Keltner & Robinson, 1997; Kipnis, 1972), social objectification (Gruenfeld et al., 2008), and a lower probability to be influenced by others (Galinsky et al., 2008).

Aim of the current thesis: Toward a better understanding of the interpersonal effects of power

Although research findings indicating the negative relationship between power and interpersonal sensitivity seem distinct, several issues should be taken into consideration before drawing conclusions about the effect of power on interpersonal sensitivity. Outlining these issues will be the focus of the following part of this dissertation. One issue to consider refers to the methods used in research on the relation between power and interpersonal sensitivity. Specifically, the research methods used to manipulate power and to measure interpersonal sensitivity were mostly based on self-report. Hence, the use of these measures and manipulations may have revealed the research purpose (power) to participants and confounded results by demand characteristic effects. Furthermore, the relation between power and interpersonal sensitivity has mostly been inferred from downstream effects on cognition, rather than from direct measures of interpersonal sensitivity. These concerns about the research methods are reinforced by contradictory findings showing that power is sometimes related to *increased*, rather than *decreased* interpersonal sensitivity, and by findings of a replication study in which the relation between power and perspective taking was not replicated.

These issues form the basis of the two empirical aims of the current dissertation. The first aim is to test the idea that power decreases interpersonal sensitivity with basic and objective manipulations and measures that are unlikely to be influenced by demand characteristic effects.

The second aim is to test a possible moderating variable of the effect of power on interpersonal sensitivity that may qualify the contradictory findings in earlier literature. This moderator will be introduced in the third chapter.

2. METHODOLOGICAL ISSUES AND FINDINGS THAT CHALLENGE THE IDEA OF POWER DECREASING INTERPERSONAL SENSITIVITY

The focus of the current part lies on discussing methodological issues of research on the relation between power and interpersonal sensitivity. A first remark concerns the way in which power is mostly manipulated. In most research, power is manipulated through the 'episodic priming task' or 'power recall task' (Galinsky et al., 2003). Participants are instructed to think and/or write about a personal experience of power or powerlessness, or instructed to imagine and describe a situation in which they would feel powerful or powerless. They are also to include describing their thoughts, feelings and actions in that situation (e.g. Galinsky et al., 2003; Galinsky et al., 2006; Galinsky et al., 2008; Gruenfeld et al., 2008; Lammers et al., 2011; Magee, Galinsky, & Gruenfeld, 2007). An example of such an instruction is the following:

> "Please recall a particular incident in which you had power over another individual or individuals. By power, we mean a situation in which you controlled the ability of another person or persons to get something they wanted, or were in a position to evaluate those individuals. Please describe this situation in which you had power – what happened, how you felt, etc." (Galinsky et al., 2003, p. 458)

Such manipulations – similar to role manipulations (e.g. Briñol, Petty, Valle, Rucker, & Becerra, 2007; Dubois, Rucker, & Galinsky, 2010; Inesi, Botti, Dubois, Rucker, & Galinsky, 2011; Lammers, Gordijn, & Otten, 2008; Trötschel et al., 2011) – are assumed to activate the concept of high or low power, and it's associated thoughts, behaviors and actions (for similar reasoning, see Galinsky et al., 2003). In other words, after this power prime, participants are assumed to feel powerful or powerless, and to react in a similar way to their context as if they would actually possess power, or a lack thereof.

Whereas this manipulation of power has been validated and successfully used across different studies (e.g. Galinsky et al., 2003; Galinsky et al., 2006; Galinsky et al., 2008; Gruenfeld et al., 2008; Lammers et al., 2011; Magee, Galinsky, & Gruenfeld, 2007), instructing participants to describe a situation of power may make the manipulation salient and disclose the purpose of the experiment. This can lead to demand characteristic effects, meaning that participants become aware that the research purpose is to examine how power affects subsequent measures, and feel consciously or unconsciously pressured to react on dependent measures in a way that is in line with how they think they are expected to react (Zizzo, 2010).

A second methodological issue of the research on the interpersonal effects of power concerns the measures of interpersonal sensitivity. Possibly because the term interpersonal sensitivity – the ability to shift attention to others, and to correctly interpret others' thoughts, behavior, and feelings (Hall & Bernieri, 2001) – is quite abstract and therefore difficult to measure in a direct way, research on how power affects it lacks basic measures. Specifically, the idea that power decreases interpersonal sensitivity has mostly been inferred from downstream effects on cognition and studied through self-report measures rather than basic and objective measures.

For example, the idea that power increases social distance is often claimed (Kipnis, 1972; Lammers et al., 2011; Lammers, Stoker, Jordan, Pollmann, & Stapel, 2004; Lee & Tiedens, 2001; Magee, Milliken, & Lurie, 2010; P. K. Smith & Trope, 2006) but rarely supported with actual empirical evidence. In some publications, the positive relation between power and social distance is treated as a given in the introduction or conclusion without support of any empirical evidence (e.g. Magee et al., 2010; P. K. Smith & Trope, 2006). In other publications, the relation is demonstrated with newly introduced self-report measures that are not validated to measure social distance (Kipnis, 1972; Lammers et al., 2004). As a matter of fact, in the most-cited paper for

supporting the assumption that power increases social distance (Lammers et al., 2011), social distance was measured through ratings on the attractiveness of games that were supposed to communicate different levels of social distance (Lammers et al., 2011, Experiment 1), or through measures on willingness to play puzzles alone or with others (Lammers et al., 2011, Experiment 2 & 3).

The negative relation between power and empathy is similarly inferred rather than directly proven, and additionally based on measures that could have been confounded. The most direct evidence for the relation between power and empathy comes from a study where higher scores on trait measures of power related to lower feelings of distress and compassion when listening to another person's misfortune (Van Kleef et al., 2008). Measures of power were in this study attained *before* the empathy measures, which might have revealed the purpose of the experiment and led to demand effects on the self-report measures of empathy (Sturm & Antonakis, 2015; Zizzo, 2010). Furthermore the difference in empathy could be explained through differences in the expressiveness of emotions, rather than differences in feelings of empathy (to be explained more thoroughly later on; Schmid Mast, Jonas, & Hall, 2009). Other evidence for the assumption that power decreases empathy comes from research on whether and how powerful and powerless negotiation partners change offers in reaction to each other's emotional expressions (Van Kleef et al., 2006), from research on whether participants ask empathically motivated questions in a negotiation (Van Kleef et al., 2004), or from research on facial emotion recognition (Galinsky et al., 2006, Experiment 3; Schmid Mast, Jonas, & Hall, 2009). These measures are all indirect measures of empathy, and require deliberate thinking. To be more confident about the negative relation between power and interpersonal sensitivity, it is advisable to test it with manipulations and measures that are not obvious to participants and with measures that are unlikely to be influenced by demand effects.

The negative relation between power and interpersonal sensitivity is furthermore challenged by contradictory findings (Hall et al., 2005; Hall, Halberstadt, & O'Brien, 1997; Schmid Mast et al., 2009; Smith & Hofmann, 2016) and findings of a recent replication study on the relation between power and perspective taking (Ebersole et al., 2016). For example, findings of a study using experience-sampling methods to explore interpersonal effects of power in everyday life indicated that high power positions were associated with experiencing less social distance. Specifically, compared to participants in low power positions, participants in high power positions were more willing to interact with people around them and felt socially closer to people around them (P. K. Smith & Hofmann, 2016). Findings of three other studies indicated that power increases interpersonal sensitivity after priming a communal relationship orientation (Chen et al., 2001) among people with a higher prosocial interpersonal orientation (Côté et al., 2011), or among people-centered as compared to product-centered power holders (Overbeck & Park, 2006). Likewise, a meta-analysis on the relation between individual measures of subordination and of sensitivity to nonverbal cues indicated little evidence for the negative relation between power and interpersonal sensitivity. A study additionally to the meta-analysis showed some correlational evidence for a *positive* relation between power and interpersonal sensitivity (Hall et al., 1997). In these studies, power was sometimes related to *more*, rather than to less interpersonal sensitivity.

In other studies, participants in equal and unequal power-dyads were asked to send emotionally charged messages to their opponent while using nonverbal cues. Although participants in high power roles were less accurate in reading emotions (Gonzaga, Keltner, & Ward, 2008; Snodgrass, 1985; Snodgrass, Hecht, & Ploutz-Snyder, 1998) – which is in line with the idea that power decreases interpersonal sensitivity –, this finding seemed to be confounded by a power-induced increase in emotional expressiveness. Hence, powerful participants were less

accurate not because they were less able to read emotions than the powerless, but because they expressed their own emotions more clearly, making it easier for their powerless opponents to read their emotions (Snodgrass et al., 1998). A follow-up study ruled out this confound by employing standardized tasks in which participants in high and low power conditions were instructed to indicate the emotional expressions and nonverbal behavior of target persons on videotape. Findings indicated that high power participants were *better* than low power participants to recognize emotions (Schmid Mast et al., 2009, Experiments 1, 2, & 3) and to decode nonverbal behavior (Schmid Mast et al., 2009, Experiment 4), letting the authors conclude that power *increases* interpersonal sensitivity.

Notably, this finding that power increases interpersonal sensitivity was in one study found at an emotion recognition task – the DANVA-2 facial emotion recognition task (Nowicki & Duke, 1994) – that was also used by another research group in exact the same way, thus with the same high- and control-power prime (Galinsky et al., 2006, Experiment 3). However, the studies of these two research groups found opposite outcome patterns: One research group found *decreased* emotion recognition in the high power compared to the control condition (Galinsky et al., 2006, Experiment 3), whereas the other research group found *increased* emotion recognition in the high power compared to the control condition and a low power condition (Schmid Mast et al., 2009, Experiment 3).

Besides these contradictory findings, results of a recent replication study on the relation between power and perspective taking cast doubt on whether power decreases interpersonal sensitivity. Specifically, a collaborative pre-registered replication project (Ebersole et al., 2016) included a study of a highly cited paper on the relation between power and perspective taking (Galinsky et al., 2006; Experiment 2a). This study was – together with nine other studies – carried out with original materials and measures, under a large participant sample across twenty

participant pools (N = 2696; and an online sample, N = 737). Whereas data of the original study indicated a robust effect of power on perspective taking (d = 0.77), data of the replication study indicated no such effect (d = 0.03). Notably, one of the possible reasons that the authors of the original paper have put forward for this replication failure to happen, was the unreliability of the effect of the power manipulation (the before-mentioned episodic priming task, Galinsky et al., 2003) on the perspective taking measure (Galinsky, Rucker, & Magee, 2016). Therefore, the failed replication not only casts doubt on the negative relation between power and interpersonal sensitivity, but also indicates a need to test the effect with more basic manipulations and measures.

Taken together, the idea that power decreases interpersonal sensitivity is challenged by methodological issues and contradictory research findings. Specifically, in previous research, manipulations of power and measures of interpersonal sensitivity were mostly obvious to participants, and measures of interpersonal sensitivity were mostly indirect, deliberate, and based on self-report. The use of these methods brings a risk that findings are confounded by demand characteristic effects. Moreover, there exists research indicating that power is sometimes related to an increase, rather than a decrease in interpersonal sensitivity, as well as research that does not replicate the effect of power on perspective taking under a statistically well-powered participant sample.

These challenges form the basis of the two empirical aims of the current dissertation. The first aim is to test the idea that power decreases interpersonal sensitivity in a basic and objective way, with manipulations and measures that are unlikely to be influenced by demand characteristic effects. The second aim is to propose a possible moderating variable of the effect of power on interpersonal sensitivity that might qualify the contradictory findings in the literature. This moderator will be introduced in the next section.

3. A POSSIBLE MODERATOR OF THE RELATION BETWEEN POWER AND INTERPERSONAL SENSITIVITY

As power classically was defined as having the capacity to influence others by having control over own and others' valuable resources (French & Raven, 1959; Gruenfeld et al., 2008; Keltner et al., 2003), the idea that powerful people show less interpersonal sensitivity than powerless people was rooted in the concept of power itself. Specifically, according to this definition, powerful people have sufficient control over their own and others' resources, which directly reduces their need to invest energy to understand the goals, thoughts, and motives of other persons (S. T. Fiske, 1993; Galinsky et al., 2006).

However, this reasoning is only partly in line with the Situated Focus Theory of Power (Guinote, 2007a, 2010b), a well-supported and influential theory postulating that feelings of power lead to an increased focus on whatever information is currently important to reach own goals and reduces attention to information that distracts from attaining this goal (Guinote, 2007b, 2007d; Slabu & Guinote, 2010). According to this theory, and in line with the idea that powerful people are self-sufficient in attaining their resources (S. T. Fiske, 1993; Galinsky et al., 2006; Lammers et al., 2011), the goals, thoughts, and motives of other persons can be viewed as information that distracts powerful people from attaining their own goal. However, also according to the theory, the powerful should not show a *uniform decrease* in interpersonal sensitivity in *all* social relations, but rather a *strategic shift* in interpersonal sensitivity, with greater interpersonal sensitivity toward those social relations in which exercising interpersonal sensitivity is to their benefit.

One particularly important type of social relations in which exercising interpersonal sensitivity can be to the benefit of the powerful are persons in the power relationship. After all, a

wealth of research has demonstrated the advantages the powerful can enjoy by displaying interpersonal sensitivity toward subordinates, followers, and dependents.

