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Knowledge hiding in organizations:

A multilevel analysis of antecedents and consequences

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Abstract

This dissertation analyses knowledge hiding behavior in organizations. The dark side of knowledge transfer has attained growing interest over the last years. Researchers have argued that knowledge hiding is a complex construct and distinct from knowledge sharing or knowledge hoarding and that current empirical constructs only represent a part of the behaviors individuals may show by intentionally withholding requested information from colleagues (Connelly, Zweig, Webster, & Trougakos, 2012).

Since research on knowledge hiding has strongly focused on the interdependencies of the perpetrator and the target driven by distrust and reciprocal behavior so far (Černe, Nerstad, Dysvik, & Škerlavaj, 2014; Connelly et al., 2012), this thesis aimed at examining other potential antecedents and the consequences of knowledge hiding for individuals and the organization. For this purpose, the present thesis employed a qualitative approach based on a five-study design. In Chapter 2.1, I used qualitative interviews to uncover participants' construal of knowledge hiding, which seemed most appropriate for exploratory theory building (Glaser & Strauss, 1965). More specifically, I investigated *why* individuals withhold knowledge from their co-workers. In Chapter 2.2, empirical data has been collected from professionals participating in a voluntary online survey upon which I elaborated theory and established a multi-level model for the antecedents of knowledge hiding. This model is based on theory from different disciplines to provide a holistic view on the mechanisms of knowledge hiding and allows deriving implications on how to facilitate knowledge exchange. Chapter 3.1 uses detailed descriptions of knowledge hiding incidents from the target's perspective to demonstrate that there are more than the established consequences of knowledge hiding in organizations. In Chapter 3.2, empirical data has been collected by means of qualitative interviews and from professionals participating in a voluntary online panel to achieve a deeper understanding of third-party reactions in terms of knowledge hiding behavior. Finally, Chapter 4 concludes this thesis by summarizing the main contributions of

this research and offering avenues for future research. In creating a substantial new understanding of why employees engage in knowledge hiding and what consequences arise from this behavior, my findings directly contribute to the body of knowledge in terms of management science, organizational behavior and knowledge management. Specifically, this thesis identified constructs and theories related to the literature on knowledge hiding and connected the disparate pieces of the knowledge hiding puzzle.

Kurzfassung

Die vorliegende Dissertation untersucht "Knowledge Hiding Behavior" in Organisationen. Die Erforschung der dunklen Seite des Wissenstransfers hat in letzten Jahren ein steigendes Interesse erfahren. In diesem Kontext wurde in der Forschung argumentiert, dass Knowledge Hiding ein komplexes Konstrukt ist, das sich von Knowledge Sharing oder Knowledge Hoarding unterscheidet. Ebenso repräsentieren die bestehenden empirischen Konstrukte nur einen Teil der Verhaltensweisen, die Individuen beim bewussten Zurückhalten von Informationen vor Kollegen zeigen (Connelly, Zweig, Webster, & Trougakos, 2012).

Die bisherige Forschung im Bereich Knowledge Hiding, hat sich stark auf die Wechselwirkungen zwischen „Täter" und „Opfer" fokussiert, die vor allem durch Misstrauen und reziprokem Verhalten beeinflusst werden (Černe, Nerstad, Dysvik, & Škerlavaj, 2014; Connelly et al., 2012). Aus diesem Grund ist das Ziel dieser Dissertation andere potenzielle Gründe, aber auch die durch Knowledge Hiding verursachten Konsequenzen für Individuen und Organisationen zu untersuchen. Um diesem Anspruch gerecht zu werden, wurde in dieser Dissertation ein qualitativer Ansatz basierend auf fünf unterschiedlichen Studien gewählt.

Im Kapitel 2.1 wurden qualitative Interviews durchgeführt, da diese Vorgehensweise besonders gut geeignet ist, um durch explorative Theoriebildung die wesentlichen Merkmale von Knowledge Hiding Behavior zu identifizieren (Glaser & Strauss, 1965). Im Speziellen wurde dieses Kapitel von der Forschungsfrage geleitet, warum Individuen ihr Wissen vor Kollegen bewusst zurückhalten. Im Kapitel 2.2 wurden empirische Daten durch eine Onlinestudie erhoben, auf Basis derer die bestehende Theorie weiterentwickelt und ein Multi-Level-Modell für die Ursachen von Knowledge Hiding entwickelt wurde. Dieses Modell basiert auf Theorien aus unterschiedlichen Fachdisziplinen und erzeugt ein ganzheitliches Verständnis über die dem Konstrukt Knowledge Hiding zugrundeliegenden Mechanismen. Dadurch wird eine konkrete Maßnahmenableitung zur Befähigung des Wissenstransfers in Organisationen ermöglicht.

Im Kapitel 3.1 wurden detaillierte Beschreibungen von Knowledge Hiding Incidents aus der „Opferperspektive" untersucht, um zu zeigen, dass weit mehr als die bisher in der Literatur bekannten Konsequenzen existieren. Im Kapitel 3.2 wurden Daten aus qualitativen Interviews und Daten aus einer Onlineumfrage unter Berufstätigen ausgewertet, um ein tieferes Verständnis über die Reaktionen Dritter in Bezug auf Knowledge Hiding Behavior zu erhalten.

Im Kapitel 4 wurden die wesentlichen Erkenntnisse zusammengefasst und vielversprechende Ansätze für die zukünftige Forschung aufgezeigt. Die Ergebnisse dieser Dissertation erzeugen ein grundlegend neues Verständnis darüber, warum Individuen bewusst Wissen zurückhalten und welche Konsequenzen diese Verhaltensweisen zur Folge haben. Dadurch erweitern die Ergebnisse der vorliegenden Dissertation die Literatur im Bereich Wissensmanagement substantiell und verbinden diese direkt mit der Literatur in den Bereichen Management Science und Organizational Behavior.

1 Introduction

1.1 Motivation and research questions

According to Leonard and Sensiper (1998), knowledge is "information that is relevant, actionable, and based at least partially on experience" (p. 113). According to this definition, knowledge does not belong to an individual, but it is rather a collectively produced asset of social groups who interact in particular tasks (Hislop, 2002). In particular, it is important to share knowledge as knowledge sharing enables the generation of ideas and new knowledge within organizations (Garud & Kumaraswamy, 2005). Knowledge and its meaning for individuals and organizations has been acknowledged over decades by scientists, politicians, entrepreneurs as well as artists in very different ways:

As our circle of knowledge expands, so does the circumference of darkness surrounding it. – Albert Einstein

If a man empties his purse into his head no man can take it from him. An investment in knowledge pays the best interest. – Benjamin Franklin

You must know all there is to know in your particular field and keep on the alert for new knowledge. The least difference in knowledge between you and another man may spell his success and your failure. – Henry Ford

Knowledge itself is power. – Francis Bacon

Besides these quite different interpretations of knowledge stemming from well-known personalities, knowledge management has been a very active field of research and much effort has been invested to explore the factors that foster or hinder knowledge sharing in

organizations. Focal points of this research include fostering knowledge integration in teams (Gardner, Staats, & Gino, 2012), facilitation of knowledge sharing as a strategy to strengthen an organization's innovative capability (Li, Maggitti, Smith, Tesluk, & Katila, 2013) , and increasing knowledge sharing capabilities to influence organizational performance (Chang, Gong, & Peng, 2012). Other scholars found that trust within the team and towards the leader had a significant positive influence on knowledge sharing among team members (Gong, Kim, Lee, & Zhu, 2013). All in all, research on knowledge transfer has largely focused on behaviors that use positive ways of influence.

Recently, a growing body of literature has shed light on the various difficulties with regard to knowledge sharing in organizations such as the problem of exchanging knowledge within virtual teams (Rosen, Furst, & Blackburn, 2007). Referring to the problems in the context of knowledge transfer, Connelly et al. (2012) described situations in which employees hid knowledge from their colleagues intentionally. They defined knowledge hiding "as an intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person" (Connelly et al., 2012:65). Although knowledge hiding is construed as a low-base-rate event (Connelly et al., 2012), it represents a major threat to the performance of individuals as well as organizations (Černe et al., 2014; Connelly et al., 2012; Peng, 2013). It instantaneously counteracts employees' creativity (Janssen, van de Vliert, & West, 2004; Yuan & Woodman, 2010) and hinders the growth and competitiveness of organizations due to the lack of innovation (Baer, 2012). Despite this, there is little empirical research examining knowledge hiding, its antecedents and consequences in organizations. Rather, knowledge hiding has been identified as an area calling for further research (Černe et al., 2014; Connelly & Kelloway, 2003; Connelly & Zweig, 2015; Connelly et al., 2012; Peng, 2013; Webster et al., 2008). My research answers the call to further explore this phenomenon and to deepen the understanding of knowledge hiding in organizations.

Therefore, the goal of this thesis is to address this research gap identified in the literature by investigating the role that knowledge hiding plays in organizational and entrepreneurial contexts. To this end, the present thesis focuses on the following three main research questions that have as yet not been addressed in the current literature:

(1) Are there antecedents of knowledge hiding in organizations besides the ones described by previous research (i.e., distrust, reciprocal behavior, psychological ownership)?

(2) Are there consequences of knowledge hiding in organizations besides the ones described by previous research (i.e., distrust, reciprocal behavior, and harm for creativity)?

(3) Does observing a knowledge hiding incident influence the observers' inclination to hide knowledge themselves in the future?

By addressing these research questions, the present thesis contributes to the current state of the management literature by building and testing theory on the role of knowledge hiding in organizational and entrepreneurial contexts in the following ways. First, this thesis demonstrates that incorporating the influence of different antecedents of knowledge hiding on different levels (i.e. organizational, interpersonal and individual level) into organizational and entrepreneurial theory adds value to our understanding of the mechanisms of knowledge hiding in organizations. In particular, this thesis highlights the existence of various antecedents of knowledge hiding in organizations that are distinct from the ones found in previous research. Specifically, this thesis refines current ways of thinking (e.g., distrust and dislike represent different antecedents referring to poor personal relationships), provides new

insights on extant conclusions (e.g., by differentiating between tit for tat-behavior and revenge as a response to other forms of misconduct of colleagues), and elaborates theory (e.g., competition as a rather structural factor versus rivalry as a interpersonal factor including a specific competitor).

Second, the antecedents reported by the interviewees are not only multifaceted but also multilevel. I found antecedents on the individual, the interpersonal, and the organizational level. My insights respond to earlier calls by Connelly et al. (2012) to further investigate the organizational antecedents as well as the interpersonal dynamics of knowledge hiding. Thus, this thesis extends theory by drawing on major theories of human behavior from the fields of psychology, organization science and management as well as economics to elaborate on the motivational mechanisms underlying the reasons to engage in knowledge hiding. This multidisciplinary perspective allows for a substantially improved understanding of this phenomenon. The results of this thesis show how integrating the findings about the multilevel nature of the antecedents of knowledge hiding and the theoretical background to delineate differential avenues to reduce or ameliorate knowledge hiding intentions in organizations.

Third, this thesis advances current ways of thinking by elaborating on the consequences of knowledge hiding in organizations. In particular, my results highlight the existence of various consequences of knowledge hiding in organizations that are distinct from the ones found in previous research. In doing so, the results of this thesis make an important contribution to strengthening our knowledge on the mechanisms and consequences of knowledge hiding behavior that affect an organization's productivity. My results indicate that knowledge hiding does not only affect the relationship between perpetrator and target, but provokes targets to engage in retaliation and even is a catalyst to third-party reactions that change the social norms into a destructive manner in the long-run.

Fourth, this thesis further suggests that thinking about concrete managerial implications of my research is important as I found that even merely observing a knowledge hiding incident may have a viral-like effect in organizations. Secondary spirals of knowledge hiding are very likely to result in knowledge hiding norms in organizations ultimately, which will further increase employees' intentions to conceal knowledge in the future.

