LAURA MARIA GIURGE

A Test of Time

A temporal and dynamic approach to power and ethics

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Een kwestie van tijd
Een temporale en dynamische benadering van macht en ethiek

Thesis

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“The truth is, most of us discover where we are headed when we arrive”

– Bill Watterson

FOREWORD

There will always be one more article to read, one more word to add, one more sentence to change, one more image to consider, and for that reason, a writer's work, my work, is never quite finished.

My fascination with studying power began during my master studies. It is driven by a keen desire to understand why individuals, inside and outside organizations, are so fascinated by the prospect of attaining power and what can be done to prevent the misuse of power. At the end of my master studies, I also became interested in studying ethical and unethical behavior. This interest is driven by a constant curiosity to understand what motivates individuals to behave both ethically and unethically and what the consequences of such behaviors are.

The research included in this dissertation allowed me to address both power and unethical behavior. Such work, however, would not have been possible without the love, help, support, and understanding of some wonderful people who, in one way or another, have crossed my path in life[1]. Starting with my supervisors, I would like to first thank Marius van Dijke for his continuous commitment and dedication to our research projects. It has been a pleasure to have you as my daily supervisor – thank you! I would also like to thank Xue (Michelle) Zheng for her helpful guidance and advice provided particularly at the beginning of my Ph.D. I gained not only a colleague and co-author, but also a friend. Finally, I would like to extend my gratitude to David De Cremer for his guidance and useful comments offered from a distance as well as for the amazing visit to Shanghai in 2013.

I also wish to warmly thank two of my mentors who over the years have become my friends. Jennifer Jordan, I want to thank you for introducing me to the fascinating world of research and for inspiring me to pursue a Ph.D. You are a unique source of inspiration for me, a role model at work and in life and there are no words to express how grateful I am for our friendship and for all your support and care. I further wish to thank Ben Kuipers for making Erasmus University a warmer place to work at, from the internship offered during my master studies, to the paper we wrote together, and the wonderful conversations we had across the years.

[1] This list is by no means exhaustive. I therefore wish to thank many others who have crossed my path before and during my Ph.D. for being part of my journey and leaving their mark in one way or another.

Moving on to my colleagues from within and outside the Business-Society Management department: Jasmien, Inga, Hannes, Nick, Salla, Samer, Niek, Mirjam, Krijn, Helen, Eva, Gijs, Mark, Mo, Ron, Roxana, Alex, Mihriban, and many others, thank you for the coffees, lunches, and cakes that we shared together, the lovely chats we had, and the sound advice you gave me when needed. I further wish to extend a warm thank you to Janneke and Yolanda for always being there to lend a helpful hand. A special thank you goes to Lucas for the wonderful department outings, in particular the wadlopen, and for the delicious Christmas dinners. I will surely miss being part of the Business-Society Management group. I am also grateful to ERIM and to the office of Pedel for their kind support and help offered along the way – thank you Bea, Natalija, Miho, Mariska, Kim, Jules, Tineke, Laura, and many others. In addition, I want to extend a kind thank you to Christiaan and Marcel for ensuring that my experiments would run smoothly and for making the long hours spent collecting data in the lab more enjoyable. I end by thanking all my research participants who were brave enough to join my experiments and surveys across the years.

Naturally, maintaining my sanity during the Ph.D. would not have been possible without the support of my fantastic friends from all over the world. Having lived abroad for many years now means that I have two homes and all the more friends to thank for being there, for understanding and tolerating my absence (and presence) at times, and for supporting me along the way. In no other order than that of time, I want to thank Ramona (for being my artistic anchor and constant source of inspiration), Teo and Liana (for being two of my closest and dearest friends no matter the distance), Adriana (for inspiring me to be a strong and fearless person), Ioana (for reminding me what it means to pursue your dreams with impressive dedication and determination), Willem, Jaap, and Keri (for being there for me during my time in Groningen), Aline and Kathi (for the many breakfasts that we shared together – they represented the beginning of a lovely friendship), Diana (for inspiring me to enjoy the little things in life, yet never be afraid to dream big), Dylan (for your kindness, generosity, and unconditional help), Lumi (for your continuously radiating and contagious positive mood), Anca (for your sweet and caring character, for your wise advice when needed, and for always knowing how to put things in perspective), Oana (for your beautiful and unmatched friendship, for your unconditional care and attention offered across the years, and for always reminding me to read more), Amanda (for inspiring me to grow more plants, for exploring various parts of the world with me, and for always being there to listen – you are the most European American I know and a wonderfully warm person to call a friend), Robert (for your kindness, patience, and unparalleled curiosity), Tridib (for sharing your vast knowledge about everything that happens in

Rotterdam), Leo (for offering your unconditional help when I needed it the most), Alexandra (for being my yoga partner and Rotterdam enthusiast), Lisanne (for the many cat photos and videos that we shared and will share, for being an awesome officemate, and for being a brave enough friend to start climbing with me), Smriti (for your openness and kindness), and Stephanie (for sharing my thirst for craziness – New Year's dive 2017! – and my passion for art and museums). I'm extremely lucky to have you all in my life. The list would not be complete without thanking my best friend and my better half – Gertjan – you might get the last rows in this paragraph but in my life you get the first and most important one. I'm grateful for so many things, but most of all I'm grateful that we met. Thank you for making my life richer and for being my number one supporter of whatever (crazy) thing I set my mind to do! I also wish to thank your family for welcoming me into their lives with open arms – Gerrie, Willem, Diederik, Siepke, and Jos, hartelijk bedankt voor alles! Met jullie is het altijd gezellig.

From friends to family, doresc să le mulţumesc din toată inima părinţilor mei, Floare şi Gheorghe, frăţiorului meu Adrian, mătuşii Maria şi unchiului Radu, şi bineînţeles dragilor mei bunici – Rozalia, Ioan, Maria, şi Petre – pentru toate sacrificiile pe care le-au făcut pentru mine şi pentru toată iubirea, înţelegerea, şi suportul necondiţionat oferit de-a lungul anilor. Au fost elemente esenţiale în a ajunge unde am ajuns azi. Vă sunt etern recunoscătoare pentru că mi-aţi oferit libertatea de a-mi urma drumul meu în viaţă, chiar dacă asta a însemnat a fi departe de voi. Să ştiţi că vă simt mereu aproape şi asta îmi dă puterea de a merge înainte. Mulţumesc!

Laura M. Giurge
January, 2017

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CHAPTER 1

A general introduction to the dissertation

"The only thing that is constant is change"
– Heraclitus

Perhaps there is nowhere else in the world where the weather presents so much variability in the course of a day than it does in The Netherlands. One might experience rain in the morning, sun in the afternoon, and snow in the evening. While this example might come across as rather extreme and unlikely, it nevertheless sets the perfect stage for how we should be thinking about behavior. Similar to the Dutch weather, behavior is inherently dynamic: it varies within individuals and across time: dynamic because one's behavior represents a constant adjustment to the immediate environment in the service of attaining desired goals; varies within individuals and across time because a particular type of behavior, for instance unethical behavior, is not characteristic of a particular group of individuals (i.e., bad apples vs. good soldiers) but rather of each individual. Thus, saying that someone is unethical is merely saying that someone has the tendency to engage in unethical behavior at some point in time and in a specific situation.

Yet, apart from a few notable exceptions, the norm in organizational research has been to study individuals' aggregate levels of behavior and either ignored within-individual variation in behavior or treated it as measurement error (Dalal, Bhave, & Fiset, 2014; Matta, Erol-Korkmaz, Johnson, & Bicaksiz, 2014). Notwithstanding the countless ways in which this between-individual conceptualization of behavior has genuinely produced and will continue to produce advances in our knowledge, it is an oversimplification of a much more complex phenomenon. Interestingly, this realization is as true now as it was a few decades ago. In particular, the idea that behavior, within an organizational context, is dynamic and varies within individuals can be traced back to the early years of organizational research (Ghiselli & Haire, 1960; Hersey, 1932). For instance, in 1932, Hersey noticed that there was a relationship between fluctuations in mood and fluctuations in daily job performance. This observation was derived from data collected four times a day across an entire year from the working lives of twelve men. Fast-forward to the present day, there is increasing empirical evidence suggesting that within-individual variability in behavior is anything but trivial (Dalal et al., 2014; Judge, Scott, & Ilies, 2006; Matta et al., 2014). Between-individual research does not permit, nor is it designed to explore what factors (e.g., situational factors) account for such within-individual variability or how this variability unfolds in time.

Part of the research presented in this dissertation aims to tackle the phenomenon of variability in relation to specific behaviors such as individual decision-making and unethical behavior. The other part aims to address potential short-term changes in the underlying cognitive process that is said to drive unethical behavior.

Dissertation overview

The research presented in this dissertation consists of three empirical chapters that resulted from extensive and intensive data collection, both in the laboratory and in the field. In terms of research methodology, I capitalize upon the benefits of both experimental and experience-sampling methodology (ESM). Whereas experimental research is preferred for establishing causality, ESM is the ideal research methodology for studying within-individual variability. Furthermore, because this methodology allows capturing fluctuations in individuals' experiences and behaviors as they occur in the natural (work) environment (Alliger & Williams, 1993), it permits capturing data in real time and in highly localized contexts. Whereas each chapter deals in various ways with the notion of *variability*, they were developed independently as stand-alone research papers in collaboration with the members of my dissertation team. To reflect their contribution, I will use "we" rather than "I" when presenting the research undertaken in these chapters.

In Chapter 2, we begin the journey of understanding this variability phenomenon by zooming-in on individual decision-making in organizations. In particular, we explore how a fundamental aspect of the organizational structure (i.e., structural power) facilitates daily decision-making that is flexibly attuned to the velocity of the situation. We define this concept as time-appropriate decision-making and build our theoretical argument by combining work from organization theory, namely the Carnegie School, with work from social psychology, namely the situated focus theory of power. In line with such work, we suggest that structural power facilitates time-appropriate decision-making such that organizational members with high structural power act fast in situations where fast action would be effective (i.e., high velocity situations) and slow in situations where slow action would be effective (i.e., low velocity situations). We also suggest that subjectively experienced power (i.e., experienced capacity to influence and control others; Anderson, John, & Keltner, 2012) mediates this effect. In order to test our predictions, we first conducted two ESM studies among organizational members who described decisions they made each day across 10 consecutive working days. We also conducted a laboratory experiment in which undergraduate business students were

presented with predefined and pre-tested decisions embedded in either high or low velocity situations.

In Chapter 3, we continue our journey to understand within-individual variability present in another type of behavior, namely unethical behavior in organizations. In line with many before us, we label this as counterproductive work behavior (CWB; Dunlop & Lee, 2004; Spector & Fox, 2005). Encapsulating a variety of discretionary selfish behaviors, such as being rude to colleagues at work or stealing from the organization (Salgado, 2002; Taylor, Hastings, Sturm, & Weigelt, 2013), CWB presents great variability within individuals. Furthermore, organizational members' tendency to engage in such behaviors costs organizations as much as 200 billion dollars in the US alone (Bennett & Robinson, 2000) and further affects the well-being of their members. Scholars have begun to unveil what factors might account for intra-individual fluctuations in CWB (cf. Judge et al., 2006; Matta et al., 2014), but not what factors might facilitate such behaviors to unfold across time. In light of this, in this chapter we take within-individual variability a step forward and suggest that the display of CWB resembles addictive behaviors. In particular, we propose that enactment of CWB one day promotes enactment of CWB the following day. In building our theoretical framework, we return to the basics of what behavioral self-regulation is as outlined in control theory (Carver & Scheier, 1982; Powers, 1973), namely a continuous and controlled process through which individuals move towards their desired goals. Combining insights from this meta-theory of self-regulation with insights from the resource model of self-control (Baumeister, Bratslavsky, Muraven, & Tice, 1998), we suggest that CWB is addictive particularly among employees whose daily sleep quality is impaired. We further argue that this CWB X Sleep Quality interaction effect is restricted to employees who are low (rather than high) in moral identity. To test our predictions, we conducted an ESM study among organizational members across 10 consecutive working days.

In Chapter 4, related to Chapter 3, we take a temporal perspective to understand whether a core cognitive process underlying unethical behavior – moral reasoning – is liable to short-term variability. In particular, we examine whether a short-term influence, such as the subjective experience of power, impacts moral reasoning, a long-term developmental cognitive process underlying the decision of what would be a morally right or wrong action to pursue (Kohlberg, 1969). Interestingly, prior to the 1950s, the role of the mind in understanding organizational behavior was rather minimal. Among others, the cognitive revolution movement that began around the 1950s brought to the fore the realization that individuals' behavior is liable to cognitive constrains. To that end, of particular interest in this chapter was the notion of motivated

cognition i.e., the tendency to process information in line with what we know and wish to be true (Kunda, 1990). Combining insights from motivated cognition with those from the social psychological power literature, we suggest that the experience of high power (as opposed to low power or a control condition) lowers one's level of cognitive moral development. We further suggest that this negative effect of the experience of high power is particularly present when individuals frame it as a notion of opportunity (as opposed to a notion of responsibility or a neutral control condition). To test our predictions, we conducted four laboratory studies among undergraduate business students and used different experimental methods to capture the experience of power.

Finally, in Chapter 5, I wrap up this journey with an overview of the main findings that emerged from the three empirical chapters. I further highlight the main theoretical and practical implications of this research. I end with a few lines about potentially fruitful areas for future research.

Declaration of contributions

There are four authors who contributed to the three empirical chapters presented in this dissertation. Laura M. Giurge was the main coordinator of all three chapters and was most actively involved in reviewing the existing literature, designing the studies, collecting and analyzing the data, and finally writing up the chapters. Marius van Dijke was closely involved in all these activities, with particular attention given to designing the studies, understanding the results, and reviewing the writing. Xue (Michelle) Zheng was also closely involved in designing the studies, in particular the experimental ones, understanding the results, and reviewing the writing. David De Cremer was distantly involved in reviewing the writing. Noteworthy, for Chapter 2 and 3, Laura M. Giurge was solely responsible for analyzing the data, with conceptual guidance from Marius van Dijke.

CHAPTER 2

How structural power facilitates time-appropriate decision-making[2]

[2] Giurge, L.M., van Dijke, M., Zheng, X., & De Cremer, D.

INTRODUCTION

Many classic and contemporary approaches to management view decision-making as a core aspect of the managerial role (Drucker, 1967; Gavetti, Levinthal, & Ocasio, 2007; March & Simon, 1993; Mintzberg, 1973; Sharfman & Dean Jr, 1997; Simon, 1957, 1997; Zaccaro & Klimoski, 2002). An important characteristic of decision-making is whether it is conducted in a time-appropriate manner, or in other words, whether it is flexibly attuned to the velocity of the specific situation that a manager is in (Bluedorn & Denhardt, 1988; Hogan & Kaiser, 2005; Jacobs, 2005; Kahneman, Slovic, & Tversky, 1982; Snowden & Boone, 2007). Clearly, in some situations fast decision-making would be effective whereas in others a more deliberate type of decision-making would be effective. For instance, during a typical workday, a manager might need to deal with an angry customer, requiring immediate action (i.e., a high velocity situation); subsequently he or she might need to decide whether to accept a new project or a change in role at work, in which a more deliberate action is effective (i.e., a low velocity situation). Scholars have suggested that failing to make decisions in a time-appropriate manner can decrease the effectiveness of managers as well as the performance of the organization that they work for (Garvin & Roberto, 2001; Gilliland, 1993; Kahneman et al., 1982; Korsgaard, Schweiger, & Sapienza, 1995).

Unfortunately, we currently lack even a basic understanding of time-appropriate decision-making and of the organizational factors that may facilitate it (Forbes, 2007; Gavetti et al., 2007; Hogan & Kaiser, 2005). There are two reasons for this. First, relevant organization theory (e.g., the Carnegie School) posits that the organizational context, especially the organizational structure, influences the way in which individual managers make decisions (Louis & Sutton, 1991; March & Olsen, 1976; Ocasio, 1994, 1997; Simon, 1957, 1997). Yet, studies inspired by the ideas put forth by the Carnegie School have focused on how the organizational context influences meso-level outcomes such as organizational learning and change rather than individual decision-making. As a result, we know very little about whether and how the organizational structure influences individual decision-making (Bazerman & Moore, 2008; Gavetti et al., 2007). Second, although the concept of time-appropriate decision-making has been mentioned in the literature, it has not been theoretically defined or empirically examined yet (Burke & Miller, 1999; Hannah, Balthazard, Waldman, Jennings, & Thatcher, 2013; Sadler-Smith & Sparrow, 2008).

To address these issues, we study how a manager's structural power influences time-appropriate decision-making. We focus on structural power because this is usually considered a defining (if not *the* defining) element of organizational structure in organization theory, or in other words, the critical dimension that separates an organization from an unstructured collection of individuals (Cartwright, 1959; Davis, Greg Bell, Tyge Payne, & Kreiser, 2010; Kipnis, 1972; Magee & Galinsky, 2008; Simon, 1957). Drawing on recent insights from social psychology research we take into account that individuals also form a subjective sense of their power, their experienced capacity to influence and control others (Anderson et al., 2012; Galinsky, Gruenfeld, & Magee, 2003; Keltner, Gruenfeld, & Anderson, 2003). The subjective experience of power takes into account structural position but also other, more informal (and more fluctuating) sources of power such as one's position in a social network (Emerson, 1962), subunit membership (Salancik & Pfeffer, 1974), and person-organization fit (Anderson, Spataro, & Flynn, 2008). Unlike structural power, this subjective experience of power is therefore specific to the situation (Anderson et al., 2012; Moskowitz, 1994, 1988). In the current paper, we draw on the situated focus theory of power (Guinote, 2007a) to argue that high structural power enables managers to flexibly adapt the pace of their decision-making to situational velocity because high structural power leads to an elevated subjective experience of power (Johnson & Lammers, 2012; Lammers, Stoker, & Stapel, 2010; Sherman et al., 2012). We test our hypotheses in two experience-sampling (ESM) studies, which capture fluctuations in individuals' experiences and behaviors as they occur in the natural work environment (Alliger & Williams, 1993), and in a controlled laboratory experiment.

Our research makes three contributions to the literature. First, research has, thus far, not been very successful in identifying *whether* and *how* specific structural aspects of the organization influence individual decision-making (Bazerman & Moore, 2008; Gavetti et al., 2007). We contribute to organization theory and organizational behavior scholarship by identifying structural power (i.e., a meso-level factor) as an antecedent of time appropriateness (i.e., a micro-level outcome) via the mediating mechanism of subjectively experienced power. Second, we add to the literature on decision-making by examining the concept of time appropriateness; a concept that has been mentioned to be of great value to organizational managers (Hogan & Kaiser, 2005; Kahneman et al., 1982; Snowden & Boone, 2007), but that has not been theoretically clarified or empirically studied yet (Burke & Miller, 1999; Hannah et al., 2013; Sadler-Smith & Sparrow, 2008). Third, we heed the call for new methods of studying the effects of power within organizations (Sturm & Antonakis, 2015) by using ESM to test how structural power, via subjectively experienced power, may

facilitate flexible attunement to situational demands and affordances among organizational members and managers in their daily work environment. Prior research testing the effects of power, in general, and the situated focus theory of power, in particular, was conducted in laboratory contexts or, on rare occasions, in cross-sectional surveys; the latter cannot capture within-person processes underlying attunement to situational demands and affordances. To the best of our knowledge, the ESM studies therefore represent the first externally valid test of the situated focus theory of power.

THEORETICAL BACKGROUND

Decision Time and Situational Velocity

In line with prior work, we define *decision time* as the time individuals take to make a decision (Benson & Beach, 1996; van de Calseyde, Keren, & Zeelenberg, 2014). We distinguish decision time from decision speed - a concept used in the management literature to illustrate how quickly decisions are made and acted upon in organizations (Eisenhardt, 1989). We explicitly use the term decision time, rather than decision speed, since the latter term is often used in ways that suggest that fast action is superior to slow action (Baum & Wally, 2003; Eisenhardt, 1989; Forbes, 2005; Jones, 1993; Kepner-Tregoe, 2001). Time appropriateness, however, implies that situational velocity will dictate whether fast or slow decision-making is appropriate.

We define *situational velocity* at the individual level as the extent to which the rate of change in the situation requires fast action (i.e., high situational velocity demands) or slow action (i.e., low situational velocity demands). Specifically, because of the high pace at which changes can emerge, a situation of high velocity is characterized by high urgency and time pressure, with inaccurate, incomplete, and often unavailable information present. In such situations, it is therefore effective to make an intuitive judgment and take fast action in order not to miss opportunities (Burke & Miller, 1999; Dane & Pratt, 2007; Khatri & Ng, 2000). Conversely, because of the slower pace at which changes can emerge, a situation of low velocity is characterized by less urgency and time pressure, with reliable and often complete information present. In such situations it is therefore more effective to make deliberative judgments and take slow action rather than sacrifice potential benefits and comprehensiveness for the sake of speed (Dane & Pratt, 2007; Hough & White, 2003; McMackin & Slovic, 2000). *Time-appropriate decision-making* thus refers to flexibly adjusting to situational demands, such that one takes little time to make decisions in situations of high velocity and more time in situations of low velocity.

The relationship between organizational managers' decision-making and velocity has previously been studied in terms of environmental velocity only. However, environmental velocity has mostly been used in organization-level research to describe stable differences between organizational environments across multiple dimensions such as demand, competition, technology, and regulation (Eisenhardt, 1989). Previous empirical research indicates that optimal performance results when organizational managers' *chronic* speed of responding matches the typical level of velocity present in the organization's environment (cf. Eisenhardt, 1989; Khatri & Ng, 2000). However, this research does not address the issue of time appropriateness - flexibly adapting to situational changes in velocity, which takes a dynamic view of decision time and focuses on factors at the individual-level within the decision-making environment.

Structural Power, Experienced Power, and Time appropriateness

Perhaps the most influential school of thought in the organizational sciences that links meso-elements of the organizational structure (i.e., power differentiations) with individual manager decision-making is the Carnegie School. Portrayed as a constellation of ideas, this school of thought was initiated by Nobel Laureate Herbert Simon (1957, 1997) and further developed by March and Simon (1958), Cyert and March (1963), and more recently by Gavetti et al. (2007). Simon argues that a fundamental effect of organizational structure is that it facilitates and simplifies organizational decision-making (Gavetti et al., 2007; Simon, 1957). In particular, the organizational structure creates a specific pattern of communications and relations by providing certain organizational members with access to information that is necessary to make decisions in line with the organization's objectives. Yet, although the Carnegie School considers the organizational structure to "provide the general stimuli and attention-directors that channelize the behaviors" (Simon, 1957, pp. 100-101) of organization members and their actions, it has not been successful in arguing how the organizational structure specifically shapes the decision-making of individual managers. Along the lines of this school of thought, we therefore suggest that structural power represents an important structural element of the organizational context that should be considered in relation to time appropriateness.

Structural power is, however, a broad operationalization of power that encapsulates factors other than objective power differences alone such as status (Halevy, Chou, & Galinsky, 2011; Magee & Galinsky, 2008) and felt responsibility (Sherman et al., 2012). Furthermore, structural power, as an objective indicator of power, is not tied to specific situations and it therefore does

not reflect to a full extent the actual power that individuals have. As noted, the subjective experience of power, on the other hand, is a complex assessment of one's actual power that captures not only the direct interpretation of one's structural position of power but also various other and more fluctuating aspects of power such as one's position in a social network (Emerson, 1962), subunit membership (Salancik & Pfeffer, 1974), and person-organization fit (Anderson et al., 2008). Defined as one's experienced capacity to influence and control others, subjectively experienced power (Anderson et al., 2012) is therefore situation specific and represents a more accurate caption of one's actual power in any specific situation. Furthermore, to the extent that individuals further differ in how they assess their own power (Anderson, Spataro, & Thomas-Hunt, 2005), subjectively experienced power is arguably essential for obtaining a better understanding of how structural power affects individuals' actual power and subsequently their actions (Anderson & Galinsky, 2006; Anderson et al., 2012; Guinote, 2007a; Keltner et al., 2003; Sherman et al, 2012; Tost, Gino, & Larrick, 2013; Lammers et al., 2010).

The literature on power has shown that the subjective experience of power shapes individuals' cognition, affect, and behaviors (Anderson & Brion, 2014; Brauer & Bourhis, 2006; Keltner et al., 2003). Keltner and colleagues (2003) were the first to provide an overarching theoretical framework – the approach-inhibition theory of power – that explains how power shapes individuals' cognition, affect, and behavior. This theory proposes that, by activating the behavioral approach system, the experience of high power increases positive affect and sensitivity to rewards and as a result facilitates approach-oriented behavior. In contrast, by activating the behavioral inhibition system, the experience of low power increases negative affect and sensitivity to threats and as a result enhances inhibition-oriented behavior (Brauer & Bourhis, 2006; Galinsky et. al., 2003; Keltner et al., 2003). Ample empirical evidence supports such predictions (Anderson & Galinsky, 2006; Galinsky et al., 2003; Magee, Galinsky, & Gruenfeld, 2007).

Advancing the work of Keltner and colleagues, Guinote (2007a) developed the situated focus theory of power to address how power affects cognition in line with the surrounding situation. Integrating research on situated cognition, which argues that cognition is not simply a collection of static representations of external reality (i.e., schemas), but rather a dynamic and adaptive process that guides behavior in line with one's immediate surrounding (Barsalou, 2003), Guinote's (2007a) theory proposes that the experience of power affects the way individuals interact with their surrounding environment by facilitating increased processing flexibility and selectivity of available information. In particular, the experience of power enhances individuals' ability to selectively

attend to goal-relevant information and disregard goal-irrelevant information. As a result, individuals who experience high power are more attuned to the primary factors that drive cognition and should therefore be more effective at achieving goals in line with any particular situational demands and affordances. Conversely, individuals who experience low power exhibit a stronger tendency to attend to multiple different types of information, irrespective of its potential or relevance, and as a result they have fewer cognitive resources to focus on the task at hand. Their ability to accurately judge the information present in any particular situation decreases, with consequences for how they act.

Research has provided robust evidence for predictions derived from the situated focus theory of power. For instance, Guinote (2007b) showed that experiencing high power facilitates goal setting, initiation of goal-directed action, persistence and flexibility in goal pursuit, and responses to good opportunities for goal pursuit. Overbeck and Park (2006) demonstrated that power facilitates flexible adjustment to situational goals. Guinote (2008) showed that the experience of power facilitates acting upon situational affordances. The experience of power seems to have this effect because it facilitates attentional focus on goal relevant information, at the expense of goal irrelevant information (Guinote, 2007c; Smith, Jostmann, Galinsky, & van Dijk, 2008). The situated focus theory of power and supportive research thus suggests that high structural power may also facilitate managerial decision-making that is flexibly attuned towards the velocity of the specific situation via the mediating mechanism of subjectively experienced power. This argument culminates in our two hypotheses:

High (relative to low) structural power facilitates decision-making in a time-appropriate manner (H1).

High (relative to low) structural power facilitates time-appropriate decision-making via the mediating role of subjectively experienced power (H2).

The line of reasoning leading to our two hypotheses implies a moderated-mediation model (Figure 1). Specifically, we argue that the effect of situational velocity on decision time (i.e., time appropriateness) is moderated by organization managers' structural power, and that the moderating role of structural power is itself mediated by subjectively experienced power. We elaborate on the terminology used (i.e., Level 1 and Level 2) in the methods sections below.

OVERVIEW OF STUDIES

We tested our hypotheses in three studies using two different methodologies. Study 1 and 2 were ESM studies. Study 1 was conducted among

managers with varying levels of structural power; Study 2 was a replication of Study 1, and included organization members with a non-managerial role. Situational velocity, decision time, and subjectively experienced power are all likely to vary at the momentary level (Anderson et al., 2012; Moskowitz, 1994, 1988). Structural power is a more stable characteristic of managers in the context of their organization (Davis et al., 2010; Ocasio, 1994). ESM, which allows capturing fluctuations in individuals' experiences and behaviors as they occur within the context of more stable aspects of the work environment, is thus well suited to test our hypotheses.

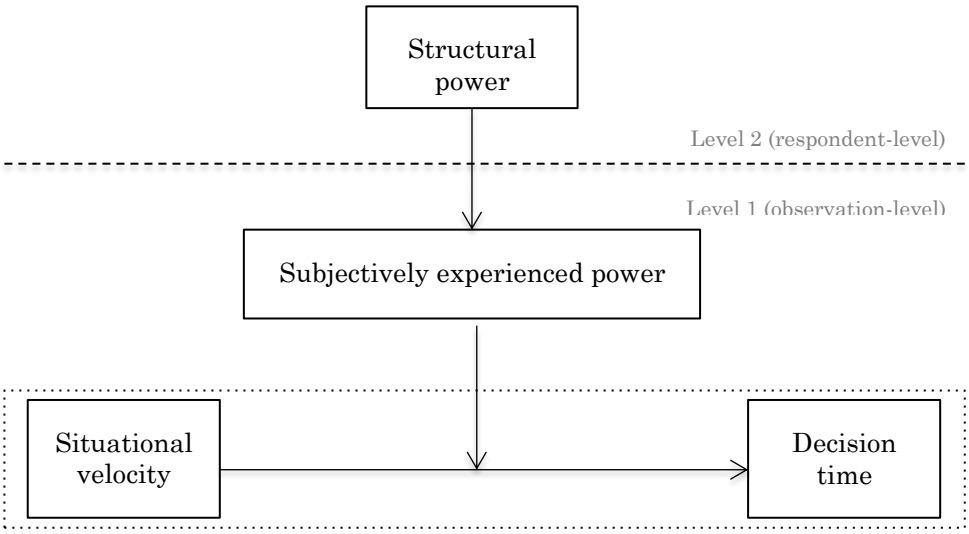

Figure 1. The conceptual model with time appropriateness representing the connection between decision time (i.e., the actual time taken for making a decision) and situational velocity (i.e., the extent to which fast action or slow action would be effective in that situation).

To allow us to draw causal conclusions, Study 3 was a laboratory experiment conducted among undergraduate business students using a popular tool to assess managerial behavior: the in-basket exercise (Hoogervorst, De Cremer, & van Dijke, 2013; Whetzel, Rotenberry, & McDaniel, 2014). Participants were assigned the role of a manager with either high or low structural power in a fictitious organization and asked to indicate the extent to which they would take more or less time in dealing with organizational decisions in a context of high and low situational velocity.

STUDY 1

Method

Respondents and procedure. We invited 150 full-time working individuals with supervision responsibility to participate in our study via Amazon Mechanical Turk (AMT) in exchange for $1.50. With the use of appropriate screening procedures (i.e., attention checks or specific qualifications; Oppenheimer, Mayvis, & Davidebko, 2009), AMT has become a popular platform for collecting data in organizational research (Cryder, Loewenstein, & Scheines, 2013; Uhlmann, Heaphy, Ashford, Zhei, & Sanchez-Burks, 2013; van Houwelingen, van Dijke, & De Cremer, 2014).

Study 1 comprised two parts. The first part was a one-time survey to measure respondents' level of structural power and demographic characteristics. At the end of this survey, we asked who would be interested to participate in the second part, a short daily survey that would be assessed 10 times, on 10 consecutive workdays[3]. Out of 150, 144 agreed to participate. Since there are no clear indications regarding sample size (e.g., a minimum of 50 cases at the higher level – the respondent-level in our case - is often the norm for interactions across levels; Hox, 2010; Maas & Hox, 2004) and in order to keep the second part manageable, we randomly selected 100 respondents to participate.