For example, central to the idea of Transformational Leadership is that in order to be a successful leader, those in powerful leadership positions need to be attentive to the ideas and priorities of their followers (Bass, 1985, 1997; Bass & Avolio, 1994; Bass & Riggio, 2006). Specifically, the Transactional-Transformational Leadership Paradigm (Bass, 1985) explains two styles of leadership, transactional and transformational leadership, which differ from each other in the way leaders manage and motivate their subordinates. Whereas the autocratic and reactive *transactional* leadership style in which leaders employ rewards and punishments to motivate subordinates, leaders of the charismatic and proactive *transformational* leadership style employ enthusiasm, and inspire subordinates by setting group interest as a priority. This sometimes means that transformational leaders exceed their self-interests for the good of others (Bass, 1997). In effect, transformational leadership enhances commitment and performance of subordinates and helps subordinates to deal with stress, whereas transactional leadership may rather induce stress (Bass, 1999). The finding that transformational leadership is predicted by emotion recognition (Rubin, Munz, & Bommer, 2005) and emotional intelligence (Clarke & Kingdom, 2010) suggests that being more, rather than less interpersonally sensitive toward persons within the power relationship is to the benefit of the powerful.

According to the influential Leader-Member Exchange (LMX) Theory the effectiveness of leaders depends on the emotional quality of the relationship that they form with their subordinates (Bauer & Green, 1996; Graen, Novak, & Sommerkamp, 1982; Graen, Wakabayashi, Graen, & Graen, 1990; Graen & Uhl-Bien, 1995). The theory suggests that leaders build a relationship with each of their subordinates – thus in leader-subordinate dyads – surpassing material exchanges such as monetary compensation for fulfillment of the employment contract.

Specifically, leaders also build a relationship through a 'Leader-Member Exchange process' comprising social/psychological exchanges such as approval, trust, esteem and support (Graen & Uhl-Bien, 1995). A higher quality of this Leader-Member Exchange process leads to mutually supportive and mutually beneficial leader-subordinate relationships (Deluga, 1998). For example, high quality Leader-Member Exchange subordinates obtain special benefits such as exclusive opportunities, valued promotions, and career development support (Bauer & Green, 1996; Graen et al., 1990). High quality Leader-Member Exchange leaders in turn enjoy satisfied, committed, and competent subordinates, who carry out behaviors that go beyond their prescribed job requirements (Dansereau, Graen, & Haga, 1975; Deluga, 1998; Graen et al., 1982). Thus, also according to the Leader-Member Exchange Theory, being highly interpersonally sensitive toward persons within the power relationship is to the benefit of the powerful.

Together, research from these fields indicates that powerful persons can benefit from being interpersonally sensitive toward persons within their power relationship. Following the logic of the Situated Focus Theory of Power (Guinote, 2007a, 2010b) – power should therefore increase interpersonal sensitivity toward people within the power relationship.

The idea that power increases interpersonal sensitivity towards people within the power relationship is furthermore hinted at by research in which effects of power are studied in combination with relationship characteristics. First, given that people within a power relationship might have a stronger communal or prosocial orientation toward each other, the idea that power increases interpersonal sensitivity towards people within the power relationship corresponds with research showing that power is associated with increased interpersonal sensitivity after priming a communal relationship orientation (Chen et al., 2001), among people with a prosocial interpersonal orientation (Côté et al., 2011), or among people-centered power holders (Overbeck & Park, 2006). Second, given that high power persons might feel responsible for the person

within their power relationship (Maner & Mead, 2010; Overbeck & Park, 2001; Sassenberg, Ellemers, & Scheepers, 2012), the idea that power increases interpersonal sensitivity towards person within the relationship corresponds with research showing that feelings of responsibility reduce the effect of power on self-interested behavior (Chen et al., 2001) and increases the effect of power on benevolent or other-oriented behavior (Goodwin et al., 2000; Handgraaf, Van Dijk, Vermunt, Wilke, & De Dreu, 2008; Hogg & Reid, 2001; Overbeck & Park, 2001).

Taken together, following the Situated Focus Theory of Power (Guinote, 2007a, 2010b), and findings showing that certain relationship characteristics increase interpersonal sensitivity (Chen et al., 2001; Côté et al., 2011; Goodwin et al., 2000; Handgraaf et al., 2008; Hogg & Reid, 2001; Overbeck & Park, 2001, 2006), I propose that whereas power may generally decrease interpersonal sensitivity, power should *increase* interpersonal sensitivity toward people within the power relationship.

Preliminary support from existing research

In support of the novel prediction that power increases interpersonal sensitivity toward people within the power relationship, existing research on the effect of power on interpersonal sensitivity has mainly focused on testing effects on targets outside the power relationship. Specifically, power has mostly been measured or manipulated in different social contexts than those in which interpersonal sensitivity was measured (Anderson & Galinsky, 2006; Galinsky et al., 2006; Gruenfeld et al., 2008; Johnson & Lammers, 2012; Lammers et al., 2011; Van Kleef et al., 2008).

One way in which power and interpersonal sensitivity have been measured in different contexts is because power manipulations have not provided participants with interpersonal contexts. For example, power has been manipulated through lexical primes such as word-search

puzzles (Johnson & Lammers, 2012, Experiment 3) or word completion tasks (Schmid Mast et al., 2009, Experiment 2) which included low or high power words. Likewise, instead of manipulating power, other studies measured dispositional power (Anderson & Galinsky, 2006; Anderson, John, & Keltner, 2012; Côté et al., 2011; Johnson & Lammers, 2012; Smith & Hofmann, 2016; Van Kleef et al., 2008), for instance the Sense of Power Scale, which includes questions like 'I think I have a great deal of power' or 'My ideas get often ignored' (reverse coded) (Anderson & Galinsky, 2006; Anderson et al., 2012). As these power manipulations and measures do not provide participants with a specific interpersonal context but merely measure self-reported estimates of power, additional measures of interpersonal sensitivity always referred to new target persons, thus persons outside of the participants' power context.

Another way in which power and interpersonal sensitivity have been measured in different social contexts is because these measures related to different persons than those within the participants' manipulated power relationship. (e.g. Galinsky et al., 2006; Gruenfeld et al., 2008; Lammers et al., 2011). For example, when using the before mentioned 'episodic priming task' (p. 39) to manipulate power in which participants in the high power condition describe a situation in which they had power over one or more individuals, and participants in the low power condition describe a situation in which another person had power over them, additional measures of interpersonal sensitivity do mostly not refer to those persons who are described in the priming task. In other words, interpersonal sensitivity is always measured toward *new* target persons with whom participants have no prior relation, and not toward those persons who are mentioned by the participants in the described high or low power situation (e.g. Galinsky et al., 2006; Gruenfeld et al., 2008; Lammers et al., 2011). Even by priming power through role manipulations, meaning that participants are assigned to high or low power roles, subsequent measures of interpersonal sensitivity refer to *new* target persons, because participants are

unacquainted previous to the experiment, or within the experiment even never meet the person of the opponent role (Lammers et al., 2011; Lammers, Gordijn, et al., 2008; Van Kleef et al., 2004, 2006).

Interestingly, the novel prediction that power increases interpersonal sensitivity toward people within the power relationship is already preliminarily supported by findings in existing literature (Overbeck & Park, 2001; P. K. Smith & Hofmann, 2016). For example, in the experience sampling study on power in everyday life, social distance was measured toward persons over whom participants had power, or – at low power situations – toward persons who had power over the participants. Results in this study indicated that power was related to less, rather than more social distance (Smith & Hofmann, 2016). Findings of another study indicate that participants in powerful positions paid more attention to individuating information of people within their power relationship than did participants in powerless positions (Overbeck & Park, 2001). In both studies, feelings of responsibility mediated the relation between power and the dependent measures (Overbeck & Park, 2001; Smith & Hofmann, 2016).

Taken together, as powerful persons have sufficient control over their own and others' resources, they may have no need to invest energy in an accurate and comprehensive understanding of other people. This may be the reason that power decreases interpersonal sensitivity. However, following the Situated Focus Theory of Power (Guinote, 2007a, 2010b) and research showing that powerful persons can profit from being interpersonally sensitive towards members of the power relationship (Bass, 1985, 1997; Bass & Avolio, 1994; Bass & Riggio, 2006; Bauer & Green, 1996; Graen & Uhl-Bien, 1995; Graen et al., 1990), I argue that although power generally decreases interpersonal sensitivity, power increases interpersonal sensitivity toward persons within the power relationship. In other words, I propose, and test in the second

empirical chapter of the current thesis (p. 66-85), that target-relationship moderates the relation between power and interpersonal behavior.

4. EMPIRICIAL EVIDENCE: AIM I

Testing the hypothesis that power increases interpersonal sensitivity in a basic and objective way

This first empirical chapter provides a basic and objective test of the effect of power on interpersonal sensitivity, by using a power prime that is not obvious to participants, and a measure of interpersonal sensitivity that is not likely to be influenced by demand effects. This measure is the joint Simon task (Sebanz, Knoblich, & Prinz, 2003), which is a reaction time paradigm commonly used to measure the extent to which the attention for and representation of others' actions affects one's own performance. Specifically, two participants – seated next to each other – react as fast as possible to one of two stimuli (e.g., one reacts to red, the other to green circles) that appear on the left, center, or right of a shared computer screen. Although participants are instructed to ignore the position of the stimulus on the screen, they are faster to respond to (own) target stimuli appearing on "their" side of the screen than on their partner's side. This is because people tend to represent their own actions in reference to their interaction partner (e.g., in terms of their 'left' versus 'right' seating position), resulting in response conflict when a stimulus location is incongruent with this representation (e.g., when the person on the right has to respond to stimuli that appear on the left, Dolk et al., 2014; Dolk, Hommel, Prinz, & Liepelt, 2013; Ferraro, Iani, Mariani, Milanese, & Rubichi, 2011).

Indeed, ample evidence demonstrates that this interference effect, known as the joint Simon effect, reflects attention toward the co-actor. In particular, if the same task is performed in exactly the same way, but in the absence of another individual who is responsible for reacting the second stimulus, the interference effect is typically absent (Hommel, 1996; Sebanz et al., 2003). Similarly, although the interference effect also occurs when interacting with non-human co-actors, it is substantially decreased in the presence of less salient or personally relevant

interaction partners, such as machine-like robots (Stenzel et al., 2012) or wooden instead of human hands (Müller, Brass, et al., 2011; Tsai & Brass, 2007), as well as when performing the task with less-liked co-actors (Hommel, Colzato, & Wildenberg, 2009), or with co-actors from out-groups (Müller, Kühn, et al., 2011). Conversely, the interference effect is enhanced when the spatial response dimension is made more salient (Dittrich, Rothe, & Klauer, 2012). Hence, the joint Simon effect offers an objective measure of basic attention to the actions of others.

To study how power affects performance on the joint Simon task, I turn to a specialized version, namely the *Vertical joint Simon task* (Dittrich, Dolk, Rothe-Wulf, Klauer, & Prinz, 2013). While the joint Simon task typically comprises a horizontal arrangement of stimuli, seating position, and response keys, Dittrich and colleagues (2013) showed that the joint Simon effect also occurs when stimuli, seating position, and response-keys are vertically aligned (see below for details). This vertical joint Simon task offers an excellent context to manipulate power, as verticality and power are strongly associated (Lakoff, 1987; Lakoff & Johnson, 1980). People in positions of power typically sit higher than others. For example, the king and queen are seated on a throne – a high chair, placed on a pedestal. Also, organizational charts place those with more power at the top. In fact, vertical position has even been shown to be a sensorimotor determinant of perceptions of power, meaning that people automatically infer that what is up is powerful, while what is down is powerless (Giessner & Schubert, 2007; Lakens, Semin, & Foroni, 2011; L. Schubert et al., 2013; T. W. Schubert, 2005). Virtually all people across all cultures effortlessly use the same vertical metaphor to differentiate between the powerful and powerless (A. P. Fiske, 1992, 2004; Schwartz, 1981; Schwartz, Tesser, & Powell, 1982), and this link between elevation and power is already present in preverbal children (Thomsen, Frankenhuis, Ingold-Smith, & Carey, 2011). Therefore, vertical seating arrangements act as a strong power manipulation.

Overview of studies

Although findings in the literature suggest that power decreases interpersonal sensitivity, to my knowledge, no research has tested this with basic and objective manipulations and measures. Therefore, I examined how power, manipulated by spatial elevation of the seating position, affects reaction times in a vertical joint Simon task. I first re-analyzed two existing datasets that were originally collected for different research purposes (the existence of a vertical joint Simon effect; Dittrich et al., 2013). Next, I conducted a confirmatory experiment with higher statistical power, in which I included a manipulation check to more directly test the effect of power on reaction times in the aforementioned joint Simon task.

Experiments 1a and 1b

In the first experiment, I reanalyzed data of Dittrich and colleagues (2013), selecting only those experimental conditions in which stimuli, seats, and response keys were all vertically aligned.

Method

Participants and Design

Twenty-four University-of-Freiburg students (20 females, 4 males, mean age 23.3 years, *SD* = 3.1) participated in Study 1a and 24 in Study 1b (14 females, 10 males, mean age 24.0 years, *SD* = 7.4) in same sex dyads (cf. van der Weiden, Aarts, Prikken, & van Haren, 2016), all in return for course credit or € 3,50. All students had normal or corrected-to-normal vision. Methods for Study 1a and 1b were identical and are discussed together.

Power Manipulation

After signing informed consent forms, participants were randomly assigned to sit on a chair placed on a 40 cm high platform (high power), or on a non-elevated, lower position (low power), as illustrated in Figure 2. Experimenters tried to reduce communication to the participants, to minimize possible experimenter effects.

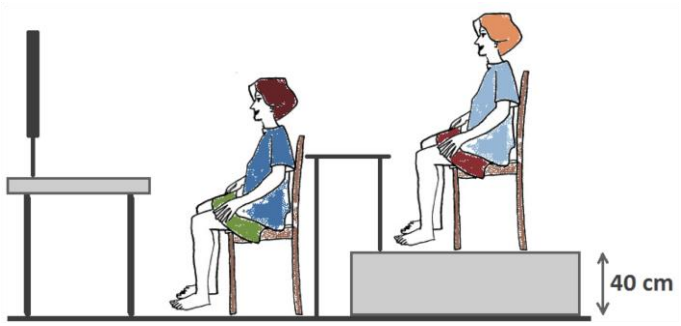

Figure 2. Illustration of the experimental setup in Experiments 1a/1b and 2.