To address the main research questions on the role of knowledge hiding in organizations posed above, this thesis mainly draws on research on knowledge hiding, knowledge sharing as well as counterproductive workplace behavior and links this body of knowledge with major theories of human behavior. The following sections will briefly introduce the relevant theories' core tenets and discuss their scope and applicability for organizational research.

1.2 Theoretical background

1.2.1 Knowledge Hiding

Going far beyond the absence of knowledge sharing, knowledge hiding describes the *intentional concealing of knowledge* that has been requested by a co-worker (Connelly et al., 2012). At first sight the lack of knowledge sharing and knowledge hiding seem to be similar, but the reasons and the behaviors these constructs are based on have to be distinguished carefully, on which I will elaborate in the following.

Connelly et al. (2012) identified three strategies that employees apply with the intention to hide their knowledge from their co-workers – playing dumb, evasive hiding, and rationalized hiding. Applying the *playing dumb* strategy, the hider pretends to be ignorant of the requested knowledge. *Evasive hiding* is defined as providing incorrect information or a misleading promise of a complete answer in the future, even though there is no intention to actually provide it. In contrast to these strategies, *rationalized hiding* does not necessarily involve deception since the hider is providing a rational justification for not sharing the

requested knowledge, e.g. confidentiality of information. Reviewing the definitions of these strategies critically, it has to be stated that evasive hiding is defined rather broadly as it includes both misleading promises to respond later and providing incorrect information which might, in my view, imply different intentions for knowledge hiding. By critically analyzing the existing body of knowledge on deviant behaviors and knowledge hiding strategies, I realized that there is some overlap of deviant and knowledge hiding behaviors.

1.2.2 Distinguishing knowledge hiding from other constructs

It is important to differentiate knowledge hiding from other related concepts such as knowledge sharing, knowledge hoarding, counterproductive workplace behavior (CWB), social undermining and deception (Connelly et al., 2012).

Knowledge sharing includes the provision of task information and know-how, as well as sharing ideas, suggestions and expertise with one another (Bartol & Srivastava, 2002; Cummings, 2004). Connelly et al. (2012) showed that the constructs of sharing and hiding knowledge should not be seen as opposites, since knowledge hiding might have numerous different motives that will be discussed in this thesis, whereas insufficient knowledge sharing might derive from the lack of a knowledge sharing infrastructure. Research on knowledge sharing in organizations has identified several reasons why knowledge sharing is *not* successful. The barriers inhibiting knowledge sharing may arise from a lack of or deficiencies of knowledge management systems (Ancona & Caldwell, 1992) or the characteristics of the relationship between knowledge seeker and donator (Gupta & Govindarajan, 2000). In addition, an absence of knowledge sharing might be driven by a lack of incentives for knowledge sharing or an organizational culture of not sharing knowledge (De Long & Fahey, 2000) as well as an organizational climate that fosters competition among employees (Willem & Scarbrough, 2006).

Despite the fact that both, knowledge hoarding and knowledge hiding can be identified as a conduct of withholding knowledge, these two behaviors have to be distinguished (Connelly et al., 2012). The crucial difference is that knowledge hiding is the action of keeping requested knowledge purposely secret, whereas accumulating knowledge, which is defined as knowledge hoarding (Hislop, 2003), does not include the request of this knowledge by anyone else (Webster et al., 2008).

Connelly et al. (2012) argue that knowledge hiding is not necessarily intended to harm colleagues or to diminish their performance and takes place on a dyadic exchange relationship. These characteristics distinguish knowledge hiding from CWB that might be directed towards an individual or an organization and includes behaviors such as aggression, sabotage, withdrawal and theft (Fox, Spector, & Miles, 2001; Lanaj, Chang, & Johnson, 2012).

More specifically, workplace aggression appears also similar to knowledge hiding as it is directed towards individuals with the organization. Schat and Kelloway (2003) were the first to include different perspectives and conceptualized workplace aggression and violence consisting of "physical assaults and threats of assault, psychological aggression, and vicarious violence" (Schat & Kelloway, 2003, p.111). Once again, it is important to take into account that knowledge hiding is not necessarily intended to cause harm, as I mentioned before. Following this argumentation, knowledge hiding and workplace aggression are distinct from each other.

Duffy, Ganster, and Pagon (2002) defined social undermining as the "behavior intended to hinder, over time, the ability to establish and maintain positive interpersonal relationships, work-related success, and favorable reputation" (p. 332). Concluding from this definition it might appear that knowledge hiding and social undermining are similar types of behavior. Nonetheless, it has to be considered that knowledge hiding, in comparison to social

undermining, is not necessarily intended to harm a colleague but might also be used to obstruct someone else (Connelly et al., 2012).

As stated before, knowledge hiding is performed in different ways where-in some of them have a certain overlap with deviant workplace behavior such as workplace incivility. Andersson and Pearson (1999) argued "incivility involves acting rudely or discourteously, without regard for others, in violation of norms for respect in social interactions" (p. 455). Consistent with my prior argument, knowledge hiding is not intended to harm other individuals but the withholding of requested knowledge. Thus, even if knowledge hiding is performed and the consequences of this behavior tend to be similar to workplace incivility, it is still distinct from this behavior as the motivation of knowledge hiding and workplace incivility is completely different (Connelly et al., 2012).

Following this reasoning, knowledge hiding is also distinct from deception that is defined as "a message knowingly transmitted by a sender to foster a false belief or conclusion by the receiver" (Buller & Burgoon, 1996, p.205). Concluding from this definition, a possible strategy for reaching this goal might be knowledge hiding. Once again, per definition knowledge hiding does not necessarily involve deceptive behavior.

To summarize, some well-established constructs and theories seem to have a certain overlap with knowledge hiding. But if we go into detail, we see that knowledge hiding is distinct from these constructs and theories. Due to this difference, insights from other research cannot be simply adopted in the research on knowledge hiding. Thus, to extend the understanding of knowledge hiding it is necessary to investigate its mechanisms by a distinct approach of research.

1.3   Research methods and data sources

The present thesis' empirical parts (Chapters 2-3) apply explorative and especially qualitative methodological approaches using primary data obtained from different sample

populations. The main methodological advantages and disadvantages of these approaches will be outlined in the following paragraph.

Using a survey methodology has the main advantage that it allows the researcher to capture individual-level variables (e.g., personality characteristics or attitudes) and is therefore widely established as the typical method of assessing such variables. However, using survey methodology also goes along with potential response biases, which constitute the main disadvantage of this approach (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The following paragraphs describe the respective methodological approach of each chapter as well as the analysis techniques used to analyze the obtained primary data.

First, in chapter 2.1 this thesis aimed to study the existence of different antecedents of knowledge hiding in organizations. For this purpose, I used structured, qualitative interviews to uncover employees' construal of knowledge hiding, which seemed most appropriate for exploratory theory building (Glaser & Strauss, 1965). More specifically, I investigated *why* individuals withhold knowledge from their co-workers. I thereby applied the critical incident technique (CIT) (Flanagan, 1954) to collect knowledge hiding incidents experienced by professionals working in a full-time job. The CIT seemed particularly suited to extend the understanding of a new phenomenon such as knowledge hiding, and it has been applied successfully to investigate employee behavior before (Bitner, Booms, & Mohr, 1994; Connelly et al., 2012).

Second, to examine the multifaceted but also multilevel antecedents reported by the interviewees, I conducted a voluntary online panel in Chapter 2.2. 202 international diversified adults completed different language versions of the same questionnaire. A translation–back translation procedure (Brislin, 1986) was used to translate the questions to elicit knowledge hiding incidents from German to Arabian, Chinese, Croatian, English, Russian, and Turkish. Native speakers provided the translation.

The use of this panel overcomes some of the limitations of other data collection methods (e.g., employees from only one or a few organizations or from only one cultural background) by sampling from adult employees in a wide variety of occupations, organizations, and countries. Consistent with the procedure in chapter 2.1, I used a critical incident technique in which participants were asked to describe a recent knowledge hiding incident in their professional environment. Participants were instructed to think of a recent episode, in which a colleague requested knowledge from them, and they declined to share their knowledge or expertise with their colleague or did not pass on all of the information needed.

Third, in chapter 3.1 this thesis aimed to study the different consequences of knowledge hiding in organizations. For this purpose and consistent with chapter 2.1, I used structured, qualitative interviews to uncover employees' construal of knowledge hiding. More specifically, I investigated which consequences occur for the hider and the seeker. I thereby applied the critical incident technique (Flanagan, 1954) to collect knowledge hiding incidents experienced by professionals working in a full-time job.

Fourth and in contrast to earlier research on knowledge hiding, Chapter 3.2 investigates also the observer's perspective of knowledge hiding. I collected knowledge hiding incidents observed by a third non-involved person. Thereby, this thesis covers a new perspective in the examination of knowledge hiding, namely the effects of merely observing a knowledge hiding incident. For this purpose, the present thesis is the first to investigate third-party reactions on knowledge hiding. Consistent with prior chapters, I applied in chapter 3.2 structured, qualitative interviews to uncover employees' construal of knowledge hiding, which seemed most appropriate for exploratory theory building (Glaser & Strauss, 1965). To gather further empirical evidence, I conducted a voluntary online panel German-speaking professionals working in a full-time job.

To summarize, this thesis covered three perspectives, namely the perpetrator's, the target's, and the observer's perspective, to examine all perspectives on knowledge hiding and to further extend earlier research that merely focused on the perpetrator's perspective of knowledge hiding (e.g., Connelly et al., 2012).

1.4 Structure, main results and contribution

Apart from the introduction section (Chapter 1), the main part of this thesis consists of two empirical contributions addressing the role of knowledge hiding behavior in organizational settings. Each study is described in a separate chapter (Chapters 2 and 3) which each introduces the research topic, describes and builds theory, outlines the methodology, reports the results, and concludes with a discussion of the theoretical contributions, limitations, implications for practice, and recommendations for further research.

In particular, Chapter 2.1 builds on detailed descriptions of knowledge hiding incidents that I gathered by means of qualitative interviews to achieve a deeper understanding of the antecedents of knowledge hiding. In Chapter 2.2, empirical data has been collected from professionals participating in a voluntary online survey upon which I elaborated theory and established a multi-level model for the antecedents of knowledge hiding. This model is based on theory from different disciplines to provide a holistic view on the mechanisms of knowledge hiding and allows the derivation of implications on how to facilitate knowledge exchange. Chapter 3.1 uses detailed descriptions of knowledge hiding incidents from the target's perspective to demonstrate that there are more than the established consequences of knowledge hiding in organizations. In Chapter 3.2, empirical data has been collected by means of qualitative interviews to achieve a deeper understanding of third-party reactions on knowledge hiding behavior. Finally, Chapter 4 concludes this thesis by summarizing the main contributions of this research and offering avenues for future research. The following paragraphs outline the key research questions, results, and contributions of the two empirical

chapters. In creating a substantial new understanding of why employees engage in knowledge hiding, my findings directly contribute to the body of knowledge. Consequently, my research integrates the separate literatures to explain why people engage in knowledge hiding. Specifically, I identified constructs and theories related to the literature on knowledge hiding and connected the disparate pieces of the knowledge hiding puzzle.

Chapter 2.1 builds on the exiting literature about the antecedents of knowledge hiding in organizations and extends theory by offering an explanation why employees engage in knowledge hiding. In particular, a gap in matching the review of (Wang & Noe, 2010) on knowledge sharing literature with the call for research on knowledge hiding of (Connelly et al., 2012) set up the basis for further investigation. Addressing this gap in research, this chapter builds on detailed descriptions of knowledge hiding incidents that I gathered by means of qualitative interviews to achieve a deeper understanding of the antecedents of knowledge hiding. Investigating the underlying mechanisms of knowledge hiding, I was able to demonstrate the existence of several new antecedents of knowledge hiding behaviors in organizations. My findings substantially augment the existing literature that postulates knowledge hiding is driven by distrust, reciprocal behavior, or psychological ownership (Černe et al., 2014; Connelly et al., 2012; Peng, 2013). My results highlight the significance of organizational norms and expectations as well as individual attitudes and beliefs about knowledge.