The daily survey asked respondents to describe a work-related decision made during their workday, encouraging them to provide as much detail as possible. To prevent respondents from describing the same mundane decision across all days, we gave them specific examples of decisions that normally occur in an organization setting (e.g., deciding when a meeting should be organized, whether to launch a new product, or whether to expand into a new market). Next, respondents filled out several measures related to the decision. Each respondent was sent a reminder of each daily survey about six hours before their next workday and were given from the end of their workday until midnight that day, to fill it out. Respondents received $1 for each day and a bonus of $5 upon successfully completing all 10 surveys.

In total, 60 respondents (43.3% female) with an average age of 38.83 (*SD* = 12.33) completed all 10 daily surveys (60% response rate). On average,

[3] We conducted additional analyses to rule out the possibility that our dependent variable varied as a function of time. Specifically, we coded the 10 working days (from 0 = *Day 1* to 9 = *Day 10*; Heck, Thomas, & Tabata, 2013) and entered this variable as a factor in all our models. We also entered the variable time as a quadratic term in all our models to examine whether changes in decision time exhibit any particular growth trend (i.e., accelerated or decelerated) across the 10 days. Results of these analyses revealed no main effect of time on decision time. Moreover, adding these two time variables did not significantly alter our hypothesized relationships.

respondents had 18.43 (*SD* = 11.54) years of work experience and 7.87 (*SD* = 6.01) years of work experience in their current company. The majority (51.7%) had a bachelor or associate-level degree, 26.7% had a high-school degree, 15% had a master degree, and 6.7% had an MBA. Of respondents, 85.1% were Caucasian American, 5% were of Hispanic ethnicity, 3.4% were Latino, 3.3% were African American, and 1.7% American Indian. Industry/sector and company size were categorized in line with Statistics Netherlands (CBS) and the Dutch Chamber of Commerce[4].

Out of a total of 600 daily observations, 100 represented decisions that were not made that particular day at work. We treated these observations as missing data[5].

Daily Measures

Situational velocity. Two independent coders read the decisions described by the respondents on the first day of the daily survey and evaluated the extent to which the situation surrounding the decision was of high velocity and thus fast action would be effective (i.e., changes emerge at a high pace, there is high urgency and time pressure, with inaccurate, incomplete, and often unavailable information rendering intuitive judgments effective in order not to miss opportunities) or of low velocity and thus slow action would be effective (i.e., changes emerge at a slower pace, there is less urgency and time pressure, with accurate and often complete information available, rendering deliberative judgments effective in order not to sacrifice potential benefits and comprehensiveness for the sake of speed). The coders evaluated this on a scale from 1 (*the decision demands very quick action*) to 7 (*the decision demands very slow action*). To ease interpretation of our results and graphs, situational velocity was coded such that low values imply fast action whereas high values imply slow action. Given the high agreement between the two coders (r = .92, p < .001) on the first day (N = 57, three respondents did not make any decision that day), only one coder rated the decisions described across the nine remaining days (see also Moore & Tenbrunsel, 2014).

[4] Detailed description of the sample composition regarding industry/sector and company size is available upon request from the first author.

[5] We examined whether missing data present at Level 1 would affect our hypothesized relationships (Hedeker & Gibbons, 1997). In particular, we created a dummy variable at Level 2 (0 = *missing*; 1 = *not missing*) that was entered across all our models to examine whether missing data would affect our hypothesized relationships (see Sun, Song, & Lim, 2013, for a similar procedure). Results revealed that missing data patterns did not significantly alter our hypothesized relationships. Moreover, there were no significant main effects or moderating effects of missing data patterns with situational velocity on decision time across our models.

Subjectively experienced power. We measured subjectively experienced power with two items adapted from previous power research (Anderson & Galinsky, 2006; Galinsky et al., 2003). Specifically, respondents were asked to indicate on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) the extent to which they felt they had (1) control and (2) influence over others that day at work (α = .91).

Decision time. We measured decision time with one item asking respondents to indicate how much time they spent making the decision described on a scale that included number of days, hours, and minutes as well as the option of not having made the decision that day. Asking respondents to report the time taken for specific activities is a well-known, valid technique in research areas such as work and organizational psychology (Sonnentag, 2001) and health psychology (King, Haskell, Young, Oka, & Stefanick, 1995). The range for days was between 0 and 270 (M = 10.90; SD = 29.76; N = 135), the range for hours was between 0 and 19 (M = 2.66; SD = 2.57; N = 257), and the range for minutes was between 0 and 60 (M = 18.09; SD = 14.90; N = 394). There was overlap among the values for days, hours, and minutes because some respondents indicated only days, or only hours, or only minutes, whereas others indicated hours and minutes or days and hours. To facilitate comparisons across observations, we transformed these variables so that that all respondents' decision time would be measured in terms of the number of hours taken to make the decision. The values ranged from .02 to 6480 hours (M = 65.29; SD = 15.70). Response time measures, such as our decision time measure, are often not normally distributed (Whelan, 2008). As a result, residuals are positively skewed. To correct for this, we applied a square root transformation (often employed to normalize variance in time-related measures, Kirby, Lévesque, Wabano, & Robertson-Wilson, 2007; Larson, Dworkin, & Gillman, 2001) and present all subsequent results using the transformed variable[6]. The values on the transformed variable ranged from .13 to 80.50 (M = 3.23; SD = 7.56).

One-time Measures

Structural power[7]. In line with previous work in management (Sherman et al., 2012) and social psychology (Johnson & Lammers, 2012; Lammers et al.,

[6] We conducted all analyses with the untransformed decision time variable and obtained similar results to the ones presented in the main text.

[7] In the main text, we report results using an existing scale. We note that we also measured direct and indirect number of subordinates for which we found similar yet weaker results; when these two measures were combined, results were similar to the ones presented in the main text. We also measured hierarchical position in both Study 1 and 2 with an item taken from Begley, Lee, and Hui (2006; i.e., *"What best describes your position in the organization?"* 1 = *non-executive*, 2 = *line management*, 3 = *middle management*, 4 = *senior/top management*). Results with this measure were

2010; van Dijke & Poppe, 2003, 2004), we measured respondents' structural power in terms of the number of subordinates on a 6-point scale: no subordinates (0%), 1-5 subordinates (36.7%), 6-10 subordinates (33.3%), 11-15 subordinates (16.7%), 16-20 subordinates (10%), and more than 20 subordinates (3.3%).

Control variables. In the baseline survey, we used open-ended questions to record respondents' gender, age, overall work experience, tenure in the current organization, ethnicity, size of the company they work in (e.g., number of full-time employees; Kimberly, 1976), and the industry/sector of their company.

Analyses

For each respondent, we had data at two levels: at the respondent-level (Level 2) and at the observation-level (Level 1). Structural power and the control variables constituted Level 2 data. Decision time, situational velocity, and subjectively experienced power constituted Level 1 data. Given the structure of our data with observations (N = 500) nested within respondents (N = 60), we analyzed the data via multilevel modeling using the linear mixed-effects models (MIXED) procedure in SPSS, version 22 (Heck et al., 2013). In line with recommendations (Hofmann & Gavin, 1998), we grand-mean centered all variables, except the dependent variable. We did not group-center Level 1 variables because we were interested in variance in decision time both within and between respondents (Raudenbush & Bryk, 2002).

We conducted cross-level moderated-mediation analyses following procedures suggested by Baron and Kenny (1986) and Muller, Judd, and Yzerbyt (2005). Particularly, four conditions need to be met. First, the

similar to the ones presented in the main text yet the effects seemed to be driven mostly by medium vs. low, rather than high vs. low hierarchical position, possibly because of the relatively low number of organizational members in those conditions. While prior work has often operationalized structural power as the formal hierarchical position one has in the organization, we opted to use an existing scale of the number of subordinates one has for three reasons. First, hierarchical position has a strong symbolic value attached to it, in that it strongly communicates prestige and recognition, sometimes more so than actual power (Aquino & Douglas, 2003; Useem, 1979). Number of subordinates is less strongly associated with such symbolic connotations and it is thus a more direct measure of the amount of actual power that one has in the organization (Bendahan, Zehnder, Pralong, & Antonakis, 2015). Second, individuals often do not have a clear idea of what their hierarchical position actually is. To illustrate this, in a sample of working individuals (N = 309, 34% female; $M_{work\ experience}$ = 12.05 years, SD = 10.82; not included in this manuscript), we measured respondents' hierarchical position two times, with the two measurements separated by one month in time. We found a correlation of .67 between the two measurements of hierarchical position. This correlation is sizable but it also implies that over half of the variance in the same item is not shared across two measurement points. Third, hierarchical positions vary across organizations and it is therefore more suitable in research that focuses exclusively on one organization (cf. Aquino, Tripp, & Bies, 2001); this was not the scope of our research as we aimed to look across organizations and across industries.

independent variable (*Level 2 structural power*) and the moderator (*Level 1 situational velocity*) should significantly interact to predict the dependent variable (*Level 1 decision time*). Second, the independent variable should significantly predict the mediator (*Level 1 subjectively experienced power*), while controlling for its main effect and its interaction with the moderator. Third, the moderator should significantly interact with the mediator to predict the dependent variable; the shape of this interaction should be similar to that of the interaction between the independent variable and the moderator. Fourth, the interaction between the independent variable and the moderator should be reduced in significance when the interaction between the mediator and the moderator is entered into the model. Because our moderator was measured at Level 1, we fitted random intercepts models only (Heck et al., 2013).

Results

Descriptive statistics and preliminary analyses. Table 1 provides means, standard deviations, and zero-order correlations among our interval measured variables. For calculating the correlations between observation-level data and respondent-level data (values below the diagonal), we aggregated (group-mean centered across the 10 days) the observation-level data at the respondent-level. As is evident from Table 1, none of the control variables were significantly related to our dependent variable or to our predictor variable[8].

Prior to testing our hypotheses, we fitted a null model (i.e., a model with no predictors) to examine the proportion of variance in decision time that can be attributed to differences across respondents by means of the intra-class correlation (ICC). Results from Table 2 (Model 1) show that 30.17% of the variance in decision time comes from differences between respondents. This value is clearly above the cutoff point of 5%, rendering multilevel analyses appropriate for our data (Heck et al., 2013; Hox, 2010).

Hypotheses test. H1 predicted that situational velocity interacts with structural power to predict decision time. We regressed decision time on situational velocity at Level 1, decision time on structural power at Level 2, and the interaction term between situational velocity and structural power across levels (Table 2, Model 2). This also represents the first step of the cross-level moderated-mediation analyses. Results showed that situational velocity was significantly and negatively related to decision time (γ_{10} = -1.47, *SE* = .16, $p <$

[8] We conducted additional analyses with the control variables entered as covariates (i.e., continuous variables such as age, work experience, and organizational tenure) or as factors (i.e., gender, industry sector, education, ethnicity, and organizational size) to examine whether they had any influence on our hypothesized relationships. Results of these analyses did not significantly alter the results presented in the main text.

.001). Structural power did not significantly influence decision time (γ_{01} = .74, *SE* = .47, p = .12) but it significantly interacted with situational velocity in predicting decision time (γ_{11} = -.60, *SE* = .13, p < .001). Figure 2 graphically illustrates the interaction between structural power and situational velocity.

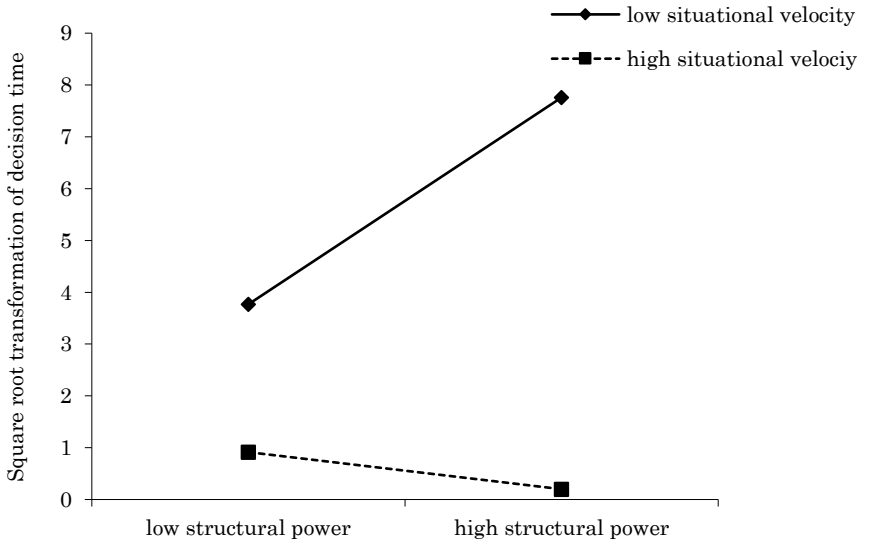

Figure 2. Cross-level interaction between respondent's structural power (Level 2) and situational velocity (Level 1) on decision time (Level 1), Study 1.

Next, we conducted simple slopes analyses following the 'indirect method' developed by Dawson (2014). Specifically, we re-centered situational velocity at one standard deviation above and below the mean to represent high and low levels of situational velocity. We then fitted the same model (Model 2) separately for the re-centered high and for the re-centered low values of situational velocity. The main effect and significance level of the independent variable (structural power) represents the simple slopes test (Dawson, 2014). Results showed that for low situational velocity, the difference in decision time between respondents with high and those with low structural power was significant (γ_{01} = 1.80, *SE* = .51, p < .001). For high situational velocity, the effect of structural power was not significant (γ_{01} = -.32, *SE* = .54, p = .55).

In step two, we examined whether structural power predicted subjectively experienced power while controlling for its main effect and its interaction with situational velocity. Results (Table 2, Model 3) indicated that respondent's

structural power had a significant and positive effect on their subjective experience of power (γ_{01} = .17, *SE* = .07, p = .01).

In step three, we examined whether situational velocity interacted with subjectively experienced power to predict decision time. Results (Table 2, Model 4) revealed that situational velocity had a significant main effect on decision time (γ_{10} = -1.56, *SE* = .16, p < .001). Subjectively experienced power was not significantly related to decision time (γ_{20} = .20, *SE* = .26, p = .43). Of most importance for H2, subjectively experienced power interacted significantly with situational velocity to predict decision time (γ_{30} = -.26, *SE* = .12, p = .03). Figure 3 illustrates the shape of the interaction.

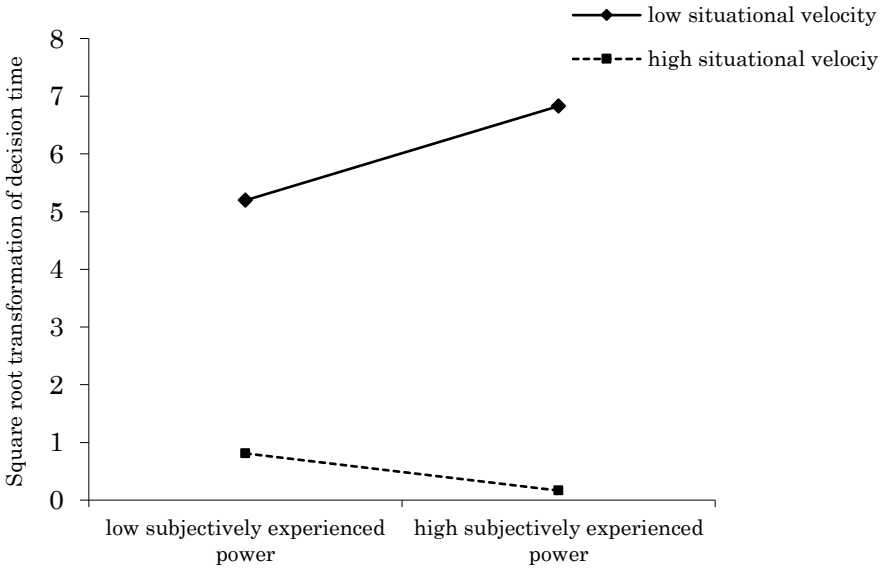

Figure 3. Lower level interaction between subjectively experienced power and situational velocity on decision time, Study 1.

Simple slopes tests (as in step one and using the indirect method, Dawson, 2014) showed that for low situational velocity, respondents with high subjectively experienced power acted more slowly compared to those with low subjectively experienced power (γ_{20} = .66, *SE* = .33, p = .04). For high situational velocity, there was no significant difference in how respondents with high versus low subjectively experienced power acted (γ_{20} = -.25, *SE* = .33, p = .45).

In step four, we examined whether the interaction term between structural power and situational velocity was reduced in significance once the interaction term between subjectively experienced power and situational velocity was introduced in the model. Results (Table 2, Model 5) showed that the interaction between subjectively experienced power and situational velocity was not significant (γ_{30} = -.13, SE = .11, p = .24). Similarly, the interaction between structural power and situational velocity was not significant (γ_{11} = -.45, SE = .30, p = .13), albeit the size of the effect decreased compared to the effect presented in step one (Model 2). Thus, overall, H2 is not supported although the lower level interaction between subjectively experienced power and situational velocity indicated a similar pattern as the interaction between respondents' structural power and situational velocity.

Overall, results from this study provide initial evidence that organizational managers' structural power partially facilitates time appropriateness. Specifically, we found that in low velocity situations, organizational managers with high structural power acted more slowly compared to those with low structural power. Yet, we found that in high velocity situations, managers acted equally fast, irrespective of their structural power.

Table 1

Descriptive Statistics, Within- and Between-Person Correlations, ICCs and Pearson Correlations, Study 1

Variables	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Decision time [a]	3.23	7.56	-	-.40**	.07								
2. Situational velocity [a]	5.84	1.77	-.44**	-	.03								
3. Subjectively experienced power [a]	5.44	1.23	.16	.02	-								
4. Structural power [b]	3.10	1.11	.26*	-.14	.18	-							
5. Age [b]	38.83	12.33	.19	-.06	.29*	.12	-						
6. Gender [b]	1.58	.49	-.16	-.13	.05	.07	-.20	-					
7. Education [b]	2.08	1.01	.23	-.14	.06	-.08	-.03	.20	-				
8. Ethnicity [b]	1.29	.83	-.03	-.02	-.03	.22	-.28*	.17	-.09	-			
9. Work experience [b]	18.43	11.54	.13	-.03	.29*	.12	.95**	-.22	-.11	-.28*	-		
10. Organizational tenure [b]	7.87	6.01	.16	-.09	.22	.05	.55**	.03	.00	-.14	.52**	-	
11. Organizational size [b]	5.89	1.27	.16	-.15	-.18	.14	-.29*	.35**	.14	-.03	-.27*	-.26*	-

Notes. Correlations presented below the diagonal are respondent-level correlations with observation-level variables aggregated at the respondent-level ($N = 60$); Correlations above the diagonal are observation-level correlations ($N = 500$). Means and standard deviations for the observation-level variables are computed based on the raw, un-centered scores.

[a] Level 1 (daily observations level) variable. [b] Level 2 (respondent-level) variable.

Gender was coded such that 1 = female and 2 = male.

Table 2

Multilevel estimates for models predicting decision time, Study 1

Parameter	Notations	Model 1	Model 2	Model 3 [a]	Model 4	Model 5
			Fixed Effects			
Intercept	γ_{00}	3.19 (.60)***	3.16 (.51)***	5.46 (.07)***	3.25 (.53)***	2.77 (.37)***
Level 1 (observation-level)						
Situational velocity	γ_{10}		-1.47 (.16)***	.01 (.06)	-1.56 (.16)***	-1.22 (.33)***
Subjectively experienced power	γ_{20}				.20 (.26)	.13 (.19)
Level 2 (respondent-level)						
Structural power	γ_{01}		.74 (.47)	.17 (.07)*		.10 (.34)
Structural power X Situational velocity	γ_{11}		-.60 (.13)***	-.05 (.06)		-.45 (.30)
Subjectively experienced power X Situational velocity	γ_{30}				-.26 (.12)*	-.13 (.11)
			Random parameters			
Level 2 (respondent-level)						
Intercept	σ_b^2	16.82 (3.86)***	11.55 (2.77)***	.19 (.04)***	13.07 (2.21)***	5.13 (.88)***
Level 1 (observation-level)						
Intercept	σ_w^2	38.93 (2.61)***	32.20 (2.16)***	.97 (.07)***	33.03 (3.08)***	16.77 (1.18)***
Deviance	-2*log likelihood	3340.06	3236.73	1553.49	3253.92	3007.89

Notes. $N = 500$. * $p < .005$, *** $p < .001$. σ_b^2 = the between-respondents variance (the variance of the values of u_{oj}); σ_w^2 = the within-respondents variance (the variance of the values of ε_{ij}). Model 1 represents the null model (no predictors). Standard errors are in brackets. [a] The DV for this model is subjectively experienced power.

STUDY 2

We conducted Study 2 for two reasons. First, we wanted to replicate the results from Study 1. Scholars are increasingly stressing the value of replications (see e.g. Lishner, 2015, for a recent account), especially for null findings such as our finding in Study 1 that structural and subjectively experienced power does not facilitate fast action when situational velocity is high. Moreover, while the quality of data obtained from AMT is as reliable as that obtained through traditional methods (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010) and past work has successfully used AMT to collect data from supervisors (e.g., Cryder et al., 2013; Uhlmann et al., 2013; van Houwelingen et al., 2014), we wanted to increase the robustness of our results and replicate our findings with the use of a professional research agency. Second, Study 1 provides initial evidence among managers with varying levels of power. Yet because it is also employees (i.e., members with low structural power) who can experience both high and low subjective power (Anderson, Srivastava, Beer, Sparato, & Charman, 2006; Rucker & Galinsky, 2008), and in light of previous research that used a similar operationalization of structural power (Johnson & Lammers, 2012; Lammers et al., 2010; Sherman et al., 2012), in Study 2 we aimed to replicate the results among all organizational members.

Method

Respondents and procedure. We collected our data via a Dutch research agency – Flycatcher. The Flycatcher panel has the ISO-26362 certification for access panels (i.e., it meets the qualitative ISO requirements for social scientific research, market research, and opinion polls) and consists of about 16,000 Dutch citizens. In return for their voluntary involvement in completing questionnaires, panel members received a small reward in the form of points, which they could collect and eventually convert into a voucher of their choice. The target group for this project consisted of full-time working individuals. Similar to our approach on AMT, we asked Flycatcher to select panel members with varying levels of structural power so that our sample would reflect their sample distribution among the overall available sample.

As a result of the pre-screening survey, 240 respondents were invited via email to complete an initial baseline survey and the daily surveys. The baseline survey included similar measures as in Study 1, with the exception of ethnicity. The daily survey was sent by email every workday at 4:00 pm for 10 consecutive

workdays[9]. Similar to Study 1, respondents were asked to describe in detail a work-related decision made at work and to answer some additional questions. Since missing three or more daily surveys might indicate a lack of commitment to our project, we decided to include only those who missed no more than two daily surveys[10]. As a result, 60 respondents with an average age of 45.18 (*SD* = 10.86) who participated at least eight out of ten times (25% response rate) were included in subsequent data analyses.

On average, respondents (28.3% female) had 22.13 (*SD* = 12.06) years of work experience and 12.06 (*SD* = 9.94) years of work experience in their current company. Most respondents (30%) had completed higher professional education, 28.3% had completed academic education, 25% had completed senior secondary vocational education, 6.7% had completed senior general secondary education, 5% had completed preparatory secondary vocational education, and 5% had completed an equivalent degree to preparatory secondary vocational education. Similar to Study 1, industry/sector and company size were measured as categorical variables in line with CBS and the Dutch Chamber of Commerce.[11]

Because seven respondents missed two daily surveys and 25 missed one, we ended up with 561 daily observations, out of which 43 represented decisions that were not made that day at work. We treated these 82 daily observations as missing data[12].

Daily Measures

Situational velocity. One native Dutch coder read the decisions described by respondents and evaluated the extent to which the situation surrounding the decision was of high velocity and thus fast action would be effective (i.e., changes emerge at a high pace, there is high urgency and time pressure, with inaccurate, incomplete, and often unavailable information rendering intuitive judgments effective in order not to miss opportunities) or it was of low velocity and thus slow action would be effective (i.e., changes emerge at a slower pace, there is less urgency and time pressure, with accurate and often complete information

[9] Similar to Study 1, we examined whether our dependent variable varied as a function of time by entering time as a factor (coded from 0 = *Day 1* to 9 = *Day 10*) and as a quadratic term in our models. These analyses revealed no main effect of time on decision time. Moreover, adding these two time variables did not significantly alter our hypothesized relationships.

[10] We conducted all analyses with only those who participated 10 times (*N* = 283) and obtained results similar to those presented in the main text.

[11] Detailed description of the sample composition regarding industry/sector and company size is available upon request from the first author.

[12] We followed the same procedure as in Study 1 to examine whether missing data present at Level 1 would affect our hypothesized relationships. Results revealed that missing data patterns did not significantly alter our hypothesized relationships. Moreover, similar to Study 1, there were no significant main effects or moderating effects of missing data patterns with situational velocity on decision time across our models.

available, rendering deliberative judgments effective in order not to sacrifice potential benefits and comprehensiveness for the sake of speed). The coder evaluated this on a scale from 1 (*the decision demands very quick action*) to 7 (*the decision demands very slow action*). The coder was unaware of the purposes of the study. Similar to Study 1, situational velocity was coded such that low values imply fast action whereas high values imply slow action.

Subjectively experienced power. We measured subjectively experienced power with the 2-item scale that we used in Study 1 (α = .93).

Decision time. As in Study 1, we asked respondents to indicate how much time they spent making the decision described on a scale that included number of days, hours, and minutes as well as the option of not having made the decision that day. The range for days was between 0 and 140 (M = 6.28; SD = 14.44; N = 111), the range for hours was between 0 and 20 (M= 2.75; SD = 2.61, N = 189), and the range for minutes was between 0 and 45 (M = 13.04; SD = 11.56; N = 319). Again, there was overlap among the values for days, hours, and minutes because some respondents indicating only days, while others indicating days and hours. To facilitate comparisons across observations, we transformed this variable so that all respondents' decision time was measured in terms of hours taken to make the decision. The values ranged from .02 to 3360 hours with a mean of 32.84 (SD = 169.79). Similar to Study 1, we applied a square root transformation on this variable and present all subsequent results using the transformed variable[13]. The values on the transformed variable ranged from .13 to 57.97 (M = 2.59; SD = 5.12).

One-time Measures

Structural power. In line with Study 1, we measured respondents' structural power in terms of the number of subordinates on a 6-point scale: no subordinates (36.7%), 1-5 subordinates (21.7%), 6-10 subordinates (10%), 11-15 subordinates (11.7%), 16-20 subordinates (3.3%), and more than 20 subordinates (16.7%).

Control variables. In the baseline survey, we recorded the same control variables as in Study 1 (except ethnicity). Categorical variables were used for all variables except overall work experience, tenure, and age which were measured with open questions.

Analyses

As in Study 1, we analyzed the data via multilevel modeling (Hox, 2010) using the linear mixed-effects models (MIXED) procedure in SPSS, version 22

[13] As in Study 1, we ran all the analyses with the untransformed decision time variable and obtained results similar to the ones presented in the main text.

(Heck et al., 2013). Similarly, situational velocity, decision time, and subjectively experienced power constituted Level 1 data, and structural power and the control variables constituted Level 2 data. We again grand-mean centered all our variables, except the dependent variable. We followed the same four steps as in Study 1 when conducting cross-level moderated-mediation analyses.

Results

Descriptive statistics and preliminary analyses. Table 3 provides means, standard deviations, and zero-order correlations among our interval measured variables. We followed the same procedure as in Study 1 when calculating the correlations between observation-level and respondent-level data (values below the diagonal). As evident from Table 3, education was positively related to decision time, indicating that respondents with higher levels of education tended to take more time to make decisions. Gender was positively related to structural power, indicating that male respondents had a higher level of structural power compared to female respondents. Yet, in line with recent recommendations (Carlson & Wu, 2012), we did not include the control variables in subsequent analyses. [14]

As in Study 1, we first fitted a null model to examine the proportion of variance in decision time that can be attributed to differences across respondents. Results from Table 4 (Model 1) indicate that 29.08% of the variance in decision time comes from differences between respondents. This value is again clearly above the cutoff point of 5%, rendering multilevel analyses appropriate for our data (Heck et al., 2013; Hox, 2010).

Hypotheses test. In line with Study 1, to test H1 we regressed decision time on situational velocity at Level 1, decision time on structural power at Level 2, and the interaction term between situational velocity and structural power across levels (Table 4, Model 2). Again, this also represents the first step of the cross-level moderated-mediation analyses. As in Study 1, situational velocity was significantly and negatively related to decision time (γ_{10} = -.72, *SE* = .13, $p < .001$). In contrast to Study 1, structural power had a significant main effect on decision time (γ_{01} = .57, *SE* = .17, $p < .001$) and also significantly interacted with situational velocity in predicting decision time (γ_{11} = -.27, *SE* = .07, $p < .001$).

Figure 4 illustrates the interaction between structural power and situational velocity. We used the indirect method to run simple slopes tests. Results showed that for low situational velocity, the difference in decision time

[14] Entering these control variables did not affect the significance of the focal interactions.

between respondents with high and those with low structural power was significant (γ_{01} = 1.00, *SE* = .19, $p < .001$). For high situational velocity, the effect of structural power was not significant (γ_{01} = .15, *SE* = .21, $p = .46$).

In step two, we examined whether structural power predicted subjectively experienced power while controlling for its main effect and its interaction with situational velocity. Results (Table 4, Model 3) revealed that respondent's structural power had a significant and positive effect on their subjective experience of power (γ_{01} =. 20, *SE* = .04, $p < .001$).

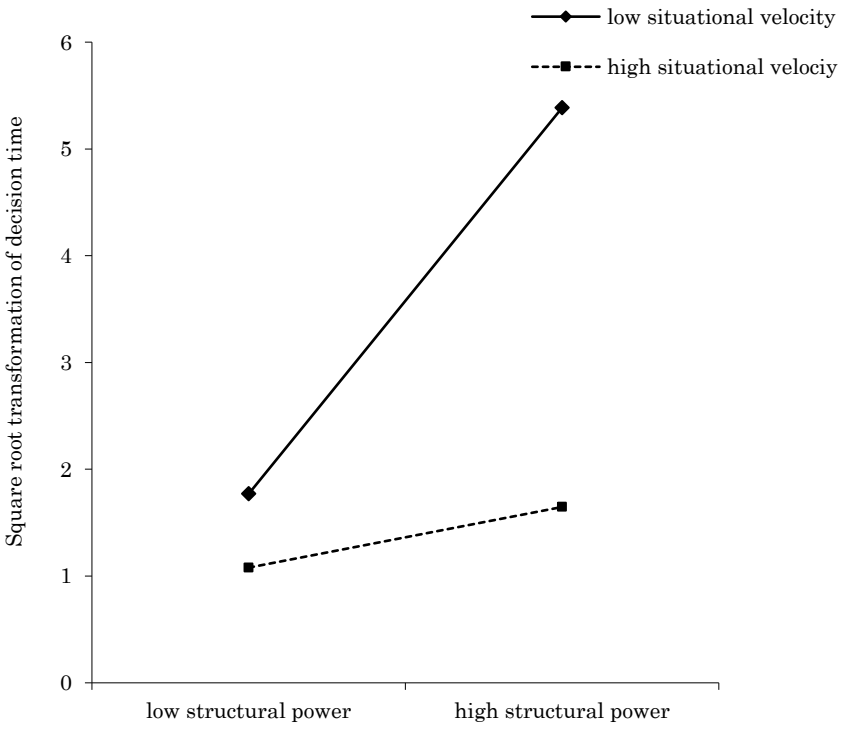

Figure 4. Cross-level moderation between respondent's structural power (Level 2) and situational velocity (Level 1) on decision time (Level 1), Study 2.