Joint Simon task

Participants then performed a vertical joint Simon task (Dittrich et al., 2013; adapted from Tsai, Kuo, Jing, Hung, & Tzeng, 2006). Specifically, participants were first assigned a target color (red or green). Next, they were instructed to react only to their assigned target color by pressing a response key as fast as possible. Orthogonally, the circles' vertical position varied across trials, resulting in congruent (circle and seating position are similar), incongruent (dissimilar positions), and neutral (circle appears in the middle) trials.

Instructions and the experimental task were presented on a computer screen with 100Hz refresh rate during all blocks. Each trial started with the presentation of a white rectangle with three identical and vertically aligned, unfilled white circles (400 ms). In each experimental trial one circle, the target circle, was filled at random with the red or green color (top, middle, or

bottom, 150 ms). The maximum allowed response time was 600 ms and the intertrial interval was 500 ms. In practice blocks, the maximum allowed response time was 3000 ms, and target circles were displayed until a recorded response. Reaction time was measured from the onset of the target display. At errors or slow responses, feedback was displayed (500 ms) at false ("*Fehler!*") or too slow ("*Zu langsam!*") responses. This feedback was displayed at the same vertical position as the seating position of respective participant showing the error or slow response. The experiment consisted of four experimental blocks of 126 trials each, preceded by two practice blocks of 60 trials each. In total, the experiment lasted approximately 30 minutes.

Results

Experiment 1a

As expected, a repeated-measures Analysis of Covariance (ANCOVA), on the effect of power and congruency on mean reaction time, controlling for participant dyad as covariate, revealed the expected main effect of congruency, $F(2, 42) = 7.63$, $p = .001$, $\eta_p^2 = .27$, such that reaction times were slower on incongruent compared with congruent trials. More importantly, this main effect was qualified by the expected interaction with power, $F(2, 42) = 7.93$, $p = .001$, $\eta_p^2 = .27$. As depicted in Figure 3, two separate t-tests revealed that participants in the low power condition showed a joint Simon effect, demonstrated by slower reaction times on incongruent ($M = 357.8$ ms, $SD = 46.4$) compared to congruent trials ($M = 341.8$ ms, $SD = 42.3$), $t(11) = 5.38$, $p < .001$, 95% $CI_{difference} = [-22.43, -9.41]$. In contrast, participants in the high power condition showed equally fast reaction times on incongruent ($M = 324.7$ ms, $SD = 32.3$) and congruent trials ($M = 326.7$ ms, $SD = 29.9$), $t(11) = 0.76$, $p = .463$, 95% $CI_{difference} = [-3.79, 7.79]$.

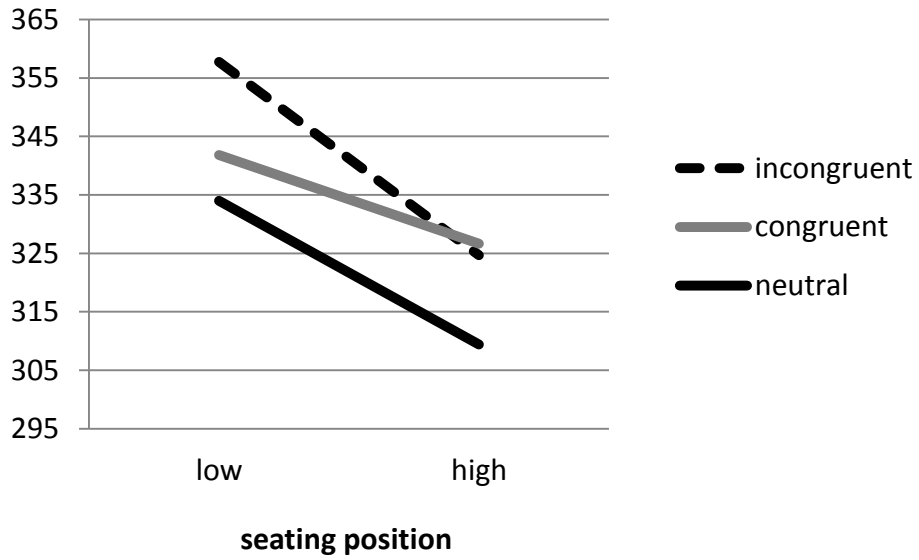

Figure 3. Reaction times (in ms) in the joint Simon task for participants in the low- and high power conditions, by congruency, Experiment 1a.

Experiment 1b

A repeated-measures Analysis of Covariance (ANCOVA), on the effect of power and congruency on mean reaction time, controlling for participant dyad as covariate, revealed the same expected main effect of congruency as in Experiment 1a, $F(2, 42) = 12.49$, $p < .001$, $\eta_p^2 = .37$, where reaction times on incongruent trials were slower than those on congruent trials. This main effect was again qualified by the expected interaction with power, $F(2,42) = 10.23$, $p < .001$, $\eta_p^2 = .33$. As can be seen in Figure 4, two separate t-tests revealed that participants in the low power condition showed a joint Simon effect ($M_{incongruent} = 333.9$ ms, $SD_{incongruent} = 36.3$; $M_{congruent} = 320.6$ ms, $SD_{congruent} = 32.90$), $t(11) = 4.41$, $p = .001$, 95% $CI_{difference} = [-19.98, -6.68]$. In contrast, participants in the high power condition did not show this effect ($M_{incongruent} = 329.6$ ms, $SD_{incongruent} = 20.3$; $M_{congruent} = 331.6$ ms, $SD_{congruent} = 19.7$), $t(11) = 0.74$, $p = .477$, 95% $CI_{difference} = [-3.98, 7.98]$.

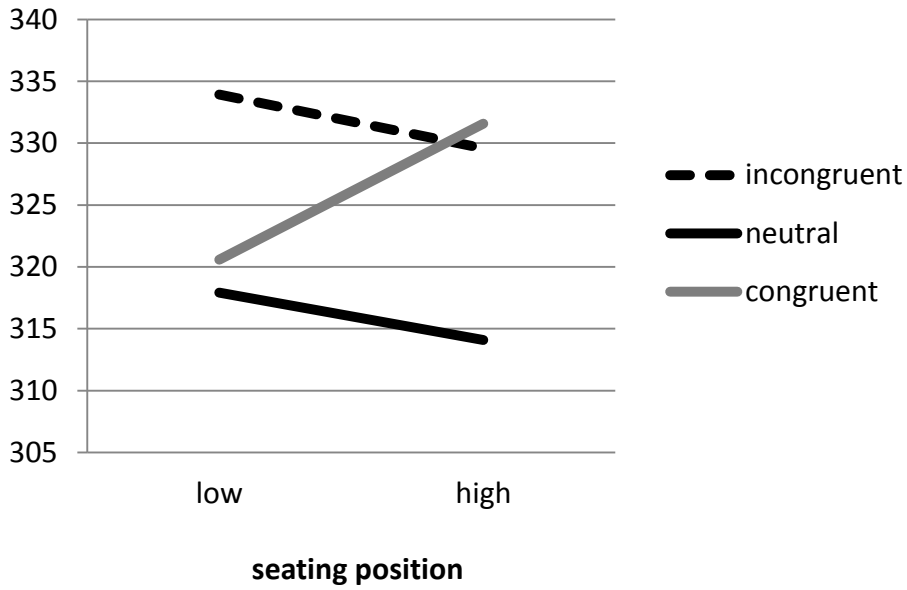

Figure 4. Reaction times (in ms) in the joint Simon task for participants in the low- and high power condition, by congruency, Experiment 1b.

Experiment 2

Re-analyses of two existing data sets showed that people in a high power (elevated) position do not show the typical joint Simon effect as opposed to people in a low power (non-elevated) position. In other words, power steered attention away from others, or led people to be less influenced by the presence of others, indicating that they are less interpersonally sensitive. To further confirm this hypothesis, in Experiment 2, I conducted a confirmatory study using the same paradigm, however using a statistically better-powered sample. In addition, I administered a power manipulation check and a measure of mood (given the association between power and positive mood; Keltner et al., 2003).

Method

Participants and Design

One hundred healthy, right-handed undergraduates from the University of Freiburg (70 women, 30 men, mean age 22.4 years, *SD* = 3.3) with normal or corrected-to-normal vision participated in same sex dyads (cf. van der Weiden et al., 2016) in return for course-credit or € 3,50. Participants were randomly assigned to either the low- or high power condition. A power analysis using G*Power (Faul, Erdfelder, Buchner, & Lang, 2013) showed that a sample size of 100 provides ample power (1–β > .99, α = .05), given the lowest effect size found in Studies 1a/1b (η_p^2 = .27, *f* = .61).

Materials and Procedure

The experimental procedure was the same as in Experiments 1a and 1b, except for the following. I included a two-item (*r* = -.19, *p* = .054) manipulation check of current feelings of high and low power, measured on a 7-point scale (e.g. Lammers et al., 2011); and a single, continuous measure of mood (a 14.6 cm line, ranging from "*Schlecht*" [bad] to "*Gut*" [good]). The questionnaire also contained additional exploratory measures, on which no effects were found and which are not further discussed in the method section (measures on confidence, See, Morrison, Rothman, & Soll, 2011; social distance, Liviatan et al., 2008 and Aron et al., 1992; regulatory focus, Sassenberg, Jonas, Shah, & Brazy, 2007; and risk-taking, Magee et al., 2007).

Results

Manipulation Check

High power participants felt more powerful (M = 4.67, SD = 1.26) than low power participants (M = 3.83, SD = 1.22), $t(98) = -3.38$, $p = .001$, $d = 0.68$, 95% $CI_{difference}$ = [-1.33, -0.35]. The manipulation did not affect mood, $t(96) = 1.18$, $p = .239$, $d = 0.24$, 95% $CI_{difference}$ = [-5.25, -20.76]. Two participants did not indicate their current feelings of power.

Joint Simon task

A repeated measures ANCOVA on the effect of power and spatial congruency (neutral, congruent, incongruent; controlling for participant-dyad) on mean reaction times revealed the expected main effect of congruency $F(2,194) = 12.58$, $p < .001$, $\eta_p^2 = .12$, qualified by the predicted interaction, $F(2,194) = 11.47$, $p < .001$, $\eta_p^2 = .11$. As expected and as depicted in Figure 5, two separate t-tests revealed that participants in the low power condition showed slower reaction times on incongruent (M = 317.7 ms, SD = 28.6) compared to congruent trials (M = 311.2 ms, SD = 28.2), $t(49) = 4.48$, $p < .001$, $d = .23$, 95% $CI_{difference}$ = [-9.47, -3.61], but this effect was reversed among participants in the high power condition ($M_{incongruent}$ = 309.7 ms, SD = 25.7; $M_{congruent}$ = 312.6 ms, SD = 26.23), $t(49) = 2.41$, $p = .020$, $d = .11$, 95% $CI_{difference}$ = [0.48, 5.28].

Additional Analysis. Further supporting the hypothesis that power decreases interpersonal sensitivity, the interference effect (reaction $time_{incongruent}$ – reaction $time_{congruent}$) correlated with feelings of power (as measured as manipulation checks), $r(100) = .233$, $p = .020$.

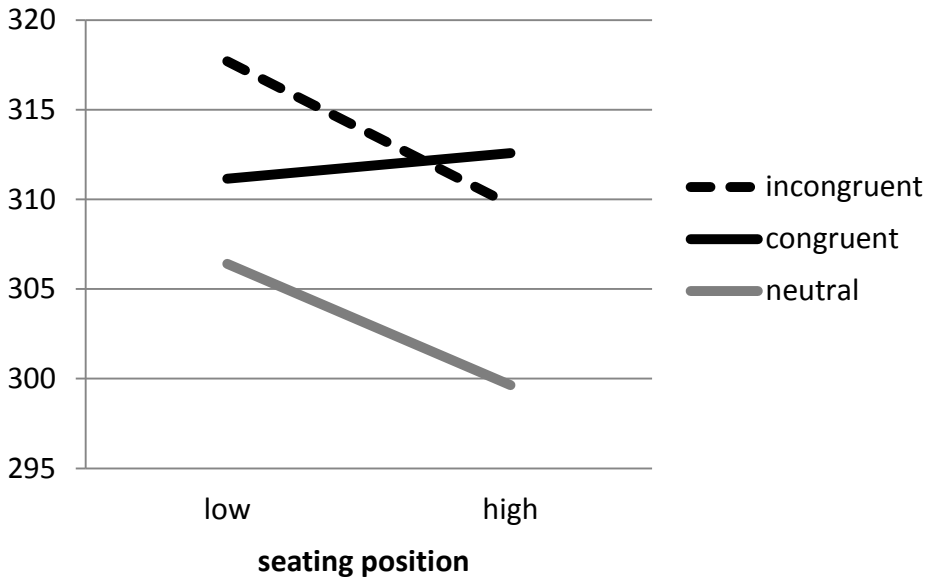

Figure 5. Reaction times (in ms) in the joint Simon task for participants in the low- and high power condition, by congruency, Experiment 2.

Discussion

Findings of three experiments, including a well-powered confirmatory study, show that power, manipulated through spatial elevation of seating positions, is related to less interpersonal sensitivity. I found this using an objective measure of basic attention to others, which is unlikely to be influenced by demand effects: A vertically aligned joint Simon task. Consistently, participants in the low power condition showed a typical joint Simon effect, suggesting that their co-actor attracted their attention. But equally consistently, participants in the high power condition did not show the joint Simon effect, suggesting that their attention was steered away from others and toward the self.