This chapter makes the following main contributions to the literature. First, it appears that employees' knowledge hiding intentions are not only influenced by distrust, reciprocal knowledge hiding, and beliefs of knowledge ownership but also from a desire of gaining a competitive advantage overs peers, maximizing own benefits or diminishing the performance of others, compliance to social norms, compliance to leader's demands, lack of personal benefits or fear of negative effects, desire for revenge or reciprocal behavior, dislike and fear of losing one's right to exist. Second, I conclude that there are reasons to engage in

knowledge hiding on multiple levels of analysis: 1) rather structural antecedents that refer to the organization as a whole (i.e., organizational level), 2) antecedents that lie in the social relationship or refer back to prior interactions of perpetrator and target (i.e., the interpersonal level, and 3) an individual's knowledge sharing attitudes and beliefs about knowledge (i.e., the individual level).

Chapter 2.2 draws on the results of Chapter 2.1 and the conceptualization of antecedents of knowledge hiding on multi levels and focuses on theory testing and elaboration. For each of the results listed in the previous section I developed hypotheses and showed possible theoretical connections between major human theories and antecedents of knowledge hiding. In this chapter empirical data has been collected from professionals participating in a voluntary online survey upon which I elaborated theory and established a multi-level model for the antecedents of knowledge hiding. This model is based on theory from different disciplines to provide a holistic view on the mechanisms of knowledge hiding and allows for the derivation of implications on how to facilitate knowledge exchange.

This chapter's main contributions to the state of the art literature are as follows. First, my findings highlight the existence of various antecedents of knowledge hiding in organizations that are distinct from the ones found in previous research. Specifically, Chapter 2.2 refines current ways of thinking (e.g., distrust and dislike represent different antecedents referring to poor personal relationships), provides new insights on extant conclusions (e.g., by differentiating between tit for tat-behavior and revenge as a response to other forms of misconduct of colleagues), and elaborates theory (e.g., competition as a rather structural factor versus rivalry as a interpersonal factor including a specific competitor). Second, when further comparing and contrasting the multiple antecedents of knowledge hiding, I found evidence for both instrumental as well as normative reasons. That is, employees engage in knowledge hiding either to achieve an individual goal or to conform to social norms and expectations. I found empirical evidence for several antecedents other than egoistic reasons

thereby extending earlier findings. Third, the antecedents reported by the interviewees are not only multifaceted but also multilevel. I found antecedents on the individual, the interpersonal, and the organizational level. My insights respond**s** to earlier calls by Connelly et al. (2012) to further investigate the organizational antecedents as well as the interpersonal dynamics of knowledge hiding. Fourth, this thesis extends theory by drawing on major theories of human behavior from the fields of psychology, organization science and management as well as economics to elaborate on the motivational mechanisms underlying the reasons to engage in knowledge hiding. This multidisciplinary perspective allows for a substantially improved understanding of this phenomenon. Fifth, this thesis integrates my findings about the multilevel nature of the antecedents of knowledge hiding and the theoretical background to delineate differential avenues to reduce or ameliorate knowledge hiding intentions in organizations.

Chapter 3.1 builds on the existing literature about the consequences of knowledge hiding in organizations and extends theory by offering an explanation on how knowledge hiding behavior harm the productivity of individuals and organizations. In particular, a gap in matching the literature on knowledge hiding with recent calls for research on knowledge hiding set up the basis for further investigation (Černe et al., 2014; Connelly et al., 2012; Peng, 2013). Addressing this gap in research, this chapter builds on detailed descriptions of knowledge hiding incidents that I gathered by means of qualitative interviews to achieve a deeper understanding of the consequences of knowledge hiding. Investigating the underlying mechanisms of knowledge hiding, I was able to demonstrate the existence of several new consequences of knowledge hiding behaviors in organizations. My findings substantially augment the existing literature that postulates knowledge hiding causes distrust, reciprocal behavior, or harm for creativity (Černe et al., 2014; Connelly et al., 2012; Peng, 2013).

This chapter makes the following main contributions to the literature. First, my findings revealed that knowledge hiding does not necessarily have (negative) consequences.

Some participants reported that there were no consequences at all, and therefore they would not change their behavior. Earlier research has pointed to the significance of the leader as a model of acceptable behavior in the workplace: Employees (perpetrators as well as targets or observers) who learn that harmful and destructive behavior has no consequences if knowledge hiding is tolerated by their supervisor. In contrast, Holtz and Harold (2013; Peng, 2013) argue that a leader who provides clear standards for behavior and performance (combined with high levels of consideration) may reduce destructive behaviors of employees.

Second, my results further indicate that knowledge hiding targets' performance suffered from inefficiencies arising from a lack of knowledge needed for fulfilling task requirements adequately or from being forced to acquire substitute knowledge from other sources. This lowers individual performance but also the organization's output in the long run. In this regard, I concur with (Connelly et al., 2012) who have already described the partial overlap of knowledge hiding and CWB. Earlier research on CWB has considered a wide range of intentional behaviors that are detrimental for the organization as a whole or for members of the organization (Robinson & Bennett, 1995).Third, the participants reported that knowledge hiding harmed their relationships with co-workers in terms of social tensions (e.g., the target avoided the perpetrator after the incident). Early work on the relationship of conflict and performance has shown that interpersonal conflicts decrease team performance and deteriorate the productivity of individuals and teams (De Dreu & Weingart, 2003; Deutsch, 1949). In addition, empirical work has endorsed the negative correlation between conflict, team performance, and satisfaction (Saavedra, Earley, & Van Dyne, 1993).

Chapter 3.2 examines third-party reactions on knowledge hiding behavior and extends theory by offering an explanation why knowledge hiding behavior is not only reciprocated by knowledge hiding targets but also adopted by observers of such incidents. In particular, the results of former research indicated that it is necessary to analyze the mechanism of knowledge hiding in organizations from different perspectives. Thus Chapter 2 focuses on the

perpetrators' motivation and Chapter 3.1 examines the consequences for knowledge hiding targets. Chapter 3.2 analyzes the observers' perspective to provide a holistic view on the phenomenon of knowledge hiding. Addressing this gap in research, this chapter builds on detailed descriptions of knowledge hiding incidents that I gathered by means of qualitative interviews and from professionals participating in a voluntary online panel to achieve a deeper understanding of the consequences of knowledge hiding. Investigating the underlying mechanisms of knowledge hiding, I was able to demonstrate the existence of third-party reactions on knowledge hiding behaviors in organizations. My findings substantially augment the existing literature by introducing the concept that observing a knowledge hiding incident may even cause the same effect as experiencing knowledge hiding from the target's perspective.

This chapter's main contributions to management literature are as follows. First, my findings highlight the existence of third-party reactions on knowledge hiding and indicate that observing knowledge hiding incidents has a viral-like effect on employees. Observers typically assume that, in the future, actors will show similar behaviors than in an observed situation (Baillien et al., 2015). This is due to the fact that observers typically attribute behaviors internally, i.e. to the perpetrator, rather than to external factors such as a shortage of time (Myers, 1999). In this context, the actor-observer biases induce observers to focus on the actors' behavior independently of the goal to which it pertains (Jones & Nisbett, 1987). For these reasons, the observation of a knowledge hiding incident may unfold in an "indirect" negative effect on the observers: They are likely to conclude that the knowledge hider will behave similarly in the future towards themselves. Thus, observers will experience distrust towards the perpetrator, and a tit-for-tat strategy becomes likely in the future (see e.g., Černe et al., 2014; Holtz & Harold, 2013). This finding extends the 'reciprocal distrust loop' (Černe et al., 2014) and highlights the necessity to consider observers as a new integral part of this mechanism. Second, this chapter suggests that thinking about concrete managerial

implications of my research is important as I found that even merely observing a knowledge hiding incident may result in knowledge hiding norms in organizations ultimately, which will further increase employees' intentions to conceal knowledge in the future. Consequently, Chapter 4 aggregates my empirical findings and provides managerial implications as well as avenues for future research.

2 Antecedents of knowledge hiding[1]

2.1 Interview study on antecedents of knowledge hiding

2.1.1 Introduction

Knowledge sharing is an important strategy to increase organizational innovation (Li et al., 2013) and it will heavily impact organizational performance in a competitive environment (Chang et al., 2012). Therefore, much effort has been invested to explore the factors that foster knowledge sharing in organizations (Wang & Noe, 2010). Only recently, a growing body of literature has focused on the various difficulties with regard to knowledge sharing. Connelly et al. (2012) described situations in which employees engaged in *active and intentional knowledge hiding* in their seminal article. They defined knowledge hiding "as an intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person" (Connelly et al., 2012:65). Although Connelly et al. (2012) construed knowledge hiding as a low-base-rate event; it represents a major threat to the performance of individuals as well as organizations (Černe et al., 2014; Connelly et al., 2012; Peng 2013). It counteracts employees' creativity (Janssen et al., 2004; Yuan & Woodman, 2010) and hinders the growth and competitiveness of organizations because it inhibits innovation (Baer, 2012). Moreover, exploitation of the organization's knowledge resources requires continuous updating of its transactive memory system (Wegner, 1987). Knowledge hiding likely undermines these updating processes, and targeted access to the knowledge base of an organization becomes therefore impossible in the long run.

Despite the significance of the phenomenon, there is still limited empirical research examining knowledge hiding behaviors in organizations. Thus, knowledge hiding has been identified as an area calling for further research (Černe et al., 2014; Connelly & Kelloway, 2003; Connelly & Zweig, 2015; Connelly et al., 2012; Peng, 2013; Webster et al., 2008).

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[1] This chapter is based on a working paper by Mangold, Knipfer, & Peus (2015), currently under review at the Journal of Organizational Behavior.

More specifically, Connelly et al. (2012) called for further investigations to better understand the interpersonal dynamics and organizational factors that affect the intention to engage in knowledge hiding. In line with that, I suggest that it is crucial to examine the reasons employees have to engage in active and intentional knowledge hiding behaviors towards their own colleagues. A sound understanding of the antecedents of knowledge hiding enables managers to effectively counteract knowledge hiding in their organization.

This research aims at extending earlier thinking about knowledge hiding by outlining a multilevel framework of antecedents of knowledge hiding in organizations. I draw on major theories from several disciplines to explain the motivational mechanisms of knowledge hiding at multiple levels of analysis. I think that using this polyglot of theories only allows for a realistic understanding of this phenomenon. My framework outlining the various reasons employees may have to engage in knowledge hiding also lays the basis for adequate managerial interventions to counteract knowledge hiding in organizations.

In this chapter, I used qualitative interviews to uncover participants' reasons to engage in knowledge hiding, which seemed most appropriate for exploratory theory building (Glaser & Strauss, 1965). I used the findings of this study to develop hypotheses with regard to the antecedents of knowledge hiding to be tested in Study 2 based on 202 knowledge hiding incidents gathered through an online survey. The major outcome of Study 2 is a framework of antecedents of knowledge hiding in organizations, covering multiple levels and considering a broad range of antecedents going beyond the ones identified by earlier research.

My research contributes to the state of the art on knowledge hiding in different ways. First, I extend the understanding of employees' reasons to hide knowledge from their co-workers by a further specification and differentiation of antecedents of knowledge hiding, thereby drawing on three perspectives, namely the perpetrator, the target, and the observer. Second, I investigate the antecedents of knowledge hiding on multiple levels of analysis and

identified antecedents others than self-interest and reciprocal behavior, which previous research had been restricted to (e.g., Černe et al., 2014). Specifically, I investigated potential antecedents stemming from organizational and structural factors as well as subjective norms and knowledge attitudes. Third, I provide an integrative framework of antecedents of knowledge hiding that uncovers the mechanisms underlying knowledge hiding and derive managerial implications to counteract knowledge hiding in organizations.