Table 3

Descriptive Statistics, Within- and Between-Person Correlations, ICCs and Pearson Correlations, Study 2

Variables	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Decision time [a]	2.59	5.12	-	-.31**	.05							
2. Situational velocity [a]	4.64	1.53	-.54**	-	-.06							
3. Subjectively experienced power [a]	4.75	1.44	.04	.00	-							
4. Structural power [b]	2.73	1.84	.40**	-.21	.35**	-						
5. Age [b]	45.18	10.86	-.14	.13	.02	-.00	-					
6. Gender [b]	1.72	.45	.03	-.01	.40**	33**	.12	-				
7. Education [b]	5.53	1.39	.25*	-.16	.09	.19	-.28*	.05	-			
8. Work experience [b]	22.13	12.06	-.17	.00	.06	.00	.86**	.11	-.30*	-		
9. Organizational tenure [b]	12.06	9.94	-.15	.06	.05	-.16	.56**	.10	-.29*	.70**	-	
10. Organizational size [b]	5.95	1.39	.05	-.16	-.19	-.03	.14	.08	-.01	.12	.09	-

Notes. Correlations presented below the diagonal are respondent-level correlations with observation-level variables aggregated at the respondent-level (N = 60); Correlations above the diagonal are observation-level correlations (N = 518). Means and standard deviations for the observation-level variables are computed based on the raw, un-centered scores.

[a] Level 1 (daily observations-level) variable. [b] Level 2 (respondent-level) variable.

Gender was coded such that 1 = female and 2 = male.

In step three, we examined whether situational velocity interacted with subjectively experienced power to predict decision time. Results (Table 4, Model 4) revealed that situational velocity had a significant main effect on decision time (γ_{10} = -.69, *SE* = .13, p < .001). Subjectively experienced power was not significantly related to decision time (γ_{20} = .19, *SE* = .16, p = .23). Yet, subjectively experienced power interacted significantly with situational velocity to predict decision time (γ_{30} = -.23, *SE* = .08, p < .01). Figure 5 illustrates the interaction.

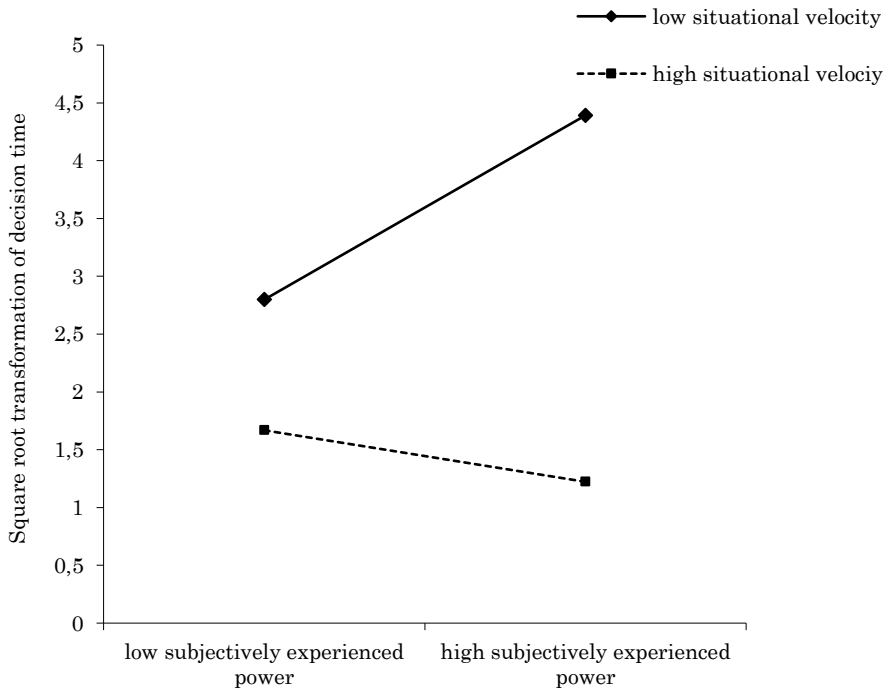

Figure 5. Lower level interaction between subjectively experienced power and situational velocity on decision time, Study 2.

As in Study 1 and using the indirect method, simple slopes tests showed that for low situational velocity, respondents with high subjectively experienced power acted more slowly compared to those with low subjectively experienced power (γ_{20} = .55, *SE* = .22, p = .01). For high situational velocity, there was no significant difference in how respondents with high versus low subjectively experienced power acted (γ_{20} = -.15, *SE* = .20, p = .44).

In step four, we examined whether the interaction term between structural power and situational velocity was reduced in significance once the interaction term between subjectively experienced power and situational velocity was introduced in the model. Results (Table 4, Model 5) showed that the interaction between subjectively experienced power and situational velocity was significant (γ_{30} = -.24, *SE* = .10, *p* = .01) whereas the interaction between structural power and situational velocity was reduced in size and significance (γ_{11} = -.21, *SE* = .11, *p* = .056). Thus, H2 is partially supported. Namely, we found that subjectively experienced power was the underlying mechanism that explained why organizational members with high (as opposed to low) structural power acted in a time-appropriate manner when situational velocity was low.

Overall, results from this study provide further partial evidence that structural power facilitates time appropriateness. In line with Study 1, we found that in low velocity situations, organizational members with high structural power acted more slowly compared to those with low structural power. This was because organizational members with high structural power had a high, rather than low, subjective experience of power. However, we found that in high velocity situations, organizational members acted equally fast irrespective of their structural power.

Table 4

Multilevel estimates for models predicting decision time, Study 2

Parameter	Notations	Model 1	Model 2	Model 3 [a]	Model 4	Model 5
			Fixed Effects			
Intercept	γ_{00}	2.55 (.40)***	2.47 (.31)***	4.83 (.08)***	2.52 (.37)***	2.28 (.25)***
Level 1 (observation-level)						
Situational velocity	γ_{10}		-.72 (.13)***	-.03 (.07)	-.69 (.13)***	-.74 (.20)***
Subjectively experienced power	γ_{20}				.19 (.16)	.15 (.15)
Level 2 (respondent-level)						
Structural power	γ_{01}		.57 (.17)**	.20 (.04)***		.39 (.14)**
Structural power X Situational velocity	γ_{11}		-.27 (.07)***	.03 (.04)		-.21 (.11)
Subjectively experienced power X Situational velocity	γ_{30}				-.23 (.08)**	-.24 (.10)*
			Random parameters			
Level 2 (respondent-level)						
Intercept	σ_b^2	7.82 (1.81)***	3.82 (1.10)***	.28 (.05)***	6.46 (1.57)***	1.43 (1.11)***
Level 1 (observation-level)						
Intercept	σ_w^2	18.26 (1.20)***	17.46 (1.15)***	1.12 (.08)***	17.28 (1.14)***	16.19 (1.11)***
Deviance	-2*log likelihood	3067.13	3014.89	1691.79	3032.17	3001.03

Notes. $N = 518$. * $p < .005$, ** $p < .01$, *** $p < .001$. σ_b^2 = the between-respondents variance (the variance of the values of u_{oj}); σ_w^2 = the within-respondents variance (the variance of the values of ε_{ij}). Model 1 represents the null model (no predictors). Standard errors are in brackets. [a] The DV for this model is subjectively experienced power.

STUDY 3

Study 1 and 2 used ESM to gain a deeper understanding of how structural power facilitates decision-making on a daily basis in line with situational velocity. This methodology has many advantages; in particular it permits respondents to describe decisions that are meaningful in their day-to-day work context. Yet it does not allow drawing causal conclusions. To obtain evidence of causality, Study 3 was a controlled laboratory experiment. In order to create an engaging experience (i.e., use an in-basket managerial exercise) and to keep the structural power conditions comparable between the studies, we decided to use a direct manipulation of the number of subordinates by drawing on the work of Bruins and Wilke (1992; see also van Dijke & Poppe, 2003, 2004).

Method

Participants. Sixty undergraduate business students (55% female, M_{age} = 20.87, *SD* = 1.37) at a medium sized European university participated in exchange for course credits. Fourteen participants failed our attention check question (described below) and were therefore excluded from further analyses[15]. Our final sample consisted of 46 participants (45.7% male) with an average age of 20.78 years (*SD* = 1.36) and an average overall work experience of 20.55 months (*SD* = 23.09). Of these, 28.3% indicated currently having a job, working on average 4.01 hours (*SD* = 8.15) per week. Participants were randomly assigned to a 2 (*Structural power*: low vs. high) × 2 (*Situational velocity*: low vs. high) mixed-factors design. Structural power was a between-subjects factor while situational velocity was a within-subjects factor.

Procedure. In this study, we used an in-basket managerial exercise, which is a popular tool for assessing managerial behavior (Whetzel et al., 2014) and often used to provide a realistic work setting to laboratory experiments (Hoogervorst et al., 2013; Stouten and Tripp, 2009). Upon arrival in the laboratory, participants were welcomed and escorted to separate cubicles, each equipped with a personal computer. Participants were told that they would take part in a decision-making exercise in a fictitious company called "Duron Paints" and that they would participate in the evaluation of one of the most often used assessment tools for workplace decision-making that was developed by a company in collaboration with the university. We informed participants that we used a version of the in-basket exercise that involves taking the role of either supervising 2 employees (i.e., low structural power) or 40 employees (i.e., high

[15] Analyses including these participants revealed similar results to the ones presented in the main text.

structural power). This manipulation procedure was developed in line with the work of Bruins and Wilke (1992) and van Dijke and Poppe (2003, 2004). Participants were randomly assigned to one of these two roles by the computer. After 25 seconds, participants were first presented with a short description of their role, i.e., a manager supervising 2 employees (40 employees) working within a company called "Duron Paints". The company was introduced as an international manufacturer of paint products with headquarters in Paris and several other locations in Europe and the United States. After reading about the major work activities undertaken by the company, we told the participants that they would be presented with some situations that described a particular decision and that it would be their responsibility to indicate how they, in their role within the company, would approach and deal with these decisions. To ensure that all participants understood their role correctly and to increase commitment to the task, we asked participants to indicate (1) how many employees they supervised, (2) the name of the company they worked for, and (3) their role. Thereafter, we assessed participants' subjectively experienced power in their role within 'Duron Paints' and recorded their answers on three role manipulation check questions.

Next, participants were presented, in random order, with two situations, each containing a different decision, and were asked to indicate how they would approach these decisions (i.e., our dependent variable). These situations [16] represented our manipulation of situational velocity.

Specifically, the low situational velocity decision read as follows:

"Your company is planning to purchase a new appraisal system for evaluating its employees on all levels from front line workers to senior managers. This appraisal system would be used for all employees in your company. This new system is fully digitalized, allowing everyone in the company to fill out their own goals as well as view their own evaluation at their own pace. Such a system would further reduce the time necessary for undertaking these procedures and give a better overview of all existing employees' performance. Implementing this new appraisal system would be great but it would also cost the company money (acquiring the license) and time (temporary disturbance of the HRM department's performance). In fact you have a colleague who said it was really tough going through such a change in the past because it required the interaction

[16] We conducted a pilot study among 41 organizational members with a supervisory role (61% male; $M_{\text{work experience}}$ = 16.88 years, SD = 11.51) in which we randomly presented these two situations and measured situational velocity with one item (*The situation above presents a decision that demands…*) on a scale from 1 (*very quick action*) to 7 (*very slow action*). Results showed that respondents perceived the decision presented in the low velocity situation to require slow action (M = 5.07, SD = .19) while the one presented in the high velocity situation to require quick action (M = 2.14, SD = .24), $F(1, 40) = 79.47$, $p < .001$.

of almost every employee. In other words, it would be an important but large investment to undertake, one that would require careful consideration."

The high situational velocity decision read as follows:

"Your company discovered a new way to enhance the value of one of its products, which has the potential to significantly increase the company's market share. A large number of the company's prospective customers indicated an interest in this new version of the product. There is, however, a rumor that the Jones Company has uncovered a similar enhancement and your prospective customers are aware of this. Developing the new way of enhancing the product's value is a large investment but Duron Paints, your company, has sufficient research, prototype, and production resources to proceed with developing and introducing the new product."

Thereafter, we introduced the attention check question. Specifically, we first explained the detrimental effects on the quality of data of inattentive participants and then instructed them to choose option six (e.g., Wagner) out of seven when answering a question about their favorite classical music composer (cf. Oppenheimer et al., 2009). At the end of the session, we recorded participants' gender, age, work experience, and whether they currently had a job or not. Finally, we debriefed and thanked participants for their effort.

Manipulation checks for structural power. To test whether the manipulation of structural power was successful, we asked participants to indicate the extent to which they felt (1) powerful, (2) in control, and (3) in control over others' outcomes in the upcoming decision-making exercise. The items were assessed on a 7-point scale (1 = *disagree strongly*; 7 = *agree strongly*; $\alpha = .87$).

Subjectively experienced power. We measured subjectively experienced power with an adapted version of the 8-item sense of power scale (Anderson et al., 2012). Participants were asked to indicate their agreement with these items on a 7-point scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). An example item is: *"In my role as supervising 2 employees [40 employees], I feel I could get others to listen to what I have to say in this company"* ($\alpha = .77$).

Dependent variable. We measured decision time with one item that was presented after each situation (see Schneider & De Meyer, 1991, for a similar measure). Specifically, participants were asked to indicate how they, in their role within the company, would approach the decision presented in the respective situation on a 7-point scale ranging from 1 (*I would make a quick decision*) to 7 (*I would take time to make the decision*).

Results

Manipulation checks. A one-way ANOVA on the structural power manipulation check scale revealed that participants in the high structural power condition felt more powerful and in control ($M = 5.62$, $SD = .81$) compared to those in the low structural power condition ($M = 3.73$, $SD = 1.27$), $F(1, 45) = 37.56$, $p < .001$, $\eta^2 = 1.76$. We did not include situational velocity as an independent variable since we manipulated it after the power manipulation checks were assessed.

Hypotheses test. A 2 (*Structural power*: low vs. high) x 2 (*Situational velocity*: low vs. high) ANOVA on decision time revealed a main effect of situational velocity ($F[1, 44] = 8.34$ $p < .01$, $\eta^2 = .15$) and no main effect of structural power ($F[1, 44] = .00$, $p = .95$, $\eta^2 = .00$). In line with H1, we found a significant interaction effect between structural power and situational velocity ($F[1, 44] = 4.94$, $p = .03$, $\eta^2 = .10$). Figure 6 graphically illustrates this interaction.

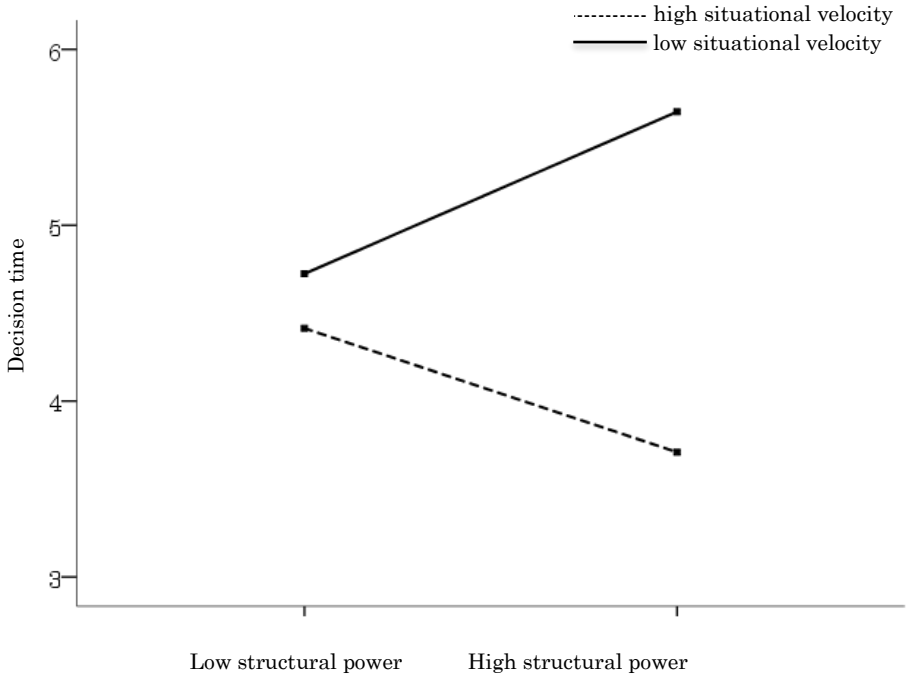

Figure 6. Interaction between structural power and situational velocity on decision time, Study 3.

Simple effects analyses revealed that participants in the high structural power condition indicated they would take more time to make the decision (M = 5.65, SE = .27) compared to those in the low structural power condition (M = 4.80, SE = .31) when situational velocity was low, $F(1, 44) = 4.07$, $p = .05$, $\eta^2 = .08$. Participants in the high structural power condition indicated that they would act faster (M = 3.73, SE = .35) compared to those in the low structural power condition (M = 4.55, SE = .40) when situational velocity was high. Yet, the effect was not significant, $F(1, 44) = 2.35$, $p = .13$, $\eta^2 = .05$.

H2 predicted that subjectively experienced power would be the mechanism explaining why high (as opposed to low) structural power facilitates decision time in line with situational velocity. First, a one-way ANOVA on subjectively experienced power revealed that participants in the high structural power condition indicated higher subjectively experienced power (M = 5.73, SE = .62) compared to those in the low structural power condition (M = 3.38, SE = .98), $F(1, 44) = 97.50$, $p < .001$, $\eta^2 = .68$. Second, a Situational velocity (low vs. high) x Subjectively experienced power ANCOVA on decision time with the former factor as a within-subjects variable and the latter as a covariate showed that situational velocity interacted significantly with subjectively experienced power to predict decision time ($F[1, 44] = 8.14$, $p < .01$, $\eta^2 = .15$). There was a positive and significant effect of subjectively experienced power on decision time when situational velocity was low ($\beta = .42$, $SE = .14$, $t = 2.98$, $p < .001$, $\eta^2 = .16$), and a negative and non-significant effect of subjectively experienced power on decision time when situational velocity was high ($\beta = -.30$, $SE = .18$, $t = -1.64$, $p = .10$, $\eta^2 = .05$). We plotted these results to see the shape of the interaction (see Figure 7). Lastly, adding subjectively experienced power resulted in a non-significant interaction between structural power and situational velocity ($F[1, 43] = .01$, $p = .89$, $\eta^2 = .00$) and a marginally significant interaction between subjectively experienced power and situational velocity ($F[1, 43] = 2.83$, $p = .10$, $\eta^2 = .06$).

We used Hayes's (2013) PROCESS macro to test the significance of the indirect effect. This macro uses the bootstrapping procedure to calculate bias-corrected confidence intervals (CI) for the indirect effect of structural power (high vs. low) on time appropriateness via subjectively experienced power. We used model 4 with 5,000 bootstrap samples and ran two independent analyses, one with the decision time scores for the high velocity situation and one with those for the low velocity situation as the dependent variable (see Table 5). In line with our findings from Study 2, results revealed an indirect effect of structural power on decision time, via subjectively experienced power when situational velocity was low (IE = 1.32, $Boot\ SE$ = .64, CI: [.09; 2.65]) but not when situational velocity was high (IE = -.52, $Boot\ SE$ = .87, CI: [-2.12; 1.33].

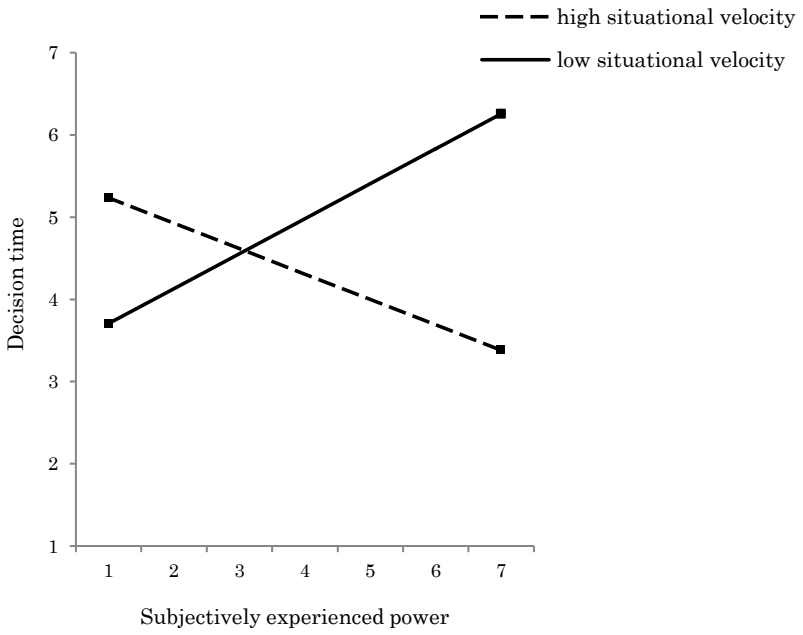

Figure 7. Interaction between subjectively experienced power and situational velocity on decision time, Study 3.

Overall, Study 3 provides further partial evidence that structural power facilitates time appropriateness. As in Study 1 and 2, we found that high (vs. low) structural power facilitated slow decision-making when situational velocity was low but not fast decision-making when situational velocity was high. Moreover, as in Study 2, we found that this interaction effect between structural power and situational velocity on decision time was mediated by subjectively experienced power.

Table 5

Mediation analyses results for the high and the low situational velocity decisions, Study 3

	Low situational velocity				High situational velocity			
Variable	***b***	***SE b***	***t***	***R²***	***b***	***SE b***	***t***	***R²***
Step 1. Mediator variable model								
Structural power	2.35***	.23	9.87***	.68***	2.35***	.23	9.87***	.68***
Step 2. Dependent variable model								
Subjectively experienced power	.56*	.25	2.18*		-.22	.34	-.65	
Structural power	-.46	.72	-.64		-.29	.96	-.30	
				.17*				.06
Step 3. Total effect model								
Structural power	.85*	.42	2.01*	.08*	-.81	.53	-1.53	.05
Step 4. Indirect effect model								
	Effect	Bootstrapped	95 % CI Lower Limit	95% CI Upper Limit	Effect	Bootstrapped	95 % CI Lower Limit	95% CI Upper Limit
Subjectively experienced power	1.32	.64	.09	2.65	-.52	.87	-2.12	1.33
Direct effect model								
	Effect	SE	*t*	*p*	Effect	SE	*t*	*p*
Structural power	-.46	.72	-.64	.52	-.29	.96	-.30	.76

Notes. $N = 46$. *$p < .05$, ***$p < .001$.

GENERAL DISCUSSION

The present research explored, theoretically and empirically, the concept of time appropriateness that is, flexibly adapted decision-making to the velocity of the situation. We hypothesized that structural power facilitates time appropriateness such that managers with high (vs. low) structural power are more likely to flexibly adapt their decision-making pace and act fast in high velocity situations (i.e., when fast action would be effective) but act slowly in low velocity situations (i.e., when slow action would be effective). We also hypothesized that subjectively experienced power represents the underlying process that explains why time appropriateness is particularly pronounced among managers with high (rather than low) structural power. The results of two ESM studies and a laboratory study provide consistent but partial support for our hypotheses. Specifically, we found that high, as opposed to low, structural power, via the mediating mechanism of subjectively experienced power, slows down the pace of decision-making in low velocity situations, but it does not speed up the pace of decision-making in high velocity situations. Below we discuss the implications and limitations of this research.

Theoretical Implications

More than five decades ago, Simon (1957) argued that the organizational context and, in particular, the organizational structure plays a crucial role in shaping organizational decision-making. This argument represents one of the main pillars of the Carnegie School and together with the work of Cyert and March (1963) and March and Simon (1958) represented the start of a new era in the study of organizations. Yet, despite the vast amount of theory and research that advanced from this School, it remains unclear *how* exactly the organizational structure influences organizational managers' decision-making (Bazerman & Moore, 2008; Gavetti et al., 2007). Integrating unique insights from the Carnegie School with research from social psychology, our work extends scholars' understanding of how a defining element of the organizational structure, namely structural power (Cartwright, 1959, Davis et al., 2010; Magee & Galinsky, 2008), influences an important aspect of decision-making behavior – *time-appropriate decision-making*. Specifically, we found that structural power, via the mediating mechanism of subjectively experienced power, only facilitates slowing down the pace of decision-making when situational velocity is low. Thus, our work extends organization theory, at large, and the Carnegie School, in particular, not only by bringing back scholars' attention to the influence of structural factors on individual decision-making but also by explicitly testing how this influence materializes.

Furthermore, our research also has implications for the situated focus theory of power and, more generally, for our understanding of the effects of subjectively experienced power on cognitive processes. Prior work in this area relied almost exclusively on controlled laboratory experiments (Gervais, Guinote, Allen, & Slabu, 2012; Guinote, 2008) and occasionally on cross-sectional surveys (Weick & Guinote, 2008). Yet, in line with a recent review that called for new methods for studying the effects of power within organizations (Sturm & Antonakis, 2015), we used ESM to capture data in real time and in highly localized contexts, thereby zooming-in on our respondents' daily experiences that more truthfully and systematically reflect their organizational actions. Thus, our two ESM studies have greater external validity compared to laboratory research and compared to cross-sectional surveys because such surveys cannot capture flexible adjustment in decision-making, which is a within-subjects process. Moreover, they ask respondents to provide information about past occurrences, which often results in strongly biased reporting (Orne, 2009). In sum, by using ESM as a highly relevant methodology for studying power in organizations, our research represents the first externally valid test of the situated focus theory of power (Guinote, 2007a). In partial support of this theory, our research consistently showed that structural power and subjectively experienced power facilitated slow action in low velocity situations. Yet, structural power and subjectively experienced power did not facilitate fast action in high velocity situations. Thus, the present research calls into question the broad claims that derive from the situated focus theory of power, in particular the extent to which this theory accurately portrays the empirical reality present within organizational settings.

Our research is even less supportive of the approach-inhibition theory of power (Keltner et al., 2003). This theory proposes that subjectively experiencing high power promotes approach-oriented behavior, while low power promotes inhibition-oriented behavior. In the present research, however, we find opposite results: power had no effect on fast decision-making behavior but it did facilitate slow decision-making behavior in situations where slow action would be effective, that is in low velocity situations. Our results thus add to the mixed findings in the literature that has tested the approach-inhibition theory. While there is empirical evidence that supports some of the predictions from this theory, such as research showing that power promotes an action orientation (Galinsky et al., 2003), other studies present a more complex picture. For instance, Inesi (2010) showed that power decreases the negative anticipated value of losses but does not increase the anticipated value of gains (Inesi, 2010). Relatedly, there is even research that presents conflicting results, such as studies showing that power can lead to increased risk-seeking behavior

(Anderson & Galinsky, 2006) versus studies showing that power can also lead to decreased risk-seeking behavior (Maner, Gailliot, Butz, & Peruche, 2007). In line with others, our results further undermine the general, non-contextualized theoretical argument that high power leads to approach-oriented behavior whereas low power leads to inhibition-oriented behavior (see also Magee & Smith, 2013; Moskowitz, 2004).

Practical Implications

Scholars and practitioners have argued that making decisions in a time-appropriate manner promotes both the effectiveness of individual organizational managers and organizational performance (Bluedorn & Denhardt, 1988; Hogan & Kaiser, 2005; Jacobs, 2005; Kahneman et al., 1982; Snowden & Boone, 2007). Yet, past work on time issues mainly focused on acting fast as the optimal time-appropriate course of action and strived to identify its antecedents at the individual-level (e.g., use of intuition, Baum & Wally, 2003; age and work experience, Forbes, 2005) or at the industry-level (i.e., a high velocity environment such as the microcomputer industry in the 1980s, Eisenhardt, 1989). In light of this, it is not surprising that fast decision-making is often described by scholars as a source of competitive advantage (Jones, 1993) and increasingly sought after by practitioners (Kepner-Tregoe, 2001). Yet, as a relatively recent article indicates (Nayar, 2010), slow might be the new fast, meaning that managers should be aware of being trapped into thinking that quick action is the only source of competitive advantage. Our results suggest that managers, particularly those with high structural power, have the ability to "slow down" because of their enhanced subjective experience of power. Thus, to help organizational members actually "slow down" when the velocity of the situation is low (i.e., when slow action would be effective), it is important to empower them - that is enhance their day-to-day subjective experience of power.

Furthermore, our results highlight that aside from the broader and rather stable characteristics of the industry in which the organization operates, managers and employees should also consider the characteristics of the situation, in particular, velocity (i.e., the pace at which changes emerge) before taking action. Specifically, our results indicate that low velocity triggers different decision-making behaviors among managers and employees, depending on their level of structural power. Thus, we suggest that organizational interventions could be tailored towards training managers and employees to pay more attention to situational velocity, in general, and low situational velocity cues, in particular, so that every organizational member can assess more accurately when to suppress their initial impulse to act quickly.

Limitations and Future Directions

We wish to note several limitations of our research and provide suggestions for future research. Methodologically, single-source measures can potentially lead to common method bias issues. Nevertheless, there are three reasons why we believe this is not an issue. First, common method bias cannot explain interaction effects (Evans, 1985), which were of primary interest in the present paper. Second, we grand-mean centered our variables such that certain between-individual variance in the focal variable was eliminated (Heck et al., 2013). Third, the repeated measures design across 10 consecutive workdays allowed a temporal separation between our predictor (i.e., structural power) and our dependent and moderator variable (i.e., situational velocity and decision time). Thus, the cross-level moderating effect of structural power found across two studies cannot be explained by common method bias, and it is also highly unlikely that the moderating role of subjectively experienced power results from such bias.

In this research, we consistently found support for only half of our predictions. Specifically, structural power and subjectively experienced power did facilitate slow action in low velocity situations, but it did not facilitate fast action in high velocity situations. It is possible that the situational cues in the fast decision-making situations were more salient (i.e., dealing with an angry customer) and thus triggered a narrower range of possible actions than those present in the slow decision-making situations (Guinote, 2008). As a result, we observed similarly fast responses from high- and low-power individuals. Furthermore, while the pace of decision-making was similar for low-power and high-power individuals in high velocity situations, there might be different underlying motivations for acting in that manner (Eysenck, Derakshan, Santos, & Calvo, 2007; Guinote, 2008). For instance, powerful individuals' fast action might have been a result of increased sensitivity to rewards whereas powerless individuals' fast action could have been a result of increased sensitivity to threats. These findings are still at odds with major theories in the field on the psychological effects of having power. Nevertheless, it seems imperative that the effects of power on the behavior of individuals and their underlying motivation are integrated in future research on power if we are to gain a better understanding of how the experience of power affects individuals' cognition and subsequent behavior. One way to achieve this would be to examine simultaneously individuals' decision-making behavior as well as their underlying motivational drivers.

Moreover, we focused only on one aspect of power differentiations within organizations: the number of subordinates supervised. In future research, power differentiations could be conceptualized and measured in various ways such as

participation in organizational tasks and activities (Anderson & Kilduff, 2009). Future research could also examine the influence of informal structures such as status (i.e., asymmetries in respect and admiration from others; Anderson et al., 2008). Furthermore, in light of recent socio-psychological research on power (Anderson et al., 2012; Guinote, 2007a; Keltner et al., 2003; Sherman et al, 2012; Tost et al., 2013; Lammers et al., 2010), it seems imperative to understand how these and other forms of power differentiations affect individuals' subjectively experienced power and subsequently time appropriateness. For instance, it might be that informal, as opposed to formal, power results in more fluctuations in organizational members' subjectively experienced power (Magee & Galinsky, 2008).

CONCLUSION

Connecting notions from organization theory (i.e., the Carnegie School) with research from social psychology (i.e., the situated focus theory of power), we examined a relevant yet underdeveloped micro-level outcome, time appropriateness, and identified structural power, a defining meso-level factor of organizational structure, as a theoretically and empirically relevant antecedent (via the mediating mechanism of subjectively experienced power). Across two ESM studies and a laboratory study, we found consistent support that structural power facilitated slow action in low velocity situations but not fast action in high velocity situations. We hope that our findings spark further efforts to better understand the phenomenon of time appropriateness, its antecedents, and its consequences.