Theoretical Implications

These findings add to the literature by confirming the idea that power decreases interpersonal sensitivity, as demonstrated with an objective measure of basic attention rather than with subjective measures of downstream effects on judgments (S. T. Fiske, 1993; Galinsky et al., 2006; Goodwin et al., 2000; Gruenfeld et al., 2008; Lammers et al., 2011; Magee & Smith, 2013; Van Kleef et al., 2008), or from measures and manipulations that may have been confounded by demand effects (Sturm & Antonakis, 2015; Zizzo, 2010). Specifically, earlier research on interpersonal effects of power has been criticized because the manipulations and measures used in most research might have been obvious to participants. This could have revealed research purposes and have led to untrue results through demand effects (Sturm & Antonakis, 2015; Zizzo, 2010). However, the current research led to similar results as those of earlier studies, through a more basic research design. The used manipulation and measure were unlikely to be influenced by demand characteristic effects. Specifically, Experiments 1a and 1b were originally designed for a different research purpose (the existence of a vertical social Simon effect; Dittrich et al., 2013) and included no questions or texts relating to power. Therefore, findings could not have been influenced by researcher expectations or information that made the research purpose obvious to participants. In Experiment 2, measures of feelings of power could not influence the measure of interpersonal sensitivity because they appeared after the measure of interpersonal sensitivity.

Furthermore, the joint Simon measure of interpersonal sensitivity supposed to capture automatic action tendencies that appear too fast to be influenced by demand effects. That is, the reaction time differences between congruent and incongruent trials in the joint Simon task typically become significant at about 6 milliseconds and range between 6 and 30 milliseconds (e.g. Costantini & Ferri, 2013; Dittrich et al., 2013; Dolk et al., 2011, 2014; Müller, Brass, et al.,

2011), whereas conscious intentions of acts appear typically only after 350 milliseconds (Libet, 1993). Together, the risk, that the measures and manipulations in the present studies were obvious to participants or could have been influenced by demand characteristics effects, has been kept to a minimum. Therefore, the present results add to earlier research by indicating that power decreases interpersonal sensitivity at the level of automatic action tendencies.

Another important theoretical implication of the research findings of the current empirical chapter applies to the recently debated association between power and perspective taking. Specifically, earlier work on the joint Simon task shows that instructions to take the perspective of the co-actor increases the joint Simon effect (Müller, Kühn, et al., 2011) and thus produces opposite effects as does power in the present experiments. This relates to the discussed failed replication of a much-cited paper by Galinsky and colleagues (2006) on the negative effect of power on perspective taking. The replication paper, the Many Labs 3 Project (Ebersole et al., 2016), included a study in which (Galinsky et al., 2006, Experiment 2a) participants in the high power condition insufficiently adopted others' perspective, as indicated by the way they interpreted a joke. The Many Labs 3 Project (Ebersole et al., 2016) failed to replicate that joke interpretation study, casting doubt on the theoretical link between power and perspective taking. It must however be noted that the joke-interpretation paradigm used in that study employed the most indirect measure of perspective-taking presented in the paper, rendering the original effect sensitive to depth of processing and to personal and situational differences in humor and the use of sarcasm (Galinsky et al., 2016). Using a much more direct test of the link between power and interpersonal sensitivity, the current results support the relation between power and reduced perspective taking.

Avenues for further research

Nevertheless, findings of these first three experiments also left some questions open about the relationship between power and interpersonal sensitivity. In Experiment 2, participants in the high power condition reacted slower to congruent than incongruent trials, thus showed an inverted Simon effect. Although this could indicate that participants in the high power condition were more interpersonally sensitive to their co-actors because they were more attentive to the spatial location of their co-actor than to their own, I believe that the inverted Simon effect was an artifact of the big sample. In support of this, the inverted Simon effect did not appear at the Experiments 1a and 1b. Furthermore, as already mentioned, the reaction time differences between congruent and incongruent trials in a joint Simon task typically become significant at about 6 milliseconds and range between 6 and 30 milliseconds (e.g. Costantini & Ferri, 2013; Dittrich et al., 2013; Dolk et al., 2011, 2014; Müller, Brass, et al., 2011). However, in Experiment 2, the mean difference in reaction times for high power participants was only 3 milliseconds with an effect size that was half the size of those of the non-inverted Simon effects. Even though these arguments indicate that the inverted Simon effect of Experiment 2 was an artifact of the big sample size, another replication of the current study could provide more certainty about this assumption.

Participants in Experiment 2 filled out a questionnaire with exploratory measures on which no differences between the experimental conditions appeared. These measures were applied based on their associations with power in the literature. Power has been shown to increase confidence (See et al., 2011), to decrease social distance (Lammers et al., 2011; Magee & Smith, 2013), to lead to an approach focus (Keltner et al., 2003), and to increase risk-taking (Anderson & Galinsky, 2006; Magee et al., 2007). However, spatial elevation of participants did not affect outcomes on these variables in Experiment 2. Whereas there may be many reasons for

this, I believe that the experimental setting lacked a social context or a certain reference point on which participants could base their answers. Specifically, co-actors in the experiment were not introduced to each other and only were connected to each other by their simultaneous presence in the room and by their simultaneous participation in the Simon task. Therefore, it is unlikely that participants used their knowledge about the co-actor as a reference. Possibly, for reliable differences to appear on the included measures, participants need some reference point based on which they can answer questions.

Another unanswered question in the results of the three experiments concerns findings of earlier research showing that power is sometimes related to an increase, rather than a decrease in interpersonal behavior (Chen et al., 2001; Côté et al., 2011; Overbeck & Park, 2001, 2006; Schmid Mast et al., 2009). At face value, these earlier findings contradict the findings of Experiments 1a/1b and 2. However, experiments of the following empirical chapter will show evidence for a possible explanation of the incidental occurrence of seemingly contradictory findings in earlier research.

5. EMPIRICAL EVIDENCE: AIM II

Testing whether power increases interpersonal sensitivity toward people within the power relationship

The aim of this second empirical chapter is to test whether power increases interpersonal sensitivity toward people within the power relationship. If so, this would provide an explanation of research findings in the literature that seem, at face value, to contradict the idea that power decreases interpersonal sensitivity. Following the Situated Focus Theory of Power (Guinote, 2007a, 2010b) and research showing that powerful persons can profit from being interpersonally sensitive towards members of the power relationship (Bass, 1985, 1997; Bass & Avolio, 1994; Bass & Riggio, 2006; Bauer & Green, 1996; Graen & Uhl-Bien, 1995; Graen et al., 1990), I propose that whereas power generally decreases interpersonal sensitivity to other persons, it *increases* interpersonal sensitivity towards persons within the power relationship.

Overview of studies

To test this novel prediction that the effect of power on interpersonal sensitivity depends on the relationship with the target, I conducted five studies aiming to measure interpersonal sensitivity toward persons within and outside the power relationship. Whereas earlier research mostly measured components of interpersonal sensitivity toward new, unacquainted persons, I adapted the measures in order to manipulate whether the measures referred to people within or outside the power relationship. Two exploratory pilot studies (Experiments 3a/3b) test whether power decreases social distance toward a person within the power relationship. Next, three confirmatory studies test the effect of power, and its moderation by target relationship, on four different aspects of interpersonal sensitivity, namely social distance (Experiment 4; Lammers et al., 2011), empathy (Experiment 5; Van Kleef et al., 2008), perspective taking (Experiment 6;

Galinsky et al., 2006), and helping behavior (Experiment 6; Lammers et al., 2011). Across studies, I report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures.

Experiments 3a and 3b

Two pilot studies tested the novel prediction that power reduces social distance toward target persons within the power relationship, each of them using a different measure of social distance. Because the studies were otherwise similar, they are presented together.

Method

Participants and Design

98 American Amazon Mechanical Turk (Mturk) users (46 women, 52 men, mean age 32.42 years) participated in Experiment 3a, and 99 Mturk users (52 women, 47 men, mean age 34.01 years) in Experiment 3b, all in return for $ 0,35. Participants were randomly assigned to either the low- or the high power condition. Sample size was a priori set to 50 per cell, to provide enough power ($1-\beta = 0.80$) to detect a small-to-medium effect of $f = .20$ (Faul et al., 2013). Accidentally, I obtained data of one more participant than planned. Furthermore I deleted four cases of one participant who used multiple Mturk accounts and who did not follow other instructions either.

Power Manipulation

After signing informed consent, participants completed an episodic power priming task (Galinsky et al., 2003). Following the instructions, they described a particular incident in their life in which they had power over another person (high power condition) or in which another

person had power over them (low power condition), including what happened and how it made them feel. Differently from in the original instructions and for reasons explained below, participants were asked to indicate the name and gender of the target person over whom they had power (high power condition), or the person who had power over them (low power condition).

Measures

Mood. To be able to rule out any effects of mood, participants in both studies indicated their current mood on a 100-point scale ranging from *Very unpleasant* (0), to *Very pleasant* (100) after the recall task.

Social Distance. Next, participants indicated their feelings of social distance toward the target described in the power recall procedure. To do so, social distance items were framed using the name and correct gender of the target person, as provided earlier by participants (see above). Specifically, participants in Experiment 3a indicated how *close* and how *similar* they felt to the target person, on two seven-point scales between *Not at all* (1) and *Very much* (7*)* (Liviatan et al., 2008). Items correlated well (r = .75, p < .001) and were after recoding combined into one social distance index. In Experiment 3b, I used Aron, Aron, and Smollan's (1992) Inclusion of Other in the Self (IOS) Scale to measure social distance. Specifically, participants saw seven pairs of circles that were labeled with 'Self' and 'Other' and that differed in their degree of overlap from no overlap (1) to almost complete overlap (7). Participants picked the pair that best described their relationship with the target person. Again, the name and gender of the target person were included in the framing of the item. In both studies, scores where reversed, so that a higher score represented a higher degree of social distance.

Manipulation Check

Participants in both studies indicated the extent to which they felt powerful, powerless (reverse coded), and dominant during the described period, on three 7-point scales ranging from *Strongly disagree* (1) to *Strongly agree* (7). Items correlated well in both studies (α_{1a} = .96, α_{1b} = .94). For exploratory purposes, I also measured perceived legitimacy of the power relationship (Lammers, Galinsky, Gordijn, & Otten, 2008). Perceived legitimacy did not affect results and is therefore not further discussed.

Results

Experiment 3a

An Analysis of Variance (ANOVA) revealed a large effect of power on social distance, $F(1, 96) = 24.44$, $p < .001$, $\eta_p^2 = .20$, $d = 1.00$, where low power participants experienced *more* social distance to the target ($M = 5.12$, $SD = 1.48$) than high power participants ($M = 3.53$, $SD = 1.70$), 95% $CI_{difference}$ = [0.95, 2.22].

Participants in the high power condition felt more powerful ($M = 5.56$, $SD = 0.77$) than participants in the low power condition ($M = 1.96$, $SD = 1.07$), $t(96) = -3.60$, $p < .001$, $d = 3.86$, 95% CI [-3.98, -3.22], indicating that the power manipulation successfully induced feelings of power or powerlessness. Although participants experienced a more positive mood in the high power ($M = 70.30$, $SD = 20.24$) than in the low power condition ($M = 51.81$, $SD = 27.18$), $t(104) = -3.74$, $p < .001$, $d = 0.77$, 95% CI [-28.28, -8.68], including the mood variable in the main analysis left the effect of power on social intact. Specifically, although there was a significant negative effect of mood on social distance, $F(1, 95) = 5.72$, $p = .019$, $\eta^2 = .06$, controlling for mood left the effect of power largely unaffected, $F(1, 95) = 15.03$, $p < .001$, $\eta_p^2 = .14$.

Experiment 3b

An Analysis of Variance (ANOVA) revealed a medium effect of power on social distance, $F(1,97) = 9.15$, $p = .003$, $\eta_p^2 = .09$, $d = 0.62$, 95% CI [0.34, 1.64]. Like in Experiment 1a, participants in the low power condition experienced more distance to the target ($M = 6.07$, $SD = 1.47$) than participants in the high power condition ($M = 5.07$, $SD = 1.75$).

Participants in the high power condition felt more powerful ($M = 5.22$, $SD = 1.20$) than participants in the low power condition ($M = 1.79$, $SD = 1.04$),$t(97) = -15.03$, $p < .001$, $d = 3.05$, 95% CI [2.98, 3.88], indicating that the power manipulation successfully induced feelings of power or powerlessness. Unlike in Experiment 1a, participants in Experiment 1b did not differ in mood across the high- and low power conditions, $F < 1$, $p = .344$.

Experiment 4 – Social Distance

The exploratory results of Experiments 3a and 3b indicate that – in contrast to earlier literature (Lammers et al., 2011) – power does not always increase distance, but in fact reduces distance toward targets who are part of the power relationship. As a first confirmatory test, Experiment 4 employed a 2 x 2 design, to study the effect of power and its moderation by target-relationship on social distance, using the combined measures of Studies 3a/3b.

Method

Participants and Design

106 U.S. Amazon Mechanical Turk users (39 women, 67 men, mean age 30.32 years) participated in this study in return for $ 0,35. The study had a 2(Power: low vs. high, between-participants) x 2(Target Relationship: inside vs. outside power relationship, within-participants)

mixed design. Sample size was a priori set to 50 per cell. This would provide us with enough power (1-β = 0.90) to reliably detect a small-to-medium effect of f = .20, assuming a correlation between the repeated measures of r > .25 (Faul et al., 2013).[i]

Materials and Procedure

The experimental episodic recall procedure (Galinsky et al., 2003) of Experiment 4 was similar to that of Experiments 3a/3b, with the exception that participants also indicated the name of a relative, to be used in the outside power relationship condition ("Please think of a person you see once in a while. This can for example be a friend [not your best friend], a colleague, or a relative.").