2.1.2 Review of Literature and Development of Research Question

Research on knowledge sharing in organizations has identified several reasons why knowledge sharing is *not* successful. The barriers inhibiting knowledge sharing may arise from a lack of or deficiencies of knowledge management systems (Ancona & Caldwell, 1992) or the characteristics of the relationship between knowledge seeker and donator (Gupta & Govindarajan, 2000). In addition, an absence of knowledge sharing might be driven by a lack of incentives for knowledge sharing or an organizational culture of not sharing knowledge (De Long & Fahey, 2000) as well as an organizational climate that fosters competition among employees (Willem & Scarbrough, 2006).

Going far beyond the absence of knowledge sharing, knowledge hiding describes the *intentional concealing of knowledge* that has been requested by a co-worker (Connelly et al., 2012). Connelly et al. (2012) found that distrust was a major reason to hide knowledge from a co-worker. Knowledge hiding may thus be motivated by the concern that the knowledge seeker may cause harm and does not care about one's own welfare (Lewicki, McAllister, & Bies, 1998). Knowledge hiding may also be motivated by reciprocal behavior, which harms the dyadic exchange relationship between perpetrator and target in the long run (Černe et al., 2014; Connelly et al., 2012; Szulanski, 1996). This is especially true if the knowledge hider feels ownership over knowledge (Peng, 2013) and fears exploitation by the knowledge seeker

(Empson, 2001). These findings point to the significance of individual knowledge beliefs and subjective norms and their influence on the intention to engage in knowledge hiding. Further, knowledge hiding is more pronounced when the climate in the organization is perceived as being performance-oriented rather than mastery-oriented (Černe et al., 2014). In line with that, a knowledge sharing climate within the organization was shown to reduce knowledge hiding (Connelly et al., 2012). I must therefore consider that organizational factors influence the tendency to engage in knowledge hiding. However, to date, the antecedents of knowledge hiding on the organizational level remain largely unexplored. As by now, scholars' insights to antecedents of knowledge hiding are limited to distrust (Connelly et al., 2012), reciprocal behavior (Černe et al., 2014), and psychological ownership (Peng, 2013). To date, other potential antecedents of knowledge hiding remain largely unexplored. Raising our eyes off these limitations, I formulated my first research question as follows:

Research Question 1: Are there antecedents of knowledge hiding in organizations besides the ones described by previous research (i.e., distrust, reciprocal behavior, psychological ownership)?

2.1.3 Methods

Sample

I used a purposeful, cross-sectional sampling method (Lincoln & Guba, 1985) that involved sampling from diverse backgrounds, occupations, and organizational levels to obtain a broad range of perspectives (Bryman, 2006). The sample was recruited from a global organization from the automotive industry in Germany. It included two women and 11 men. The participants had been working in a full-time job for two to 35 years (mean work experience was 13.3 years); they were between 25 and 55 years old (mean age was 37.2

years) and had tenure on their actual position between one and ten years (mean tenure on actual position was 2.3 years).

Data Collection

Respondents were contacted by email or phone and invited to participate in a personal interview about knowledge exchange situations in their job. The interviews were based on a semi-structured interview guideline and took place face-to-face (see Appendix 1). All participants permitted audio recording. Participants were asked to describe situations in which they themselves had engaged in knowledge hiding from co-workers. They were encouraged to describe more than one knowledge hiding incident. The interviews ranged from 35 minutes to an hour in length and yielded one to five critical incidents per interviewee.

Data Analysis

The interviews were transcribed and analyzed using the software MAXQDA 11. Inductive analysis was used to create and refine codes and categories. This approach is based on grounded theory, which builds theory based on the researchers' intense interaction with the data (Corbin & Strauss, 2008; Glaser & Strauss, 1965). In an iterative fashion, I analyzed the interview data by traveling back and forth between the data and an emerging structure of theoretical arguments (Locke, 2001).

Step 1: Extraction of knowledge hiding incidents from the interview data. As a first step, I extracted knowledge hiding incidents from the interviews to prepare for data coding. A description was considered as a (new) critical incident when the participants saw themselves confronted with a (new) situation of knowledge hiding. This was mainly the case if participants switched their perspective from observer to target or to perpetrator. In some cases participants reported more than one situation from one perspective, which were considered as separate incidents. In total, I extracted 41 critical incidents (10 from the perpetrators' perspective, 16 from the targets' perspective, and 15 from the observers'

perspective) from the interviews.

Step 2: Development of first-order codes. I started my analysis by analyzing ten knowledge hiding incidents stemming from three randomly selected interviews through open coding (Locke, 2001). In doing so, I first identified statements that described antecedents of knowledge hiding. I then clustered similar statements and assigned descriptive first-order codes according to the method of inductive categorization by Mayring and Fenzl (2014). 11 codes resulted from this first step. Based on earlier findings (Černe et al., 2014; Connelly et al., 2012; Peng, 2013), I added two codes, namely "distrust" and "beliefs of ownership". The first author summarized all codes and added sample statements and short descriptions.

Step 3: Applying the coding scheme and development of higher-order categories. In a second step of data analysis, the first author analyzed all 41 knowledge hiding incidents using the set of codes developed in Step 2. The codes were regularly reviewed during the process of data coding with respect to ambiguity, redundancy, and appropriateness (Glaser & Strauss, 1965; Locke, 2001). In cases where a code was not selective enough, it was adapted. Codes that highly overlapped were summarized under an existing code. Throughout this iterative process, it was necessary to establish two additional codes, namely "gaining a competitive advantage over peers" and "avoiding adverse outcomes". Along with the refinement of codes and by means of constant comparisons of codes (Lincoln & Guba, 1985), a combination of codes into theoretical categories emerged. The resulting theoretical categories were (a) competitive climate, (b) rivalry among co-workers, (c) compliance to norms and expectations, (d) negative outcome expectations, (e) poor personal relationships, (f) desire for retaliation, and (g) knowledge attitudes (see Figure 1 and further elaborations in the results section). In the course of data coding, some codes were transferred to another theoretical category to achieve a better fit with the data. Once the most effective way of classification had been achieved, a second researcher and I re-examined all data with my final

coding scheme. Cohen's Kappa = 0.82 indicated a high degree of inter-rater reliability for the assignment of codes.

2.1.4 Findings

The major question driving my research was why employees engage in knowledge hiding towards their colleagues. Figure 1 provides an overview of the codes and theoretical categories together with example statements from the interviews. I found support for antecedents consistent with previous research but also antecedents that were new and sometimes unexpected. The most frequent antecedents among them were competition, reciprocal behavior, and poor personal relationships between perpetrator and target.

The discussion of the reasons to engage in knowledge hiding is designed to highlight major findings and contributions to theory development that go beyond earlier research about knowledge hiding in organizations. I will provide excerpts from the interviews to illustrate my conclusions about the antecedents of knowledge hiding (respondent IDs are given in brackets).

Virtually all interviewees reported that a certain degree of competition exists in their organization. They stressed the motivation of employees to achieve superior levels of performance – also by engaging in intentional knowledge hiding. The terms they used to describe these attitudes (e.g., "rivalry", "competition" or "gaining an advantage over peers") were largely consistent across all perspectives: *Only the best will receive an offer for advancement, and some of my colleagues use any means available to succeed. (…) This is fierce competition (TKR03_3).*

Figure 1: Overview of the codes and theoretical categories with respect to antecedents of knowledge hiding in organizations.

Statements	Codes	Theoretical Categories
Only the best will receive an offer for advancement, and some of my colleagues use any means available.	Gain a competitive advantage	Competitive Climate
There are only five places available and you do anything you could to gain one of these.	Obtaining valued outcomes	
I did it just for the reaon that I thought he might copy this or be faster than me.	Maximize own performance	Rivalry
As I was the first candidate, I had kind of disadvantage, and I did not want them to perform me out.	Diminish performance of others	
The last time I helped her she made a mistake and blamed it on me in front of our boss.	Avoiding adverse outcomes	Outcome expectations
His work is not related to my work, so it would be a waste of time to explain it to him.	Lack of personal benefits	
There is this distance between employees. (…) You just realize: If one person does it, everybody will follow this example.	Knowledge hiding norms	Compliance
My supervisor clearly communicated that we must not share any know-how with colleagues of other departments.	Leader demands	
This colleague did not help me in a situation where I needed his help.	Revenge	Reciprocal behavior
He has withheld knowledge from me before. I wanted him to be hoisted with his own petard.	Tit for tat	
I did not find him sympathic anyway and I will keep out of his way in the future.	Personal dislike	Poor personal relationship
I felt uncomfortable that a person from outside joined the team, and I did not see what expertise he could bring in.	Distrust	
I was afraid that, once my know-how is accessible for everyone, my supervisor could substitute me.	Knowledge as asset	Knowledge attitudes
I invested a lot of effort to achieve this level of knowledge and I am not willing to share it.	Beliefs of ownership	

Whereas both categories, "competitive climate" and "rivalry" describe knowledge hiding in a competitive environment they are distinct from each other as "competitive climate" is affected by structural reasons, and "rivalry" stems from a perceived direct and personal competition between perpetrator and target. Thus, "competitive climate" within the

organization must be separated from personal forms of "rivalry", where there is a specific competitor (Kilduff, Elfenbein, & Staw, 2010). For example, the interviewees reported that they concealed their knowledge to either maximize own benefits or to intentionally diminish the performance of a coworker: *I am one year ahead of him, but if he is a very smart boy, he will hurry up and be faster than me. I am just mad about him being better or faster than me. (...) I did it just for the reason that I thought he might copy this or be faster than me, and I can image this happening oftentimes in this organization, that you do not pass information because you want to be put in a more favorable light compared to others (RJL12_5).*

Second, participants oftentimes consciously ponder costs and benefits in terms of knowledge sharing to hedge against adverse outcomes. These negative outcome expectations affect individuals' knowledge hiding intentions. Interviewees stressed that knowledge hiding arises from a lack of personal benefits for sharing as well as from fears of negative outcomes for themselves: *From my opinion there are fears, just fears, and individual experiences that someone could make profit with your knowledge (EWL20_2).*

Third, participants oftentimes reported that their behavior was affected by implicit knowledge hiding norms: *It is a matter of mentality, of a way of thinking. There are many people who do not seek any contact or knowledge exchange. They are just not willing to tell their colleagues what they learned. This is a problem. They do not understand the importance of knowledge sharing. This is just a matter of mentality. (...) You just realize: If one person does it, everybody will follow this example (EWL20_1).* Besides knowledge hiding norms, there were also incidents describing explicit demands of leaders to hide knowledge from their colleagues: "my *supervisor clearly communicated that I must not share any know-how with colleagues of other departments. The background was that he wanted to secure his expertise, to be of larger value for the organization, to have a right to exist, and to shed a favorable light on him, to have an advantage in future negotiation for resources and budget, for*

example. It was communicated very clearly that I must not share knowledge with these colleagues, not talk with them at all, this was the order (AKM05_1). Concordantly, the theoretical category "compliance" is another crucial driver for knowledge hiding and includes both, "knowledge hiding norms" and "leaders demands".

Fourth, in line with the existing literature, I found that "reciprocal behavior" was an additional antecedent of knowledge hiding (Černe et al., 2014; Connelly et al., 2012). My Informants used terms like "tit–for-tat", "retaliation" or "revenge" to describe their motivations for knowledge hiding in these cases: *I am not interested in the reasons for the misconduct of my colleague. I just retaliated his misconduct by withholding the requested information (AKM05_3).* Others described that they will retaliate the initial misconduct in the future: *If she requests support from me in the future, I will for sure refuse to help her (RJL12_4).*

Fifth, interviewees identified "poor personal relationships" as antecedents of knowledge hiding. "Personal Dislike", motivated employees to hide knowledge from their conflict partner: *My behavior is driven by social tensions between this colleague and me. (...) The personal issues have a strong negative influence on our cooperation (PUH05_1).* Consistent with literature (Černe et al., 2014), I found that distrust is also a major driver of knowledge hiding: *It is about a certain degree of distrust towards the other, whether he is honest or not (AKM05_2).*

Last, perpetrators often regarded "knowledge as an asset" that they have developed and on which they based their right to exist in the organization. In addition, interviewees stressed that knowledge hiding arises from belief of ownership of specific information or from the sense of power of possessing knowledge that is valuable to others: *I invested a lot of effort to achieve this level of knowledge and I am not willing to share it (TKR03_2).* Knowledge hiding behavior also aims at preserving their own status in the organization: *In my opinion,*

knowledge is power. The one that reports the latest news or problems has the most attention from the management and this is the reason why professionals have got the knowledge but are not willing to share it (MMB01_1). I integrated the codes "knowledge as an asset" and "belief of ownership" in the theoretical category "knowledge attitudes".