SUPPLEMENTAL ANALYSES

In Study 1, we also evaluated the discriminant validity of the concept of time appropriateness by measuring several constructs that are related to time perception and action such as *time perspective* (i.e., the extent to which individuals have a cognitive bias towards being past-, present-, or future-oriented; Zimbardo & Boyd, 1999), *polychronicity* (i.e., the extent to which individuals have a preference to engage in more than one task simultaneously; Judge & Miller, 1991), *pacing style* (i.e., individuals' behavioral tendencies when working towards deadlines; Gervers, Mohammed, & Baytalskaya, 2013), *time urgency* (i.e., the extent to which individuals feel chronically hurried; Landy, Rastegary, Thayer, & Colvin, 1991), and *thinking style* (i.e., intuitive-experiential vs. analytical-rational; Khatri & Ng, 2000). We also evaluated the discriminant validity of situational velocity by measuring several indices that capture stable differences in velocity between organizational environments such as *organizational structure* (mechanistic vs. organic; Khandwalla, 1977), *centralization* (Hage & Aiken, 1969), and *market competition* (i.e., market turbulence, competition intensity, & technological intensity; Jaworski & Kohli, 1993).

The discriminant validity of both time appropriateness and situational velocity were evaluated in Study 2 as well but, for pragmatic reasons (i.e., limited space for the study items), we included only a subset of the time-related constructs and the environmental velocity indices.

STUDY 1

Measures

Time-related constructs. We measured time perspective with two scales. First, we measured respondents' perceived time availability with one item (adapted from Moon & Chen, 2014; "*Thinking about how much time you feel like you have for the future, please indicate how much time you feel like you have";* 1 = *very little* to 101 = *a lot*). Second, we measured respondents' tendency to make connections between present activities and future outcomes/goals with a 12-item connectedness subscale of the future time perspective scale developed by Husman and Shell (2008; E.g. item, "*I don't think much about the future";* 1 = *strongly disagree* to 7 = *strongly disagree;* α = .91). We measured time urgency with a 6-item scale from Landy, et al. (1991; E.g. item, "*I tend to be quick and energetic at work";* 1 = *strongly disagree* to 7 = *strongly agree;* α = .65). Polychronicity was measured with a 10-item scale adapted from Bluedorn, Kalliath, Strube, and Martin (1999; E.g. item, "*In this organization, we like to*

juggle several activities at the same time"; 1 = *strongly disagree to* 7 = *strongly disagree;* α = .93). We measured three types of pacing style (steady, deadline, and U-shaped) with a 9-item scale adapted from Gervers et al. (2013; E.g. deadline pacing style item, "*I do not get much done on projects until the due date is close"*; 1 = *strongly disagree* to 7 = *strongly disagree*). Internal reliability for the three pacing styles was: steady, α = .61; deadline, α = .72; U-shaped, α = .88. Lastly, we measured respondents' intuitive-experiential or analytical-rational thinking style (REI) with a 10-item scale developed by Epstein, Pacini, Denes-Raj, and Heier (1996; E.g., item, "*I believe in trusting my hunches";* 1 = *not at all to* 7 = *extremely*). Internal reliability was good (α = .71).

Environmental velocity indices. We measured organizational structure with a 5-item scale from Khandwalla (1977) that captures the degree to which the organization is mechanistic versus organic (E.g. item "*The operation management philosophy of the top management of my company is*"; from 1 = *tight formal control of most operations by means of sophisticated control and information systems* to 7 = *loose, informal, heavy dependence on informal relations and norm of co-operation for getting work done*; α = .82). We measured degree of centralization with a 5-item hierarchy of authority subscale from Hage and Aiken (1969; E.g. item, *"I have to ask my boss before I can do almost anything"*; α = .93). We used the market competition scale from Jaworski and Kohli (1993) to measure market turbulence (5 items; E.g., *"Our customers tend to look for new product all the time"*, α = .72), competition intensity (5 items; E.g., *"Our competitors are relatively weak", α* = .75), and technological intensity (5 items; E.g., *"The technology in our industry is changing rapidly", α* = .87).

Results

Discriminant validity analyses. In order to evaluate the discriminant validity of the concept of time appropriateness, we regressed decision time on situational velocity at Level 1, decision time on the time-related constructs at Level 2, and the interaction term between situational velocity and the time-related constructs across levels (Table 6). Results indicated that only polychronicity influenced time appropriateness (i.e., only polychronicity interacted with situational velocity to predict daily decision time). To further explore this interaction effect, we regressed decision time on situational velocity at Level 1, decision time only on polychronicity at Level 2, and the interaction term between situational velocity and polychronicity across levels. Results indicated that the interaction was no longer significant (γ_{17} = -.43, SE= .27, p = .11). However, in line with previous work on time management (Koch & Kleinmann, 2002), deadline-pacing style had a marginally significant positive main effect on daily decision time (γ_{05} = .78, *SE* = .44, p = .07).

Furthermore, to examine the discriminant validity of situational velocity and thus rule out the possibility that time appropriateness might result from flexible adjustment to changes in the velocity of the organizational environment rather than situational changes in velocity, we regressed decision time on the environmental velocity indices at Level 2. Table 7 shows that respondents' decision time was no influenced by the environmental velocity indices.

Overall, these analyses illustrate that the concept of time appropriateness is different from time-related constructs (i.e., time perspective, polychronicity, pacing style, time urgency, and rational vs. intuitive thinking style). Similarly, the analyses show that the concept of situational velocity is distinct from environmental velocity indices such as organizational structure, centralization, market turbulence, competition intensity, and technological intensity. Time appropriateness thus refers to flexible adjustment to situational changes in velocity and not simply adjusting to stable differences between organizational environments.

Table 6
Multilevel estimates for models predicting decision time with time-related constructs, Study 1

Parameter	Notations	
	Fixed effects	
Intercept	γ_{00}	2.81** (.36)
Level 1 (observation-level)		
Situational velocity	γ_{10}	-1.25*** (.32)
Level 2 (respondent-level)		
Perceived time availability	γ_{01}	-.01 (.01)
Connectedness	γ_{02}	-.20 (.55)
Time urgency	γ_{03}	-.24 (.44)
Steady pacing style	γ_{04}	.29 (.37)
Deadline pacing style	γ_{05}	.78 (.44)
U-shaped pacing style	γ_{06}	-.15 (.28)
Polychronicity	γ_{07}	.17 (.31)
REI	γ_{08}	.33 (.52)
Perceived time availability X Situational velocity	γ_{11}	.02 (.01)
Connectedness X Situational velocity	γ_{12}	.17 (.48)
Time urgency X Situational velocity	γ_{13}	-.00 (.40)
Steady pacing style X Situational velocity	γ_{14}	-.04 (.33)
Deadline pacing style X Situational velocity	γ_{15}	-.27 (.37)
U-shaped pacing style X Situational velocity	γ_{16}	.40 (.25)
Polychronicity X Situational velocity	γ_{17}	-.56* (.27)
REI X Situational velocity	γ_{18}	-.06 (.47)
	Random parameters	
Level 2 (respondent-level)		
Intercept	σ_b^2	4.62*** (.79)
Level 1 (observation-level)		
Intercept	σ_w^2	16.52*** (1.15)
Deviance	-2*log likelihood	3044.55

Note. $N_{observations}$ = 500, $N_{respondents}$ = 60.
σ_b^2 = the between-respondents variance (the variance of the values of u_{oj}); σ_w^2 = the within-respondents variance (the variance of the values of ε_{ij}); Standard errors are in brackets.
* $p < .05$, *** $p < .001$.

Table 7

Multilevel estimates for models predicting decision time with environmental velocity indices, Study 1

Parameter	Notations	
	Fixed effects	
Intercept	γ_{00}	3.15*** (.58)
Level 2 (respondent-level)		
Organizational structure	γ_{10}	-.10 (.53)
Degree of centralization	γ_{20}	.19 (.47)
Market turbulence	γ_{30}	.59 (.57)
Competition intensity	γ_{40}	-.80 (.60)
Technological intensity	γ_{50}	.29 (.46)
	Random parameters	
Level 2 (respondent-level)	σ_b^2	15.78*** (3.65)
Intercept		
Level 1 (observation-level)		
Intercept	σ_w^2	38.28*** (2.54)
Deviance	-2*log likelihood	3388.75

Note. $N_{observations} = 500$, $N_{respondents} = 60$.

σ_b^2 = the between-respondents variance (the variance of the values of u_{0j}); σ_w^2 = the within-respondents variance (the variance of the values of ε_{ij}); Standard errors are in brackets.

*** $p < .001$.

STUDY 2

Measures

Time-related constructs. We used the same items as in Study 1 to measure the following time-related constructs: polychronicity (α = .75), pacing style (steady, α = .56; deadline, α = .59; and U-shaped, α = .80), and the one-item scale of perceived time availability.

Environmental velocity indices. We used the same items as in Study 1 to measure the following environmental velocity indices: centralization (α = .91), market turbulence (α = .67), competition intensity (α = .81), and technological intensity (α = .82).

Results

Discriminant validity analyses. In line with Study 1, we evaluated the discriminant validity of the concept of time appropriateness by regressing decision time on situational velocity at Level 1, decision time on the time-related constructs at Level 2, and the interaction term between situational velocity and the time-related constructs across levels (Table 8). Results illustrates that none of the time-related constructs significantly interacted with situational velocity to predict decision time.

Lastly, we followed the same procedures as in Study 1 to rule out the possibility that time appropriateness might result from flexible adjustment to changes in the velocity of the organizational environment rather than situational changes in velocity. Table 9 shows that decision time was not affected by any of the measured environmental velocity indices.

As in Study 1, these analyses illustrate that the concept of time appropriateness is different from the measured time-related constructs (i.e., time perspective, polychronicity, and pacing style). Relatedly, the concept of situational velocity is distinct from the measured environmental velocity indices (i.e., centralization, market turbulence, competition intensity, and technological intensity).

Table 8
Multilevel estimates for models predicting decision time with time-related constructs, Study 2

Parameter	Notations	
	Fixed effects	
Intercept	γ_{00}	2.26** (.25)
Level 1 (observation-level)		
Situational velocity	γ_{10}	-.77*** (.20)
Level 2 (respondent-level)		
Perceived time availability	γ_{01}	-.01 (.01)
Steady pacing style	γ_{02}	.65* (.24)
Deadline pacing style	γ_{03}	-.09 (.27)
U-shaped pacing style	γ_{04}	.24 (.22)
Polychronicity	γ_{05}	.02 (.34)
Perceived time availability X Situational velocity	γ_{11}	.00 (.01)
Steady pacing style X Situational velocity	γ_{12}	-.18 (.19)
Deadline pacing style X Situational velocity	γ_{13}	-.26 (.21)
U-shaped pacing style X Situational velocity	γ_{14}	.07 (.18)
Polychronicity X Situational velocity	γ_{15}	.23 (.28)
	Random parameters	
Level 2 (respondent-level)		
Intercept	σ_b^2	1.47*** (.33)
Level 1 (observation-level)		
Intercept	σ_w^2	16.42*** (1.11)
Deviance	-2*log likelihood	3008.86

Note. $N_{observations} = 518$, $N_{respondents} = 60$. * $p < .05$, *** $p < .001$.
σ_b^2 = the between-respondents variance (the variance of the values of u_{oj});
σ_w^2 = the within-respondents variance (the variance of the values of ε_{ij}); Standard errors are in brackets.

Table 9
Multilevel estimates for models predicting decision time with environmental velocity indices, Study 2

Parameter	Notations	
	Fixed effects	
Intercept	γ_{00}	2.55*** (.40)
Level 2 (respondent-level)		
Degree of centralization	γ_{10}	-.02 (.34)
Market turbulence	γ_{20}	.45 (.61)
Competition intensity	γ_{30}	.26 (.42)
Technological intensity	γ_{40}	-.35 (.40)
	Random parameters	
Level 2 (respondent-level)	σ_b^2	7.53*** (1.20)
Intercept		
Level 1 (observation-level)		
Intercept	σ_w^2	18.26*** (1.20)
Deviance	-2*log likelihood	3065.40

Note. $N_{observations}$ = 518, $N_{respondents}$ = 60. *** $p < .001$.
σ_b^2 = the between-respondents variance (the variance of the values of u_{oj});
σ_w^2 = the within-respondents variance (the variance of the values of ε_{ij}); Standard errors are in brackets.

STATISTICAL EQUATIONS

Basic notations:

j – the subscript used for respondents (Level 2 respondent-level data)

i – the subscript used for observations (Level 1 observation-level data)

The Null Model for observation *i* in individual *j*:

Level 1 equation:

$\text{Decision Time}_{ij} = \beta_{0j} + \varepsilon_{ij}$

Level 2 equation:

$\beta_{0j} = \gamma_{00} + u_{oj}$

Substituting the Level 2 equation in the Level 1 equation gives the Mixed Model equation:

$\text{Decision Time}_{ij} = \gamma_{00} + u_{oj} + \varepsilon_{ij}$

Where:

β_{0j} = the mean of decision time for the j^{th} respondent

γ_{00} = the fixed component, representing the intercept or the average level of decision time across the 60 respondents

$u_{oj} + \varepsilon_{ij}$ = together compose the random component

u_{oj} = the between-individuals variation in intercepts (level 2 variance)

ε_{ij} = the error parameter in estimating decision times within respondents (level 1 variance)

Step 1 - Model 2

Level 1 equation:

$\text{Decision Time}_{ij} = \beta_{0j} + \beta_{1j}\text{Situational velocity}_{ij} + \varepsilon_{ij}$

Level 2 equation:

$\beta_{0j} = \gamma_{00} + \gamma_{01}\text{Structural power}_j + u_{oj}$

$\beta_{1j} = \gamma_{10} + \gamma_{11}\text{Structural power}_j$

Again substituting the L2 equation in the L1 equation gives the Mixed Model equation:

$\text{Decision Time}_{ij} = \gamma_{00} + \gamma_{01}\text{Structural power}_j + \gamma_{10}\text{Situational velocity}_{ij} + \gamma_{11}\text{Structural power}_j * \text{Situational velocity}_{ij} + u_{oj} + \varepsilon_{ij}$

Where:

γ_{10} = the estimate for the effect of situational velocity on decision time (level 1 slope)

γ_{01} = the estimate for the effect of individuals' structural power on decision time

γ_{11} = the estimate for the effect of the interaction between structural power and situational velocity
γ_{10} Situational velocity$_{ij}$ = cross-level interaction but with variance fixed at 0 at Level 2

Step 2 - Model 3

Level 1 equation:

Subjectively experienced power$_{ij}$ = β_{0j} + β_{1j}Situational velocity$_{ij}$ + ε_{ij}

Level 2 equation:

β_{0j} = γ_{00} + γ_{01}Structural power$_j$ + u_{oj}
β_{1j} = γ_{10} + γ_{11}Structural power$_j$

Again substituting the L2 equation in the L1 equation gives the Mixed Model equation:

Subjectively experienced power$_{ij}$ = γ_{00} + γ_{01}Structural power$_j$ + γ_{10}Situational velocity$_{ij}$ + γ_{11}Structural power$_j$ *Situational velocity$_{ij}$ + u_{1j}Situational velocity$_{ij}$ +ε_{ij}

Where:

γ_{00} = the intercept or the average level of respondents' subjectively experienced power across the 60 respondents

Step 3 - Model 4

Level 1 equation:

Decision Time$_{ij}$ = β_{0j} + β_{1j}Situational velocity$_{ij}$ + β_{2j}Subjectively experienced power$_{ij}$ + β_{3j}Subjectively experienced power$_{ij}$*Situational velocity$_{ij}$ +ε_{ij}

Level 2 equation:

β_{0j} = γ_{00} + u_{oj}
β_{1j} = γ_{10}
β_{2j} = γ_{20}
β_{3j} = γ_{30}

Again substituting the L2 equation in the L1 equation gives the Mixed Model equation:

Decision Time$_{ij}$ = γ_{00} + γ_{10}Situational velocity$_{ij}$ + γ_{20} Subjectively experienced power$_{ij}$ + γ_{30} Subjectively experienced power$_{ij}$* Situational velocity$_{ij}$ + u_{oj} +ε_{ij}

Where:

γ_{20} = the estimate of the effect of subjectively experienced power on decision time

γ_{30} = the estimate of the interaction between subjectively experienced power and situational velocity on decision time

Step 4 - Model 5

Level 1 equation:

Decision Time$_{ij}$ = β_{0j} + β_{1j}Situational velocity$_{ij}$ + β_{2j}Subjectively experienced power$_{ij}$ + β_{3j}Subjectively experienced power$_{ij}$*Situational velocity$_{ij}$ + ε_{ij}

Level 2 equation:

β_{0j} = γ_{00} + γ_{01}Structural power$_j$ + u_{oj}

β_{1j} = γ_{10} + γ_{11}Structural power$_j$

β_{2j} = γ_{20}

β_{3j} = γ_{30}

Again substituting the L2 equation in the L1 equation gives the Mixed Model equation:

Decision Time$_{ij}$ = γ_{00} + γ_{01}Structural power$_j$ + γ_{10}Situational velocity$_{ij}$ + γ_{11}Structural power$_j$ *Situational velocity$_{ij}$ + γ_{20} Subjectively experienced power$_{ij}$ + γ_{30}Situational velocity$_{ij}$*Subjectively experienced power$_{ij}$ + u_{oj} +ε_{ij}

CHAPTER 3

Addicted to bad behavior? A self-regulation understanding of the interplay among counterproductive work behavior, sleep quality, and moral identity[17]

[17] Giurge, L.M., van Dijke, M., Zheng, X., & De Cremer, D.

INTRODUCTION

From being rude to colleagues, to leaving work early without permission or stealing from the organization (Marcus, Taylor, Hastings, Sturm, & Weigelt, 2013; Spector & Fox, 2005), counterproductive work behaviors (CWB), or discretionary selfish behaviors that run counter to established company norms, bare tremendous costs for organizations and their members (Dalal, Lam, Weiss, Welch, & Hulin, 2009). Such behaviors have been estimated to annually cost organizations in the US alone around 200 billion dollars (Bennett & Robinson, 2000). In light of such costs, a large number of studies have zoomed in on dispositions (e.g., conscientiousness) and contextual factors (e.g., justice) that predict whether some employees are more likely than others to enact CWB (see Berry, Ones, & Sackett, 2007; Dalal, 2005; O'Boyle, Forsyth, Banks, & McDaniel, 2012, for meta-analyses). Some research has also shown that the enactment of CWB varies not only *between* employees, as a function of differences in personality and stable characteristics of the work context, but also *within* employees. For instance, the same employee is more likely to display CWB on a day when (s)he experiences much work stress than on a day when (s)he experiences less stress (Yang & Diefendorff, 2009; see also Matta, Scott, Colquitt, Koopman, & Passantino, 2016; Skyvington, 2014).

Unfortunately, none of this prior work tells us anything about how the enactment of CWB unfolds in time. In other words, we don't know if displaying CWB at some point in time makes it more (or less) likely that CWB is displayed on a subsequent occasion. Yet, knowing "when things happen" (Mitchell & James, 2001, p. 530) and for how long is important in order to gain a deeper understanding of the processes underling the emergence of CWB (George & Jones, 2000). Because time is embedded in any human experience, a full account of why employees engage in CWB is arguably not possible without considering the temporal context in which such behaviors emerge (Cole, Shipp, & Taylor, 2015). To that end, in the present paper we study how the enactment of CWB unfolds in time. Specifically, we propose that the display of CWB resembles addictive behavior such that the enactment of CWB one day makes it more likely to enact CWB the following day. We build our theoretical argument on two influential theories of self-regulation, that is, control theory (Carver & Scheier, 1982; Powers, 1973) and the resource model of self-control (Baumeister, Bratslavsky, Muraven, & Tice, 1998). We argue that indulging in the selfish or even retaliatory experience of CWB (at the disregard of long-term reputational and social concerns; cf. Iliescu, Ispas, Sulea, & Ilie, 2015; Lord, Diefendorff, Schmidt, & Hall, 2010; Rosen, Koopman, Gabriel, & Johnson, 2016) on one day

may makes it more likely that individuals enact CWB again on the next day, similar to how individuals who aim to watch only one episode of their favorite television series end up watching another one (i.e., addictive behavioral patterns; Herman & Mack, 1975).

We also study the self-regulatory processes that explain *why* enacting CWB on a certain day predicts the enactment of CWB the next day. To that end, we consider the quality of sleep (i.e. the ease with which one falls and stays asleep; Buysse, Reynolds, Monk, Berman, & Kupfer, 1989) during the night connecting the two days. Previous research attests to the crucial role of sleep quality in determining employees' workplace attitudes (Scott & Judge, 2006) and behaviors (Barnes, Schaubroeck, Huth, & Ghumman, 2011). Even more relevant to our present purposes, research illustrates that impaired sleep quality reduces employees' self-regulatory abilities the next day (Barnes, Lucianetti, Bhave, & Christian, 2015; Barnes et al., 2011). We will argue that CWB on a specific day leads to enactment of CWB the next day particularly when sleep quality has been impaired during the connecting night.

Finally, we consider the role of dispositional variations in moral identity in this process. This allows addressing a relevant between-individual factor in understanding the unfolding in time of CWB as a function of employees' daily sleep quality. Moral identity captures the extent to which morality is chronically part of one's self-concept (Aquino & Reed, 2002). It directly addresses the long-term reputational and social concerns of wanting to be a good and moral person that underlie resisting the temptation to engage in CWB. This is because individuals who assign a high value to morality require less cognitive resources necessary for resisting such a temptation (cf. Gino, Schweitzer, Mead, & Ariely, 2011; Hardy, Bean, & Olsen, 2015; Joosten, van Dijke, Van Hiel, & De Cremer, 2014). We introduce moral identity as a motivational force that can overcome individuals' undermined self-regulatory abilities (as a result of impaired sleep quality) and break their addiction to further display CWB. Figure 8 illustrates our model.

Our research offers several contributions to the literature. *First*, by introducing a temporal angle to the study of CWB, we address an often-neglected issue in management research at large, and in the CWB literature, in particular, of when and for how long things happen (Dalal, Bhave, & Fiset, 2014; Mitchell & James, 2001; Shipp & Cole, 2015; Roe, 2008). *Second*, we introduce sleep quality to explain the temporal sequencing of CWB; a factor that has both direct theoretical relevance due to its link with self-regulation impairment (Barnes, 2015) and practical relevance: while the possible negative effects of low sleep quality are yet to be taken seriously within organizations (Barnes, 2011), more and more employees are sleep deprived (Centers for Disease Control and

Prevention [CDC], 2015; National Sleep Foundation, 2011). *Third*, by testing the role of a theoretically relevant between-individual variable (i.e., moral identity) in the within-individual process that underlies the temporal unfolding of CWB, we integrate two levels of analyses in the CWB literature (cf. Sonnentag & Ilies, 2011). *Fourth*, this research has implications for the self-regulation analysis of CWB. In particular, by examining the interaction between two underlying components of self-regulation (daily ability and long-term motivation), our work helps in closing the gap between our current knowledge of how different components of self-regulation operate in isolation and the actual complex and dynamic nature of self-regulation that underlies CWB.

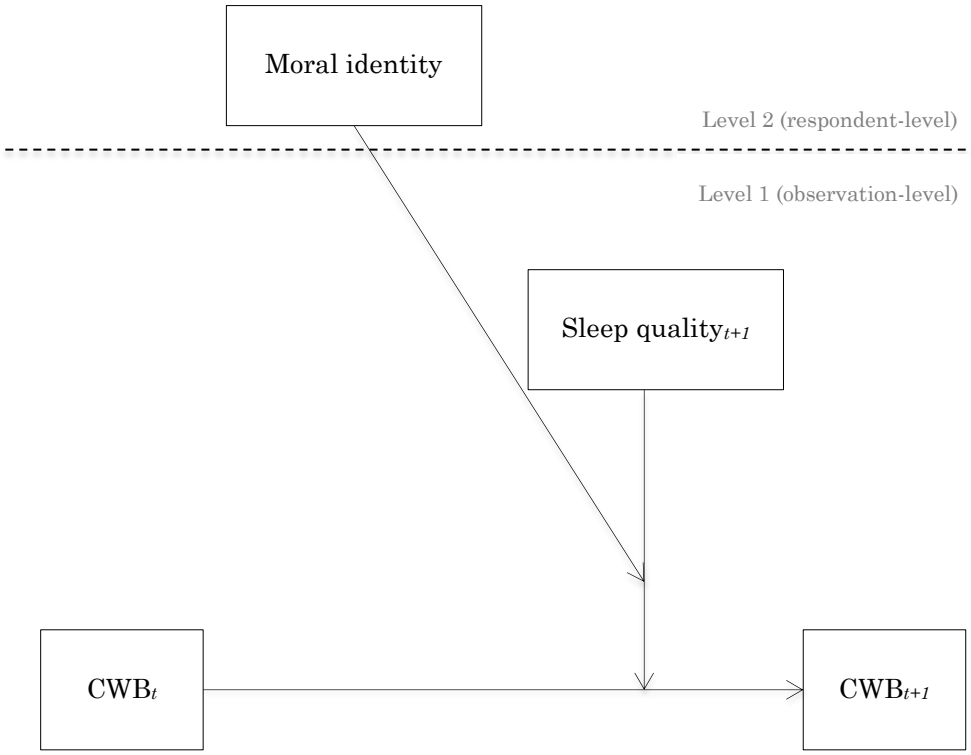

Figure 8. Our proposed model.

The Inter- and Intra-Individual Nature of CWB

To date, much of the existing research on antecedents of CWB has taken a rather static approach to understanding the prevalence of CWB in organizations, often using cross-sectional designs (Berry et al., 2007; O'Boyle et

al., 2012). Such designs are useful to uncover between-individual (but not within-individual) differences, showing that individuals who are characterized by certain dispositions or who work in certain contexts are more likely than other individuals to display CWB. This research has uncovered a large variety of dispositional and contextual antecedents of CWB. At one end of the spectrum, studies focusing on dispositional antecedents conceptualize CWB as a mirror of employees' personality. Most notably is the negative relationship between CWB and two personality characteristics, namely conscientiousness and agreeableness (Mount, Illie, & Johnson, 2006); other examined predictors of CWB are negative emotions and affective states (Penney & Spector, 2005). At the other end of the spectrum, studies focusing on contextual antecedents conceptualize CWB as a response or adaptation to the organizational context or to work stressors. For instance, research shows that interpersonal justice is a strong social predictor of CWB (cf. Berry et al., 2007; Colquitt, Conlon, Wesson, Porter, & Ng, 2001).

Complementing this cross-sectional research, scholars have recently begun to adopt a longitudinal approach to study antecedents of CWB (Eschleman, Bowling, & LaHuis, 2014; Meier & Spector, 2013; Tucker, Sinclair, Mohr, Adler, Thomas, & Salvi, 2009). For instance, Meier and Spector (2013) found evidence for a reciprocal relationship between organizational constraints – a particular type of work stressor– and CWB. Relatedly, in a sample of soldiers, Tucker et al. (2009) found that work overload was positively associated with indiscipline – a specific type of CWB – particularly among soldiers who experienced low job control. Such studies signal a shift from static to more dynamic perspectives on the relation between antecedents and CWB (Eschleman et al., 2014). However, these longitudinal studies also employed a between-individual approach and focused on one particular group of antecedents – work stressors – arguably because these have been found to be the strongest contextual predictors of CWB (Berry et al., 2007; Colquitt et al., 2001).

Addressing some of the limitations of the above-described research on CWB, research is beginning to emerge revealing clear evidence for within-individual variability in CWB. In other words, the same individual may, on one occasion, display CWB and not do this on another occasion (Dalal et al., 2009; Debusscher, Hofmans, & De Fruyt, 2016; Judge, Scott, & Ilies, 2006; Ferris, Spence, Brown, & Heller, 2012; Matta, Erol-Korkmaz, Johnson, & Biçaksiz, 2014; Matta et al., 2016; Meier & Gross, 2015; Skyvington, 2014; Yang & Diefendorff, 2009). Research has not only shown that such within-individual variation exists, but also identified antecedents of CWB at the within-individual level. For instance, Judge and colleagues (2006) assessed daily interpersonal justice and CWB across 3 weeks. The authors found that when the same

employee encountered more daily interpersonal justice than usual, he or she was also more likely to display above their usual average levels of CWB. Matta et al. (2014) found that when an employee experienced above usual negative work events, he or she was also more likely to display above their usual average levels of CWB.

It is refreshing to see that within-individual research on CWB is beginning to emerge and that findings observed at the between-individual level hold true at the within-individual level. However, none of the within-individual research to date tells us anything about how the display of CWB unfolds in time. One promising way to address this limitation may be to look at the argument that a large proportion of the underlying within-individual variability in CWB might reflect the intra-individual processes responsible for successful self-regulation (Dalal & Hulin, 2008; Lord et al., 2010). For this reason, in the following section we set out to integrate insights from control theory with those from the resource model of self-control. In doing this, we advance a self-regulation argument for how the display of CWB leads to subsequently displayed CWB. We also address when such a pattern is likely to emerge.

Self-Regulation and CWB

Control theory explains the motivational processes that underlie goal-directed behavior (Carver & Scheier, 1982; Lord et al., 2010; Powers, 1973; see Harkin, Webb, Chang, Prestwich, Conner, Kellar, Benn, & Sheeran, 2016 for a meta-analysis). A goal refers to an internal representation of a desired state (Carver & Scheier, 1998). Control theory views the process of comparing the current state and the active goal as a continuous flow of feedback loops. When no or little discrepancy is found between the two states, no action is taken. However, when a discrepancy is found, action is often taken to reduce this discrepancy. Control theory therefore posits behavioral self-regulation as a process through which individuals move towards their goals. Many such self-regulation processes are implicit (i.e., they represent automatic adjustments; Carver & Scheier, 1982) and vary, by nature, within-individuals and across time (Dalal & Hulin, 2008; Lord et al., 2010).

Interestingly, even when individuals notice a discrepancy between the experienced and the desired goal state, action to initiate the necessary change may still not be taken (Baumeister & Heatherton, 1996; Baumeister & Alghamdi, 2015; Heatherton & Wagner, 2011). A main factor responsible for not taking action upon detecting such a discrepancy is whether individuals give in to their momentary impulses and engage in an initial act of indulgence that is not in line with their goals (Marlatt & Donovan, 2005). Ironically, while small slips do not necessarily affect the attainment of the desired goal, individuals

often believe that it does (Baumeister & Heatherton, 1996; Heatherton & Wagner, 2011). For instance, watching a single episode of one's favorite television series might not meaningfully violate the goal of focusing strongly on work. However, such a small slip might have a strong impact on individuals' belief that they did violate their goal. Arguably, this happens because attending to behavior that is not in line with one's desired goals creates distress (Baumeister & Heatherton, 1996; Heatherton & Baumeister, 1991) or because it provides such pleasure that individuals crave for more (cf. Suvorov, 2003). The end result is that individuals cease to compare their current experienced state with their active goal and a small slip turns into a binge that sabotages the achievement of their goal (Baumeister & Heatherton, 1996; Heatherton & Baumeister, 1991; Bowen et al., 2009).

Most empirical evidence in support of the above-described phenomenon comes from research on addictive and problematic behaviors (e.g., eating disorders; Herman & Mack, 1975; Herman & Polivy, 1983; abstinence, Marlatt & Donovan, 2005). This work shows how an initial act of indulgence in an addictive or forbidden product (due to giving in to one's impulses), results in a spiraling down effect of further indulgence. Aside from research in this tradition, we know of only one paper in the organizational behavior literature (Welsh, Ordonez, Snyder, & Christian, 2014), which used experimental designs to show how individuals' unethical behavior gradually develops over time from small ethical lapses to large ethical violations as a result of suboptimal self-regulation processing (i.e., moral disengagement). All of these studies illustrate that a minor slip can, in time, undermine further behavioral self-regulation (Heatherton & Baumeister, 1991; Heatherton & Baumeister, 1991; Bowen et al., 2009).