Mood. Participants indicated their mood on the same single item measure as in Experiments 3a/3b.

Social Distance. Following Liviatan and colleagues (2008), I combined the social distance measures of Experiment 3a/3b (α = .91). Specifically, participants indicated how *close* and how *similar* they felt to the target person, on two seven-point scales between *Not at all* (1) and *Very much* (7*)* (Liviatan et al., 2008) and additionally indicated their felt distance toward the target person on the Inclusion of Other in the Self (IOS) Scale (Aron, Aron, and Smollan's 1992). Depending on the target relationship condition, these items were framed either to apply to the target person (i.e., the person that was mentioned in the power episode; within power relationship) or to apply to the unrelated person (i.e. the name of the relative that participants had provided; outside power relationship). Presentation order was counterbalanced.

Results

Main Analyses

An Analysis of Variance (ANOVA) on the social distance measures revealed a main effect of power, $F(1, 104) = 7.71$, $p = .007$, $\eta_p^2 = .07$, and a main effect of relationship, $F(1, 104) = 76.65$, $p < .001$, $\eta_p^2 = .42$, that were both qualified by the expected significant interaction of power and relationship, $F(1, 104) = 35.83$, $p < .001$, $\eta_p^2 = .26$. To interpret this interaction, I ran two separate t-tests of the effect of power within and its effect outside the power relationship. Replicating the results of Studies 3a/3b, and depicted in Figure 6, high power participants felt *less* distant ($M = 4.15$, $SD = 1.46$) than low power participants ($M = 5.70$, $SD = 1.27$) towards targets *within* the power relationship, $t(104) = 5.84$, $p < .001$, $d = 1.13$, 95% CI [-2.08, -1.03]. Furthermore, replicating earlier findings in literature (Lammers et al., 2011), participants in the high power condition felt more distant ($M = 3.72$, $SD = 1.33$) than participants in the low power condition ($M = 3.24$, $SD = 1.21$) toward targets *outside* the power relationship, $t(104) = -1.95$, $p = .054$, $d = 0.38$, 95% $CI_{difference}$ [-0.01, 0.97].

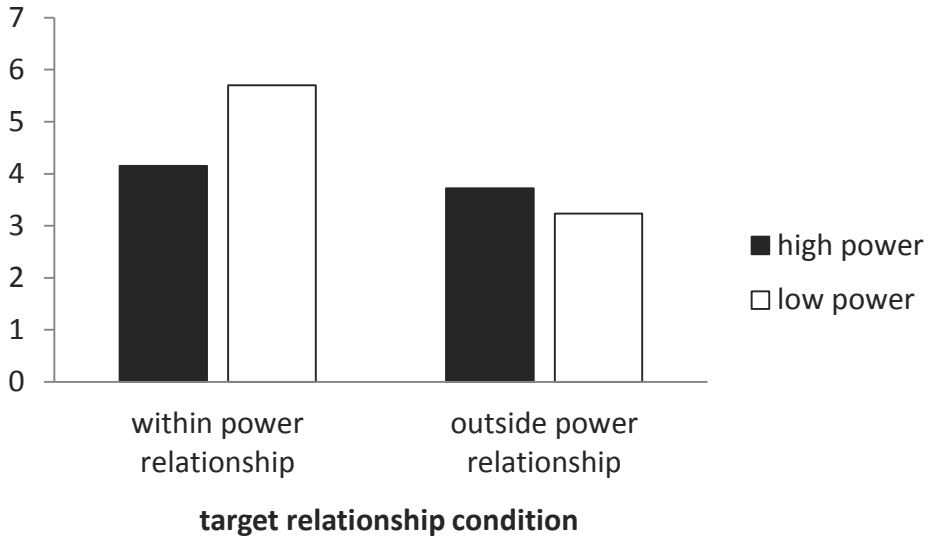

Figure 6. Means of the Social Distance measures at within- and outside power relationship conditions (within participants), by power condition (between participants), Experiment 4.

***Additional Analyses*.** Participants experienced a more positive mood in the high power condition (M = 69.53, SD = 17.60) than in the low power condition (M = 47.87, SD = 24.39), $t(104) = -5.21$, $p < .001$, $d = 1.02$, 95% CI [-29.90, -13.41]. Although controlling for mood revealed a significant negative effect of mood on social distance, $F(1, 103) = 5.40$, $p = .022$, $\eta_p^2 = .05$, the interaction effect of power and relationship remained stable, $F(1, 103) = 19.23$, $p < .001$, $\eta_p^2 = .16$

Experiment 5 - Empathy

Experiments 3a/3b and 4 show that power produces different effects on social distance depending on the nature of the relationship with the target. The aim of Experiment 5 is to replicate this effect and focus on a different interpersonal effect of power: empathy (Van Kleef et

al., 2008). Different than in Experiment 4, I use a complete between-subjects design, to better shield the hypothesis from participants.

Method

Participants and Design

204 American Mturk users (96 women, 108 men, mean age 33.31 years) participated in this experiment in return for $0,40. Participants were randomly assigned to one cell of a 2 (Power: low vs. high) x 2 (Target Relationship: within vs. outside power relationship) between-participants design. I set sample size a priori to 50 per cell. This would provide us with enough power (1-β = 0.90) to reliably detect a small to medium-sized effect of f = .20 (Faul et al., 2013).

Materials and Procedure

After signing informed consent, participants completed the same episodic power recall task (Galinsky et al., 2003) as in Experiments 3a/3b and 4, and also again provided the name and gender of the target person within the power relationship.

Empathy. Following Van Kleef and colleagues (2008), empathy was measured by asking participants to indicate how distressed, disturbed, and troubled they would feel if they would observe a protagonist being hit by a car and breaking a leg. Participants could indicate this on three items, all between *Not at all* (1) and *Very strongly* (7), α = .97. As in Experiment 4, I framed the dependent variable depending on condition. Specifically, the protagonist was either the person who was mentioned in the power recall (within power relationship) or an unnamed "someone" (outside power relationship).

Additional Measures. Participants were provided with the same manipulation check as in Experiment 3a/3b. Mood was not measured. One concern with Experiments 3a/3b and 4 is a

possible temporal difference between-participants' recalled low- and high power situations. After all, people generally tend to move upward in power over their lives and therefore, high power experiences may have been more recent ago than low power experiences. As social- and temporal distance are interrelated and both constitute a form of psychological distance (Trope & Liberman, 2010), temporal distance in Studies 3a/3b and 4 might have driven the effect on the social distance measure. To be able to rule out this potential confound, I included a measure of the length of time in weeks since the episode.

Results

Main Analysis

An Analysis of Variance (ANOVA) on distress revealed a significant effect of power, $F(1, 200) = 7.50$, $p = .007$, $\eta_p^2 = .04$, and a significant effect of relationship, $F(1, 200) = 10.43$, $p = .001$, $\eta_p^2 = .05$, that were both qualified by the expected interaction, $F(1, 200) = 9.03$, $p = .003$, $\eta_p^2 = .04$. To interpret this interaction I ran two separate t-tests, of the effect of power on the within and outside power relationship conditions. As depicted in Figure 7, participants in the high power condition indicated more distress ($M = 6.04$, $SD = 1.70$) toward targets within the power relationship than participants in the low power condition, ($M = 4.72$, $SD = 2.17$), $t(104) = -3.49$, $p = .001$, $d = 0.68$, 95% CI [0.57, 2.07]. In contrast, participants in the high power ($M = 6.09$, $SD = 1.19$) and low power ($M = 6.15$, $SD = 1.25$) condition did not differ in imagined distress towards targets outside of the power relationship, $t(96) = 0.25$, $p = .804$.

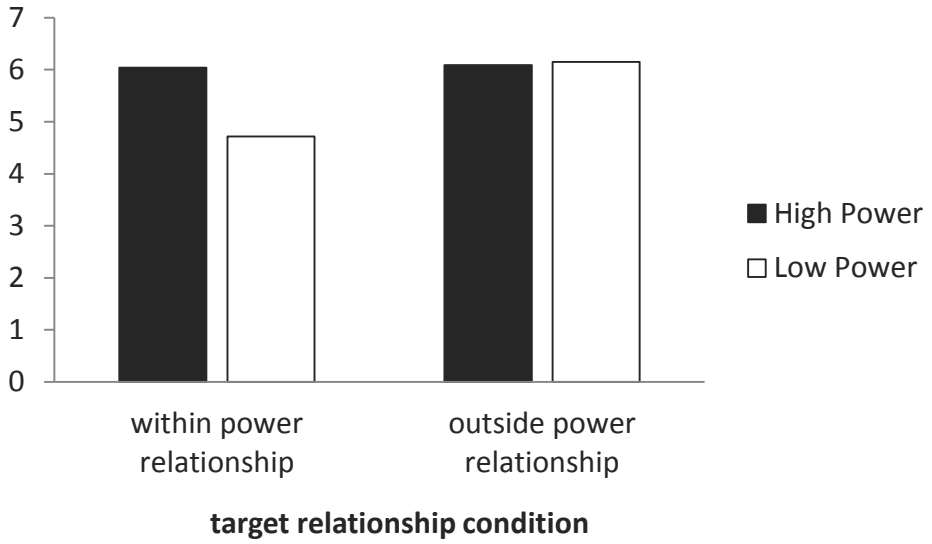

Figure 7. Means of the Empathy measures at within- and outside power relationship conditions (between participants), by power condition (between participants), Experiment 5.

Additional Analyses

Participants in the high power condition felt more powerful (M = 4.27, SD = 0.64) than participants in the low power condition (M = 3.27, SD = 0.47), $t(202) = -12.72$, $p < .001$, d = 1.80, 95% CI [-1.16, -0.85], indicating that the manipulations successfully induced feelings of power and powerlessness. There were no main- or interaction effects of the experimental conditions on the time variable (all p's > .266). Controlling for time left the critical interaction effect unchanged, $F(1,199) = 10.32$, $p = .002$, $\eta_p^2 = .05$, even though participants experienced slightly less distress toward the target if the episode was longer ago, $F(1,199) = 6.17$, $p = .014$, $\eta_p^2 = .03$.

Experiment 6 – Helping and Perspective Taking

The results of Experiment 5 extend those of Experiments 3a/3b and 4 to empathy. As empathic feelings ultimately foster altruistic behavior (de Waal, 2008), in Experiment 6, I aimed to test the effect of power on willingness to help (Lammers et al., 2011). Furthermore, I aimed to test the effect of power on interpersonal sensitivity through its' effect on perspective taking (Galinsky et al., 2006).

Method

Participants and Design

201 American Amazon Mechanical Turk (Mturk) users (98 women, 103 men, mean age 34.23 years) participated in this experiment In return for on average $ 0,37. As in Experiment 5, the design was a complete between-participants design. Following the same considerations as in Experiment 5, the sample size was a priori set to 50 per cell (Faul et al., 2013). Participants were randomly assigned to a 2 (Power: low vs. high) x 2 (Target Relationship: within vs. outside power relationship) between-participants design.

Materials and Procedure

Power manipulation. The power manipulation was the same as in Experiment 5.

Helping. As a measure of helping, participants read about a target person, who lagged behind in work, would approach them to lend a hand and help "this Saturday". This target person was either the person mentioned by participants in the power episode (within power relationship) or an unnamed "a colleague" (outside power relationship). Participants indicated whether they would help, on a scale ranging from *Definitely not* (1) to *Definitely will (7*).

Perspective Taking. I selected those three items of Davis' (1983) perspective taking subscale (of the Multidimensional Individual Difference Measure of Empathy) that could be adapted so that items would apply to taking the perspective of a specific person. Specifically, I adapted the items as follows: 'If I would now be upset at …, then I would first try to "put myself in his/her shoes" for a while.', 'If I would now criticize …, then I would try to imagine how I would feel if I were in his/her place.', and 'If I would now have to make a decision for myself and …, while being in disagreement, then I would first try to look at his/her side.'. Answers could be indicated on a seven-point scale ranging from *Strongly disagree* (0) to *Strongly agree (*6). As in previous studies, the name of the protagonist as indicated by the participant (within power relationship), or "a stranger" (outside power relationship) appeared at the dots. The three items were combined into one Perspective-taking scale (α = .93), where higher values represented more perspective taking.

Checks. After the dependent measures, participants in the outside power relationship condition were asked to indicate whether they took in mind the same person from the power episode when reading about 'a colleague' at the helping dependent variable. Furthermore, all participants answered the same manipulation check items as in Experiments 3a/3b and 5 (α = .91) and, like in Experiment 5, also indicated the amount of time in weeks since the recalled power episode.

Results

Helping[ii]

An ANOVA on helping revealed a main effect of power, $F(1, 181) = 5.20$, $p = .024$, $\eta_p^2 = .03$, and of relationship, $F(1, 181) = 6.24$, $p = .013$, $\eta_p^2 = .01$, which were qualified by an

interaction between power and relationship, $F(1, 181) = 4.35$, $p = .038$, $\eta_p^2 = .02$. To interpret this interaction, I ran two separate t-tests of the effect of power within and outside the power relationship. Replicating the results of Experiments 3-5 and shown in Figure 8, *within* the power relationship, participants in the high power condition were *more* willing to help ($M = 4.46$, $SD = 1.92$) than participants in the low power condition ($M = 3.32$, $SD = 2.02$), $t(95) = -2.71$, $p = .008$, $d = 0.58$, 95% CI [-1.98, -0.30]. However, outside of the power relationship, high power participants ($M = 4.57$, $SD = 1.41$) and low power participants ($M = 4.52$, $SD = 1.73$) did not differ in their intention to help, $p = .88$.