2.1.5 Discussion

Although others have begun to explore the antecedents of knowledge hiding (Černe et al., 2014; Connelly et al., 2012; Peng, 2013), this thesis is the first to offer a broad spectrum of antecedents based on empirical data as well as merging these antecedents into theoretical constructs and therefore making valuable insights about which antecedents are most present. In the following, we will highlight new insights from this research that will add to the state of the art knowledge about knowledge hiding.

First, I found indicators that knowledge hiding is a mechanism to not only increase one's own benefits but also to consciously hinder a co-worker's performance. In a business environment, employees repeatedly find themselves in a direct competition for bonuses or promotions (Černe et al., 2014; Connelly & Zweig, 2015; Connelly et al., 2012; Peng, 2013). Therefore, colleagues might be seen as a threat for one's own beneficial outcomes. As performance goals are consciously set very ambitiously, the competition between co-workers might grow so intensely that blind ambition possibly leads to suboptimal or counterproductive work behavior (Kilduff et al., 2010) which may include knowledge hiding.

Competition usually occurs in a challenging environment and is defined as dyadic exchange where success of one party is derived at the expense of the other (French & Raven, 1959). My results indicate that knowledge hiding is influenced by the perceived rivalry towards colleagues. Thus, employees engage in knowledge hiding to either intentionally decrease the colleague's performance or whenever a personal benefit for sharing knowledge is

missing. Exploratory post-hoc analysis of my data considering the variables gathered for sample description (see method section, e.g., hierarchical level, variable compensation) indicated that competition was reported as a major reason by professionals regardless of whether or not they received performance-based compensation and independent from their managerial responsibilities and hierarchical position.

On the individual level, my data clearly indicated the employees ponder costs and benefits of sharing knowledge. In cases where personal effort overcomes the possible advantages of sharing knowledge, employees engage in knowledge hiding due to a lack of personal benefits or to hedge against adverse outcomes such as time-consuming meetings for sharing knowledge and thereby suffering from a lack of time for fulfilling their own tasks. This result is in line with earlier findings of Černe et al. (2014) who found that a performance climate rather than a mastery climate increases the negative effects of knowledge hiding. My thesis extends this research by considering competition not only as a moderator and context factor but also as a major catalyst for and antecedent of knowledge hiding.

Second, I identified compliance as another driver for knowledge hiding. Obedience to authority is defined as the following of the commands of another person; vice versa disobedience means neglecting to carry out a specific command (Zeigler-Hill, Southard, Archer, & Donohoe, 2013). It is important to distinguish between obedience to the organization (e.g., based on non-disclosure-agreements) and obedience to (implicit or explicit) work orders of the supervisor. My results showed that employees hiding knowledge from co-workers were sometimes obliged to do so, whereas their own beliefs and attitudes did not influence their action in the first place. Obedience to non-disclosure agreements can indeed contribute to an organization's success because only this way patents or licenses stay confidential. Destructive obedience, such as the fulfilling of arbitrary commands of the leader

("Do not share knowledge with another sub-unit of this organization"), would however, not lead to positive outcomes.

To prevent destructive obedience organizations should raise the levels of moral and ethical judgment of the employees (Zeigler-Hill et al., 2013). Moreover, future research on knowledge hiding should consider the impact of the top management/the leader on employees' knowledge hiding behavior (Bass, Avolio, Jung, & Berson, 2003; Yukl, 2012). First evidence from a quantitative study revealed that negative leadership behaviors such as exploiting employees for fulfilling own interest leads to an increase of knowledge hiding behaviors within the team (Knipfer, Schmid, Mangold, & Melzer, 2015).

Third, my results indicate that "poor personal relationships" (e.g., personal dislike or distrust) are another antecedents of knowledge hiding. In line with my findings, scholars have shown that other-directed negative emotions such as dislike, anger or envy can raise one's pleasure at another's misfortune (Sprinthall, 2009). The misfortune of a colleague is perceived as deserved, if dislike is the most salient emotion in the interaction. If envy is the strongest emotion, employees are more reluctant to bail their colleagues out (Leach & Spears, 2008). Since perceived emotional pain in a professional context is rather derived from their own inferiority than from the perceived outperformance of peers, knowledge hiding is more likely to occur, if employees try to prevent losing further ground to colleagues. Especially if the supervisor has complimented the colleague before (Fischer, Kastenmüller, Frey, & Peus, 2009). In addition, Černe et al. (2014) showed that knowledge hiders even harm their own creativity by intentionally hiding knowledge from colleagues.

Fourth, my results further imply that knowledge is seen as an asset that serves individuals as basis for power (Kilduff et al., 2010), and employees fear to lose their power if they would share their knowledge with their colleagues. Additionally, employees see their knowledge as an asset they have developed and feel that their right to exist actually stems

from that specific knowledge. The theory of psychological ownership explains how individuals are psychologically tied to a material or immaterial object and experience feelings of possession of this specific object (Pierce, Kostova, & Dirks, 2001). Employees' beliefs of ownership of ideas arise from a trade-off between their own claim to ideas and the competing legal claim of their employers (Deutsch, 1949). The incongruence of these factors is the basis of employees' misconducts in terms of knowledge transfer. Contiguous to the legal context, beliefs of self-ownership towards organizational intellectual property are also influenced by the organizational culture and the personality traits of employee (Barrick & Mount, 1991). Beliefs of ownership (Jarvenpaa & Majchrzak, 2008) and psychological ownership as well as territoriality (Peng, 2013) have been explored as antecedents of knowledge hiding behavior before. My results confirm that psychological ownership is one antecedent of hiding knowledge from a co-worker, whereas additional research is necessary to investigate and understand these factors in the context of knowledge hiding.

Finally, my results confirmed the existence of "reciprocal behavior" as a antecedent of knowledge hiding: Černe et al. (2014) have been able to show a reciprocity in knowledge hiding behavior: A former target of knowledge hiding is more inclined to respond to a future request of the perpetrator with hiding knowledge, too. Distrust was a major driver of this negative spiral in their laboratory experiment. My results showed that reciprocal behavior also occurred from a tit-for-tat response to knowledge hiding and also from a desire for revenge for co-workers' misconduct other than knowledge hiding.

To summarize, my interviews demonstrate that knowledge hiding is a common behavior amongst colleagues that is already manifested in organizations. They further reveal that engaging in hiding is not merely a simple refusal to transfer knowledge. My findings highlight the significance of organizational norms and expectations as well as individual attitudes and subjective norms. I conclude that there are reasons to engage in knowledge

hiding on multiple levels of analysis: 1) rather structural antecedents that refer to the organization as a whole (i.e., organizational level), 2) reasons that lie in the social relationship or refer back to prior interactions of perpetrator and target (i.e., the interpersonal level, and 3) an individual's knowledge sharing attitudes and beliefs about knowledge (i.e., the individual level). In the following, I will draw on multiple theories to elaborate on the findings of Chapter 2.1 and to develop specific hypotheses about the reasons to engage in knowledge hiding.

2.2 Development of a multilevel framework of antecedents of knowledge hiding

2.2.1 Introduction

In Chapter 2.1, I identified several antecedents of knowledge hiding spanning three levels of analysis, namely the organizational level, the interpersonal level, and the individual level. I propose that any further investigation of the antecedents of knowledge hiding should consider these three levels. In order to elaborate on the motivational mechanisms, I will therefore draw on a range of theories as follows.

First, I will draw on theories of competition and cooperation, social exchange as well as expectancy theory to develop hypotheses about antecedents of knowledge hiding related to competition arising from structural/organizational, interpersonal and individual aspects. Second, I refer to social influence and social learning theory to develop hypotheses about rather structural reasons to engage in knowledge hiding such as compliance to norms. Third, I refer to social exchange and fairness theories to develop hypotheses that focus on interpersonal relationships such as a desire to retaliate knowledge hiding. Finally, theories of planned behavior and reasoned action are used to specify hypotheses for reasons on the individual level such as beliefs of knowledge ownership. Although the underlying mechanisms may be interrelated, these theories stem from different areas of research, namely management and organization science, social psychology, as well as economics. They also take specific perspectives and either highlight structural factors, interpersonal dynamics, or subjective beliefs and norms. I use these theories to develop hypotheses with regard to the reasons to engage in knowledge hiding in different sections.

2.2.2 Development of Hypotheses

Competition as an Antecedent of Knowledge Hiding

In Chapter 2.1, I found that knowledge is perceived as a competitive advantage and, therefore, people tend to keep valuable information rather than share information. Although

most organizations try to motivate their members though incentive systems and competitive goals, this may backfire (Stanne, Johnson, & Johnson, 1999). Specifically, an organizational climate that emphasizes competition instead of cooperation implies a win-lose situation for the involved parties (Campbell & Furrer, 1995), which will likely reduce employees' willingness to share their knowledge with colleagues (Schepers & van den Berg, 2007; Willem & Scarbrough, 2006). In the case of knowledge hiding, a highly competitive climate induces employees to focus on outperforming their peers (Fletcher, Major, & Davis, 2008). Hence, people placed in competitive reward structures may be motivated to impair the progress of others in an effort to gain an advantage over their colleagues (Locke, 1968) rather than supporting each other (Beersma et al., 2003). In this context, (monetary) incentives such as promotion as well as team or individual bonuses have been suggested to be a critical factor to facilitate or to diminish knowledge sharing within organizations (Hansen, Nohria, & Tierney, 1999; Yao, Kam, & Chan, 2007). Whereas previous evidence on the effect of extrinsic rewards is mixed, Kim and Lee (2006) found that performance-based compensation facilitated knowledge sharing, especially when knowledge sharing or the use of shared information was a primary condition for the extra payment (Cabrera, Collins, & Salgado, 2006). In contrast to these findings, there is empirical evidence that extrinsic motivation negatively affects employees' knowledge sharing attitudes (Bock & Kim, 2002; Bock, Zmud, Kim, & Lee, 2005). Furthermore, Ferrin and Dirks (2003) found that competitive reward structures have a negative effect on the knowledge sharing intentions of employees. Hence, I propose the following hypothesis:

> **Hypothesis 1:** *Employees engage in knowledge hiding because they want to gain a competitive advantage over other co-workers.*

In addition to a general competitive climate in organizations, personal rivalry may increase the tendency to engage in knowledge hiding. In accordance with the theory of

competitive orientation (Collier, Ryckman, Thornton, & Gold, 2010), the respondents in Chapter 2.1 reported competition with a specific co-worker as a major reason to engage in knowledge hiding. On the one hand, employees may perceive these rivalries as a positive stimulus or extra motivation to maximize their own benefits opportunistically (Ryckman, Libby, van den Borne, Gold, & Lindner, 1997). On**e** the other hand, the permanent contending with colleagues for rewards at all costs might get out of control and escalate to an all-or-nothing mentality where employees are poised for intentionally hindering colleagues to reach their goals (Kilduff et al., 2010; Ryckman et al., 1997; Stanne et al., 1999). Competition was thus defined as dyadic exchange where success of one party is derived at the expense of the other (French & Raven, 1959). In fact, the interviews in Chapter 2 indicated that knowledge hiding is an effective instrument for diminishing the performance of others. I hypothesize that rivalry on the interpersonal level can be differentiated from a more general competitive climate on the organizational level. Thus, I seek to address the following hypothesis:

> **Hypothesis 2:** *Employees engage in knowledge hiding because of a strong rivalry with the knowledge seeker.*

Employees are oftentimes interested to fulfill their individual goals and to maximize their benefits. They certainly ponder the costs and benefits for sharing knowledge and try to hedge against negative effects (Blau, 1964; Bock et al., 2005). Concordantly, scholars identified perceived benefits and costs as critical antecedents of knowledge sharing; perceived costs have negative influence on knowledge sharing while perceived benefits facilitate knowledge sharing (Wang & Noe, 2010). In most professional settings management neither rewards successful knowledge sharing nor sanctions disengagement from knowledge sharing (Locke, 1968). Hence, individuals offset costs and benefits for sharing their knowledge in order to maximize their personal utility (Deci & Ryan, 1975). This trade-off implies that

expected rewards (and the lack of rewards, respectively) affect knowledge hiding of employees (Vroom, 1964). Hence, I propose the following hypothesis:

Hypothesis 3a: Employees engage in knowledge hiding because of a lack of personal benefits.