Control theory is arguably highly relevant to the conflict that individuals experience between their desire to engage in behaviors that largely benefit themselves and their long-term reputational and social concerns of being a good and moral person (Bandura, 1986; Nisan, 1991; Strohminger & Nichols, 2014). Obviously, these long-term concerns require that individuals are willing and able to forgo their short-term self-serving desires and impulses (Aquino et al., 2009). However, despite the fact that a normally operating feedback loop should result in less enactment of CWB (as it harms one's long-term reputational and social goals), the research mentioned above introduces the interesting possibility that previous engagement in CWB can make it more likely that individuals cease monitoring their behavior and thus maintain the display of CWB. Put differently, there may be situations in which individuals stop checking whether a discrepancy exists between the current state (i.e., enacting CWB) and the desired goal state (i.e., being a moral person), and instead display

the same initial (bad) behavioral pattern. The question to address is then: what triggers individuals to stop the much needed self-regulation process of monitoring? We argue that impaired sleep quality is a viable answer. Below, we develop an argument for how sleep quality can impair employees' monitoring process, thus making it more likely that an initial act of CWB leads to further acts of CWB.

The Role of Daily Fluctuations in Sleep Quality

Baumeister and colleagues (1998) developed the resource model of self-control to understand why individuals sometimes fail to take action in pursuit of their desired goals. In particular, this model explains this inaction as being contingent upon a limited pool of self-regulatory resources that individuals have at their disposal at any given moment in time (Baumeister, 2002; Baumeister et al., 1998). Because such resources are finite, failure to replenish them results in a state of depletion. This model suggests that individuals with low self-regulatory resources will be particularly ineffective in inhibiting the urge to display CWB once they already did so because they have more difficulty in restraining their impulses (Kelley, Wagner, & Heatherton, 2015; Meier & Gross, 2015). Empirical work supports this model, both in terms of trait self-control (Lian, Ferris, Morrison, & Brown, 2014) and state self-control (DeWall, Baumeister, Stillman, & Gailliot, 2007; Meier & Gross, 2015). Building upon this work, we argue that self-regulatory depletion impairs one's self-regulatory ability (i.e., the self-regulation process responsible for taking action when a discrepancy is found) to refrain from responding to harmful behaviors with harmful behaviors as a result of their now salient selfish impulses.

Although sleep quality is a rather unexplored variable in both the self-regulation and the CWB literature, some limited theoretical (Barnes, 2012) and empirical work (Barnes et al., 2015) suggests that even one night of impaired sleep quality can have detrimental consequences for processes underlying successful self-regulation. Drawing from the assumptions of the resource model of self-control and, more broadly, control theory, in the present paper, we view sleep quality as a relevant daily intra-individual self-regulatory variable that affects individuals' display of CWB. In particular, we expect that when individuals have already displayed CWB on a certain day, the state of impaired sleep quality during the following night will undermine their self-regulatory ability to refrain from displays of CWB the next day. This argument culminates in our first hypothesis:

The positive relationship between CWB exhibited on one day and CWB exhibited on a subsequent day is stronger for individuals who experience low (vs. high) sleep quality during the night between these two days (H1).

The Cross-Level Moderating Role of Moral Identity

Despite the prevalence of CWB, individuals value being a good and moral person and strive to behave in line with this value (Bandura, 1986; Nisan, 1991; Strohminger & Nichols, 2014). Moral identity reflects the extent to which this value is important or characteristic to one's sense of self (Blasi, 1984). It is a powerful self-regulatory variable that is more or less chronically accessible within an individual's overall self-concept (Aquino & Freeman, 2009; Aquino & Reed, 2002). Characterized by high moral self-regulation (Bandura, 1991), individuals who place a high importance on being a good and moral person are more motivated and put more effort to behave consistently with their inner moral compass compared to those who place a low or moderate importance on this value (Aquino & Reed, 2002). As such, it should not be a surprise that differences in moral identity also determine differences in self-serving behaviors (Aquino & Reed, 2002; Reed II & Aquino, 2003). Furthermore, and relevant to our research question, moral identity is not only a predictor of self-serving behavior but also an important buffer of impaired self-regulatory abilities. Gino et al. (2011) theorized that individuals with a strong moral identity have to rely less on their self-regulatory resources to act in a pro-social manner. The authors found that a temporary deficit in self-regulatory resources did not facilitate self-serving behavior (i.e., cheating) for individuals high in moral identity (see also Joosten et al., 2014). Recently, Hardy et al. (2015) found that moral identity curtailed the aversive effects of low trait self-control on aggression and rule breaking behaviors among adolescents.

Building on our integrated self-regulation argument, we argue that moral identity mitigates the negative effect of individuals' impaired self-regulatory abilities (as a result of impaired sleep quality) on the unfolding of CWB. Owing to their strongly internalized moral values (Aquino & Reed, 2002), individuals high in moral identity are less dependent on self-regulatory resources to curtail the influence of short-term temptations (Greene & Paxton, 2009; Gino et al., 2011). This is because such internalized moral values chronically set individuals' goals to act in a pro-social manner, thus helping them overcome their momentary short-term desires in the pursuit of their long-term goals. We therefore expect that high (vs. low) moral identity will buffer the extent to which individuals believe that a small momentary slip sabotages attaining their goals when their self-regulatory abilities are impaired. This culminates in:

The relationship between CWB exhibited on one day and CWB exhibited on the next day, as moderated by sleep quality during the connecting night, is further moderated by moral identity such that the CWB × Sleep Quality interaction is pronounced particularly among employees low (vs. high) in moral identity (H2).

STUDY OVERVIEW

We tested our predictions in an experience-sampling (ESM) study among members of various organizations. ESM is well-suited for capturing fluctuations and trends in momentary behaviors (CWB in this case) and experiences (sleep quality) within the natural work environment and across time. It also allows for studying the moderating role of stable factors (moral identity) on these trends within individuals (Alliger & Williams, 1993). Adopting this methodology in the present research is relevant from a theoretical and a practical perspective. Theoretically, it pushes research on antecedents of CWB to adopt a new perspective by zooming-in on the unfolding of CWB in time in addition to addressing factors that account for this unfolding. Practically, it provides organizations with new insights on how to manage the existing substantial within-individual variability in CWB.

Method

Respondents and Procedures. We collected our data via Flycatcher, a Dutch research panel that consists of about 16,000 Dutch citizens and has the ISO-26362 certification for access panels (i.e., it meets the qualitative ISO requirements for social scientific research, market research, and opinion polls). Panel members who voluntarily decide to become involved in completing questionnaires receive a small reward in the form of points, which they can collect and convert into a preferred voucher (e.g., tickets to the cinema).

The study consisted of two parts. The first part was a one-time survey in which we measured respondents' moral identity and demographic characteristics. The second part was a short daily survey sent via email across two weeks (10 working days) at random times between 11:00am and 6:00pm. Collecting data across time alleviates to some extent (but not entirely) concerns about the direction of causality implied in our hypotheses (Koopman, Lanaj, & Scott, 2016). The target group for this project consisted of full-time working individuals. Flycatcher sent an initial survey to a pool of panel members who met this criterion. Out of 233 employees who were initially contacted, 180 agreed to participate (77% response rate). We considered respondents who missed more than two days as showing lack of commitment to our project (cf. Judge et al., 2006). We therefore ended up with a final sample of 106 employees who responded to at least 8 out of the 10 daily surveys.

Of the included respondents (66% men), the mean age was 40.76 years (*SD* = 10.41), with 17.51 years (*SD* = 11.48) of overall work experience, and 11.03 years (*SD* = 9.88) of work experience in their current company. Most respondents (28.3%) had a Master's degree, 24.5% had a Bachelor's degree,

23.6% had completed vocational training, 22.7% subsequent secondary education, and 0.9% had completed only secondary education. Regarding their position in the company, the majority (64.2%) were in a non-executive position, 19.8% were in a middle management position, 8.5% were in a senior/top management position, 3.8% were in a low management position, and 3.8% indicated holding various other positions (i.e., project leader, program manager, and seller).

We obtained 1001 out of a possible of 1060 experience-sampled ratings (a response rate of 94.43 % across time). Of 106 respondents, 13 missed two daily surveys (12.3%) and 33 missed one (30.2%).

One-time Measures

Moral identity. We measured moral identity with the 10-item instrument developed by Aquino and Reed (2002). The scale measures the extent to which moral identity, conceptualized as a schema organized around a set of moral traits (e.g., "kind", "fair"), is important to the self. It consists of two subscales: internalization, which captures the extent to which a person's moral identity is central to one's self (e.g. item: "Being someone who has these characteristics is an important part of who I am"), and symbolization, which captures the external public expression of a person' moral identity (e.g. item: "The kind of books and magazines that I read indicates that I have these characteristics"). Respondents answered each item on a 7- point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Analyses with each of the subscales of moral identity revealed results similar to those conducted with the overall scale. We therefore present results with the full scale.

Demographics. In the baseline survey, we also recorded respondents' age, gender, education, hierarchical position, tenure, and overall work experience.

Daily Measures

CWB. We measured CWB with a composite scale of 11 items that were introduced with the stem "Up to the moment that I received the text message". In particular, we supplemented the 7-item scale from Moore, Detert, Trevino, Baker, and Mayer (2012; e.g., "I damaged property belonging to the company I work for") with an item from Podsakoff, MacKenzie, Moorman, and Fetter (1990; i.e., "I made an obscene gesture [the finger] to someone at work"), two items from Williams and Anderson (1991; i.e., "I took a longer break than I was allowed to take"; "I left work earlier than I was allowed to"), and one item from Fox, Spector, Goh, Bruursema, and Kessler (2012; i.e., "I started an argument with someone at work"). We created a composite scale because respondents are not likely to engage in such behaviors daily; thus having more items would

increase the pool of potential behaviors that respondents might have engaged in (see Ferris et al., 2012 for a similar approach in a within-individual study, and Marcus, Schuler, Quell, & Humpfner, 2002 in a between-individual study). Respondents indicated on a 5-point scale the extent to which they engaged in such behaviors from 1 (*never*) to 5 (*very often*).

Sleep quality. We measured sleep quality with a 1-item measure adapted from the Pittsburgh Sleep Quality Index developed by Buysse and colleagues (1989; see also Sonnentag, Binnewies, & Mojza, 2008). We altered the response options so that respondents could rate the extent to which they slept well the previous night (i.e., "Overall, I feel I slept well last night") on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree).

Statistical Analyses

For each respondent, we had data at two levels: the respondent level (Level 2) and the observation level (Level 1). Moral identity and demographics constituted Level 2 data whereas CWB and sleep quality constituted Level 1 data. Given the structure of the data with daily observations (N = 1001) nested within respondents (N = 106), we analyzed the data with multilevel modeling using the linear mixed-effects models (MIXED) procedure in SPSS, version 22 (Heck, Thomas, & Tabata, 2013). We centered our daily predictors (sleep quality and CWB) relative to each respondent's average score (i.e., centering within context). This provides accurate estimates of the slope variances as well as precise Level 1 estimates because it removes between-individual (Level 2) variance from the Level 1 estimates (Enders & Tofighi, 2007; Raudenbush & Bryk, 2002). We centered the between-individual predictor (moral identity) relative to the overall mean (i.e., grand-mean centering) to aid the interpretation of Level 2 coefficients. For variance explained, we present the pseudo-R^2 statistic (similar to R^2) - often used in within-individual research to provide an assessment of effect size (Raudenbush & Bryk, 2002).

Because we wanted to model how behaviors shown on one day (i.e., time t) predict behavior the next day (i.e., time $t+1$), moderated by variables measured that next day (i.e., again $t+1$), we created time-lagged variables for our daily predictor and moderator variables. This allowed examining relationships between behaviors occurring during different time intervals. Specifically, we computed the time-lagged variables such that values on our focal variables from time t were shifted to time $t+1$. For example, values on Day 1 represent values on Day 2, values on Day 2 represent values on Day 3, and so forth until values on Day 9 represent values on Day 10. We treated the values from Day 10 (N = 106) as missing (Nezlek, 2011; see Skyvington, 2014 for a similar procedure). As

a result of computing time-lagged variables, we ended up with a total of 902 daily observations for the lagged variables.

Results

Table 10 presents means, standard deviations, average reliability coefficients (across the 10 working days), as well as correlations among all interval-measured variables at the between- and within-individual level of analysis. Results from a null model (i.e., model with no predictors) indicated that of the total variance, the within-individual variance for CWB_{t+1} was 34.42%; multilevel analyses were therefore appropriate (Heck et al., 2013).

H1 predicted that sleep $quality_{t+1}$ would moderate the relationship between CWB exhibited one day and CWB exhibited the next day such that this relationship would be stronger for low (vs. high) sleep quality during the night that connected these two days. In line with H1, sleep $quality_{t+1}$ significantly interacted with CWB_t to predict CWB_{t+1} (γ_{30} = - .13, *SE* = .02, *t* = -5.02, *p* = .0001). Simple slopes analyses revealed that the association between CWB_t and CWB_{t+1} was significant for sleep $quality_{t+1}$ scores at 1 *SD* below the mean (γ_{30} = .27, *t* = 6.37, *p* = .0001) but non-significant for sleep $quality_{t+1}$ scores at 1 *SD* above the mean (γ_{30} = -.02, *t* = - .67, *p* = .50). The within-individual variance explained (i.e., ~ R^2) in CWB_{t+1} by this interaction was about 3%[18]. This result is not surprising given that lagged effects are known to be weak (see Hulin, Henry, & Noon, 1990 for a meta-analysis; see Dalal et al., 2009 and Ilies et al., 2006 for similar results).

H2 predicted that moral identity would act as a cross-level moderator on the magnitude of the within-individual CWB_t × Sleep $Quality_{t+1}$ interaction in predicting CWB_{t+1}. In line with recommendations (Heck et al., 2013), we first checked whether the slope of CWB_t predicting CWB_{t+1} varied significantly across respondents. Results indicated a positive main effect of CWB_t (γ_{10} = .14, *SE* = .04, *t* = 3.33, *p* = .001). More importantly, they also showed that there is a significant variance in the slope (σ_{b10}^2 = .05, *SE* = .01, *Wald Z* = 2.95, *p* = .003), which suggests that within-individual effects of CWB_t on CWB_{t+1} varied significantly across respondents and the examination of Level 2 moderators was justified. We therefore proceeded to test H2 by adding moral identity as a Level 2 moderator on the within-individual effect of sleep $quality_{t+1}$ on the relationship between CWB_t and CWB_{t+1}. Consistent with H2, we found a significant three-way interaction among moral identity, sleep $quality_{t+1}$, and CWB_t in predicting CWB_{t+1} (see Table 11).

[18] We computed this as the proportional reduction in the within-individual Level 1 variance component of CWB_t between a model with main effects of CWB_t and sleep $quality_{t+1}$ and a model with the interaction term between these two predictors.

Figure 9 and 10 visually present the interaction between CWB_t and sleep $quality_{t+1}$ for high and low moral identity. We used R Studio to plot these interactions in line with recommendations (Cohen, Cohen, West, & Aiken, 2003) at 1 *SD* above and below the mean of moral identity. In support of H2, these graphs show that the interaction between CWB_t and sleep quality in predicting CWB_{t+1} was significant only among employees with a low (rather than a high) moral identity.

We proceeded by conducting simple slopes analyses at 1 *SD* above and below the mean of each moderator (i.e., moral identity and sleep quality; Aiken, West, & Reno, 1991). In support of H2, results revealed that the positive association between CWB_t and CWB_{t+1} was significant only for the low sleep $quality_{t+1}$ and low moral identity combination (γ_{31} = .36, t = 5.74, p = .0001). This association was not significant for the high sleep $quality_{t+1}$ and low moral identity combination (γ_{31} = .00, t = .20, p = .91), for the high sleep $quality_{t+1}$ and high moral identity combination (γ_{31} = .01, t = .01, p = .98), or for the low sleep $quality_{t+1}$ and high moral identity combination (γ_{31} = .07, t = .90, p = .36).

Finally, the slope of the low sleep $quality_{t+1}$ and low moral identity combination was significantly steeper than the slope of the low sleep $quality_{t+1}$ and high moral identity combination, t = - 3.04, p = .002, the slope of the high sleep $quality_{t+1}$ and high moral identity combination, t = - 3.57, p = .0001, and the slope of the high sleep $quality_{t+1}$ and low moral identity combination t = - 4.24, p = .0001. This cross-level interaction explained (~ R^2) about 4.21%[19] of the variability in the random slope between CWB_t and CWB_{t+1}.

[19] We computed this as the proportional reduction in the variability of the random slope between CWB_t and CWB_{t+1} between a model with the main effects of moral identity, CWB_t, sleep $quality_{t+1}$, as well as all the 2-way interaction terms, and a model with the 3-way interaction term.

Table 10

Descriptive Statistics, Zero-order Correlations, Reliabilities

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Age	40.76	10.41	-									
2. Gender	1.34	.47	-.34**	-								
3. Education	2.35	.74	-.18 $^{\Gamma}$	.14	-							
4. Position	1.75	1.07	.32**	-.09	.19*	-						
5. Work experience	17.51	11.48	.79**	-.33**	-.31**	.14	-					
6. Tenure	11.03	9.88	.63**	-.22*	-.16 $^{\Gamma}$	.10	.71**	-				
7. Moral identity	5.03	.73	-.33**	.25**	.43**	.09	-.39**	-.35**	***.76***			
8. CWB_t	1.15	.18	.01	-.13	.04	-.08	.02	.00	-.19*	***.78***	.14**	-.01
9. CWB_{t+1}	1.13	.18	-.00	-.11	.03	-.06	.02	.00	-.17	.98**	***.72***	-.09**
10. Sleep quality$_{t+1}$	4.84	1.09	.13	-.14	.06	.03	.11	.13	.13	.01	.04	-

Note. Variables 1 through 7 are between-individual variables. Variables 8 through 10 are within-individual variables. Numbers below the diagonal represent between-individual (aggregated scores for the within-individual variables) correlations (N = 106). Numbers above the diagonal represent within-individual correlations based on group-mean centered values (N=1001 for variables at time t and N = 902 for variables at time $t+1$). Means and standard deviations were computed based on the between-individual (aggregated) scores. The average internal consistency coefficients (Cronbach's α) across the 10 working days are in boldface italic on the diagonal. For gender, 1=male, 2= female. For education, 1=low-level, 2=middle-level, 3=high-level education. For position, 1=non-executive, 2=low management, 3=middle management, 4=senior/top management, 5= other.

$^{\Gamma}$ $p < .1$, * $p < .05$, ** $p < .01$.

Table 11

Multilevel Estimates For Models Predicting CWB_{t+1}

Parameter	Notations	γ	*SE*	*t*
	Fixed effects			
Intercept	γ_{00}	1.13	.01	64.77***
Level 1 (observation-level)				
CWB_t	γ_{10}	.10	.04	2.51*
Sleep $quality_{t+1}$	γ_{20}	-.01	.00	-2.66**
CWB_t X Sleep $quality_{t+1}$	γ_{30}	-.07	.03	-2.43*
Level 2 (respondent-level)				
Moral identity	γ_{01}	-.04	.02	-1.75 $^{\Gamma}$
Cross-level interactions				
CWB_t X Moral identity	γ_{11}	-.13	.05	-2.36*
Sleep $quality_{t+1}$ X Moral identity	γ_{21}	.00	.00	.72
CWB_t X Sleep $quality_{t+1}$ X Moral identity	γ_{31}	.09	.03	2.32*
	Random parameters			
		γ	*SE*	*Wald Z*
Level 2 (respondent-level)				
Intercept	σ_b^2	.01	.00	6.83***
Slope	σ_{b10}^2	.04	.01	2.47*
Level 1 (observation-level)				
Intercept	σ_w^2	.01	.00	18.71***
Deviance	-2*log likelihood	-818.54		

Note. $N = 1001$ for variables at time t and $N = 902$ for variables at time $t+1$.

σ_b^2 = the between-respondents variance (the variance of the values of u_{0j}); σ_w^2 = the within-respondents variance (the variance of the values of ε_{ij}).

$^{\Gamma}$ $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$.

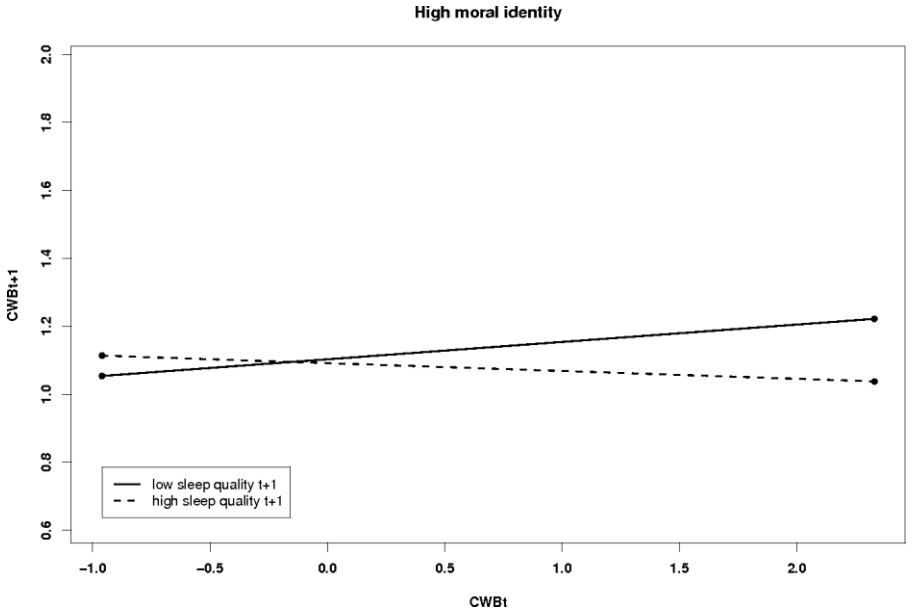

Figure 9. Interaction between CWB_t, sleep $quality_{t+1}$ on CWB_{t+1} when moral identity is high (1 *SD* above the mean).

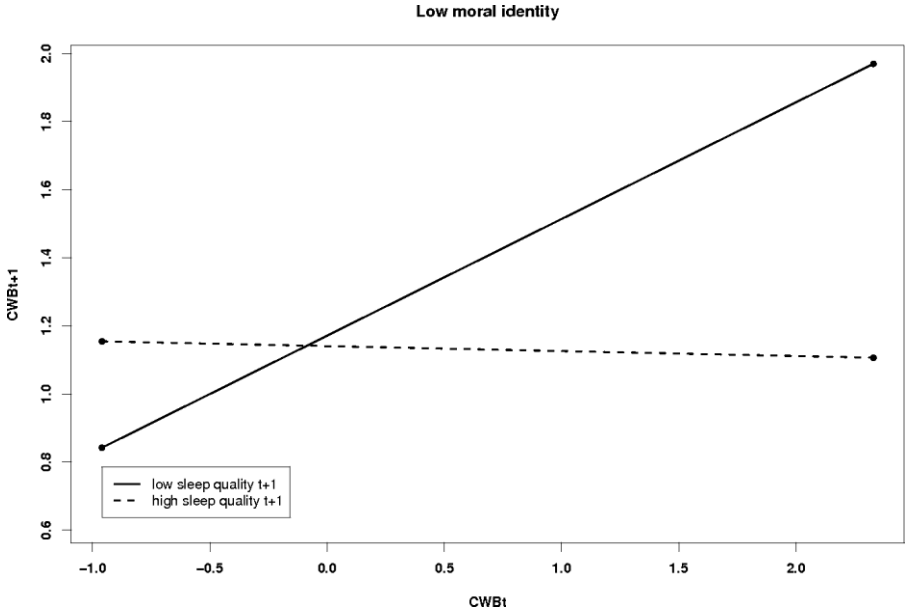

Figure 10. Interaction between CWB_t, sleep $quality_{t+1}$ on CWB_{t+1} when moral identity is low (1 *SD* below the mean).

In sum, our results indicate that CWB predicts subsequent CWB particularly among employees with impaired daily sleep quality who are chronically low on moral identity[20].

GENERAL DISCUSSION

We studied how the enactment of CWB unfolds in time. In line with our self-regulation argument we found in an ESM study conducted across ten consecutive working days among members of various organizations that enacting CWB on one day predicts enacting CWB the next day. However, this was particularly the case among employees who experienced low, as opposed to high, sleep quality during the connecting night. Finally, in line with our self-regulation argument, this CWB × Sleep Quality interaction was limited to respondents who were chronically low (vs. high) in moral identity.

Theoretical Implications

Prior research has shown that the enactment of CWB varies between employees, as a function of differences in personality and stable characteristics of the work context, but also within employees, for instance in response to momentarily experienced stress. However, this work has not made it clear how the enactment of CWB unfolds in time. As Dalal and colleagues (2014; see also Mitchell & James, 2001; Cole et al., 2015; Shipp & Cole, 2015) pointed out, understanding when things happen and for how long is important in terms of both temporal co-occurrence and temporal sequencing of behavioral patterns. By examining the temporal unfolding of CWB we address the often-overlooked element of time in organization research, at large, and in the CWB literature, in particular. This is important to address given that time is intimately connected to any human experience and a full understanding of the emergence of CWB is arguably not possible without placing such behaviors in a temporal context (Cole et al., 2015).

We further add to the CWB literature by highlighting the self-regulatory processes that explain *when* (and thus also *why*) the enactment of CWB at a certain point in time predicts the enactment of CWB later on. We focused on sleep quality as a factor that sustains self-regulatory abilities. The bulk of research, mainly at the between-individual level, on impaired sleep has focused on sleep quantity, perhaps because sleep quantity is viewed as a more objective

[20] As it is common in ESM studies (Debusscher et al, 2016; Matta et al., 2016; Skyvington, 2014), we conducted additional analyses to test the potential of reverse causality. In particular, we examined whether CWB_{t+1} interacts with sleep quality and moral identity in predicting CWB_t. Results indicated no significant three-way interaction (γ_{31} = .08, *SE* = .05, *t* = 1.46, *p* = .14).

measure of impaired sleep. Given that management scholars have only recently considered how important sleep actually is for employees' behavior (Barnes, 2012), objective measures might have taken preference. Be that as it may, our finding that impaired sleep quality, at the daily level, facilitates the unfolding phenomenon of CWB from one day to the next is in line with recent within-individual work by Barnes and colleagues (2015) who found that sleep quality rather than quantity impairs self-regulatory resources. Thus, by zooming-in on the effects of sleep quality on CWB, we respond to calls for future research on such effects (Barnes et al., 2015; Barnes, 2012; Barnes et al., 2011). Moreover, we also expand previous work. In particular, by treating impaired sleep quality not as the main driver of self-regulation failure but as a facilitator of its re-occurrence in the form of engagement in CWB we broaden previous perspectives on self-regulation. This is in line with one of the main tenants of the resource model of self-control that states that a prerequisite for depletion to occur (in our case impaired sleep quality) is the initiation of a volitional act (in our case engagement in CWB) (Baumeister et al., 1998).

Our research further contributes to the literature on moral identity. In particular, we found that the negative effect of sleep quality was less pronounced among employees whose moral values were strongly internalized (i.e., a high moral identity). With the exception of one study (Aquino et al., 2009, Study 4), research to date on moral identity has focused on unveiling its effects in static, one-time encounter situations. Our research suggests that one way to expand the literature on moral identity would be to study the extent to which the established effects of moral identity replicate in dynamic, rather than static, settings. Our finding pertaining to the buffering effect of moral identity echoes the between-individual research that found similar effects on other self-serving behaviors such as cheating (Gino et al., 2011). Understanding which effects hold across levels of analyses is important because similar to how meta-analyses inform us about the extent to which different measures capture similar conceptual meanings of the same construct across various studies (Hunter & Schmidt, 1990), examining constructs across levels of analyses informs us about the extent to which empirical results are similar in shape, size, and direction across levels of analysis (Chen, Bliese, & Mathieu, 2005; Dalal et al., 2015).

Furthermore, by focusing on both intra- and inter-individual factors responsible for successful self-regulation, our research aligns with calls to investigate how stable individual-level factors interact with factors that are bound to vary on a daily basis to predict the intra-individual variability in CWB (Judge et al., 2006; Matta et al., 2014). Because between-individual factors reflect differences in developmental experiences, whereas within-individual factors reflect differences in momentary experiences (Chen et al., 2005), they

incorporate different types of variability (Roe, 2008). Arguably, the display of CWB has different meaning for different employees and examining between-individual factors permits capturing such differences on top of those observed within employees. Addressing both between- and within-individual factors as well as their interaction within the same study would therefore provide a more holistic view of the processes through which within-individual relationships operate. One way to bridge research across levels is via the study of cross-level moderators because they allow scholars to identify what factors strengthen or weaken intra-individual relationships (Sonnentag & Ilies, 2011). Indeed, our findings indicate that the within-individual relationship between sleep quality and CWB is particularly present among employees with low moral identity. This illustrates that moral identity is perhaps a much stronger motivation for individuals to regulate their behavior in line with their long-term goals than we previously thought. In particular, it appears that moral identity is not only relevant in differentiating which employees are more likely than others to engage in CWB (between-individual studies), but also in understanding which employees are more likely to display CWB on some days but not on other days.

The present research also has implications for the self-regulation literature on CWB. In particular, our model highlights the usefulness and importance of addressing within the same study factors that affect individuals' daily self-regulation abilities (in our case sleep quality) and those that affect individuals' motivation to regulate their behavior (in our case moral identity) in providing a more complete picture of how employees regulate their behavior. In light of our results, employees seem to regulate their behavior as a function of both daily ability and long-term motivation. This finding is in line with recent theoretical work on self-regulation (Kotabe & Hofmann, 2015) that urges scholars to move away from examining only one component of self-regulation (i.e., self-regulation motivation, which we conceptualize as moral identity) to examining how the various components of self-regulation interact (cf. Muraven & Slessareva, 2003). This enriching of the self-regulation literature will help close the gap between areas of research that have been overlooked and the true complex and dynamic nature of self-regulation. It is further a necessary step to take if we wish to build strong theoretical frameworks that facilitate and encourage future integrated empirical work aimed at understanding truly dynamic phenomenon such as the intra-individual fluctuations.

Practical Implications

As noted, prior research identified various personality patterns (e.g., conscientiousness, Judge et al., 2006; Yang & Diefendorff, 2009) and contextual features (e.g., interpersonal justice, Berry et al., 2007) that make it more likely

that employees display CWB. Yet, while it might be appealing to say that some employees are simply predisposed to engage in CWB (i.e., "bad apples") and some contexts provoke CWB (i.e., "bad barrels"), the reality is more nuanced. In light of our finding that CWB resembles addictive behaviors such that a small slip can turn into a binge, organizations may consider developing and implementing incentives to counter this phenomenon. For instance, organizations could make use of reassurance messages that help employees perceive small slips not as failure to work towards attaining their long-term goals but more as what they are: a small slip. Such messages could be delivered explicitly during evaluation meetings or implicitly via illustrations sent by email that present a specific form of CWB (i.e., leaving work early without permission one day) in a satirical yet comic manner. Alternatively, organizations could aim to become more lenient in when a particular behavior ought to be labeled as CWB. For instance, leaving work one hour earlier without permission should not be considered as CWB if the same employee comes one hour earlier the next day. One challenge with such an approach is the re-design of the monitoring processes to allow for such "trade-offs' (cf. Bhave, 2014).