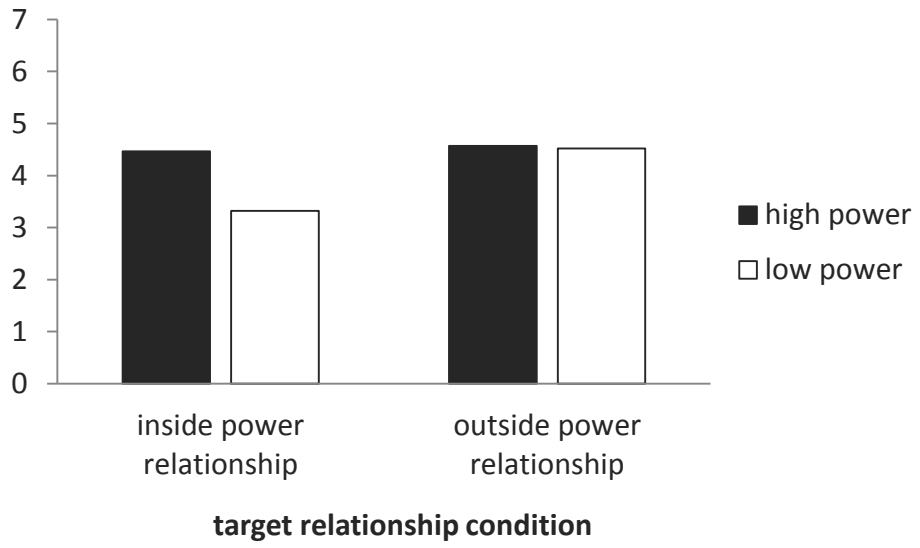

Figure 8. Means of the Helping measures for within- and outside power relationship conditions (between participants), by power condition (between participants), Experiment 6.

Perspective Taking

An ANOVA on perspective taking revealed a main effect of power, $F(1,197) = 14.18$, $p < .001$, $\eta_p^2 = .07$, which was qualified by an interaction between power and relationship, $F(1, 197)$

= 8.48, p = .004, η_p^2 = .04. To interpret this interaction, I ran two separate t-tests of the effect of power within and its effect outside of the power relationship. Replicating previous findings and shown in Figure 9, *within* the power relationship, high power participants would take *more* perspective (M = 5.33, SD = 1.49) than low power participants (M = 3.94, SD = 1.65), $t(102)$ = -4.52, p < .001, d = 0.88, 95% CI [-2.01, -0.78]. In contrast, outside the power relationship, high power (M = 4.77, SD = 1.31) and low power participants (M = 4.59, SD = 1.43) did not differ on the perspective taking measure, p = .52.

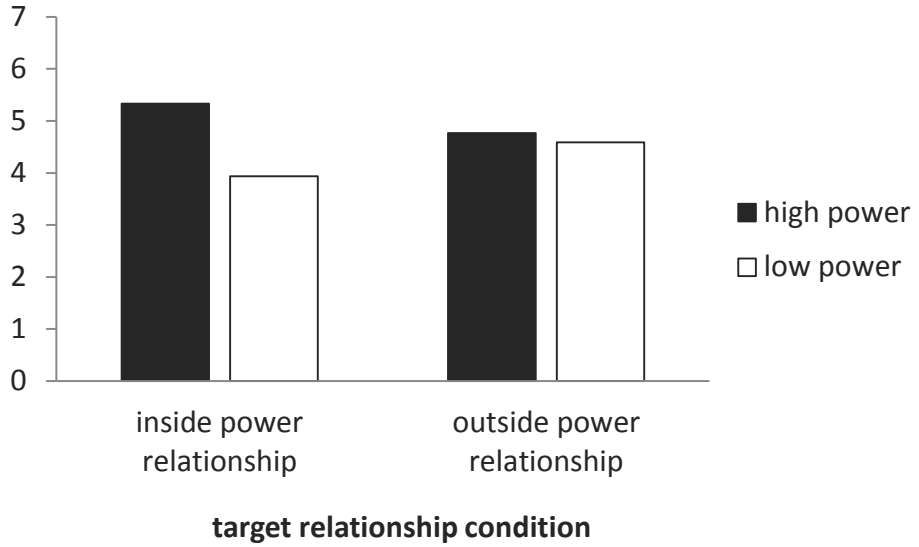

Figure 9. Means of the Perspective Taking measures at within- and outside power relationship conditions (between participants), by power condition (between participants), Experiment 6.

Additional Analyses

Participants in the high power condition felt more powerful (M = 4.29, SD = 0.83) compared to participants in the low power condition (M = 3.37, SD = 0.62), $t(199)$ = -8.84, p < .001, d = 1.24, 95% CI [-1.11, -0.71], indicating that manipulations successfully induced feelings of power or powerlessness. Like in Experiment 5, even though the recalled low power episodes

tended to having taken place longer ago (M = 145.40 weeks, SD = 509.00) than high power episodes (M = 66.58 weeks, SD = 132.65), analyses did not show any significant main- or interaction effect of the experimental conditions on the time variable, p's > .167. Neither did including the time variable in the main analyses moderate the results at helping, p = .287, or perspective taking, p = .295, leaving the focal interaction effects stable, $F(1,180) = 4.61$, p = .033, η_p^2 = .02 and $F(1,196) = 8.75$, p = .003, η_p^2 = .04, for helping and perspective taking respectively.

Discussion

Two exploratory and three confirmatory studies show that although power may decrease interpersonal sensitivity towards persons outside a power relationship (e.g. Galinsky et al., 2006, 2016; Lammers et al., 2011; Magee & Smith, 2013; P. K. Smith & Trope, 2006), power *increases* interpersonal sensitivity toward targets inside the power relationship. Compared to low power participants, high power participants showed less social distance toward others in their power relationship (Experiments 3a/3b, and Experiment 4), were more likely to empathize with others in their power relationship (Experiment 4), and were more likely to take the perspective of and help people from within their power relationship (Experiment 5).

These findings qualify the idea that power necessarily reduces interpersonal sensitivity in all contexts. Power was classically defined as having the capacity to influence others by having control over own and others' valuable resources (French & Raven, 1959; Gruenfeld et al., 2008; Keltner et al., 2003). Following this definition, powerful people do not need to invest energy in understanding the goals, thoughts, and motives of other persons to attain their own resources (S. T. Fiske, 1993; Galinsky et al., 2006). However, in line with the Situated Focus Theory of Power (Guinote, 2007a, 2010b), the findings of the current five studies indicate that powerful people do

not show a *uniform decrease* in interpersonal sensitivity in *all* social relations, but rather a *strategic shift* in interpersonal sensitivity, with greater interpersonal sensitivity toward those social relations where exercising interpersonal sensitivity is to their benefit (see Bass, 1985, 1997; Bass & Avolio, 1994; Bass & Riggio, 20 06; Bauer & Green, 1996; Graen et al., 1982, 1990; Graen & Uhl-Bien, 1995).

This insight, that power leads to a strategic shift rather than a uniform decrease in interpersonal sensitivity corresponds with earlier findings of two distinct but converging research areas. First, given that people within a power relationship might have a stronger communal or prosocial orientation toward each other, the present findings fit with research showing that power is associated with increased interpersonal sensitivity after priming a communal relationship orientation (Chen et al., 2001), among people with a prosocial interpersonal orientation (Côté et al., 2011), among people-oriented power holders (Overbeck & Park, 2006), or among persons who adopt an empathic leadership style (Schmid Mast et al., 2009). Second, as high power persons might feel responsible over the persons within the power relationship, the findings correspond with research showing that feelings of responsibility reduce the effect of power on self-interested behavior (Chen et al., 2001; Overbeck & Park, 2001), and increase the effect of power on benevolent or other-oriented behavior (Goodwin et al., 2000; Hogg & Reid, 2001; Smith & Hofmann, 2016; Van Kleef et al., 2004). Future research may seek to disentangle which of these processes – other-orientation, or feelings of responsibility – underlies the present finding that power increases interpersonal sensitivity towards people within the power relationship.

The present results can also explain results by Smith and Hofmann (2016) who found in an experience sampling study that being in a powerful position relates to lower feelings of social distance – a finding that is at face value inconsistent with the general finding in literature (as pointed out in the Introduction). However, social distance measures in their study referred to

people from within the power relationship. In other words, participants in high power positions felt closer, and were more willing to interact with people from within their power relationship, than participants in low power positions. Therefore, the findings of Smith and Hofmann (2016) are in line with the current findings that power decreases social distance towards people within the power relationship.

Earlier findings show that it can be highly beneficial to combine feelings of power with instructions aimed at increasing perspective taking (Galinsky, Magee, Rus, Rothman, & Todd, 2014). Doing so makes the powerful more likely to respectfully explain their decisions and to share critical information in decision-making situations, thus improving decision-making. The current findings, however, suggest that at least within power relations, such beneficial effects of power also occur without any additional perspective taking instructions.

Strengths, Limitations, and Suggestions for Future Research

Although a strength of this research is that I focused on three different forms of interpersonal sensitivity, a limitation is that I did not venture beyond interpersonal sensitivity to test other interpersonal effects. For example, power has been found to lead to negative stereotyping of outgroup members (S. T. Fiske, 1993), to resisting comparing oneself to others (Johnson & Lammers, 2012), and to a greater tendency to ignore advice (Galinsky, Magee, et al., 2008; See et al., 2011; Tost, Gino, & Larrick, 2012; but see Lammers & Burgmer, 2016). It would be interesting to test whether the relationship toward the target also similarly moderates such effects.

Furthermore, the used measures of empathy, perspective taking and helping were all based on self-report and rather measure motivations to execute behavior than the actual execution of the behavior. Therefore, the measures are susceptible to demand effects, especially in

combination with the episodic priming task as manipulation of power (as discussed in the introduction; Sturm & Antonakis, 2015). However, the used measures were similar to those of earlier research on the same topic, and findings of the first empirical chapter of the current dissertation provide evidence that support the reliability of these measures. Furthermore, these measures clearly led to similar outcome patterns across different aspects of interpersonal sensitivity, that where similarly opposite to the results of earlier research studying interpersonal sensitivity outside of the power context (e.g. Galinsky et al., 2006; Lammers et al., 2011; Van Kleef et al., 2008). Therefore, I believe that the relationship with the target reliably moderates the effects of power on interpersonal sensitivity.

However, a minor difference between measures of earlier and current research refers to the specificity of the target persons toward whom interpersonal sensitivity was measured. Specifically, to be able to manipulate whether or not target persons were part of the power relationship, all the interpersonal sensitivity measures referred to specific persons. Specifying a person might have influenced measures of interpersonal sensitivity by influencing the abstraction level with which participants cognitively represented the target persons (e.g. Liberman & Förster, 2009; Trope & Liberman, 2010). This could explain that the current findings did not reliably replicate that power decreases interpersonal sensitivity towards targets outside of the power relationship (e.g. Galinsky et al., 2006; Lammers et al., 2011; Van Kleef et al., 2008). It would be interesting to find out whether specificity of target persons indeed influence the abstractness of participant's cognitive representation of that persons, this would although be of minor importance to the aim of the present research – which is testing whether power increases perspective taking toward persons within the power relationship.

The studies of the second empirical chapter used the same basic paradigm across all studies by manipulating power and a persons' relationship with the target. A limitation to this

research is that I cannot claim the effect of power on interpersonal sensitivity replicates across different paradigms. However, a simultaneous strength of these findings is that I have robust evidence that the effect replicates *within* this particular paradigm. This more cautious strategy corresponds with the field's increased focus on direct replication (Vazire, 2016) and therefore, it would be interesting for future research to manipulate that relationship more specifically, for example by manipulating whether the target is part of the in-group or out-group (Tajfel, Billig, Bundy, & Flament, 1971).

6. GENERAL DISCUSSION

People's success as a species largely depends on their interactions with and on the help they receive of others (Dawkins, 1976; Mead, 1934; Trivers, 2017). One of the main challenges facing them is therefore to know and correctly understand each other. To do this, they have to be able to shift their attention to others and to correctly interpret others' thoughts, behaviors, and feelings. In other words, they have to be interpersonally sensitive (Hall & Bernieri, 2001).

Power has repeatedly been suggested in the literature to decrease interpersonal sensitivity: It has been related to increased social distance (e.g. Lammers et al., 2011; Magee & Smith, 2013; P. K. Smith & Trope, 2006), and to decreased empathy (e.g. Van Kleef et al., 2008; Woltin et al., 2011), perspective taking (Galinsky et al., 2006, 2016), and helping behavior (Lammers et al., 2011). In the first empirical chapter of the current thesis, I extended beyond this literature by testing the relation using a more basic manipulation and of power and a more basic measure of interpersonal sensitivity. Specifically, I use spatial elevation to manipulate power, and a joint Simon reaction time paradigm as a measure of interpersonal sensitivity. These two have the benefit beyond those used in the literature that they are unlikely to be influenced by demand characteristic effects. In the second empirical chapter, I add nuance to the idea that power necessarily reduces interpersonal sensitivity by providing empirical evidence that power does not decrease interpersonal sensitivity towards all people: Findings of Experiments 3-6 indicate that power decreases social distance, and increases empathy, perspective taking and helping behavior toward people within the power relationship. This qualifies the dominant finding in literature.