From another perspective, the interviewees in Chapter 2.1 reported that they even fear negative consequences such as being blamed for incorrect information. Literature shows that employees are more likely to share their knowledge, if they are confident about the correctness and usefulness of their knowledge (Cabrera et al., 2006). Moreover, there is empirical evidence showing a negative correlation between employees' fear of negative evaluations and their knowledge sharing intentions (Bordia, Irmer, & Abusah, 2006). Employees may counteract perceived threats by engaging in knowledge hiding. Hence, I propose the following hypothesis:

Hypothesis 3b: Employees engage in knowledge hiding because they fear adverse outcomes.

Compliance as an Antecedent of Knowledge Hiding

The findings from Chapter 2.1 indicated that knowledge hiding is a consequence of compliance to implicit norms within an organization. Empirical evidence shows that management support is positively related to knowledge sharing (Cabrera et al., 2006; Connelly & Kelloway, 2003). More specifically, King and Marks (2008) found that management support and especially supervisory control were significant predictors for individual knowledge sharing intentions. Accordingly, expert power (employees' assumption that the supervisor is an expert in the relevant area) and particularly reward power (managers' regulation of rewards for desired behavior) influence employees' knowledge sharing behavior (French & Raven, 1959; Liao, 2008). The relationship between management support (Lin &

Lee, 2004) and knowledge sharing receives further support from social learning theory (Bandura, 1977) and social identity theory (Tajfel & Turner, 1985). Scholars found that social norms serve as a mediator in the relationship of organizational climate and employees' knowledge sharing intentions (Bock et al., 2005; Taylor & Wright, 2004). Behaving in line with organizational norms and expectations is a critical factor of success for employees (Ragins & Sundstrom, 1989). In line with the findings of Chapter 2.1, group members readily adopt social norms from their colleagues. These role modeling effects largely influence the adoption of a social identity of newcomers, because those are likely to observe and imitate others' behavior (Tajfel & Turner, 1985). Further, scholars have shown that individuals evaluate in-group members and out-group members differently (Hewstone, Rubin, & Willis, 2002). Individuals feel more comfortable when they are working with people who share the same social identity as they do (Phillips, Liljenquist, & Neale, 2009). Concordantly, I seek to address the following hypothesis:

Hypothesis 4a: *Employees engage in knowledge hiding because of compliance to social norms and expectations.*

The findings of Chapter 2.1 showed that it is necessary to distinguish between conformity to implicit organizational norms and compliance to explicit demands of the leader. This is in line with earlier research showing that the leader has a major impact on followers' behavior (Bass et al., 2003; Braun, Peus, Weisweiler, & Frey, 2013). Leaders are able to modify employees' behavior by altering the social identity of group members (van Knippenberg, van Knippenberg, De Cremer, & Hogg, 2004). Further, leaders will largely influence knowledge sharing or hiding behavior both through role modeling as well as the explicit communication of expectations (Bartol & Srivastava, 2002). To this extent, leadership behavior is on the one hand a high performance factor and on the other hand one reason for employees' incivility and workplace deviance (Fox et al., 2001; LeBlanc & Kelloway, 2002).

It follows that in cases, where leaders foster knowledge hiding towards others, their followers will likely act to conform to the leader's expectations in order to obtain rewards or avoid punishment (Cialdini & Trost, 1998). Concordantly, I seek to address the following hypothesis:

> *Hypothesis 4b: Employees engage in knowledge hiding because of compliance to leader's demands.*

Reciprocal Behavior and Poor Personal Relationships as Antecedents of Knowledge Hiding

Individuals not only compare costs and benefits for themselves but, according to social exchange theory (Blau, 1964), compare perceived costs and benefits for all involved parties. They seek fairness in social exchange relationships. The perceptions of injustice in social exchange situations elicit tensions that individuals try to reduce to restore organizational justice (Leventhal, 1980; Moorman, 1991; Thibaut & Walker, 1975) and fairness (Greenberg, 1986). In a laboratory experiment, Černe et al. (2014) showed that individuals are likely to reciprocate knowledge hiding against an initial perpetrator. My findings from Chapter 2.1 indicated that the informants engage in knowledge hiding to retaliate a former misconduct of a co-worker. In this case, expectations in terms of knowledge sharing were not met and the initial targets of knowledge hiding perceives their own knowledge hiding behavior as legitimate (norms of reciprocity, Gouldner, 1960), thereby perpetuating the exchange of negative behaviors. Thus, I seek to address the following hypothesis:

> *Hypothesis 5: Employees engage in knowledge hiding because of a desire for retaliation (e.g., former knowledge hiding behavior or any other misconduct) towards the knowledge seeker.*

Further, my findings from Chapter 2.1 indicated that interpersonal distrust and dislike are drivers of knowledge hiding. Consistently, there is empirical evidence that interpersonal relationships determine knowledge sharing as well as knowledge hiding (Bock et al., 2005; Connelly et al., 2012; Wang & Noe, 2010). Distrust or dislike is likely to arise from membership in different groups (Hareli & Weiner, 2002; Leach & Spears, 2008). Scholars have shown that individuals evaluate in-group members as more valuable, loyal, honest and trustworthy than members of other groups because of shared social identity (Hewstone et al., 2002) and social capital (Nahapiet & Ghoshal, 1998). They tend to distrust out-group members and share less knowledge with them (Kane, Argote, & Levine, 2005; Lewicki et al., 1998; Phillips et al., 2009). Moreover, distrust or dislike of co-workers can arise from prior interactions such as formerly experienced knowledge hiding (Černe et al., 2014). It may also arise from misconstrued social interactions (e.g., irrational distrust; Lewicki et al., 1998). Hence, I propose the following hypotheses:

> **Hypothesis 6:** *Employees engage in knowledge hiding because they distrust or dislike the individual who requested knowledge from them.*

Knowledge Attitudes as Antecedent of Knowledge Hiding

The findings of Chapter 2.1 indicate that attitudes towards knowledge sharing and hiding as well as knowledge beliefs are likely to influence knowledge hiding intentions. These findings are in line with literature on knowledge sharing attitudes (Gagné, 2009). There is empirical evidence that attitudes mediate the relationship between subjective norms and knowledge sharing intentions of employees (Lin & Lee, 2004; Ryu, Ho, & Han, 2003). More precisely, Bock et al. (2005) found that the subjective norm to share knowledge positively influences the intention to share knowledge. Still, there is little empirical evidence about individual beliefs concerning knowledge ownership (Constant, Kiesler, & Sproull, 1994;

Jarvenpaa & Staples, 2001; Kolekofski & Heminger, 2003). Scholars found that individuals are more likely to share their knowledge, if they believe that the organization owns the information rather than themselves (Constant et al., 1994; Jarvenpaa & Staples, 2001). If organizations honor the achievements of employees in terms of knowledge creation, they foster knowledge sharing as employees gain satisfaction from sharing their knowledge with others (Wang & Noe, 2010). Vice versa, if there is no organizational culture that stimulates employees' curiosity and honors intellectual achievements, employees might show destructive behaviors such as knowledge hiding instead to protect their individual knowledge. Concordantly, people seek distinction, prestige and dominance in order to keep power over others and knowledge hiding behavior is possibly an expedient in reaching that goal (French, 1956). Thus, I propose the following hypothesis:

Hypothesis 7a: Employees engage in knowledge hiding because of their beliefs of knowledge ownership.

In addition, my findings from Chapter 2.1 indicated that employees are likely to engage in knowledge hiding because of fear of losing their status by sharing their individual knowledge. These insights receive support from the theory of planned behavior (Madden, Ellen, & Ajzen, 1992). Thus, I propose the following hypothesis:

Hypothesis 7b: Employees engage in knowledge hiding because they regard their knowledge as an asset.

To summarize, I hypothesize various reasons to engage in knowledge hiding, thereby considering three levels of analysis, namely the organizational, the interpersonal, and the individual level. To elaborate the findings of Chapter 2.1, I based my reasoning on a broad range of theories including theories of competition versus cooperation, social identity theory, social learning theory, social exchange theory, theory of planned behavior as well as theory of reasoned action. Chapter 2.2 aimed at testing the derived hypotheses about the various reasons

employees may have to engage in knowledge hiding. In the following, I will outline the methods employed for hypotheses testing.

2.2.3 Methods

Sample

In the present chapter, I used an online panel for purposeful sampling of adult employees in a wide variety of occupations, organizations, and countries in order to extend the findings of Chapter 2 and to gain insights that are valid across contexts. 202 professionals from a voluntary online panel of internationally diversified adults completed different language versions of the same questionnaire to elicit knowledge hiding incidents. Native speakers provided the translation of the instructions from German to Arabian, Chinese, Croatian, English, Russian, and Turkish. A translation-back translation procedure (Brislin, 1986) was used to ensure comparability of instructions.

Approximately 31% of the participants were female, and a wide age range was represented (between 19 and 68, $M = 35.9$). The participants had been working in a full-time job for one to 46 years (mean work experience was 12.94 years) and had tenure on their current position between one and 32 years ($M = 5.92$ years). Managers with responsibilities for staff and assets made up 54.2% of the sample. Participants' occupation was very diverse (e.g., marketing & sales 32.5%, research & development 14.3%, production 10.8%, and administration 9.4%). Employers were equally represented from small and medium-sized enterprises (SME) to large corporates.

Procedure

Richman, Kiesler, Weisband, and Drasgow (1999) compared different methods for data collection with respect to distortion and biases due to social desirability. In line with their

findings, my data collection was conducted using an anonymous online survey. Participants were invited to participate in the online survey by using the authors' personal contacts and online social networks. On the landing page of the survey, an overview about the aim of the online survey was given as well as a disclaimer of anonymity and security of data. Of 1147 individuals who saw this landing page, 289 completed the survey. The response rate was approximately 25 %, which is slightly below-average for voluntary online surveys (Baruch, 1999).

Consistent with the procedure in Chapter 2.1, I used the critical incident technique and focused solely on the perpetrator's perspective. This procedure was chosen to provide data with a valid scope of interpretation with respect to antecedents of knowledge hiding because targets and observers are able to speculate about reasons only. Participants were instructed to think of a recent episode, in which a colleague had requested knowledge from them and they had concealed their knowledge. They were asked to describe this situation as detailed as possible. Participants were then asked to describe their reasons for their behavior in a separate open-ended text field.

Analysis

Native speakers of the respective language conducted the translation of the gathered incidents into English. I then selected incidents that fulfilled the following requirements for further analysis: They were 1) detailed descriptions of 2) a concrete knowledge hiding episode in 3) the professional context. 202 knowledge hiding incidents met these criteria and were thus analyzed by coding and counting knowledge hiding incidents using the coding scheme developed in Chapter 2.1. A subsample of 59 knowledge hiding incidents was coded by a second rater. Interrater-reliability between the two coders was very satisfying with Cohen's

Kappa = 0.80 (Cohen, 1968). In case of disagreement, the original code was checked again and changed if legitimate until full agreement was reached.