Furthermore, our finding that poor sleep quality aids the unfolding of CWB from one day to the next aligns with other findings illustrating how sleep is critical for the well-being of organizational members and, indirectly, for organizational performance (Barnes et al., 2015; Barnes et al., 2011; Christian & Ellis, 2011; Welsh et al., 2014). Problems resulting from shortages of sleep have largely been ignored in organizations. This is not surprising given that employers care greatly about what employees do during the work time and less about what they do outside that time (Barnes, 2011). Yet, scholars have offered suggestions to address impaired sleep quality, including strategic napping and taking breaks from task work (Barnes, 2011; Welsh et al., 2014). Such methods are all the more relevant in the context of our present findings showing that low sleep quality increases the likelihood that enacting CWB on a certain day makes organization members do it again the next day.

Nonetheless, our finding pertaining to the buffering effect of moral identity on the negative effects of impaired sleep quality indicates that organizations should not abandon their explicit or more informal selection practices that differentiate among employees. That is, organizations should still aim to recruit and select individuals that consider moral values are central to their self-identity, among other reasons because such values are bound to protect employees from the detrimental effects of impaired sleep.

Limitations and Future Directions

Our use of ESM among employees from a variety of organizations while including a theoretically relevant cross-level moderator present clear strengths of this research. However, as with any study, there are limitations that should be discussed. A first potential limitation stems from the fact that we measured all our variables using self-reports. This raises the question of whether these reports accurately reflect CWB enactment. As to accuracy, it has been argued that self-reports of CWB may be more accurate than other-reports of CWB (e.g., coworkers or supervisors reporting on the focal employee) because of the rather private nature of CWB (Dalal, 2005). In support of this claim, a meta-analysis (Berry, Carpenter, & Barratt, 2012) illustrates not only that self-reports of CWB present moderate to high correlations with other-reports of CWB but also that other-reports capture a narrower subset of CWBs, thus presenting, at best, an incremental contribution beyond self-reports of CWB.

Another potential limitation resulting from measuring our variables using self-reports is that it may lead to common method bias. However, we do not believe that such bias drives our results. We used time-lagged variables, as well as temporal separation between our Level 2 moderator (i.e., moral identity) and our Level 1 predictors (i.e., CWB and sleep quality). This reduces common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Moreover, common method bias cannot explain interaction effects (Evans, 1985), which were of interest in the present paper.

Furthermore, the causal order presented in our model (CWB exhibited on one day facilitates exhibiting CWB the next day) is grounded in established theories (i.e., control theory and the resource model of self-control). However, although lagged data helps to tease out the presumed causal order of our variables (Brewer, 2000; Debusscher et al, 2016; Skyvignton, 2014), our data is, as any ESM data (Judge et al., 2006), correlational in nature. Given the difficulty of experimentally manipulating CWB, the procedures used in this paper follow the standards set by existing within-individual CWB research (Dalal et al., 2009; Debusscher et al., 2016; Judge et al., 2006; Ferris et al., 2012; Matta et al., 2014; Meier & Gross, 2015; Skyvington, 2014; Yang & Diefendorff, 2009). Future research should, however, experimentally manipulate CWB and / or sleep quality to draw more internally valid conclusions.

Future research should also more specifically address the motives underlying enactment of CWB. In line with the nature of CWB, we argued that employees engage in CWB in pursuit of self-serving goals. However, some prior research has identified more specific types of goals that fit under the broad umbrella of self-serving goals. Using a cross-sectional design, Krischer, Penny, and Hunter (2010) found that employees engaged in CWB for instrumental

reasons such as coping with work stressors. Recently, Yam, Klotz, and Reynolds (2014) found that employees engaged in CWB because they felt entitled to do so (as a result of having engaged in OCB). The specific type of reason for engaging in CWB might have an impact on the extent to which a momentary slip results in a binge. Future research would therefore benefit from taking a temporal perspective on the underlying motives that might make CWB more of less addictive over time.

Finally, future research should also more carefully address the generalizability of the finding we obtained that enacting CWB on one day leads to enacting CWB on a subsequent day. This finding is in line with the moral consistency literature, which suggests that individuals strive to behave consistently in line with their moral self-regard. Thus, a salient self-concept as a moral person promotes pro-social behaviors whereas a less salient self-concept as a moral person promotes self-serving behaviors (Aquino et al., 2009; Blasi, 1984). However, the literature on moral compensation and licensing provides a contrasting set of findings. Individuals who engaged in past self-serving behaviors feel they need to compensate by engaging in subsequent pro-social behaviors; individuals who engaged in past pro-social behaviors feel licensed to engage in subsequent self-serving behaviors (Monin & Miller, 2001; Miller & Effron, 2010; Nisan, 1991). As of yet, it is largely unclear when moral consistency or, conversely, moral licensing/compensation emerges (Mullen & Monin, 2016). Research does suggest that the specific mindset that one is in, such as outcome versus rule focused (Cornelissen, Bashshur, Rode, & Menestrel, 2013) or an abstract versus concrete mindset (Conway & Peetz, 2012) determines whether one displays moral consistency versus moral licensing/compensation. Future research should address if such moderators could also be applied to our understanding of the unfolding in time of CWB.

CONCLUSION

The emergence of CWB is dynamic and fluctuates across time and within employees. Although our understanding of what triggers such fluctuations to emerge has been rapidly expanding over the past years, it is as of yet unknown how (and also why) CWB unfolds in time. Integrating insights from control theory with those from the resource model of self-control we aim to advance an understanding of the consequences of engaging in CWB for the subsequent display of CWB by suggesting that the display of CWB resembles addictive behaviors. In particular, we develop a self-regulation argument for how the interplay between a daily self-regulatory variable (sleep quality) and a stable self-regulatory variable (moral identity) explains the temporal sequencing of

within-individual variability in CWB. Results from an ESM study suggests that enacting CWB *is* indeed addictive, and this is particularly true for individuals who suffer from low sleep quality and who chronically do not consider morality as central to their self-definition.

SUPPLEMENTAL ANALYSES

Positive and negative affect. In line with theoretical and empirical work showing that CWB varies systematically with affective states (Dalal et al. 2009; Hanisch & Huilin, 1991; Spector & Fox, 2002), we also measured respondents' daily affect with a 4-item scale adapted from Miner, Glomb, and Hulin (2005). Two of these items referred to positive affect (e.g., "being in a good mood", "cheerful") and two referred to negative affect (e.g., "sad", "unhappy"). We used a 7-point scale from 1 (*not at all*) to 7 (*very much*) and introduced the items with the stem: "At the moment I feel". We ran our models while controlling for both positive and negative affect. Results with these additional control variables were similar to those presented above.

Systematic biases. We examined whether certain employees were more likely than others to respond to our surveys by examining the strength of the association between respondents' demographic characteristics and the number of surveys completed. We found no significant correlations between the number of surveys completed and respondents' age (r = -.10, p = .29), gender (r = -.02, p = .78), overall work experience (r = -.07, p = .47), work experience in the current company (r = -.13, p = .16), and hierarchical position (r = .01, p = .86). There was, however, a negative correlation between the number of surveys completed and respondents' education level (r = -.20, p = .03). We conducted additional analyses controlling for this variable and obtained results similar to those presented in the previous section.

Growth models. Whereas our aim was not to look at trends across time (i.e., growth models), our data was collected across time. To examine whether time had any effect on our hypothesized relationships, we conducted additional analyses including a linear and a quadratic term of time across all analyses. We obtained results similar to those presented in the section above.

STATISTICAL EQUATIONS

Basic notations:

j – the subscript used for respondents (Level 2 respondent-level data)

i – the subscript used for observations (Level 1 observation-level data)

t – the subscript used for time

The Null Model for observation i in individual j:

Level 1 equation:

$CWB^{ij}_{t+1} = \beta_{0j} + \varepsilon_{ij}$

Level 2 equation:

$\beta_{0j} = \gamma_{00} + u_{0j}$

Substituting the Level 2 equation in the Level 1 equation gives the Mixed Model equation:

$CWB^{ij}_{t+1} = \gamma_{00} + u_{0j} + \varepsilon_{ij}$

Where:

β_{0j} = the mean of CWB^{ij}_{t+1} for the j^{th} respondent

γ_{00} = the fixed component, representing the intercept or the average level of CWB^{ij}_{t+1} across the 160 respondents

$u_{0j} + \varepsilon_{ij}$ = together compose the random component

u_{0j} = the between-individuals variation in intercepts (Level 2 variance)

ε_{ij} = the error parameter in estimating CWB^{ij}_{t+1} within respondents (Level 1 variance)

Final model (3-way interaction)

Level 1 equation:

$CWB^{ij}_{t+1} = \beta_{0j} + \beta_{1j}\, CWB^{ij}_{t} + \beta_{2j}\, \text{sleep quality}^{ij}_{t+1} + \beta_{3j}\, CWB^{ij}_{t} * \text{sleep quality}^{ij}_{t+1} + \varepsilon_{ij}$

Level 2 equation:

$\beta_{0j} = \gamma_{00} + \gamma_{01}\, \text{moral identity} + u_{oj}$

$\beta_{1j} = \gamma_{10} + \gamma_{11}\, \text{moral identity}$

$\beta_{2j} = \gamma_{20} + \gamma_{21}\, \text{moral identity}$

$\beta_{3j} = \gamma_{30} + \gamma_{31}\, \text{moral identity} + u_{3j}$

Substituting the L2 equation in the L1 equation gives the Mixed Model equation:

$CWB^{ij}_{t+1} = \gamma_{00} + \gamma_{01}\, \text{moral identity} + \gamma_{10}\, CWB^{ij}_{t} + \gamma_{11}\, CWB^{ij}_{t} * \text{moral identity} + \gamma_{20}\, \text{sleep quality}^{ij}_{t+1} + \gamma_{21}\, \text{sleep quality}^{ij}_{t+1} * \text{moral identity} + \gamma_{30}\, CWB^{ij}_{t} *$

sleep quality$^{ij}_{t+1}$ + γ_{31} moral identity * CWB$^{ij}_{t}$ * sleep quality$^{ij}_{t+1}$ + u_{0j} + u_{3j} + ε_{ij}

Where:

γ_{10} = the estimate for the effect of CWB$^{ij}_{t}$ on CWB$^{ij}_{t+1}$

γ_{20} = the estimate of the effect of sleep quality$_{t+1}$ on CWB$_{t+1}$

γ_{30} = the estimate of the interaction between CWB$^{ij}_{t}$ and sleep quality$_{t+1}$ on CWB$^{ij}_{t+1}$

γ_{11} = the estimate of the interaction between CWB$^{ij}_{t}$ and moral identity on CWB$^{ij}_{t+1}$

γ_{21} = of the interaction between sleep quality$_{t+1}$ and moral identity on CWB$^{ij}_{t+1}$

γ_{31} = the estimate for the effect of the interaction term of moral identity * CWB$^{ij}_{t}$ * sleep quality$^{ij}_{t+1}$ on CWB$^{ij}_{t+1}$

CHAPTER 4

Is power so bad? Power lowers moral reasoning level, but not when construed as responsibility[21]

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INTRODUCTION

"Power tends to corrupt, and absolute power corrupts absolutely"
– John Dalberg Acton

"With power comes great responsibility"
– Anonymous

Power is an essential element of most formal leadership roles (DeWall, Baumeister, Mead, & Vohs, 2011; Goodwin, 2003; Magee, Gruenfeld, Keltner, & Galinsky, 2005; Magee & Galinsky, 2008; Williams, 2014). The two quotes presented above paint two distinct images of power: one of power being a corrupting force and one of power requiring responsible action. Yet, the crude reality is that power often seems to corrupt the mind of those who possess it and the many ethical scandals that shocked the world over the past two decades, such as those at ENRON, Worldcom, and Volkswagen are often taken as an illustration of this. Although theses scandals present some variation in terms of the types of unethical behaviors involved, they share two striking similarities. First, the root cause was found in the leadership from the highest levels of power in the organization (Johnson, 2003; Elkind & McLean, 2004; Beresford, Katzenbach, & Rogers, 2003). Second, the unethical acts were not the result of leaders' unintentional mistakes but appeared, in fact, to be the result of conscious and deliberate decisions (Elkind, 2013; Liker, 2015; Krauss, 2008; Zandstra, 2002). Because of the importance of leaders in power positions making sound moral decisions (Treviño, 1986; Brown, Treviño, & Harrison, 2005; Brown & Treviño, 2006), in the current paper we argue that a focus is needed on how power impacts the process underlying such decisions, namely *moral reasoning*.

Moral reasoning refers to the processes involved in judging what is a morally right or wrong action to pursue (Kohlberg, 1969; Rest, 1986; Treviño, 1986). Moral reasoning is usually considered a conscious and deliberative process that, over relatively long periods of time (i.e., months or years), may progress to higher (i.e., more complex) levels (Kohlberg, 1969). Unfortunately, the few studies that so far looked at the relationship between power and moral reasoning revealed inconsistent findings, with some studies finding that higher power (operationalized as hierarchical position) is correlated with lower levels of moral reasoning (Ponemon, 1990, 1992; Shaub, 1989) and others finding no relationship (Forte, 2004; Sosik, Juzbasich, & Chun, 2011). This inconsistent evidence could result from the cross-sectional designs applied in these studies,

which cannot establish causal explanations for any obtained correlations between power and moral reasoning. It is possible that one's level of power affects one's moral reasoning level, but it is equally possible that certain moral reasoning levels facilitate gaining power in specific types of organizations (Anderson & Kilduff, 2009; Treviño & Weaver, 2003).

In the present research we take an approach that is very different from prior work. Specifically, we connect insights on motivated cognition (Kunda, 1990; Fiske, 1992) with the social psychological power literature (Anderson, John, & Keltner, 2012; Magee & Smith, 2013; Sturm & Antonakis, 2015) to argue that having high power can immediately (rather than over long periods of time) lower one's level of moral reasoning. We also argue that this influence of power on moral reasoning will materialize particularly when power is construed as providing opportunities for goal attainment, which is how individuals often experience power in interpersonal power relationships (Zhong, Magee, Maddux, & Galinsky, 2006; De Cremer & van Dijk, 2005, 2008). Finally, we argue that power does not lower moral reasoning when it is construed as having responsibility for one's own actions, an element that is particularly central to organizational leadership (cf. Chen, Lee-Chai, & Bargh, 2001; Overbeck & Park, 2001; Sassenberg, Ellemers, & Scheepers, 2012; Sassenberg, Ellemers, Scheepers, & Scholl, 2014; Tost, 2015). We test these predictions using experimental procedures that permit establishing immediate and causal effects of power on moral reasoning.

Our research makes three contributions to the literature. First, we illustrate the relevance of addressing power within the leadership literature by providing experimental evidence that the experience of high power lowers moral reasoning. Moreover, by showing that power lowers moral reasoning levels when it is framed as opportunity rather than as responsibility, we draw researchers' attention to the need to consider the underlying framings of power if we wish to advance a deeper and more complete understanding of the effects of power that are inherent to leadership roles. Second, by integrating theorizing on the social psychological effects of power with motivated cognition research, we show that the influence of power on moral psychological processes is not limited to what is currently the focus of almost all research on how power relates to morality (Sassenberg et al., 2014) and in moral psychology, namely affect and intuition (Haidt, 2007; Haidt & Bjorklund, 2008; Reynolds, 2006), but extends to conscious cognitive processes. Third, by arguing that power can immediately impact moral reasoning, we add to the large body of work on moral reasoning. As noted, moral reasoning is usually viewed as a process that over relatively long periods of time may progress to higher levels (Kolhberg, 1969; O'Fallen &

Butterfield, 2005; Treviño, Weaver, & Reynolds, 2006). We show that power has an immediate effect on moral reasoning levels.

THEORETICAL FRAMEWORK

Moral Reasoning and Cognitive Moral Development Theory

The most influential theory on moral reasoning and, in fact, the most influential theory in moral psychology during the second half of the twentieth century is Kohlberg's (1969) theory of moral development. Kohlberg conceptualized moral reasoning as a developmental process that spans across six sequential and irreversible stages. At the lowest level of moral reasoning - the *pre-conventional level* – individuals' judgment of what is right or wrong is influenced either by the concrete consequences of their actions such as punishments or rewards (Stage 1) or by their own self-interest (Stage 2). This pre-conventional level of moral reasoning resembles the typical reasoning that children use. Most adults, however, operate at the *conventional level* of moral reasoning (Colby, 1978). At this level, individuals' judgments of what is right or wrong become sensitive to rules and laws set by their immediate social circle (Stage 3) and the broader society (Stage 4) that they are a part of. Finally, the *post-conventional level* represents the highest level of cognitive complexity and the most mature level of moral functioning; yet few adults reach it. At this level, individuals move away from being concerned with their own personal interests or with following rules and norms to having a more impartial judgment of what is right or wrong. Thus, individuals develop a more active perspective taking, focusing on the greater societal good (Stage 5) and can even form their own moral principles that might or might not overlap with existing rules and laws (Stage 6).

Drawing on the work of Jean Piaget (1932/1965), Kohlberg (1969) argued that moral reasoning develops one stage at a time, in an upward progressive manner, without skipping a stage or regressing to a previously acquired stage. Decades of empirical research provide strong support for Kohlberg's proposed sequential stage development (see Colby, Kohlberg, Gibbs, Lieberman, Fischer, & Saltzstein, 1983; Kohlberg & Kramer; 1969; Nisan & Kohlberg, 1982; Rest, 1975; White, Bushnell, & Regnemer, 1978; for longitudinal studies) and show that individuals prefer to use the highest acquired stage (Treviño, 1992). Notwithstanding the fact that for some individuals there are signs of stage regression (cf. Holstein, 1976), it appears that stage development exists and it is the norm rather than the exception (see Peterson & Seligman, 2004, and McCauley, Drath, Palus, O'Connor, & Baker, 2006, for reviews). While much empirical work focused on long-term influences such as stable individual

characteristics (see Loe, Ferrell, & Mansfield, 2000; O'Fallen & Butterfield, 2005; Tenbrunsel & Smith-Cowe, 2008; Treviño et al., 2006 for reviews), or stable organizational factors (i.e., hierarchical power; Ponemon, 1990, 1992; Shaub, 1989), there is some research to suggest that moral reasoning might actually vary as a function of the surrounding context (i.e., the context in which the moral dilemmas are situated in, Weber, 1990; see also Bredemeier, Shields, & Shields, 1986).

Of particular interest to the present work are two studies suggesting that even short-term contextual factors may have an immediate influence on individuals' moral reasoning. Reall, Bailey, and Stoll (1998) claimed that students' moral reasoning levels were lower during a competitive game than they were before students started playing the game. Unfortunately, the use of different instruments to assess moral reasoning before and during the game makes comparing moral reasoning levels difficult. Zarinpoush, Cooper, and Moylan (2000) found in one study (but not in two replication attempts) that participants induced to be in a happy (compared to a sad or a neutral) mood displayed lower levels of moral reasoning. These findings suggest that individuals might not always reason at their highest acquired level of moral reasoning and that sometimes, contextual factors may lower moral reasoning levels. In the following sections we argue why power might be such a factor.

Power and Moral Reasoning

Power is commonly defined as the asymmetric control over valued resources (see Magee & Galinsky, 2008; Blader & Chen, 2014). People place high value on having power because, among others, it provides them access to material resources (Emerson, 1962; Keltner, Gruenfeld, & Anderson, 2003; Fiske & Berdahl, 2007), autonomy (Anderson & Berdahl, 2002; van Dijke & Poppe, 2006), and status (French & Raven, 1959; Magee & Galinsky, 2008). In light of such benefits, it comes as no surprise that those in power are motivated to preserve the status quo and protect their position of power (Glick et al., 2004; Williams, 2014). One way in which those in power can achieve this is by emphasizing the value of existing rules and laws. This is because such rules and laws signal a stable power structure and further help preserve it (Lind, 2001; Sidanius, van Laar, Levin, & Sinclair, 2004; Tyler, 2001, 2006). Building on the motivated cognition literature (Kunda, 1990; Fiske, 1992), we argue that this desire to protect one's position of high power, highlighting the value of existing rules and norms, stimulates moral reasoning characteristic of Stage 3 and 4 of cognitive moral development.

Motivated cognition refers to findings showing that individuals attempt to match the way they process information with what they know or wish to be true

(i.e., goals or needs) in order to arrive at desired conclusions (Kunda, 1990; Fiske, 1992). This tendency is so strong that it pervades information processing across various levels from what individuals see, to how they think, and finally to what they decide to do (Dunning, 1999; Kruglanski, Belanger, Chen, Kopetz, Pierro, & Mannetti, 2012). Notable evidence that one's motivations can shape cognitive processes comes from research on stereotyping or attributions. For example, motivations such as boosting self-worth shape individuals' use of negative stereotypes (Fein & Spencer, 1997; Sinclair & Kunda, 1996). Furthermore, individuals' motivation to enhance and protect their self-esteem shapes the attributions they make by, for instance, accepting credit for their own successes whilst placing blame on circumstances and bad luck for their failures (Dunning, 1999; Heider, 1958; Miller, 1976). It therefore stands to reason that the cognitive architecture that individuals bring to bear on their judgment of what is morally right or wrong is shaped by their current motivations – one important motivation for powerful individuals is the wish to protect their current power level.

Based on the above, we argue that high power individuals' motivation to legitimize their position of power may shift their moral reasoning towards a focus on the value of rules and norms set by one's immediate social circle or the broader society (Stage 3 and 4) rather than on the greater societal good or on the formation of autonomous moral principles (Stage 5 and 6). Furthermore, knowing that adults rarely, if ever, reason at the lowest level of moral reasoning (i.e., the pre-conventional level, stage 1-2), temporary stage regression (from stage 5-6 to stage 3-4), rather than stage progression (from stage 1-2 to stage 3-4) is likely to be more common. This line of reasoning culminates in our first hypothesis:

Having high (vs. moderate or low) power leads to lower levels of moral reasoning (H1).

Experiencing Power as Responsibility

Our line of argumentation as presented earlier is based on the premise that high power involves opportunities to attain one's goals (Zhong, et al., 2006; De Cremer & van Dijk, 2005, 2008). Nevertheless, the framing of power in terms of "opportunity" may be less likely to emerge in an organizational context in which the interdependence between power holders and subordinates is more salient (Hamilton & Biggart, 1985; Tost, 2015), and in which power holders' behavior is highly scrutinized (Fleming & Spicer, 2014; Smith & Overbeck, 2014). Indeed, a central element of high power that organizations wish to stress and activate is a sense of responsibility (De Cremer & van Dijk, 2008; Hollander, 2009; Tost, 2015). In fact, in a conceptual paper, Tost (2015) argued that the psychological

essence of organizational power relationships lies not only in the widely acknowledged sense of freedom but also in a sense of responsibility with downstream consequences on individuals' cognitive processes. This author further argues that the experience of power as responsibility is particularly likely to emerge within an organizational context that stresses the salience of others' dependency.

Research in social psychology provides further insights regarding the connection between power and responsibility (Chen et al., 2001; Overbeck & Park, 2001; Sassenberg et al., 2012; Sassenberg et al., 2014). Baumeister, Chesner, Senders, and Tice (1988) found that placing individuals in a leadership position, as opposed to a subordinate position, triggered feelings of responsibility, which resulted in a higher tendency to help others in an emergency situation. Similarly, De Cremer and van Dijk (2008) found that the baseline feelings of entitlement that result from placing individuals in a leadership or a high-power role, were diminished when the underlying dimension of social responsibility was made salient to their role. Overall, it seems possible that individuals frame their experience of power not just in terms of opportunity but also in terms of responsibility; a shift that is likely to occur in an organizational context.

Aligning the above evidence to the motivated cognition literature, we argue that our predicted effect that having high power lowers moral reasoning levels will emerge particularly when power is framed in terms of opportunity rather than responsibility. We expect this because individuals will be particularly motivated to maintain the status quo of the existing organizational power relationships when their high power position is construed in terms of opportunity rather than in terms of responsibility. In support of this argument, research shows that individuals find power more desirable when it is construed as providing opportunities for goal attainment rather than as providing a heightened responsibility for one's actions (Sassenberg et al., 2012). As mentioned earlier, this motivation to maintain the status quo and thus legitimize one's position of high power will focus individuals' moral reasoning on the values of existing rules and laws, which resembles relatively lower level of moral reasoning (i.e., Stage 3 and 4). This brings us to our second hypothesis:

Construing one's power as opportunity for goal attainment leads to lower levels of moral reasoning compared to construing one's power as responsibility for one's actions (H2).

OVERVIEW OF STUDIES

Our aim is to zoom-in on the immediate effect of power on moral reasoning and to provide conclusive causal evidence for this effect. We therefore conducted four laboratory experiments to test our hypotheses. We used different manipulations to capture the influence of power on individuals' moral reasoning. In particular, in Study 1, we used an established manipulation of power to place individuals in an actual hierarchical structure (manager vs. subordinate). In Study 2 we used a well-known and widely validated power recall procedure. We designed Study 3 to replicate our findings from Study 2 and to add a neutral control condition. This permits drawing conclusions regarding whether high power lowers moral reasoning levels or whether low power heightens moral reasoning levels. Finally, in Study 4 we zoomed in on the experience of high power and used a priming procedure to study how construing this experience as opportunity versus responsibility (or a neutral condition) impacts individuals' level of moral reasoning.

STUDY 1

Method

Participants and design. One hundred and one undergraduate business students from a medium-sized European university participated in return for course credits. They were randomly assigned to one of two conditions of a two-level design (power: high vs. low). Based on criteria described below (see "dependent variable"), we included one hundred participants in subsequent data analyses. Fifty-one percent of participants were male; the average age was 19.39 (SD = 1.74) years. Thirty-seven percent indicated currently having a job, working on average 10.16 (SD = 5.08) hours per week. Ninety-two percent of participants had a high-school diploma, 6% had a bachelor diploma, and 2% indicated having finished another type of education (i.e., passed the first year exam for the bachelor studies).

Procedure. Participants were seated in separate cubicles, each equipped with a personal computer. All materials were presented on the computer screen. We informed them that they would be paired with another participant from another cubicle and take part in a decision-making exercise. We further informed them that this exercise required one person to be the manager and the other to be the subordinate. Such structural manipulations are often used to manipulate high versus low power (e.g., Fast, Gruenfeld, Sivanathan, & Galinsky, 2009; Galinsky, Gruenfeld, & Magee, 2003; Guinote, Weick, & Cail, 2012), and are also used in the leadership literature in studies that manipulate

leader versus follower roles (e.g., De Cremer & Van Vugt, 2002; De Cremer & van Dijk, 2005; Samuelson & Allison, 1994). We slightly adapted the procedure from Galinsky and colleagues (2003) by telling participants that their role would be randomly assigned by the computer. We opted for this procedure rather than the one in which their role is determined based on a score they receive on a "Leadership Questionnaire" in order to avoid suspicion and feelings of disappointment or unfairness. After waiting for a few seconds for the computer to assign them the role, participants received a brief description of the role they were assigned to. Specifically, participants assigned to the *manager* role (high power position) received the following instructions:

"As a manager you are in charge of directing, supervising, and evaluating your subordinate in the upcoming exercise. You are the one in charge of deciding how to evaluate your subordinate. As a manager you are also in charge of evaluating the performance of your subordinate in how he/she handles the upcoming exercise. Importantly, the subordinate will not have a chance to evaluate you."

Participants assigned to the *subordinate* role (low power positions) received the following instructions:

"As a subordinate, your manager will direct, supervise, and evaluate you in the upcoming exercise. Your manager will decide how to evaluate your performance in the upcoming exercise. You will not have the chance to evaluate your manager. Only the manager is in charge of directing and evaluating your performance in how you handle the upcoming exercise."

Following the role description, we asked participants to answer three manipulation check questions. Next, we measured their moral reasoning level with the Defining Issues Test (DIT). We introduced this as the decision-making part of the exercise. Specifically, we asked them to indicate their opinion about three different problem stories (i.e., moral dilemmas) that represent the short moral reasoning scale developed by Rest (1990; see also Rest, Thoma, Narvaez, & Bebeau, 1997). After each story, we asked participants (1) to indicate how they would approach the situation presented with one question, (2) to rate the importance of twelve more in-depth questions/statements about the situation, and lastly (3) to rank the first four most important questions/statements out of these twelve. At the end, we recorded their age, gender, education, and work experience.

Manipulation checks. In line with previous work (Galinksy et al., 2003; Fast et al., 2009), we checked the effectiveness of our power manipulation with three items. Participants indicated on a 7-point scale (1 = *strongly disagree;* 7 = *strongly agree*) the extent to which they felt (1) in charge in the upcoming

exercise, (2) powerful, and (3) in control in the upcoming exercise. We combined these items into a reliable scale (Cronbach's α = .92).

Dependent variable. We measured participants' moral reasoning with the short form of Rest's (1990) DIT, the most widely used tool for assessing moral reasoning level (Rest, Narvaez, Thoma, & Bebeau, 1999; Thoma, 2006). The short form is comprised of a sub-set of three out of six moral dilemmas. Since there is no particular preference given to which three dilemmas to use, we decided to use the following three: (1) the Student take-over (i.e., whether or not students should take over an administration building in sign of protest against war), (2) the Doctor's dilemma (i.e., whether or not a doctor should administer an overdose of painkillers to a patient in pain), and (3) the Webster story (i.e., whether or not a minority member should be hired when the community is clearly biased against minorities).

After each dilemma, we first asked participants to make a decision about the situation presented on a 3-point scale: 1 (*take action*), 2 (*can't decide*), and 3 (*not take action*). Thereafter, for each dilemma, we asked them to rate 12 statements/questions on a 5-point scale from 1 (*great importance*) to 5 (*no importance*). Lastly, we asked them to consider all 12 statements/questions simultaneously and rank the four most important ones for making a decision about each dilemma from 1 (*most important*) to 4 (*fourth most important*). We used the ratings and rankings to compute each participant's individual score. In line with previous literature (Abdolmohammadi & Sultan, 2002; Cummings, Dyas, Maddus, & Kochman, 2001; Jordan, Brown, Treviño, & Finkelstein, 2013) we derived the P-score as an overall measure of moral reasoning. The P-score represents the percentage of items comprising the principled reasoning stages from Kohlberg (Stage 5 and 6; 1981; 1984). In other words, it indicates the degree to which individuals place a great importance on post-conventional and principled considerations when making a decision. A higher P-score represents a higher level of moral reasoning.

In line with recommendations from Rest (1990), we checked the reliability and consistency of participants' answers on the DIT. First, none of the participants failed the reliability check (i.e., rating above 4 certain items that were written to simply sound exaggeratedly fancy but actually have no meaning such as in the Doctor's dilemma item number 6: "*What is the value of death prior to society's perspective on personal values*"). Second, one participant failed the consistency check (i.e., consistently choosing a ranking order that was not in line with the ratings given across two or all three stories). In line with recommendations from Rest (1990), we excluded this participant from further analyses. In addition to these criteria, we also scanned the data for outliers. There were no outliers in this study.

Results

Table 12 presents the means, standard deviations, and correlations among the variables included in this study. This table shows that none of the variables included were significantly related to either the P-score or the condition variable. We therefore excluded these variables from subsequent analyses.

Table 12

Means, standard deviations, and correlations among all variables, Study 1

Variable	*Mean*	*SD*	1	2	3	4	5	6	7
1. P-score	34.20	11.75	-						
2. Condition [a]	.50	.50	-.36**	-					
3. Age	19.39	1.74	.02	.00	-				
4. Gender [b]	1.49	.50	-.09	-.06	-.19*	-			
5. Education [c]	1.10	.36	.05	-.11	.46**	.00**	-		
6. Work [d]	.37	.48	-.03	.06	.25**	-.08	.13	-	
7. Work hours	10.16	5.08	.18	-.23	.10	.15	.13	-	-

Note. $N = 100$. [a] Coded as 0 = Low structural power position, 1 = High structural power position; [b] Coded as 1 = Male, 2 = Female; [c] Coded as 1 = High-school degree, 2 = Bachelor degree, 3 = Other. [d] Coded as 1 = Working, 0 = Not working.
* $p < .05$, ** $p < .01$.