Implications for research

The combined findings of both empirical chapters qualify what we know about the relationship between power and interpersonal sensitivity. Earlier findings on power indicate a

uniform decrease in interpersonal sensitivity, in line with three dominant theories with which interpersonal effects of power can be explained. Specifically, the Power-as-control theory (S. T. Fiske, 1993), Approach/Inhibition Theory of Power (Keltner et al., 2003) and Social Distance Theory of Power (Magee & Smith, 2013), all state that power should lead to an uniform decrease in interpersonal sensitivity, without taking into account the goal of the powerful person. However, current findings qualify this idea by showing that power does not show a uniform decrease in interpersonal sensitivity, but rather a strategic shift, with increased interpersonal sensitivity toward persons within the power relationship. This is in line with the Situated Focus Theory of Power (Guinote, 2007a, 2010b), which includes a goal-component when explaining and predicting effects of power. Specifically, in her Situated Focus Theory of Power, Guinote (2007a, 2010b) states that power activates approach behavior that is in line with the powerful person's goal, and inhibits behavior that is not in line with this goal.

Next to the implications of these combined findings, the studies of both empirical chapters are each related to distinguishable implications, which will be outlined next.

Implications of results of Experiments 1a/1b and 2

The finding that power decreases interpersonal sensitivity provides additional converging evidence for the assumption that power generally decreases the extent to which people shift their attention to others, and correctly interpret others' thoughts, behavior, and feelings. This is in line with predictions that would be made based on the five leading theories in power research. According to these theories, power would decrease interpersonal sensitivity through a decreased attention on others (Dépret & Fiske, 1993); through increased approach behavior toward rewards and/or goals (Keltner et al., 2003); through higher selective attention toward goal-relevant and lower attention to goal-irrelevant stimuli, respectively (Guinote, 2007a, 2010b); more abstract

perceptual processing (P. K. Smith & Trope, 2006); or through increased social distance (Magee & Smith, 2013). Furthermore, they are in line with findings showing that power decreases empathy (e.g. Van Kleef et al., 2008, 2004, 2006), perspective taking (e.g. Galinsky, Magee, et al., 2008; Galinsky et al., 2006, 2016), and helping behavior (e.g. Lammers et al., 2011), and increases social distance (e.g. Lammers et al., 2011; Magee & Smith, 2013; P. K. Smith & Trope, 2006).

Experiments 1a/1b and 2 have important implications for the manipulation of power in research, as they provide a straightforward and advanced way to manipulate feelings of power: spatial elevation. The strong link between elevation and power has been shown and discussed in a large number of publications (e.g. A. P. Fiske, 1992; Giessner & Schubert, 2007; Hall et al., 2005; Lakens et al., 2011; Lakoff, 1987; Lakoff & Johnson, 1980; L. Schubert et al., 2013; T. W. Schubert, 2005; Schwartz, 1981; Schwartz et al., 1982; N. L. Todd, 2012) but has been rarely used to manipulate power. Findings of Experiments 1a/1b and 2 indicate that spatial elevation is a powerful tool through which feelings of power can be manipulated without the use of any verbal instructions. This can be done across cultures (A. P. Fiske, 1992, 2004; Schwartz, 1981; Schwartz et al., 1982) and among people of all ages (Thomsen et al., 2011).

When using this method of spatial elevation to manipulate power in future research, it is important to keep in mind that the relation between elevation and perceptions of power can be influenced by the experimental setup. In Experiments 1a/1b and 2, I only made inferences about how seating positions influenced the participants' own feeling of power, and not on how others perceive the high or low sitting participants. However, findings of earlier research reveals that the way in which high or low sitting persons are perceived by others is influenced by knowledge about the achievements of these high or low sitting persons (L. Schubert et al., 2013). It seems possible that own feelings of power when sitting in a high or low position could similarly be

influenced by knowledge about one's own achievements. Furthermore, I did not empirically test whether the elevation prime induced feelings of power(lessness) in an unconscious way. Therefore, it would be helpful for future studies to check for this with measures of consciousness about the manipulation, and to test for the effect of these measures on the dependent measures.

Furthermore, this new manipulation of power qualifies definitions of power. Classically, power was defined in terms of dependence (Emerson, 1962) or asymmetric control over valued resources (Galinsky et al., 2003, 2006; Goldstein & Hays, 2011; Jordan et al., 2011; Keltner et al., 2003; Magee & Galinsky, 2008), where the powerful have more control over resources than the powerless. However, in Experiments 1a/1b and 2, feelings of power(lessness) were manipulated without referring to control, dependence, or attainability of any (physical) resources. This suggests that feelings of power seem to be determined by more than sole differences in possessed resources. Hence, in the definition as used in the current dissertation – having the capacity to influence others through different means (Fiol et al., 2001; French & Raven, 1959; Sturm & Antonakis, 2015) – spatial elevation can be seen as one of the *means* through which power can be obtained and reinforced (for a review, see Sturm & Antonakis, 2015). As apparent from the current findings, spatial elevation induces a sufficient amount of feelings power to reliably affect interpersonal behavior. As the way in which power is obtained and reinforced therefore is determined by more than just the amount of resources possessed, additional ways to obtain and reinforce power should be included in definitions of power.

Findings with this new manipulation do not only qualify how power is defined, but also prove validity and reliability of recently criticized manipulations and measures used in power research (for a review, see Sturm & Antonakis, 2015). Manipulations such as the episodic priming task (Anderson & Galinsky, 2006) – which is 'arguably the most utilized social psychological power manipulation' (Lammers, Dubois, Rucker, & Galinsky, 2017, p. 11) – and

power role manipulations (e.g. Dubois et al., 2010) have been criticized because using them could reveal the research purpose (studying effects of power) to participants. This could lead to demand characteristic effects, especially when followed by measures that are based on self-report (Sturm & Antonakis, 2015). Even though I think it is possible that earlier results might have been influenced by demand characteristic effects, findings of Experiments 1a/1b and 2 indicate that the earlier manipulations and measures are valid and reliable. Outcomes from research using the criticized methods do not differ from outcomes of these studies, in which the risk of influence by demand characteristic effects has been kept to a minimum. Experiments 1a/1b were originally designed to test the existence of a vertical Simon effect rather than effects of power (Dittrich et al., 2013), and included no questions or text relating to power. I re-analyzed those existing results long after the study had been conducted. Experiment 2 was a direct replication, with added questions on feelings of power only after participants finished the joint Simon task. In summary, finding a similar negative relation between power and interpersonal sensitivity with the use of a basic and objective method as with earlier, criticized manipulations and measures, increases the confidence that one can rely on the results obtained with these criticized manipulations and measures.

Implications of results of Experiments 3-6

In line with the Situated Focus Theory of Power (Guinote, 2007a, 2010b), findings of the second empirical chapter indicate that power decreases social distance, and increases empathy, perspective taking, and helping behavior toward people within the relationship. Power thus leads to a flexible (Guinote, 2007b) and strategic shift in interpersonal sensitivity, with greater interpersonal sensitivity toward those social relations where exercising interpersonal sensitivity is

to the powerful person's benefit (see Bass, 1985, 1997; Bass & Avolio, 1994; Bass & Riggio, 20 06; Bauer & Green, 1996; Graen et al., 1982, 1990; Graen & Uhl-Bien, 1995).

Although in this dissertation, the social relations where exercising interpersonal sensitivity is beneficial to the powerful where specified as being persons within the power relationship, I would expect that the current findings generalize to different social contexts. It should also be useful to exercise interpersonal sensitivity toward persons outside the power relationship, who can help the powerful to attain a certain goal quicker/more accurate, or toward persons outside the power relationship with whom the powerful cooperate. On the contrary, based on the Situated Focus Theory of Power (Guinote, 2007a, 2010b) and in line with the current findings, there should also be contexts in which the powerful would *not* show interpersonal sensitivity toward people within the power relationship, for example, if they are in competition with these persons (as in an asymmetric power negotiation; Van Kleef et al., 2004, 2006), or if interpersonal sensitivity toward the persons within the power relationship would not be related to any benefit to the powerful (as in stable compared to unstable, hierarchical organizations Jordan et al., 2011; Magee & Galinsky, 2008; Maner, Gailliot, Butz, & Peruche, 2007). It would be very interesting to expand the current findings with research on their applicability across contexts.

Findings of the second empirical chapter furthermore reach beyond existing literature by showing another constructive effect of power. Earlier findings show that it can be highly beneficial to combine feelings of power with instructions aimed at increasing perspective taking (Galinsky et al., 2014). Doing so makes the powerful more likely to respectfully explain their decisions and to share critical information in decision-making situations, thus improving decision-making. Although in a different experimental setting, findings of the second empirical chapter indicate that these beneficial effects of power can show up without any perspective taking instructions toward people within the power relationship. This indicates that powerful people

maximize their outcomes in an automatic way, by showing more interpersonal sensitivity to people toward whom exercising interpersonal sensitivity is to their benefit.

The findings also have important implications for explaining earlier findings that are at face value inconsistent with the general finding that power decreases interpersonal sensitivity (e.g. Chen, Lee-Chai, & Bargh, 2001; Côté et al., 2011; Schmid Mast, Jonas, & Hall, 2009; P. K. Smith & Hofmann, 2016). For example, in the experience sampling study of P. K. Smith and Hofmann (2016), power related to decreased social distance, but social distance was measured toward people within the power relationship, whereas former research has mostly measured aspects of interpersonal sensitivity toward new, unacquintad persons. Furthermore, given that people within a power relationship might have a stronger communal or prosocial orientation toward each other, the present findings fit with research showing that power leads to increased interpersonal sensitivity after priming a communal relationship orientation (Chen et al., 2001), among people with a prosocial interpersonal orientation (Côté et al., 2011), or among people-oriented power holders (Overbeck & Park, 2006). Importantly, the assumption that people in the power relationship might have a stronger communual or prosocial orientation toward each other is suggestive, and should be supported by research before drawing definite conclusions.

Alternative explanations

Findings of the present dissertation reliably indicate that power generally decreases interpersonal sensitivity, but increases interpersonal sensitivity toward people within the power relationship, and these findings have multiple implications (as outlined above). I explain these findings based on the Situated Focus Theory of Power (Guinote, 2007a, 2010b), however, knowledge of earlier research gives rise to a number of alternative explanations for these findings. These will be discussed next, for each empirical chapter separately.

Alternative explanation for findings on the vertical joint Simon effect

Whereas I explain findings of the first empirical chapter – in which vertical sitting position influenced the appearance of a joint Simon effect – with power-effects on interpersonal sensitivity, the findings could also be explained in a different way. Specifically, as can be seen in Figure 2, the sitting positions of participants in the separate experimental conditions varied in two other ways than in spatial elevation: They varied in their directedness toward the co-actor of the task, and in the distance toward the computer screen on which the Simon task was displayed. These two factors could have influenced the results beyond the spatial elevation manipulation, and (partly) contributed to the obtained results.

First, as the elevated and non-elevated sitting positions where positioned behind each other whereas both participants looked at the same computer screen, the higher sitting participants were always directed toward (the back of) the lower sitting participants. In other words, the high sitting participants could always see the low sitting participant, but the low sitting participant could never see the high sitting participant. Whereas I would consider this setup to work against the findings that higher sitting participants would not show a Simon effect, because seeing (vs. not seeing) the other participant would make the presence of the other participant, and the presence of the spatial dimension more salient, which are both related to increased Simon effects (e.g. Dittrich et al., 2012; Dolk et al., 2011; Guagnano, Rusconi, & Umiltà, 2010), the setup could also have strengthened the results. Specifically, lower sitting participants could have felt more controlled by their higher sitting co-actor and high sitting participants could have felt free from external control. As influence over control is a strong predictor of feeling powerful (e.g. Galinsky et al., 2003, 2006; Goldstein & Hays, 2011; Jordan et al., 2011; Magee & Galinsky, 2008), the experimental setup could have strengthened feelings of power(lessness). However, I do not consider this possible additive effect on feelings of power to be problematic,

as the aim of the study was to test the effects of power, and not mere spatial elevation, on interpersonal sensitivity.

Second, and as well because the elevated and non-elevated positions where situated behind each other, higher sitting participants where positioned farther away from the computer screen, and looked at the task-stimuli from a different angle than their lower sitting co-actors. This could have influenced the results by influencing the perceived size of the stimuli. Specifically, compared to low sitting participants, high sitting participants perceived the stimuli to be smaller in size. This might have made it less likely to differentiate the different spatial locations of the colored circles, which could facilitate paying attention to the color of the stimuli while neglecting the spatial location. Hence, differences in stimuli-perception could underlie the findings that high sitting participants did not show a Simon effect, while low sitting participants did. Importantly, the finding that high sitting participants were quicker to respond to neutral target stimuli (target stimuli that were shown in the middle) than to both spatially compatible and spatially incompatible target stimuli (see Figures 3 and 4), works against this reasoning that high sitting participants did not differentiate between the spatial location of the stimuli, as do findings in Experiment 2, in which self-reported feelings of power correlated with the size of the interference effect (p. 60).

However, it is still advisable to explore whether the differences in stimuli-perception affected the Simon beyond effects of spatial elevation. One possibility would be to not only vary the seating positions in height, but also in distance to the computer screen. Alternatively, one could explore whether the differences in Simon effects between the high and low sitting persons in the vertical joint Simon task are susceptible to the same social influences as found in the horizontal joint Simon task (e.g. Hommel, 1996; Hommel et al., 2009; Müller, Brass, et al., 2011; Müller, Kühn, et al., 2011; Sebanz et al., 2003; Stenzel et al., 2012; Tsai & Brass, 2007). For

example, finding a Simon effect after instructing the high sitting participant to take the perspective of the low sitting participant (Müller, Kühn, et al., 2011) would be support for the idea that decreased interpersonal sensitivity, rather than differences in stimulus perception, underlie the absence of a Simon effect for the high sitting participants Experiments 1a/1b and 2. Furthermore, one could manipulate the conceptual context of the study in such a way, that higher sitting participants feel powerless in comparison to lower sitting participants. For example, participants could be instructed to imagine sitting in a double decker bus, with the low sitting person being the driver, and the high sitting person being the traveler. As another example, participants could imagine sitting on a tribune, where it is more difficult for the higher sitting person to flee in case of an emergency.