2.2.4 Results

The results of Chapter 2.2 replicate and extend the findings of my interview study. By discussing my hypotheses in sequence, this chapter provides a more grounded understanding of the relevant codes and categories and their meaning on the three levels of analysis, namely the organizational, the interpersonal, and the individual level. I also provide coding frequencies together with my conclusion with regard to hypotheses testing in Table 1.

Hypothesis 1, which suggested that employees engage in knowledge hiding to gain a competitive advantage over peers, was supported by the data. This result is in line with earlier findings of Černe et al. (2014) who found that a performance climate rather than a mastery climate increases the negative effects of knowledge hiding. I extend this research by considering competition not only as a moderator and context factor but also as a major catalyst for and antecedent of knowledge hiding. As performance goals are consciously set very ambitiously, the competition between co-workers might grow so intensely that blind ambition possibly leads to suboptimal or counterproductive work behavior (Kilduff et al., 2010), which may include knowledge hiding.

I further hypothesized that employees engage in knowledge hiding to maximize their own benefits or to diminish the performance of a co-worker (Hypothesis 2). This hypothesis received support from the data. Employees not only consciously hindered a co-worker's performance but also increased their own benefits through engaging in knowledge hiding. Exploratory post-hoc analysis of my data considering the variables gathered for sample description indicated that competition was reported as a major reason by employees regardless of whether or not they received performance-based compensation and independent from their managerial responsibilities and hierarchical position.

Hypothesis 3a stating that employees engage in knowledge hiding because of a lack of personal benefits was supported. The advantages of knowledge sharing for an organization are well understood and individuals will engage in knowledge sharing as long as this behavior gives a good return (Wang & Noe, 2010). The knowledge exchange process can thus be described as a social dilemma (Cabrera et al., 2006; Kollock, 1998): Individuals ponder costs and benefits for sharing knowledge and rationally decide to hide knowledge because there is no incentive for sharing knowledge (Pratt & Zeckhauser, 1985). Hypothesis 3b suggesting that employees engage in knowledge hiding to avoid adverse outcomes also received support from the data. In this context, employees try to avoid knowledge sharing, if they fear to expose themselves to a situation in which they are not able to meet with success.

Hypothesis 4a suggesting that employees engage in knowledge hiding because of compliance to social norms is supported. Similarly, Hypothesis 4b suggesting that employees engage in knowledge hiding because of compliance to leader demands was also supported. I thus identified compliance as a major driver for knowledge hiding, whereas I have to distinguish between obedience to (implicit) organizational norms and obedience to (explicit) instructions of the supervisor. My results showed that employees hiding knowledge from co-workers sometimes felt obliged to do so, whereas their own beliefs and attitudes did not influence their action in the first place. To prevent destructive obedience such as the fulfilling of arbitrary commands of the leader (*Do not share knowledge with another sub-unit of this organization*), organizations should raise the levels of moral and ethical judgment of their employees (Zeigler-Hill et al., 2013).

Table 1: Summary of findings with regard to hypotheses testing

#	Hypotheses		Examples	Σ
	Employees engage in knowledge hiding...			
H1	... *because they want to gain a competitive advantage over other co-workers.*	Supported	I just consequently ignored his question to make sure that only my division is able to answer customers' questions and not the associated company (respondent GER714)	8
H2	... *in order to maximize their own benefits or to diminish the performance of others.*	Supported	This colleague is not only a colleague but also a competitor to me. Thus, hiding knowledge from him gave me a competitive advantage. (respondent GER478)	29
H3a	... *because of a lack of personal benefits.*	Supported	His work is not related to my work, so it would be a waste of time to explain it to him. (respondent CN51)	36
H3b	... *because they fear adverse outcomes.*	Supported	The last time I helped her she made a mistake and blamed it on me in front of our boss. After that I got a ticking-off from my boss. (respondent CRO36)	48
H4a	... *because of compliance to social norms and expectations.*	Supported	My colleagues do not share any valuable information with our internal and external service provider. That is why I also do not share information with them. (respondent GER499)	18
H4b	... *because of compliance to their leader's demands.*	Supported	My boss told me to suppress him (...) so I did not share any information with him. (respondent CN134)	7
H5	... *because of a desire for retaliation.*	Supported	He wants me to fail in my projects. I wanted to take revenge on him. (respondent US143)	12
H6	... *because they distrust or dislike the individual who requested knowledge from them.*	Supported	I experienced several times that he then presents the knowledge as being developed by himself. (respondent GER581)	35
H7a	... *because of their beliefs of knowledge ownership.*	Supported	I have collected my business knowledge during my entire career and also in other organizations where I used to work. (respondent GER463)	13
H7b	... *because they regard their knowledge as an asset.*	Supported	I was afraid that, once my know-how is accessible for everyone, my supervisor could substitute me by a younger person and I would loose my job. (respondent ARB139)	16

Extending the findings of (Černe et al., 2014), Hypothesis 5 suggested that employees engage in knowledge hiding to reciprocate initial knowledge hiding behavior of the knowledge seeker. In fact, my results showed that knowledge hiding occurred as tit-for-tat response as well as from a desire for revenge after a co-worker's misconduct other than knowledge hiding. In this context, interviewees reported that their desire for retaliation was driven by former incidents such as colleagues who tried to make one feel bad or who tried to make oneself fail in their own projects.

Hypothesis 6, suggesting that employees engage in knowledge hiding because of distrust or dislike towards the individual that requested knowledge was supported. In line with my findings, scholars have shown that other-directed negative emotions such as dislike, anger, or envy can raise one's pleasure at another's misfortune (Sprinthall, 2009). The misfortune of a colleague is perceived as deserved, if dislike is the most salient emotion in the interaction. If envy is the strongest emotion, employees are less reluctant to bail their colleagues out (Leach & Spears, 2008). Since perceived emotional pain in a professional context is rather derived from own inferiority than from perceived outperformance of peers, knowledge hiding is more likely to prevent losing further ground to colleagues (cf. Fischer et al., 2009).

Hypothesis 7a suggested that employees engage in knowledge hiding because of beliefs of knowledge ownership; this hypothesis was supported by my data. Also Hypothesis 7b suggesting that employees engage in knowledge hiding to preserve their knowledge as an asset was supported. These results imply that knowledge is seen as an asset that employees have developed. Thus, they feel that their right to exist actually stems from that specific knowledge and it serves them as a valuable asset. Concordantly, employees fear to lose their reputation (and their job ultimately) if they would share their knowledge with their colleagues. Employees' beliefs of ownership may arise from a trade-off between their own

claim to ideas and the competing legal claim of their employers (Deutsch, 1949). The incongruence of these factors may give rise to employees' misconducts in terms of knowledge transfer.

2.2.5 Discussion

The aim of Chapter 2 was to build theory in the area of knowledge hiding in organizations by filling the gap in the existing body of knowledge. Concordantly, I sought to extend the current understanding of knowledge hiding by providing new categories of reasons and refining existing categories (Lee, Mitchell, & Sablynski, 1999; Locke, 2001). I suggest that a sound understanding of the reasons why people engage in active and intentional knowledge hiding is crucial in today's knowledge economy, in which knowledge is a major source of competitive advantage of a firm (Drucker, 1969; Grant, 1996).

Chapter 2 makes five important contributions to the literature about the antecedents of knowledge hiding: (1) First, my findings highlight the existence of various antecedents of knowledge hiding in organizations that are distinct from the ones found in previous research. Specifically, I refine current ways of thinking (e.g., distrust and dislike represent different antecedents referring to poor personal relationships), provide new insights on extant conclusions (e.g., by differentiating between tit for tat-behavior and revenge as a response to other forms of misconduct of colleagues), and elaborate theory (e.g., competition as a rather structural factor versus rivalry as a interpersonal factor including a specific competitor). (2) Second, when further comparing and contrasting the multiple antecedents of knowledge hiding, I found evidence for both instrumental as well as normative antecedents. That is, employees engage in knowledge hiding either to achieve an individual goal or to conform to social norms and expectations. I found empirical evidence for several antecedents other than egoistic reasons thereby extending earlier findings. (3) Third, the reasons reported by my

interviewees are not only multifaceted but also multilevel. I found antecedents on the individual, the interpersonal, and the organizational level. My insights responds to earlier calls by Connelly et al. (2012) to further investigate the organizational antecedents as well as the interpersonal dynamics of knowledge hiding. (4) Fourth, this thesis extends theory by drawing on major theories of human behavior from the fields of psychology, organization science and management as well as economics to elaborate on the motivational mechanisms underlying the reasons to engage in knowledge hiding. This multidisciplinary perspective allows for a substantially improved understanding of this phenomenon. (5) This thesis integrates my findings about the multilevel nature of the antecedents of knowledge hiding and the theoretical background to delineate differential avenues to reduce or ameliorate knowledge hiding intentions in organizations (see Figure 2). In the following, I will elaborate on both, the theoretical contributions as well as the managerial implications, in detail.

2.2.6   Theoretical Contributions

It appears that employees' knowledge hiding is not only influenced by distrust (e.g., Connelly et al., 2012), reciprocal knowledge hiding in terms of tit for tat (e.g., Černe et al., 2014), and beliefs of knowledge ownership (e.g., Peng, 2013). I extend previous research by introducing new reasons to engage in knowledge hiding such as gaining a competitive advantage overs peers, maximizing own benefits or diminishing the performance of others, compliance to social norms or to leader's demands, lack of personal benefits or fear of adverse outcomes, desire for retaliation of a prior misconduct of the knowledge seeker, personal dislike, and employees' perception of knowledge as an asset.

In a highly individualistic climate, where individual goals have priority over collective goals, knowledge hiding seems to be instrumental to either gain a competitive advantage over one's coworkers or to obtain valuable outcomes such as promotion or financial resources.

However, in addition to that, the participants of Chapter 2.1 and 2.2 also highlighted the fact that knowledge hiding behavior is oftentimes, implicitly or explicitly, triggered by norms and expectations: Interviewees in Chapter 2 reported to conform to expectations in order to obtain rewards or avoid punishment; specifically, if they perceive that knowledge hiding norms exist in their organization, employees simply conformed to them. The fact that every interviewee reported knowledge hiding from either the observer's, targets, or perpetrator's perspective suggests that these behaviors occur not as rarely in organizations as one might assume. In fact, three quarter of my respondents admitted to hide knowledge from their colleagues and reported one or even more episodes of knowledge hiding behavior. Still, perpetrators often seem to get away with knowledge hiding. The interviews showed that in many cases knowledge hiding had no consequences for the perpetrator. However, the general response to knowledge hiding within the organization is likely to foster the formation of knowledge hiding norms, and indeed, several interviewees reported that knowledge hiding is common and accepted behavior in their organization. In addition, I elaborate theory in establishing knowledge hiding because of conformity to social norms as well as compliance to leader demands. I should thereby distinguish between obedience to implicit organizational norms and obedience to explicit instructions of the leader. My results showed that employees sometimes felt obliged to conceal their knowledge, whereas their own beliefs and attitudes did not influence their action in the first place. I conclude from that that knowledge hiding may be motivated by reasons other than egoistic motives.

The main contribution of Chapter 2 is a theoretical framework that is not only multifaceted but also spans three levels of analysis, namely the individual, interpersonal, and organizational level, to explain why employees hide knowledge from their co-workers. In the construction of the theoretical framework depicted in Figure 2, I make several advances in understanding the multilevel nature of antecedents of knowledge hiding. On the

organizational level, I included structural reasons to engage in knowledge hiding and linked them to theories of competition and cooperation, social identity theory, social influence theory, and social learning theory. On the interpersonal level, I referred to social exchange theory and justice and fairness theories to explain the mechanisms underlying reasons such as the desire to retaliate knowledge hiding as well as distrust. Finally, I connected the antecedents of knowledge hiding on the individual level with theories of planned behavior and reasoned action to account for the fact that employees perceive their knowledge as an asset they want to preserve. My research integrates separate literatures to explain why people engage in knowledge hiding (Černe et al., 2014; Connelly & Kelloway, 2003; Connelly & Zweig, 2015; Connelly et al., 2012; Peng, 2013; Webster et al., 2008), and I have connected the disparate pieces of the knowledge hiding puzzle to establish a substantially extended understanding of why employees engage in knowledge hiding.