Manipulation checks. A one-way ANOVA on the manipulation check scale revealed that participants assigned to the high power position reported feeling more powerful ($M = 5.92$, $SD = 1.01$) compared to those assigned to the low power position ($M = 2.42$, $SD = 1.17$), F (1, 98) = 253.21, $p < .001$, $\eta^2 = .72$. Hence, the power manipulation procedure was successful.

Hypothesis test. A one-factor ANOVA (Power*:* High vs. Low) revealed a significant main effect on the P-score[22] (F [1, 98] = 15.04, $p < .001$, $\eta^2 = .13$). Participants who were placed in the high power position had a lower P-score ($M = 29.93$, $SD = 11.43$) compared to those who were placed in the low power position ($M = 38.46$, $SD = 10.54$).

Overall, this study provides initial evidence to support our hypothesis that the experience of high, as opposed to low, power decreases individuals' moral reasoning.

[22] We also computed the N2 score, which represents the relative importance that participants give to the items representing the post-conventional moral reasoning level (i.e., Stage 5 and 6) in comparison to items that reflect the pre-conventional moral reasoning level (i.e., Stage 2 and 3; see Rest et al., 1997 for a detailed description of the scoring). A one-factor ANOVA (Structural Power*:* High vs. Low) revealed a significant main effect on the N2 score (F [1, 98] = 14.54, $p < .001$, $\eta^2 = .12$). Participants who were placed in the high structural power position had a lower N2 score ($M = 7.61$, $SD = 11.76$) compared to those who were placed in the low structural power position ($M = 16.36$, $SD = 11.17$).

STUDY 2

We designed Study 2 for two reasons. First, we aimed to address an inherent limitation associated with structural manipulations of power. In particular, it has been argued that structural positions are often associated with other variables aside from power, such as status (Blader & Chen, 2014). Such variables might have different psychological effects compared to those of power (Blader & Chen, 2012; Blader, Shirako, & Chen, in press; Overbeck & Park, 2001). In Study 2, we therefore use a well-known and widely validated recall procedure to capture individuals' experience of power. Second, we aimed to increase the generalizability of our results by using a different set of moral dilemmas from Rest's (1990) instrument than the one we used in Study 1.

Method

Participants and design. Ninety-four undergraduate business students from a medium-sized European university participated in return for course credits. They were randomly assigned to one of two conditions of a two-level design (power: high vs. low). Based on criteria explained below, we included seventy-eight participants in subsequent data analyses (84%). Sixty percent of participants were male; the average age was 19.03 (SD = 1.51) years. Thirty-four percent indicated currently having a job, working on average 10.93 (SD = 6.44) hours per week. Eighty-five percent of participants had a high-school diploma, 12% had a bachelor diploma, and 4% indicated having finished another type of education (i.e., passed the first year exam for the bachelor studies).

Procedure. The experiment was conducted in the lab. We informed participants that they would take part in two separate studies. We introduced the first one as a study about individuals' feelings when recalling a past experience. In reality, this study contained the power recall procedure developed by Galinsky and colleagues (2003). Participants in the *high-power* condition received the following instructions:

"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 that they wanted, or were in a position to evaluate those individuals."

Participants in the *low-power* condition received the following instructions:

"Please recall a particular incident in which someone else had power over you. By power, we mean a situation in which someone had control over your ability to get something you wanted, or was in a position to evaluate."

Following the writing task, the first study ended with four manipulation check questions. Next, we thanked and directed participants to the second study

that was used to measure their moral reasoning level. We followed a similar procedure to measure moral reasoning as in Study 1 but this time using a subset of the other three moral dilemmas from the DIT measure (Rest, 1990), namely: (1) Heinz and the drug (i.e., whether or not Heinz should steal a drug from its inventor to save his dying wife), (2) The escaped prisoner (i.e., whether or not an escaped prisoner should be reported to the authorities given that he has been living an exemplary life since his escape), and (3) The newspaper (i.e., whether or not a high school principal should stop a student newspaper because it stirs controversy in the community).

Manipulation checks. In line with previous work (Anderson & Galinsky, 2006; Fisher, Fisher, Englich, Aydin, & Frey, 2011; Weick & Guinote, 2008), we checked the effectiveness of our power manipulation with four items. Participants indicated on a 7-point scale (1 = *strongly disagree;* 7 = *strongly agree*) the extent to which they felt they (1) had power over others, (2) affected others' outcomes, (3) had authority over others, and (4) had the ability to dominate in the situation described. We combined these items into a reliable scale (Cronbach's α = .90).

Dependent variable. Similar to Study 1, we measured moral reasoning with the short form of the DIT, but as described above, using the other three moral dilemmas. Nonetheless, the same scoring applies to these dilemmas as to the ones included and explained in Study 1. We also used the same criteria as in Study 1 to check the reliability and consistency of the moral reasoning measure. Nine participants failed the reliability check and six participants failed the consistency check (i.e., consistently choosing a ranking order that was not in line with the ratings given across two or all three stories). Similar to Study 1, we also scanned the data for outliers. One participant had a value for the moral reasoning measure of 73.33, which is approximately 3.37 *SDs* above the mean of 29.79 (*SD* = 12.92). Therefore, we also excluded this participant from further analyses.

Results

Table 13 presents the means, standard deviations, and correlations among the variables included in this study. This table shows that participants who indicated having a job tended to have a lower P-score compared to those who indicated not having a job (r = -.25, p = .03)[23].

Manipulation checks. A one-way ANOVA on the manipulation check scale revealed that participants in the high-power condition reported feeling

[23] We conducted the main analyses while controlling for work and obtained results similar to those in the main text.

more powerful (M = 5.44, SD = .93) compared to those in the low-power condition (M = 2.47, SD = 1.04), F (1, 76) = 175.95, p < .001, η^2 = .69. Hence, the power manipulation was successful.

Hypothesis tests. A one-factor ANOVA (Power*:* High vs. Low) revealed a significant main effect on the P-score[24] (F [1, 76] = 4.25, p = .04, η^2 = .05). Participants in the high-power condition had a lower P-score (M = 27.19, SD = 14.97) compared to those in the low-power condition (M = 33.52, SD = 11.12).

Overall, this study provides further evidence to support our hypothesis that high, as opposed to low, power decreases individuals' moral reasoning.

Table 13

Means, standard deviations, and correlations among all variables, Study 2

Variable	*Mean*	*SD*	1	2	3	4	5	6	7
1. P-score	29.95	13.72	-						
2. Condition [a]	.56	.49	-.23*	-					
3. Age	19.03	1.51	-.02	-.19	-				
4. Gender [b]	1.60	.49	-.09	-.18	.01	-			
5. Education [c]	1.19	.48	.10	-.02	.18	-.32**	-		
6. Work [d]	.31	.46	-.25*	-.03	.24*	-.11	.09	-	
7. Work hours	11.80	7.07	.09	-.34	.18	.09	-.17	-	-

Note. N = 78. [a] Coded as 0 = Low-power condition, 1 = High-power condition; [b] Coded as 1 = Male, 2 = Female; [c] Coded as 1 = High-school degree, 2 = Bachelor degree, 3 = Other. [d] Coded as 1 = Working, 0 = Not working.
* p < .05, ** p < .01.

STUDY 3

We conducted Study 3 for two reasons. First, in line with recommendations stressing the value of replications (see Lishner, 2015, for a recent account), we aimed to replicate the results in order to increase the robustness of the conclusions that can be drawn from Study 2. Second, we added a control condition that allowed us to examine whether high power diminishes one's level of moral reasoning or whether low power augments one's level of moral reasoning.

Method

Participants and design. One hundred and forty-eight undergraduate business students were randomly assigned to three conditions (power: high vs.

[24] A one-factor ANOVA (Power*:* High vs. Low) revealed a marginally significant main effect on the N2 score (F [1, 76] = 3.24, p = .07, η^2 = .04). Participants in the high-power condition had a lower N2 score (M = 8.19, SD = 15.78) compared to those in the low-power condition (M = 14.03, SD = 11.79).

low vs. control). Based on criteria explained below, we excluded 39 participants (26%) from data analyses, leaving us with a final *N* of 109 (44% male) with an average age of 21.28 (*SD* = 2.56) years. Forty-five percent of these participants had a high-school diploma, 40.4% had a bachelor diploma, 9.2% had a master diploma, and 5.5% indicated having finished another type of education (e.g., passed the first year exam for the bachelor studies). Of these participants, 69.7% participated in exchange for five Euros and 30.3% participated in exchange for one course credit. Due to an error, we did not record work experience in this study.

Procedure. The experiment was conducted in the lab. We followed a similar procedure as in Study 2 with two exceptions. First, in line with previous studies in the power literature, we included a control condition. Specifically, the instructions in this condition read as follows:

"Please recall what you did yesterday. Describe your experience – what you did, how you felt, and so on."

Second, we measured moral reasoning with the same three moral dilemmas that we used in Study 1.

Manipulation checks. We used the same four items as in Study 2 to check the effectiveness of the power manipulation procedure (Cronbach's α = .89).

Dependent variable. We measured moral reasoning with the short form of the DIT, but as described above, using the three moral dilemmas from Study 1 and applied the same procedure when computing the P-score. We used the same criteria as in Study 1 and 2 to check the reliability and consistency of the moral reasoning measure. Twenty-nine participants failed the reliability check and nine failed the consistency check. We also checked the data for outliers. We excluded one student for whom the score for the moral reasoning measure was 83.33, which was approximately 3.19 *SDs* (14.59) away from the mean (*M* = 36.77).

Results

Table 14 presents the means, standard deviations, and correlations among the variables included in this study. This table shows that none of the variables included were significantly related to either the P-score or the condition variable. As in Study 1 and 2, we therefore excluded these variables from subsequent analyses.

Manipulation checks. A one-way ANOVA on the manipulation check scale revealed that there were significant differences in how powerful individuals felt across the power conditions ($F[2,106] = 57.06$, $p < .001$, $\eta^2 = .51$). Post-hoc tests using Tukey's HSD revealed that participants in the high-power condition felt more powerful (*M* = 5.50, *SD* = 1.06) compared to those in the low-

power condition (M = 2.43, SD = 1.07), t(106) = 10.30, p <. 001, η^2 = .50, and also compared to those in the control condition (M = 3.35, SD = 1.58), t(106) = 7.79, p < .001, η^2 = .36. Additionally, participants in the low-power condition felt less powerful compared to those in the control condition, t(106) = -2.86, p < .01, η^2 = -.07.

Hypothesis tests. A one-factor ANOVA (Power: High vs. Low vs. Control) revealed that Power had a significant effect on the P-score[25] (F [2, 106] = 3.49, p = .03, η^2 = .06). Planned pairwise comparisons showed that participants in the high-power condition (M = 30.19, SD = 12.00) had a lower P-score compared to those in the low-power condition (M = 38.76, SD = 15.76), t(106) = -2.58, p = .01, η^2 = .05, and also compared to those in the control condition (M = 37.41, SD = 15.75), t(106) = -2.18, p = .03, η^2 = .04. P-scores did not differ between the control condition and the low-power condition, t(106) = .37, p = .70, η^2 = .00.

Table 14

Means, standard deviations, and correlations among all variables, Study 3

Variable	*Mean*	*SD*	1	2	3	4	5	6
1. P-score	35.59	14.85	-					
2. Condition [a]	1.94	.82	-.19*	-				
3. Age	21.28	2.56	.18	.00	-			
4. Gender [b]	1.56	.49	-.03	.14	.06	-		
5. Education [c]	1.81	1.00	.00	.14	.30**	.18	-	
6. Study motivation [d]	1.30	.46	-.13	-.15	-.41**	-.18	-.25**	-

Note. N = 109. [a] Coded as 1 = Control condition, 2 = Low-power condition, 3 = High-power condition; [b] Coded as 1 = Male, 2 = Female. [c] Coded as 1 = High-school degree, 2 = Bachelor degree, 3 = Master degree, and 4 = Other; [d] Coded as 1 = Money, 2 = Credits.
* p < .05, ** p < .01.

Overall, this study provides further evidence that having high power decreases individuals' level of moral reasoning[26].

[25] A one-factor ANOVA (Power: High vs. Low vs. Control) revealed that Power had a significant effect on the N2 score (F [2, 106] = 3.11, p = .04, η^2 = .05). Planned pairwise comparisons showed that participants in the high-power condition (M = 14.43, SD = 12.83) had a lowered N2 score compared to those in the low-power condition (M = 23.05, SD = 15.98), t(106) = -2.31, p = .02, η^2 = .04 and compared to those in the control condition (M = 21.72, SD = 17.04), t(106) = -2.01, p = .04, η^2 = .03. N2 scores did not differ between the control condition and the low-power condition, t(106) = .37, p = .71, η^2 = .00.

[26] To examine the robustness of our results in terms of high power versus low power from Studies 1-3, we conducted a meta-analysis (random effects model) in which we included the outliers from Study 2 and 3 (total N = 248). We used the Meta-Essentials tool (Rhee, Suurmond, Hak, 2015) to computed Hedges's g, which is a standardized mean difference effect size that corrects for bias that is particularly likely in small sample sizes (Hedges, 1981). Results indicated that power has a

STUDY 4

In Study 1 we found that placing individuals in a high (as opposed to low) structural power position regresses their moral reasoning level. Furthermore, in Study 2 and 3 we found that participants who recalled an experience of high power (as opposed to low power or a control condition) had a lower (thus less advanced) level of moral reasoning. In Study 4 we wanted to examine whether high power would always have such effects. In particular, as noted, in organizational settings in particular, the experience of high power is more likely to instigate a sense of responsibility (Tost, 2015). In line with this argument, in Study 4 we zoomed-in high power role and induced two different framings of power (i.e., opportunity vs. responsibility) via a mindset priming procedure developed by Sassenberg et al. (2012). Making such a difference is imperative because it is likely to affect how individuals think about moral issues. That is, when individuals experience their power as responsibility, rather than as opportunity, maintaining the status quo and thus their position of power becomes less attractive. As a result, their judgment of what is right or wrong is less likely to be driven by the rules and laws set by one's immediate social circle or the broader society. We therefore expect that individuals in the responsibility condition will display higher levels of moral reasoning compared to those in the opportunity condition. We also included a control condition[27]. This allows testing whether a responsibility frame heightens moral reasoning levels, or whether an opportunity frame lowers moral reasoning levels.

Method

Participants and design. One hundred undergraduate business students participated in return for course credits. We randomly assigned them to one condition in a three-level design (power construal: opportunity vs. responsibility vs. control condition). Based on the same criteria that we applied in Studies 1-3, we removed 19 participants leaving us with a total *N* of 82 (82%) (see dependent variable for details). Fifty-two percent of these participants were male; the average age was 19.32 (*SD* = 1.40) years. Of these participants, 53.7% indicated currently having a job, working on average 11.37 (*SD* = 6.03) hours

medium effect (Cohen, 1988) on moral reasoning (Hedges's g = .60, SE = .12, CI: [0.08-1.12]). The effect size was also homogenous (I^2 = 0.00%), indicating that these three studies can be considered as studies of the same population.

[27] Data on the control condition were collected about four months later than the data collected for the other two conditions. Nevertheless, participants were drawn from the same participant pool of undergraduate business students who participated for the same reason – course credits. We ensured that pool members who had participated in this study in one of the other two conditions could not participate in the control condition.

per week. In terms of education, 94% had a high-school diploma as the highest completed education and 6% had a bachelor diploma.

Procedure. The study was conducted in the lab. Similar to Study 2 and 3, we told participants that they would take part in two separate studies. We introduced the first one as a study that looks at people's opinion about sports and athletes. This contained an adapted version of the manipulation of the construal of power as developed by Sassenberg and colleagues (2012). Specifically, we told participants to imagine that they were part of an organizational committee for a large sports event such as the Olympic Games and had the occasion to lead and make essential decisions for such an event. Thus, we requested all participants to imagine that they were in a high power role. In this role, we asked participants to judge twelve measures such as "*To enable an exact comparison of the sportive achievements, great sums should be invested in the newest measurement technologies*". In the *power as opportunity* condition, we asked them to judge the extent to which such measures would contribute to the success of the event. In the *power as responsibility* condition, we asked them to judge the extent to which such measures would be an ethically responsible action to undertake for the event. In the *control* condition, we asked them to judge the extent to which such measures were interesting. Each measure was judged on a 7-point scale from 1 (*not at all*) to 7 (*very much so*).

After rating the measures, participants were directed to the second study. This contained the moral reasoning measure for which we followed the procedure described in Study 2.

Dependent variable. We measured moral reasoning with the same three moral dilemmas that we used in Study 1 and applied the same procedure when computing the P-score.

We used the same criteria as in Studies 1-3 to check the reliability and consistency of the moral reasoning measure. Eleven participants failed the reliability check and nine failed the consistency check. We excluded these participants from the analyses. There were no outliers in this study.

Results

Table 15 presents the means, standard deviations, and correlations among the variables included in this study. Results from this table show that age was positively and significantly related to the P-score (r = .27, p = .01) indicating that older participants tended to have a higher P-score compared to younger participants[28].

[28] We conducted the main analyses while controlling for age and obtained results similar to those in the main text.

Table 15

Means, standard deviations, and correlations among all variables, Study 4

Variable	*Mean*	*SD*	1	2	3	4	5	6	7
1. P-score	30.28	13.76	-						
2. Condition [a]	.00	.81	-.30**	-					
3. Age	19.32	1.40	.27*	-.36**	-				
4. Gender [b]	1.48	.50	-06	-.21	-.11	-			
5. Education [c]	1.06	.24	-.21	-.12	.34**	.06	-		
6. Work [d]	.54	6.03	-.05	-.09	.26*	-.00	.23*	-	
7. Work hours	11.37	6.03	-.19	-.18	.22	.05	.18	-	-

Note. $N = 82$. [a] Coded as -1 = Control condition, 0= Power as responsibility condition, 1 = Power as opportunity condition; [b] Coded as 1 = Male, 2 = Female. [c] Coded as 1 = High-school degree, 2 = Bachelor degree. [d] Coded as 1 = Working, 0 = Not working.

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

Hypothesis test. A one-factor ANOVA (Power: Opportunity vs. Responsibility vs. Control) revealed that Power had a significant effect on the P-score[29] ($F[2, 78] = 5.12$, $p < .01$, $\eta^2 = .11$). Planned pairwise comparisons showed that participants in the power as opportunity condition ($M = 23.70$, $SD = 11.22$) had a lower P-score compared to those in the power as responsibility condition ($M = 32.97$, $SD = 12.21$), $t(78) = -2.62$, $p = .01$, $\eta^2 = .08$, and compared to those in the control condition ($M = 34.07$, $SD = 15.53$), $t(78) = -2.90$, $p < .01$, $\eta^2 = .08$. P-scores did not differ between the control condition and the power as responsibility condition $t(78) = .31$, $p = .75$, $\eta^2 = .00$.

Overall, this study showed that framing high power as opportunity results in lower levels of moral reasoning, compared to framing it as responsibility and compared to a control condition.

GENERAL DISCUSSION

We hypothesized that high power (as opposed to low power or a control condition) decreases moral reasoning. We further hypothesized that this negative effect of high power is more likely to emerge when it is construed as

[29] A one-factor ANOVA (Power: Opportunity vs. Responsibility vs. Control) revealed that Power had a significant effect on the N2 score ($F[2, 78] = 5.30$, $p < .01$, $\eta^2 = .11$). Planned pairwise comparisons showed that participants in the power as opportunity condition ($M = 5.61$, $SD = 10.73$) had a lower N2 score compared to those in the power as responsibility condition ($M = 14.76$, $SD = 12.68$), $t(78) = -2.54$, $p = .01$, $\eta^2 = .07$ and compared to those in the control condition ($M = 16.64$, $SD = 16.06$), $t(78) = -3.04$, $p < .01$, $\eta^2 = .10$. N2 scores did not differ between the control condition and the power as responsibility condition, $t(78) = .52$, $p = .60$, $\eta^2 = .00$.

providing opportunities for goal attainment (as opposed to being construed as coming with responsibility for one's actions and a control condition). Results from four laboratory studies using different manipulations of power provide support for our predictions. Specifically, we found that participants who were placed in a high power position had a less advanced level of moral reasoning compared to those who were placed in a low power position (Study 1). Similarly, we found that participants who recalled a high-power role had a less advanced level of moral reasoning compared to those who recalled a low-power role (Study 2-3) and to those in a control condition (Study 3). Finally, the level of moral reasoning was lower for participants who were primed with the notion of power as opportunity compared to those who were primed with the notion of power as responsibility or to those who were in a control condition (Study 4). Below we discuss the implications and limitations of our research.

Theoretical Implications

The present research provides a number of theoretical contributions. First, our results illustrate the relevance of studying moral reasoning in leadership contexts by providing initial experimental evidence that the experience of high power lowers one's moral reasoning level. The importance of understanding the effects of such antecedents on moral reasoning is embedded in the conceptualization of leadership as influence (Yukl & Falbe, 1990; Yukl, 2002, 2008). Scholars increasingly emphasize the important of ethical leadership (Brown et al., 2005; Kalshoven et al., 2011; Riggio et al., 2010; Yukl et al., 2011). Prior work has introduced the relevance moral reasoning to the study of leadership by showing that leaders can influence their followers' moral reasoning (Jordan et al., 2013; Schminke, Ambrose, & Neubaum, 2005). The present research shows that the power that leaders have also shape their own level of moral reasoning.

Second, our results have implications for our understanding of how power affects morality. Much of the existing research explains power's effects on unethical behavior via the unconscious effects of power on individuals' inner feelings and motivations (Sassenberg et al., 2014). By linking power to moral reasoning, our work, however, suggests that we could enlarge our understanding of the effects of power on unethical behavior by also focusing on the effects of power on conscious and intentional processes. In this sense, the power literature links well with the current wave of research in moral psychology that emphasizes the central role that affect and intuition play in moral judgment (Greene & Haidt, 2002; Haidt, 2001). Interestingly, at the basis of this research rests the idea that individuals' moral judgment is driven by their motivation to find evidence that supports their initial moral intuitions or moral

emotions, an argument rooted in the motivated cognition literature (Kunda, 1990). Integrating the knowledge that individuals are 'cognitive misers' or 'motivated tacticians' (Fiske & Taylor, 1991) with research on power, our results indicate that the influence of power on moral psychological processes is not limited to affect and intuition but expands further on to conscious cognitive processes.

Third, our work further contributes to the power and leadership literatures by distinguishing two of the most common underlying construals of high power, that is, opportunity and responsibility. Specifically, we showed that even among participants who were placed in a high power position, moral reasoning was not necessarily lowered. Only when high power was construed as opportunity did it lead to lowered levels of moral reasoning. When power was construed as responsibility, moral reasoning was as high as in the control condition. This shows that it is not only the experience of power by itself that is relevant to moral reasoning, but also how individuals construe having high power. Aside from shedding a positive light on the effects of power, our work also draws scholars' attention to the often-overlooked element of responsibility that underlies the experience of high power, particularly within an organizational context (cf. Tost, 2015).

Fourth, the present paper contributes to the large body of work on moral reasoning. For decades, scholars studied moral reasoning as a type of cognitive process that, over relatively long periods of time, may progress to higher (i.e., more complex) levels (Kolhberg, 1969; O'Fallen & Butterfield, 2005; Treviño et al., 2006). In the present paper, we showed that high (vs. low) power lowers one's moral reasoning level. By acknowledging that short-term contextual factors can influence moral reasoning, a deliberative cognitive process, our work identifies an important caveat for the moral development theory. Specifically, our research contests the stable nature of moral reasoning and draws researchers' attention to the necessity to move away from further studying the effects of long-term contextual factors to focusing on how other short-term contextual factors might impact moral reasoning.

Practical Implications

Power differences are an important reality of organizational life. It is particularly leaders in high power positions that set the tone in the organization and emerge as influential ethical role models for those in lower power positions (Treviño, 1986; Brown et al., 2005; Brown & Treviño, 2006). Equally important is that leaders' cognitive moral development has a significant impact not only on the organizations' ethical climate (Logsdon & Corzine, 1999; Sims & Brinkman, 2002; Treviño, Hartman, & Brown, 2000) but also on followers'

cognitive moral development and perceptions of ethical leadership (Jordan et al., 2013; Schminke et al., 2005). The present research showed that even a subtle change in how individuals think about the power they have can influence the way they judge what is a morally right or wrong action to pursue. In particular, our work showed that participants who were subtly primed to frame their power as having responsibility for their actions had a higher level of moral reasoning compared to those who were subtly primed to frame their power as having opportunities to produce desired effects. We therefore recommend that organizations stress, particularly to leaders and organizational members who aspire to hold formal leadership positions that their power comes first and foremost with responsibility for their actions.

Another practical implication that stems from our results pertains to ethical training programs and, in particular to executive leader ethics programs. By and large, organizations have focused on developing and delivering rigorous cognitive moral development-based programs that often span across 4 to 12 weeks and require the help of trained facilitators (Rest & Thoma, 1986; Wells & Schminke, 2001). This is not surprising given that moral reasoning has been described and studied as a relatively stable cognitive process that should be immune to the immediate influence of short-term contextual factors (Kolhberg, 1969; O'Fallen & Butterfield, 2005; Treviño et al., 2006). Nevertheless, in light of our findings, focusing exclusively on long-term training might not be sufficient to influence organizational leaders' moral reasoning. We therefore recommend that organizations consider developing and introducing interventions that target these short-term influences. For example, organizations could implement labels on which one's function is framed primarily in terms of the underlying responsibilities. In addition to such measures, organizations could seek to select individuals for leadership positions based on how they tend to frame the power that they would be given. In fact, recently, Scheepers, Ellemers, and Sassenberg (2013) developed an instrument that captures the meaning of power in terms of opportunity versus responsibility. Organizations could therefore integrate such a questionnaire in their selection processes, particularly those for high power leadership positions.

Limitations and Future Research

Like all research, our studies are not without limitations. One potential limitation that should be discussed is that all four studies were conducted in a controlled laboratory setting among students. This potentially limits the generalizability of our findings to actual leadership settings. However, in defense of our approach, student samples are appropriate and frequently employed in organizational and leadership research (cf. Shen, Kiger, Davies,

Rasch, Simion, & Ones, 2011) particularly when one's goal is to examine basic psychological processes and test causal theoretical relations (Dobbins, Lane, & Steiner, 1988), as was the case in the current research. More specific to the present research, past studies found no difference in moral reasoning levels when comparing a sample of managers with a sample of students (Wimalasiri, Pavri, & Jalil, 1996; Wimalasiri, 2001; see also Dipboye, 1990; Wofford, 1999 for evidence that students do not necessarily behave differently from other populations). While leadership scholars recommend making more extensive use of laboratory research designs within the leadership literature (cf. Garner, Lowe, Moss, Mahoney, & Cogliser, 2010), future research could expand our work and test our hypotheses in applied settings, thus addressing the lack of external validity inherent in laboratory studies.

CONCLUSION

By integrating insights from motivated cognition with those from research on power, our work showed that high power (as opposed to low power or a neutral control condition) lowered individuals' moral reasoning level. However, this effect was more likely to emerge when high power was construed as a notion of opportunity rather than as a notion of responsibility. Overall, our work unveiled not only how fragile moral reasoning abilities can be, but also emphasized the potential benefits of framing high power as having responsibility for ones' actions rather than framing it as providing opportunities for goal attainment.

CHAPTER 5

Wrapping up this journey

"We should make things as simple as possible but not one bit simpler"
– Albert Einstein

Each of the three empirical papers presented in this dissertation began with the goal of answering a simple and straightforward research question. Yet, with each paper, the reality grew different, owning in great part to my diverse research interests but also to the undeniable reality that both behavior and the underlying cognitive processes are dynamic and complex. Discarding such complexity as measurement error and adopting between-individual designs has been, for the most part, the dominant perspective in, for instance, organizational research (Dalal et al., 2014). Notwithstanding the unique insights that emerged (and will continue to emerge) from taking such a perspective, it has nevertheless simplified the research questions that we ask, the theoretical frameworks that we develop, the necessary statistical analyses that we undertake, and the answers that we provide to practitioners. Furthermore, it has not allowed us to capture fluctuations in behavior as they occur within each individual, in real time, or within context. This is simply because between-individual designs were not meant to achieve this.

In this dissertation, I switched from simple and static questions to dynamic ones in relation to both behavior and cognitive processes. Albeit the fact that each chapter has its unique focus, there is one core element that unites them: *variability*. The beauty of variability lies in the realization that it is a multifaceted concept that provides the possibility to answer diverse questions in relation to different constructs and across a variety of contexts. With this in mind, I now turn to briefly outline the main empirical findings that emerged from the research undertaken in this dissertation. As I did in the first chapter, I will use "we" rather than "I" when presenting these three empirical chapters in order to reflect the contribution of my co-authors.

Overview of Empirical Findings and Contributions

In Chapter 2 we explored how a meso-level factor, structural power, influences a micro-level factor, individual time-appropriate decision-making. Across two experience-sampling (ESM) studies and a laboratory experiment we consistently, yet unexpectedly, found that structural power facilitates slow but not fast decision-making in line with the velocity of the situation. The reason for this was that organizational members with high structural power experienced high rather than low daily subjective power. The organizational context and, in

particular, the organizational structure, is a crucial factor in shaping organizational decision-making. This statement was made more than five decades ago. It formed one of the main pillars of the Carnegie School and the start of a new era in the study of organizations. Yet, five decades later and it is still largely unclear how exactly does the organizational structure influence individual decision-making. To that end, the main contributions of this chapter lie in the domains of organizational theory and organizational behavior. Specifically, it not only brings back scholars' attention to the influence of structural factors on essential individual behaviors in organizations, such as decision-making, but also explicitly examines how such an influence unfolds.

Apart from the above, the findings presented in Chapter 2 have important implications for the literatures on power and decision-making. In particular, by using ESM, our work heeds the call for new methods to study the effects of power within organizations. To that end, it also represents the first externally valid test of the situated focus theory of power. In finding only partial support for this theory, our results call into question the extent to which this theory accurately portrays the actual day-to-day organizational life. In terms of decision-making, our work represents a step forward in clarifying, theoretically and empirically, the concept of time appropriateness - a concept that has been argued to be of great value to organizational managers, but that has received little attention in the literature.

Overall, the work from Chapter 2 suggests that we can gain a deeper and, perhaps more accurate, understanding of how power affects organizational members' behavior if we are to zoom-in on what these members do and how they feel on a daily basis. ESM designs make it possible to examine such variability within individuals and within specific contexts, such as the work context, as a function of stable structural and individual characteristics.

In Chapter 3, we explored how the enactment of counterproductive work behavior (CWB) unfolds in time. Combining a within-individual approach with a self-regulation perspective, we suggested that CWB is addictive. An ESM study conducted among organizational members from various organizations and across 10 consecutive working days provided support for our claim. In particular, we found that enactment of CWB one day promotes enactment of CWB the following day. This was particularly true for employees who experienced low sleep quality during the night connecting the two days and who scored low on moral identity. This chapter builds upon and extends the work presented in Chapter 2 by providing further evidence for the value of adopting a within-individual approach to study behavior in organizations. The bulk of research to date on antecedents of CWB has been conducted at the between-individual level where antecedents are identified for employees' average levels

of CWB at one single point in time (Robinson & Greenberg, 1998). However, this approach is limited from a theoretical as well as a practical point of view. Theoretically, this approach fails to capture the dynamic and temporal nature of behavior. Practically, the recently unveiled substantial within-individual variability in CWB (Dalal et al., 2009; Judge et al., 2006; Matta et al., 2014) indicates that organizations selecting prospective employees or letting existing ones go on account of being predisposed to engage in such behaviors greatly limits the extent to which organizations can control the display of CWB. Neither employees nor their behaviors are in an absolute sense "bad"; instead the same employee engages in more, or less, bad behaviors on different occasions compared to their usual average display of such behaviors.