Alternative explanation for the increase in interpersonal sensitivity toward people within the power relationship

The findings of the second empirical chapter – in which power related to more interpersonal sensitivity toward people within the power relationship – are explained with the Situated Focus Theory of Power, Guinote (2007a, 2010b). However, as I do not directly test this underlying mechanism, the findings can also be explained in different ways.

For instance, the findings that power decreases interpersonal sensitivity toward people within the power relationship can alternatively be explained by differences in feelings of responsibility. That is, power can be construed either as being free from the autonomy of others and being able to focus on goal-attainment, or else as being responsible for others and having to focus on the implications of one's own actions resulting from the control over others' outcomes (Lammers, Stoker, Rink, & Galinsky, 2016; Sassenberg et al., 2012). Although in the second empirical chapter, I only focused on measuring effects of power, and not effects of responsibility,

I consider it likely that power within the power relationship is related to feelings of responsibility over the people within the power relationship. Therefore, as earlier research has shown that feelings of responsibility reduce the effect of power on self-interested behavior (Chen et al., 2001; Overbeck & Park, 2001), and increase the effect of power on benevolent or other-oriented behavior (Goodwin et al., 2000; Hogg & Reid, 2001; Smith & Hofmann, 2016; Van Kleef et al., 2004), the obtained results in Experiments 3-6 could be explained by differences in feelings of responsibility as alternative to differences in goal focus. This idea is furthermore supported by research showing that an increase in interpersonal sensitivity toward persons within the power relationship can be disrupted by directing the powerful person's attention toward organizational rather than interpersonal concerns (Overbeck & Park, 2001).

However, it is difficult to disentangle the influence of feelings of responsibility from having a stronger goal-focus, as these processes may be inherently intertwined: an increase of a powerful person's responsibility over a target person might automatically initiate that the target person is included in the powerful person's goal-focus. Hence, these two explanations – goal focus and responsibility – would be difficult to disentangle in research, and would mostly predict similar behavior.

Another possible alternative explanation for the effect that power increases interpersonal sensitivity toward persons within the power relationship is through asymmetry in the high- and low power person's experience with each other's power situation. Specifically, as people typically occupy low power positions before attaining more power, the probability that a person in a high power position has experience with being in low power positions is higher than vice versa. This asymmetry in experience with one or both power situations may give rise to asymmetries in knowledge about each other's situation, and in both social and hypothetical distance. The experience with the low power position makes it easier for the high power person to

construe the thoughts, feelings and wishes of the low power person, displaying an asymmetry in social distance (e.g. Liberman et al., 2007; Liviatan et al., 2008; Trope & Liberman, 2010), and the high power person possibly may be more able to imagine being in a low power position than vice versa, displaying an asymmetry in hypothetical distance (e.g. Liberman & Förster, 2009; Trope & Liberman, 2010). These experiences of social and hypothetical distance may even reinforce each other, because of the interrelatedness between the different forms of psychological distance (e.g. Liberman et al., 2007; Maglio, Trope, & Liberman, 2013; Trope & Liberman, 2010). Together, it may be that the powerful person's greater experience with being in a low power position may explain the result that power increases interpersonal sensitivity toward persons within the power relationship, rather than the idea that the powerful would benefit from showing interpersonal sensitivity toward the persons within their power relationship.

Notably, this alternative explanation can be tested in an experiment in which interpersonal sensitivity toward high a low power persons within a power dyad would be measured after orthogonally manipulating power, and the experience with each other's positions of power. Importantly, to exclude the possible confound that participants already differ in experience with the power positions, power should be manipulated in a very specific situation, with which it is unlikely that participants have any prior experience. Based on the Situated Focus Theory (Guinote, 2007a, 2010b), I would expect that only being in a high power position would increase interpersonal sensitivity toward the other person, independent of experience, whereas based on the experience explanation, I would expect that former experience with the other's power position would increase interpersonal sensitivity toward the other person, independent of power position.

One important question resulting from findings of Experiments 3-6 refers to whether the differences in interpersonal sensitivity were driven by feelings of power, or feelings of

powerlessness. Although speculative, because I did not include control conditions against which the experimental conditions could be compared, findings seem to indicate that the differences in interpersonal sensitivity between the high and low power persons could be due to a decrease in interpersonal sensitivity of the low power persons, rather than an increase in interpersonal sensitivity of the high power persons. This would be in line with findings showing that powerless persons engage less in automatic decision making (Keltner et al., 2003), and try to be more accurate in their decisions (for a review, see Guinote & Lammers, 2016). Therefore, the powerless could have paid more attention to the questions, which would make it more likely that they involved the relationship with the target person in their decision whether or not to engage in interpersonal sensitivity, whereas the powerful reacted more based on their gut feeling and unconscious schemes about how to act in the described situation, without taking the relationship with the target person into account (Keltner et al., 2003).

To empirically test whether findings of powerlessness, rather than feelings of power underlie the differences in interpersonal sensitivity, future studies should include control primes, such as tasks in which participants are instructed to write about a regular day rather than an experience of power (e.g. Galinsky et al., 2006; P. K. Smith & Trope, 2006), and should explore whether people primed with power use different strategies than people primed with powerlessness to answer self-report questions. One easy way to do this is by adding reaction time measures: if participants in low power conditions indeed more deliberately answer the questions, I would also expect them to take longer in answering the questions compared to participants in high power conditions. Finding that feelings of powerlessness, rather than feelings of power underlie the differences in interpersonal sensitivity would contribute to other research showing effects of power to be due to powerlessness rather than power (e.g. P. K. Smith, Jostmann, Galinsky, & van Dijk, 2008; Yang, Jin, He, Fan, & Zhu, 2015), and substantiate the claim that

powerlessness is a topic of study that is more exciting than recently acknowledged, and which can provide important insight in the role of sociality in human adaptation (Guinote & Lammers, 2016).

Avenues for future research

The (combined) findings of the two empirical chapters may inspire further research. This can be research focusing on improving the validity of the obtained findings, for example by addressing the challenges that arose from the current research findings. Alternatively, it could be research aimed at theory development, for example by exploring the boundary conditions for the current findings to apply, or by exploring the generalizability and applicability of the current findings across contexts.

Whereas possible future research addressing the challenges of the current research findings is already discussed in the previous section (p. 91-98), there is one important next step to take with respect to the reliability of the current findings. Findings of the second empirical chapter show that powerful people report to be more interpersonally sensitive toward people within the power relationship. However, this does not directly mean that they are also more accurate in perceiving the emotional state of the persons toward whom they report to be interpersonally sensitive. Namely, findings of a meta-analysis on factors predicting interpersonal accuracy (Davis & Kraus, 1997) indicate no relation between self-report measures of interpersonal sensitivity and interpersonal accuracy, contrary to other-report of someone's interpersonal sensitivity (e.g. peers, supervisors, subordinates). Based on findings of the Situated Focus Theory of Power (Guinote, 2007a, 2007c), and findings showing that the powerful use social attention as an instrument to attain goals (Gruenfeld et al., 2008; Overbeck & Park, 2006), it is likely that power increases interpersonal accuracy in perceiving emotions if this would be to

the benefit of the power-holder. However, it would be highly interesting to find that power *decreases* interpersonal accuracy toward people within the power relationship, even though they report to be *more* interpersonally sensitive. If so, the mismatch between reported interpersonal sensitivity and interpersonal accuracy could be a mutually reinforcing process that underlies the general finding in the literature that power decreases interpersonal sensitivity.

The current research also provides us with an excellent method to examine additional interpersonal effects of power. One intriguing question that could be studied beyond the current findings is how interdependence characteristics of a power relationship influence the effect of power on interpersonal sensitivity. Specifically, within a power relationship, the high and low power persons can be either in competition or in cooperation, meaning that they have individual goals vs. a communal goal, respectively (Deutsch, 1977). Whereas earlier research has shown that a cooperative and a competitive context both lead to increased interpersonal sensitivity toward each other as compared to an independent context (e.g. Ruys & Aarts, 2010), it would be interesting to examine whether these relationship characteristics interact with effects of power on interpersonal sensitivity, as measured with the vertical joint Simon task. Based on the present and earlier findings indicating that power decreases empathy toward negotiation partners (Van Kleef et al., 2004, 2006), and in line with the Situated Focus Theory of Power (Guinote, 2007a, 2010b), I would predict that whereas power would generally decrease interpersonal sensitivity, it would increase interpersonal sensitivity in a cooperative context.

Another avenue for further research is to explore the possible moderating role of social emotions in the effects of power differences on interpersonal sensitivity. An example of a social emotion that could be relevant in the power context is envy. In the basis, envy is a negative emotional response (including feelings of inferiority and frustration) as consequence of social comparison with a person is superior to oneself in terms of a valued possession, characteristic, or

achievement (Crusius & Lange, 2014; Lange & Crusius, 2015; Parrott & Smith, 1993; R. H. Smith & Kim, 2007). However, this negative response can occur in two distinct ways that each relate to their own motivational consequences. The experience of malicious envy is characterized by hostile feelings toward the envied person and motivates behavior aiming at damaging the envied person, or 'pulling the other down' (e.g. Duffy, Scott, Shaw, Tepper, & Aquino, 2012; Lange & Crusius, 2015; Salovey & Rodin, 1984), whereas benign envy is characterized by more positive feelings toward the envied person and motivates behavior aiming at increasing one's own subordinated position closer to the position of the envied person, or 'pulling oneself up' (e.g. Lange & Crusius, 2015; Schaubroeck & Lam, 2004; van de Ven, Zeelenberg, & Pieters, 2011).

Based on findings that malicious and benign envy increase attentional focus toward the envied person or toward the means to improve one's own outcome, respectively (Crusius & Lange, 2014), and on the idea that the powerless may envy the powerful, it might be that dispositional measures of benign and malicious envy moderate the relation between powerlessness and interpersonal sensitivity. Alternatively, as the powerful react strong on situational or internal cues (Galinsky et al., 2014; Keltner et al., 2003), power might work as a catalyzer in the relation between the two forms of envy and social attention. In other words, as malicious envy increases attention to the envied person (Crusius & Lange, 2014), this effect would be stronger in high compared to low power persons. The relation between power and interpersonal sensitivity would then not only be moderated by the extent to which showing interpersonal sensitivity to the benefit of the powerful, but also by social emotional experiences.

As research findings can greatly differ when varying experimental contexts to more applied ones (e.g. L. Schubert et al., 2013; P. K. Smith & Hofmann, 2016), it would be a good contribution to examine the current findings in a more applied context. It would be interesting to see how power relates to interpersonal sensitivity under established versus new power

relationships. This could be done by recruiting participants from companies, sport clubs, or revalidation centers. Furthermore, one could use experience sampling methods to explore whether the current findings hold in real life circumstances (e.g. P. K. Smith & Hofmann, 2016).

Concluding remarks

Power and interpersonal sensitivity are two essential elements of human social behavior. Earlier findings suggest that positions of power decreases interpersonal sensitivity. In the first empirical chapter of the current thesis, I extended beyond this literature by finding this negative relation using a more basic manipulation and of power and a more basic measure of interpersonal sensitivity. In the second empirical chapter, I add nuance to the idea that power necessarily reduces interpersonal sensitivity by providing empirical evidence that power does not decrease interpersonal sensitivity towards all people: Findings indicated that power decreases social distance, and increases empathy, perspective taking and helping behavior toward people within the power relationship. These results qualify the notion that power necessarily reduces interpersonal sensitivity, and therefore lead to a better understanding of interpersonal effects of power.

In this dissertation, and during my whole PhD, I have made an effort to better understand power, and interpersonal effects of power. I believe that power can be compared to happiness, in the way that one can feel powerful, as one can feel happy; however, this feeling is only seldom experienced in its perfect form, so strong and pure that one can declare to be completely happy, or to have absolute power. As human beings, we always have desires, and having these desires is inseparable from feeling powerless toward attaining them. I believe that this insight is also represented in the knowledge about the relation between power and interpersonal sensitivity: Power is never experienced completely, which already shows in the fact that the powerful *have*

interpersonal relations and *do take part* in interpersonal communication. The powerful need other people to (more accurately/more easily) attain their desires and I believe that the extent to which other people can make a difference in the attainment of these desires determines the extent to which the power-holders are preoccupied with influencing them. Influence can be exerted in ways perceived as negative (punishment, exploitation, ignorance), or as positive (reward, prosociality, sensitivity). However, as power is never experienced in its pure form, and as people greatly vary in their human desires that determine the way in which they are powerless, breaking the process of power and powerlessness down to a model is impossible. We can only add knowledge and make better predictions, in other words, work towards *a better understanding of power*. With the current dissertation, I made an effort to make a little – though interesting – contribution to the greater aim of working toward a better understanding of the interpersonal effects of power.

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[i] Due to a programming error, I did not include a power manipulation check. For exploratory reasons, I also included additional measures, testing whether participants construed their experience of power more as opportunity or as responsibility (Sassenberg, Ellemers, & Scheepers, 2012). Furthermore, I included a third between-participants condition to our power manipulation, in which participants described a situation in which they and another person both had power over each other, meaning that they were interdependent on each other's power. Given that these data are not relevant to the current question, they are not further discussed.

[ii] Because participants often recall power episodes related to their work, there was a risk that the participants in the outside power relationship condition would think about a colleague and thus lead the experimental instructions to get mixed up. To exclude this risk, participants indicated whether they took in mind the same or different persons during the described power episode and at the helping measure at the end of the questionnaire. Based on these responses, 16 participants were excluded, (8%), which left over a final sample of $N = 185$.