The main contribution of this chapter lies in the domain of unethical behavior by introducing a novel perspective to the study of CWB. Specifically, the work presented in this chapter suggests that we could advance the literature on antecedents of CWB at the within-individual level by examining factors that facilitate the temporal unfolding of CWB. Existing work on this topic incorporated temporality only to the extent of looking at what triggers the enactment of CWB within the same day. It did not address how the enactment of CWB unfolds in time. Our knowledge of whether displaying CWB at some point in time makes it more (or less) likely that CWB is displayed on a subsequent moment in time is virtually nonexistent. However, knowing when and for how long things happen (Dalal et al., 2014; Mitchell & James, 2001; Shipp & Cole, 2015; Roe, 2008) is important if we wish to gain a deeper understanding of the processes that underlie the emergence of CWB. Time is embedded in any human experience and a full account of why employees engage in CWB is arguably not possible without addressing the temporal context in which such behaviors emerge (Cole et al., 2015).

Furthermore, by integrating insights from various theoretical domains, the implications of this chapter extend beyond the literature on unethical behavior and into the domains of self-regulation. Most work on impaired sleep has been conducted at the between-individual level and focused on sleep quantity. Yet, as Barnes and colleagues (2015) pointed out, it was sleep quality rather than sleep quantity that predicted impaired daily self-regulation. In focusing on the effects of daily sleep quality we not only heed calls for further research on such effects, but also expand past work. In particular, we broaden previous perspectives on self-regulation by examining sleep quality not as a main driver of self-regulation failure but as a facilitator of its re-occurrence in the form of CWB. Finally, by focusing on moral identity, our work integrates two levels of analysis in the CWB literature. It also draws scholars' attention to the importance of

individual's motivation in understanding within-individual variability in behavior (Dalal et al., 2014).

At the broadest level, the work presented in this chapter suggests that we can learn more about behavioral self-regulation if we consider the underlying self-regulatory mechanisms that drive it. As our findings suggest, such mechanisms are likely to be influenced by both self-regulation factors that are relatively stable across time, such as moral identity, and self-regulation factors that can vary from one day to another, such as sleep quality. Moreover, by examining the interaction between daily ability and long-term motivation, two underlying components of self-regulation, our work is instrumental in closing the gap between our current understanding of how different self-regulation components operate in isolation and the actual complex and dynamic nature of behavioral self-regulation.

In Chapter 4, we simplified our quest and explored whether a stable cognitive process that has been said to drive unethical behavior is liable to short-term influences. In particular, we focused on a process that is thought to progress, over relatively long periods of time, to more complex and abstract levels of cognitive moral development: moral reasoning (Kolhberg, 1969). Combining theorizing on power with that on motivated cognition, we argued that the experience of power, a short-term contextual factor, lowers moral reasoning levels. We further argued that this effect would surface particularly when power is framed as a notion of opportunity rather than as a notion of responsibility. Our findings were in line with our arguments. Across three laboratory studies we discovered that placing individuals in a high (vs. low) power position and recalling a high-power role (vs. a low-power role or a control condition), lowers their moral reasoning level. In a fourth laboratory study, we further discovered that power lowers moral reasoning only when it is construed as opportunity for goal attainment, rather than as responsibility for one's actions.

This chapter's primary contribution pertains to the literature on moral reasoning. Especially surprising about our results is that a stable cognitive process, such as moral reasoning, is liable to short-term influences, and in particular, to the experience as well as the framing of one's power. These results therefore question the stable nature of moral reasoning and suggest that scholars ought to shift from focusing on the effects of long-term contextual factors on moral reasoning to focusing on how short-term contextual factors might shape this cognitive process.

Linking moral reasoning to the experience and construal of power, this chapter further provides valuable insights for the literature on power. In particular, it illustrates that it is not only the experience of power in and by

itself that matters, but also how individuals construe such an experience. To that end, it sheds a positive light on the psychological effects of power. In order to gain a deeper understanding of the effects of power, scholars ought to zoom-in on other underlying dimensions of power in addition to the often looked at aspect of opportunity. Relatedly, our work shows that the influence of power on moral psychological processes is not necessarily limited to affect and intuition (what currently the focus of almost all research in moral psychology is, Haidt, 2007; Haidt & Bjorklund, 2008; Reynolds, 2006), but extends to conscious cognitive processes. Finally, by providing initial experimental evidence that the experience of power, a defining element of most formal leadership roles, lowers moral reasoning, our findings illustrate the relevance of addressing the experience of power within the leadership domain.

In Chapter 4 we took a different methodological and theoretical approach by focusing on a cognitive process and using only experimental designs. Nevertheless, the findings from this chapter add to the previous ones by suggesting that it is not only behavior that is liable to variability across short periods of time, but also allegedly stable cognitive processes.

Practical Implications

In this section, I wish to briefly summarize the main practical implications that each chapter brought to light. The findings from Chapter 2 indicate that managers, and in particular those in a high structural power position (high number of subordinates to oversee), have the ability to slow down when the velocity of the situation indicates that slow action would be effective. This is because a high structural power position enhances their daily subjective experience of power. In light of these findings, organizations ought to empower organizational members on a day-to-day basis in order to facilitate slow decision-making when slow action is effective. This could be achieved by, for instance, short daily practices of empowerment. Furthermore, our results highlight the need for organizational members to consider not only the broader and more stable contextual factors (i.e., industry), but also the micro day-to-day factors (i.e., the characteristics of the surrounding situation) before acting. To that end, organizational programs and/or interventions could be tailored towards training managers and employees to pay more attention to situational cues (such as velocity) and respond accordingly.

The results from Chapter 3 provide organizations with new insights on how to address the fact that every employee may, at some point in time, enact CWB. Particularly worrisome is that our results confirmed our claim that such behaviors are addictive: enacting CWB one day leads to enacting CWB the next day, and this seems to be particularly true for employees who suffer from low

sleep quality and who chronically do not consider morality as central to their self-definition. Focusing on selecting employees or letting existing ones go based on their predisposition to engage in CWB at one point in time and in a particular context is limited. Instead, our results indicate that organizations ought to implement daily methods that are meant to address (1) the detrimental addictive nature of CWB (i.e., by delivering reassurance messages that a one-time display of CWB does not affect their long-term goal of wanting to be a good and moral person) and (2) impaired daily sleep quality (i.e., by allowing employees to take naps at work).

The findings from the final empirical chapter cast a positive light on the experience of power. In particular, we found that even a subtle change in how individuals think about the power they have can influence the way they judge what is a morally right or wrong action to pursue (moral reasoning). Power seems to corrupt the mind particularly when it is framed as a notion of opportunity, as opposed to a notion of responsibility. Organizations might therefore consider stressing, especially to leaders and organizational members who aspire to hold formal leadership positions that their power comes first and foremost with responsibility for their actions. Furthermore, in light of our findings that contest the stable nature of moral reasoning, one-time ethical training programs might not be sufficient to alter how individuals approach moral decisions. Thus, it might be necessary to supplement them with regular interventions such as creating labels that remind organizational members to frame their function primarily in terms of responsibilities.

Sparks for Further Research Inquires

The empirical findings presented in this dissertation and briefly summarized above contribute to various streams of literatures such as moral reasoning, moral psychology, power, individual decision-making, unethical behavior, and self-regulation. The theoretical contributions to these literatures were briefly presented above and at length in the chapter corresponding to each specific empirical paper. In this section I aim to highlight a few potential and interesting lines for future research.

First, as outlined in Chapter 2, decision-making behavior is dynamic and varies across time as a function of the situation (i.e., situational velocity), of the person (i.e., experienced subjective power), and of the broader organizational structure (i.e., structural power). Acknowledging this opens up a rather new and exciting area of research in relation to (decision-making) time. In this dissertation, and in particular in Chapter 2 and 3, I approached the element of time from a more objective (i.e., actual time taken to make a decision) and rather methodological angle (i.e., variations within individuals and across time).

However, time can also be approached from a subjective angle. To that end, we know that decision-making time is a powerful informational cue (Critcher, Inbar, & Pizarro, 2013) that can color perception, behavior, and how interpersonal social relationships develop. Yet, past research informs us that fast decision-making signals either incompetence (Gavin & Roberto, 2001) or certainty (Critcher et al., 2013), whereas slow decision-making signals either doubt (Van De Calseyde, Keren, & Zeelenberg, 2014) or consideration (Willis & Todorov, 2006). It is therefore unclear when and why would either positive or negative perceptions of one's decision-making time emerge. Our lack of understanding this is due, in part, to past research looking at the effects of decision-making time from the decision-maker's point of view. It is further unclear what the downstream consequences of the perceptions of one's decision-making time on organizational members' job attitudes, performance, and interpersonal relationship quality are. In light of nowadays fast-paced and increasingly demanding business environment, addressing such questions has never been more crucial. For the reasons presented in Chapter 2, ESM represents the perfect tool for zooming-in on organizational members' decision-making time and understanding not only what might be the individual-level influences on perceptions of decision-making time, but also what role do stable structural elements unique to each organizational environment play in facilitating or hindering such perceptions.

Second, the results from Chapter 3 indicated that the within-individual variability in unethical behavior unfolds across time as a function of stable individual differences (i.e., moral identity) and malleable self-regulatory abilities (i.e., sleep quality). This opens up new areas of research within the emerging body of work on antecedents of CWB at the within-individual level. To that end, there are a handful of questions that await answers from future research. For instance, how do factors outside the work environment (e.g., stress at home) influence the display and unfolding of both ethical and unethical behavior at work across time and within the same individual? Another natural next question for future research to explore is how do factors inside the work environment (i.e., stress at work) influence the temporal display of both ethical and unethical behavior at home? With the emergence of ESM, it further becomes possible to explore more practical questions. In particular, to what extent would one time-interventions (i.e., a seminar on ethics) or otherwise daily small interventions alter organizational members' behavior? Do such interventions have a lesser or stronger effect on individuals who hold high power positions? In providing an answer to such questions we perhaps come a step closer to solving the ongoing debate of how can organizations tackle employees' unethical behavior and, respectively, foster ethical behavior.

Finally, recognizing that even our stable cognitive processes might be liable to variability signals the necessity to perhaps adopt a within-individual thinking when examining such processes. Furthermore, with this realization, it becomes clear that one-time and intensive ethical interventions and training programs might not be enough to truly train our leaders in dealing with ethical issues (Weaver & Wasieleski, 2013). In a similar vein, recognizing that power is a much more complex element that is contingent upon the underlying organizational structure, the subjective perception of one's experience of power, and on the way individuals frame their experience of power, brings another layer of complexity to research on power both in interpersonal relationships and in an organizational context (cf. Tost, 2015). Such complexity ought to be addressed by future research not only because power is and will most likely continue to remain a defining element of leadership (Magee et al., 2005; Magee & Galinsky, 2008; Williams, 2014), but also because power and ethics are tightly connected. For instance, it is those who are in a position of power that get to set the ethical tone in an organization (Brown & Treviño, 2006; Jordan et al., 2013).

Concluding Thoughts

In line with the quote presented at the beginning of this chapter, we have perhaps over-simplified the questions that we ask and the answers that we provide to practitioners in terms of organizational behavior. That is, a between-individual conceptualization of behavior was and still is, in many ways, necessary because it allows the dissemination of simpler research questions (e.g., why do some employees, compared to others, engage, on average, in more or less unethical behavior?). By extension, theories, research designs, and even statistical analyses are simpler because they involve studying behavior at only one level of analysis. Yet, the reality is that this is an oversimplification of the dynamic and temporal nature of behavior (Beal et al., 2005; Dalal, 2005; Dalal et al, 2014). That is, the same individual may display more or less unethical behavior on different occasions compared to his or her usual average display of such behavior. With saying this, it is not my aim to discard between-individual research, but rather to urge future work to supplement such research with both theoretical and empirical within-individual research in order to understand the true nature of behavior (and of the underlying cognitive processes) in organizations. In the research included in this dissertation I focused on two types of behaviors (decision-making and unethical behavior) that are relevant for the organization as well as on one cognitive process (moral reasoning) that has been said to drive unethical behavior. It is my hope that future research will embrace the view that both behavioral and cognitive processes are dynamic and that our questions and answers ought to reflect this.

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CHAPTER 3

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CHAPTER 5

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Summaries

SUMMARY

Both behavior and cognitive processes are inherently ongoing, dynamic, and time-dependent. They vary not only between individuals as a function of differences in personality and stable contextual characteristics, but also within individuals as a function of one's unique stream of experiences. For instance, the same individual might engage in unethical behavior one day but not the next day or might experience impaired sleep one night but not the next. Understanding the drivers and consequences of individuals' daily experiences and behaviors is, however, as challenging as it is important. This dissertation deals in various ways with *variability*. It is the result of extensive and intensive data collection in the laboratory and in the field, using experimental and experience-sampling designs.

The first empirical chapter examined how and why structural power, a fundamental and stable aspect of the organizational structure, facilitates daily managerial decision-making that is flexibly attuned to the velocity of the situation. We defined this concept as time-appropriate decision-making and derived our theoretical argument from organization theory (i.e., the Carnegie School) and social psychology theory (i.e., the situated focus theory of power). Across two ESM studies and a lab experiment we consistently, yet unexpectedly, found that structural power, via daily subjective power, plays a role in facilitating slow, but not fast, decision-making.

The second empirical chapter explored how counterproductive work behaviors (CWB) unfold across time. Building on control theory and the resource model of self-control, we developed a dynamic self-regulation argument and proposed that the display of CWB resembles addictive behaviors such that enactment of CWB one day promotes enactment of CWB the next day. An ESM study conducted among organizational members provided support for our claim that enacting CWB is addictive. This was particularly true for organizational members whose daily sleep quality was impaired and who scored low on moral identity.

The third empirical chapter zoomed-in on the relationship between power and moral reasoning, a stable cognitive process involved in judging what is a morally "right" or "wrong" action to pursue. Combining theorizing on power with that on motivated cognition, we hypothesized and found, in three experiments, that power (structural and subjective power) lowers moral reasoning. We further hypothesized and found in a fourth experiment that this effect emerged only when power was framed as a notion of opportunity, as opposed to when it was framed as a notion of responsibility, or a control condition. These findings

provide initial experimental evidence that even stable cognitive processes might be affected by short-term contextual factors.

Together, the studies included in this dissertation represent a more in-depth and realistic exploration of the undeniably complex nature of behavior, and, respectively, of the underlying cognitive processes that drive it. It is my hope that future research will embrace this approach to individuals' behavior so that the questions that we ask as researchers and the answers that we provide to practitioners can get a step closer to reality.

SAMENVATTING

Zowel gedrag als cognitieve processen zijn inherent in beweging, dynamisch, en tijdsafhankelijk. Ze variëren niet alleen van persoon tot persoon vanwege verschillen in persoonlijkheid en stabiele omgevingsfactoren, maar ook binnen de persoon als een functie van ieders unieke stroom aan ervaringen. Een individu vertoont bijvoorbeeld de ene dag onethisch gedrag maar een andere dag niet, of ervaart na de ene nacht een slechte nachtrust maar niet na een andere nacht. Het begrijpen van de drijfveren en gevolgen van een individu's dagelijkse ervaringen en gedrag is echter even uitdagend als dat het belangrijk is. Deze thesis behandelt op verschillende manieren het onderwerp van *veranderlijkheid*. Het is het resultaat van uitgebreide en intensieve dataverzameling in het laboratorium en in het veld, waarbij experimentele en "experience-sampling" methodes zijn gebruikt.

De eerste empirische hoofdstuk onderzoekt hoe en waarom structurele macht, een fundamenteel en stabiel aspect van een organisatiestructuur, dagelijkse besluitvorming van managers faciliteert die flexibel afgestemd is op de veranderlijkheid van de situatie. Wij definieerden dit concept als tijds-adequate besluitvorming en ontleenden ons theoretisch argument aan organisatietheorie (bijvoorbeeld de Carnegie School) en sociaal psychologische theorie (bijvoorbeeld "the situated focus theory of power"). In twee ESM studies en een laboratorium experiment vinden we consistent, maar onverwachts, dat structurele macht, via dagelijkse subjectieve macht, een rol speelt in het faciliteren van langzame, maar niet snelle, besluitvorming.

In het tweede empirische hoofdstuk wordt de ontwikkeling van counterproductive work behavior (CWB) in de tijd bestudeerd. Gebruik makend van "control theory" en "the resource model of self-control", formuleerden we een dynamisch zelfregulatie argument en stelden wij voor dat het vertonen van CWB lijkt op verslavingsgedrag aangezien het tonen van CWB op de ene dag CWB op de andere dag bevordert. Een ESM studie ondersteunde deze voorspelling. Dit was vooral het geval voor medewerkers die lage slaapkwaliteit rapporteerden en laag scoorden op morele identiteit.

In het derde empirische hoofdstuk werd de relatie tussen macht en moreel redeneren bestudeerd. Moreel redeneren is een stabiel cognitief proces dat betrokken is bij het besluiten wat moreel "goed" en "fout" gedrag is. Nadat we theorieën over macht en gemotiveerde cognitie hadden gecombineerd, voorspelden en vonden we in drie experimenten dat macht (structurele en subjectieve) leidt tot minder moreel redeneren. Verder voorspelden en vonden we in een vierde experiment dat dit effect alleen optreedt als macht was

beschreven in termen van mogelijkheden, in vergelijking met een beschrijving in termen van verantwoordelijkheden. Deze bevindingen verschaffen experimenteel bewijs dat zelfs cognitieve processen die steeds als stabiel zijn gezien kunnen fluctueren onder invloed van contextuele factoren.

Bij elkaar vormen de studies in deze thesis een meer diepgaande en realistische analyse van de onbetwistbaar complexe aard van gedrag en onderliggende cognitieve processen. Ik hoop dat toekomstig onderzoek deze benaderingswijze van gedrag zal benutten, zodat de vragen die wij stellen als onderzoekers en de antwoorden die wij geven aan de praktijk een stap dichter bij de werkelijkheid zullen komen.

REZUMAT

Atât procesele comportamentale cât şi cele cognitive sunt în mod inerent continue, dinamice, şi depedente de timp. Aceste procese se pot schimba nu doar de la un individ la altul în funcţie de personalitate şi context, cât şi pentru fiecare individ în parte. Spre exemplu, e posibil ca acelaşi individ să se comporte în mod ne-etic într-o zi, dar să se abţină de la acest tip de comportament în următoarea zi. În mod similar, acelaşi individ poate să doarmă neadecvat într-o noapte, dar foarte bine în noaptea următoare. Studierea factorilor de influenţă şi a consecinţelor pe care le au experienţe şi comportamentele noastre cotidiene este nu doar importantă, cât şi complexă. Această teză de doctorat tratează din mai multe perspective conceptul de *schimbare*. Este rezultatul unui proces intensiv şi extensiv de colectare de date în laborator şi în organizaţii, folosind atât metode experimentale cât şi metode care permit studierea comportamentului organizaţional de la o zi la alta, cunoscute sub numele de "experience-sampling" (ESM).

Primul articol descris în această teză de doctorat adresează cum şi de ce puterea hierarhică, un aspect fundamental şi stabil al structurii hierarhice al unei dintr-o companie, facilitează luarea deciziilor zilnice în funcţie de velocitatea situaţiei înconjurătoare. Am definit acest concept ca fiind decizii luate în timp adecvat şi am construit argumentul teoretic combinând cunoştiinţe dintr-o teorie organizaţională (Carnegie School) cu cele dintr-o teorie din psihologia socială ("the situated focus theory of power"). În două studii ESM şi într-un experiment am decoperit, în mod surprinzător însă consecvent, că puterea hierarchică, prin intermediul sentimentului zilnic de putere, joacă un rol important în facilitarea luării deciziilor care necesită timp, însă nu a celor care trebuie luate rapid.

Al doilea articol adresează desfăşurarea temporală a comportamentelor contraproductive la muncă (CWB). Aplicând un argument teoretic dinamic de autoreglare a comportamentului ce combină două teorii de renume, "control theory" şi "the resource model of self-control", am sugerat că CWB este similar comportamentelor care crează dependenţă, astfel încât afişarea de comportament contraproductiv într-o zi facilitează afişarea aceluiaşi tip de comportament în ziua următoare. Într-un studiu ESM am descoperit că CWB poate întradevăr crea dependenţă. Acest lucru este adevarat în special pentru angajaţii al căror somn este de calitate redusă de la o zi la alta şi pentru care moralitatea nu este o parte importantă a identităţii lor.

Al treilea articol adresează relaţia dintre putere şi raţionamentul moral, un proces cognitiv stabil care ajută în raţionalizarea a ceea ce reprezintă un

comportament “corect” sau “greşit”. Combinând două teorii, una care adresează puterea şi una care adresează percepţia motivaţională, am presupus şi descoperit, în trei experimente, că puterea reduce raţionamentul moral. Mai mult, într-un alt experiment am observat că acest efect este predispus să apară în mod special atunci când puterea pe care un individ o are este văzută ca o formă de oportunitate, şi nu ca o formă de responsabilitate. Aceste rezultate oferă primele dovezi experimentale că până şi procesele stabile şi cognitive ar putea fi afectate pe termen scurt de factori contextuali.

In concluzie, aceste studii reprezintă o cercetare mult mai aprofundată şi realistă a complexităţii de necontestat a comportamentului uman şi a proceselor cognitive din spatele acestuia. Sper ca această teză de doctorat să încurajeze şi alţi cercetători să folosească o abordare similară în ceea ce priveşte studierea comportamentului organizaţional, astfel încât întrebările pe care le adresăm ca şi cercetători şi răspunsurile pe care le oferim companiilor să se aproprie şi mai mult de realitate.

LAURA M. GIURGE

Laura Maria Giurge was born in 1988 in Baia Mare, Romania. She joined ERIM and started her Ph.D. at Rotterdam School of Management in 2012. Before that, she obtained two Cum Laude Master of Science Degrees from the University of Groningen, The Netherlands: one in Human Resource Management and one in Economics and Business with a focus on Organizational Behavior. Laura also holds a Bachelor's Degree in Business Administration (language of instruction English) from the Bucharest Academy of Economic Studies, Romania.

Laura's research lies at the intersection of management and social psychology, centering on topics such as time, power, unethical behavior, and decision-making. Part of the research included in her dissertation takes a more in-depth approach to these topics by zooming-in, via the experience-sampling methodology, on individuals' daily experiences and behaviors as they unfold within the natural work environment. She presented her research at various international conferences including the Academy of Management, the Society for Industrial and Organizational Psychology, and the Society for Personality and Social Psychology. Her work has been published in *Human Relations* and *The International Journal of Human Resource Management* (not in this dissertation), as well as being under review at important management and psychology journals.

Aside from research, Laura has a passion for art that she is currently pursuing through painting and photography. A selection of her photography was exhibited at Erasmus University Rotterdam in 2016. Some of her photography is also on permanent display in the Business-Society Management Department, on the 12th floor of the Mandeville Building at Erasmus University Rotterdam. More of her work can be found on her website: www.lauramgiurge.com.

EDUCATION

Research Master in Economics and Business | Specialization: Organizational Behavior
Graduated Cum Laude | 2011 – 2012 | University of Groningen

Master of Science in Human Resource Management
Graduated Cum Laude | 2010 – 2011 | University of Groningen

Exchange semester at The Faculty of Economics & Business
Top 5% | 2009 – 2010 | University of Groningen

Bachelor of Arts in Business Administration | Language of instruction English
Graduated Top 5% | 2007 – 2010 | Bucharest Academy of Economic Studies

PUBLICATIONS

Zheng, X., van Dijke, M., Leunissen, L., **Giurge, L. M.**, & De Cremer, D. 2016. When Saying Sorry May Not Help: Power of the Transgressor Moderates the Effect of An Apology on Forgiveness in the Workplace. *Human Relations*

Selected Media Coverage: *RSM Discovery*, Dutch *National Radio*, *NRC*

Kuipers, B., & **Giurge, L.M.** 2016. Linking to strategy: About the performance contribution of HR roles in public and private organizations. *The International Journal of Human Resource Management*

PROCEEDINGS

Giurge, L.M., van Dijke, M., Zheng, X., & De Cremer, D. 2016. Is Power So Bad? Power Lowers Moral Reasoning Level but Not When Construed As Responsibility. *Academy of Management Proceedings*

Giurge, L.M., van Dijke, M., Zheng, X., & De Cremer, D. 2015. Timeliness: How Span of Control Facilitates Timely Decision-Making. *Academy of Management Proceedings*

SELECTED WORK IN PROGRESS

Giurge, L.M., van Dijke, M., Zheng, X., & De Cremer, D. How structural power facilitates time-appropriate decision-making. Status: Manuscript in preparation for submission to the *Journal of Management*

Giurge, L.M., van Dijke, M., Zheng, X., & De Cremer, D., Is power so bad? Power lowers moral reasoning level but not when construed as responsibility. Status*:* Invited revision at *The Leadership Quarterly*

Giurge, L.M., van Dijke, M., Zheng, X., & De Cremer, D. Addicted to bad behavior? A self-regulation understanding of the interplay among counterproductive work behavior, sleep quality, and moral identity. Status: Under review at the *Journal Of Applied Psychology*

ACHIEVEMENTS & AWARDS

Semi-finalist in an interdisciplinary research platform | 2014
The Falling Walls Lab at the University of Groningen |The Netherlands

Won the 1000 Euro best research master graduate award | 2012
SOM Research Institute Groningen | The Netherlands

Google online marketing challenge | Position 183 out of 3000 teams | 2011

Received the prestigious Huygens scholarship (8% acceptance rate) | 2011
Awarded for exceptional academic & extracurricular activities
The Dutch Ministry of Education, Culture and Science | The Netherlands

Awarded a talent grant scholarship for excellent academic results | 2010
The Faculty of Economics and Business, University of Groningen | The Netherlands

Received an Erasmus scholarship to study abroad at the University of Groningen | 2009
Bucharest Academy of Economic Studies | Romania

SELECTED CONFERENCE PRESENTATIONS

Academy of Management Annual Meeting | Anaheim, USA | 2016
Paper: Is power so bad? Power lowers moral reasoning level but not when construed as responsibility

European Theory Development Workshop | Helsinki, FI | 2016
Paper: I did it once so I might as well do it again: A self-regulation understanding of why counterproductive work behaviors resemble addictive behaviors

Academy of Management Annual Meeting | Vancouver, CA | 2015
Paper: Timeliness: How span of control facilitates timely decision-making

First International Network on Trust | Coventry, UK | 2014
Paper: Do you trust or distrust me? The role of power in assessing others' trust and distrust

Society of Industrial and Organizational Psychology | Honolulu, USA | 2014
Poster: power and timeliness: Leader's power facilitates timeliness

Society for Personality and Social Psychology | Austin, USA | 2014
Poster: When saying sorry may not help: Power of the transgressor moderates the effect of an apology on forgiveness in the workplace

European Association of Social Psychology General Meeting | Amsterdam, NL | 2014
Poster: Power and timeliness: Leader's power facilitates timeliness

International Conference of the Dutch HRM Network | Groningen, NL | 2011
Paper: Linking to strategy: The contribution of HR in public and private organizations

OTHER RESEARCH & TRAINING EXPERIENCE

Erasmus University Rotterdam | The Netherlands
Supervisor and co-supervisor of various master theses | 2012 – 2016
Coordinator behavioral interviews | undergraduate course | HRM | 2016
Instructor | undergraduate course | Research Training & Bachelor Thesis | 2014 – 2016

Instructor | minor course | Leadership, Sustainability, & Governance | 2013 – 2014

University of Groningen | The Netherlands
Research and Lab Assistant, working with prof. dr. J. Jordan | 2012
Teaching Assistant, working with prof. dr. F. Walter | 2011
Teaching Assistant, working with prof. dr. B. Kuipers | 2011

Erasmus University Rotterdam | The Netherlands
Research Internship, working with prof. dr. Kuipers | 2010

TRAINING DURING THE PHD

Selected out of +2000 applications to be part of **Aspire Young Professionals** | 2016
An international platform for education and professional development
Attended a 4-day program with Ivy League professors | Poiana Brasov, Romania

Social Psychology of Judgment and Decision Making Preconference | 2014
European Association of Social Psychology | Amsterdam, The Netherlands

Professional and Development Workshops | Orlando, FL | 2013
Reviewing in the Rough: A PDW for Doctoral Students and Junior Faculty
OB Division New Member Research Networking Forum

Multilevel Models and Applications Certificate | University of Essex, UK | 2013

Mediation and Moderation Analysis Certificate | University of Kansas, USA | 2013

LANGUAGE

Romanian | Native
English | Fluent | CPE (Grade A) | TOEFL (Score 113 out of 120)
Dutch | Intermediate | 5 language courses completed at Erasmus University Rotterdam
Spanish | Conversational

OTHER ACTIVITIES

Developed my own website on Art & Photography | 2014 – present
www.lauramgiurge.com

Content writer for an international cultural magazine – **Citinerary** | 2015 – present
Currently responsible for writing and photographing Rotterdam

Member of the **Public Leadership Foundation** | 2016 – present
Currently involved in setting up the first Make a Difference (MAD) House – a virtual and occasionally physical space where individuals can come together and take the initiative to identify a challenge and a number of potential solutions together

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Dissertations in the last five years

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Alexander, L., *People, Politics, and Innovation: A Process Perspective*, Promotors: Prof. H.G. Barkema & Prof. D.L. van Knippenberg, EPS-2014-331-S&E, http://repub.eur.nl/pub/77209

Almeida e Santos Nogueira, R.J. de, *Conditional Density Models Integrating Fuzzy and Probabilistic Representations of Uncertainty*, Promotors: Prof. U. Kaymak & Prof. J.M.C. Sousa, EPS-2014-310-LIS, http://repub.eur.nl/pub/51560

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Jalil, M.N., *Customer Information Driven After Sales Service Management: Lessons from Spare Parts Logistics*, Promotor: Prof. L.G. Kroon, EPS-2011-222-LIS, http://repub.eur.nl/pub/22156

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"There is nothing in this world that does not have a decisive moment."

– Cardinal de Retz

Laura Maria Giurge was born in 1988 in Baia Mare, Romania. She joined ERIM and started her Ph.D. at Rotterdam School of Management in 2012. Before that, she obtained two Cum Laude Master of Science Degrees from the University of Groningen, The Netherlands: one in Human Resources Management and one in Economics and Business with a focus on Organizational Behavior. Laura also obtained a Bachelor's Degree in Business Administration (in English) from the Bucharest Academy of Economic Studies, Romania.

Laura's research lies at the intersection of management and social psychology, centering on topics such as time, power, unethical behavior, and decision-making. Part of the research presented in her dissertation takes a more in-depth approach to these topics by zooming-in, via the experience sampling methodology, on individuals' daily experiences and behaviors as they unfold within the natural work environment. She presented her research at various international conferences including the Academy of Management, the Society for Industrial and Organizational Psychology, and the Society for Personality and Social Psychology. Her work has been published in Human Relations and The International Journal of Human Resource Management (not in this dissertation), as well as being under review at important management and psychology journals.

Aside from research, Laura has a passion for art that she is currently pursuing through painting and photography. A selection of her photography was exhibited at the Erasmus University Rotterdam in 2016. Some of her photography is also on permanent display in the Business-Society Management Department, on the 12th floor of the Mandeville Building at Erasmus University Rotterdam. More of her work can be found on her website: www.lauramgiurge.com.

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