Figure 2 depicts my integrative framework of reasons to engage in knowledge hiding, which weaves together the findings with regard to the antecedents of knowledge hiding, relevant theories to explain underlying mechanisms and the managerial implications. To my knowledge, this is the first research that integrates the broad range of antecedents of knowledge hiding with multidisciplinary theories. Additionally, these theories imply radically different avenues to counteract knowledge hiding in organizations, which I will explain in Chapter 4.3 on managerial implications of my research.

Figure 2: Multilevel framework of the motivational mechanisms underlying knowledge hiding

3   Consequences of knowledge hiding[2]

3.1   Interview study on consequences of knowledge hiding

3.1.1   Introduction

With regard to consequences of knowledge hiding, earlier research showed that knowledge hiding evokes distrust, which then leads to reciprocal behavior. Therefore, knowledge hiding was not only detrimental for the targets' performance in a creativity task but also for the perpetrators themselves (Černe et al., 2014). In a field study, Černe et al. (2014) found that targets of knowledge hiding respond to this behavior with distrust towards the perpetrator and, therefore, they are more likely to retaliate knowledge hiding later. In a laboratory experiment, distrust was indeed found to be a major driver of mutual knowledge hiding behavior (Černe et al., 2014), and I conclude that distrust should be considered both as a reason and a consequence of knowledge hiding in organizations.

Since research on knowledge hiding has strongly focused on the interdependencies of the perpetrator and the target causing distrust and reciprocal behavior so far (Černe et al., 2014; Connelly et al., 2012), this chapter aimed at examining other potential consequences of knowledge hiding for individuals and the organization. For this purpose, I employed in this chapter a qualitative approach and used qualitative interviews to uncover participants' construal of knowledge hiding, which seemed most appropriate for exploratory theory building (Glaser & Strauss, 1965). More specifically, I investigated *which consequences* occur for the target.

Contrasting the quotes of my interviewees with the findings of former research, it is necessary to consider that there are also other consequences of knowledge hiding that are distinct to the established ones, most of the interviewees reported that there were no consequences arising from knowledge hiding at all, or at least for themselves: "*No., there*

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[2] This chapter is based on a conference paper (peer-reviewed) by Mangold, Knipfer, & Peus (2015), presented at the OLKC 2015 in Milan, Italy.

were no negative consequences for me (RJL12_1)" or *"No, not negative only positive consequences. (PAC03_2)"*. Interviewees even reported of some kind of pay-off: *I think, if you want to progress in your career it is useful because you acquire a competitive advantage over your peers. But in the end that has nothing to do with teamwork (GKG28_1).*

In doing so, the results of Chapter 3.1 contribute to the research state of the art on knowledge hiding in different ways. First, I examine a broad range of consequences of knowledge hiding going beyond the ones established by recent research through applying an inductive, exploratory approach. Second, I investigate the consequences of knowledge hiding in the field, i.e. the organizational context. Third, by investigating the different consequences of knowledge hiding in this chapter, I identified that knowledge hiding is on the one hand a common behavior in a tough business environment that is accepted by both, hiders and target and has often no direct consequences for hiders. Whereas on the other hand, targets are likely to get even with hiders by retaliating the initial misconduct and informing their supervisor or reciprocating knowledge hiding.

3.1.2   Review of Literature and Development of Research Question

Contrasting the quotes of my interviewees with the findings of former research, it is necessary to consider that there are also other consequences of knowledge hiding that are distinct to the established ones such as distrust (Connelly et al.; 2012); reciprocal behavior (Černe et al., 2014), territoriality (Peng, 2013) and harm for social relationships (Connelly & Zweig, 2015). Besides these findings, scholars assume that knowledge hiding also affects the individual as well as the organizational performance and hurts interpersonal relationships among employees (Connelly et al.; 2012). Besides negative effects on task performance through reciprocity, Connelly and Zweig (2015) showed that the negative effect on interpersonal relationships depends on the knowledge hiding strategy employed by the

knowledge hider. Playing dumb and evasive hiding are detrimental for the personal relationship between the perpetrator and the target and lead to reciprocal behavior, which ends up in a substantial damage of their relationship.

Scholars have focused on examining distrust and reciprocal behavior as well as consequences with regard to task performance as major consequences of knowledge hiding, whereas other possible consequences remain rather unexplored. For example, LeBlanc and Kelloway (2002) identified that CWB such as coworker-initiated aggression negatively affected a variety of outcomes such as emotional wellbeing, psychosomatic wellbeing, and affective commitment. I was interested in the whole range of different consequences for individuals and organizations. Therefore, I state the following second research question:

Research Question 2: Are there consequences of knowledge hiding in organizations besides the ones described by previous research (i.e., distrust, reciprocal behavior, and harm for creativity)?

3.1.3 Methods

Consistent with Chapter 2.1, I used a purposeful, cross-sectional sampling method (Lincoln & Guba, 1985) that involved sampling from diverse backgrounds, occupations, and organizational levels to obtain a broad range of perspectives (Bryman, 2006). The sample was recruited from a global organization from the automotive industry in Germany. It included 46 critical incidents collected from two women and 11 men. The participants had been working in a full-time job for two to 35 years (mean work experience was 13.3 years); they were between 25 and 55 years old (mean age was 37.2 years) and had tenure on their actual position between one and ten years (mean tenure on actual position was 2.3 years).

The data collection and data analysis were conducted in the same manner as in Chapter 2.1. For a detailed description of the applied methods please see Chapter 2.1.3.

Cohen's Kappa = 0.82 indicated a high degree of inter-rater reliability for the assignment of codes.
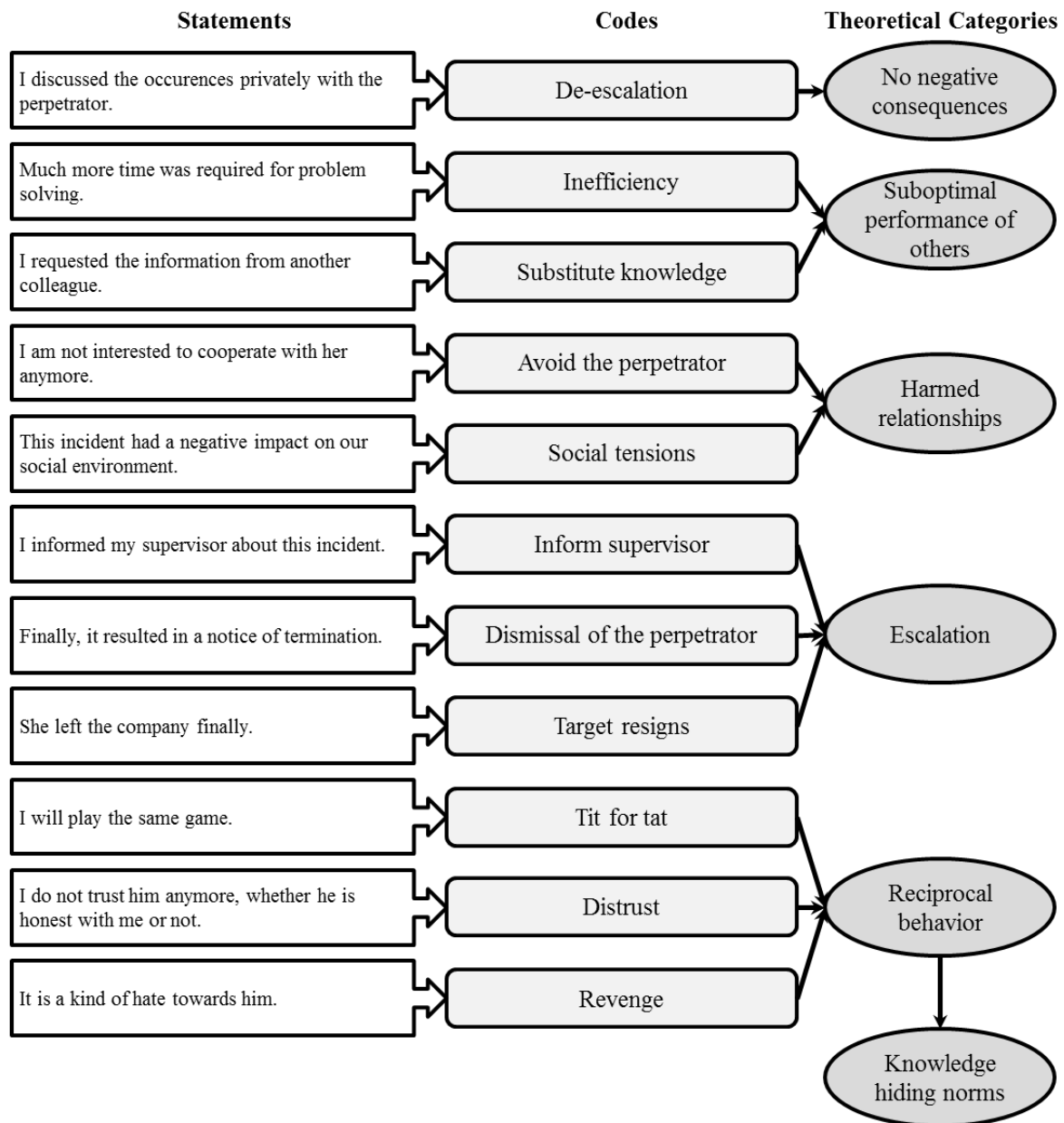
3.1.4 Findings

The major question driving my research in Chapter 3.1 was which consequences arise if employees engage in knowledge hiding towards their colleagues. Figure 3 provides an overview of the codes and theoretical categories together with example statements from the interviews. I found support for consequences consistent with previous research but also consequences that were new and sometimes unexpected.

My discussion of the consequences arising from knowledge hiding is designed to highlight major findings and contributions to theory development that go beyond earlier research about knowledge hiding in organizations. I will provide excerpts from the interviews to illustrate my conclusions about the consequences for knowledge hiding (respondent IDs are given in in brackets). Many of the interviewees reported that knowledge hiding is quite a common behavior in their organization. The reasons for such behavior have been analyzed in Chapter 2.

First and most often, participants described in 18 critical incidents the circumstances in a similar manner (e.g. "needed much more time", "output was worse than expected", or "delay") as their performance had to suffer from inefficiencies: *It was an extra effort for me and I lost a lot of time and made mistakes. (GAT16_2).* Other interviewees reported that their performance was suboptimal because they had to invest a lot of effort to get the information from other sources (e.g. "estimated values", "interpolated figures" or "find another colleague"): *This lack of know-how was the reason why I had to find out another way to acquire the information needed and therefore lost time and wasted resources. (MMB11_1).*

Figure 3: Overview of the codes and theoretical categories with respect to consequences of knowledge hiding in organizations.

Statements	Codes	Theoretical Categories
I discussed the occurences privately with the perpetrator.	De-escalation	No negative consequences
Much more time was required for problem solving.	Inefficiency	Suboptimal performance of others
I requested the information from another colleague.	Substitute knowledge	
I am not interested to cooperate with her anymore.	Avoid the perpetrator	Harmed relationships
This incident had a negative impact on our social environment.	Social tensions	
I informed my supervisor about this incident.	Inform supervisor	
Finally, it resulted in a notice of termination.	Dismissal of the perpetrator	Escalation
She left the company finally.	Target resigns	
I will play the same game.	Tit for tat	
I do not trust him anymore, whether he is honest with me or not.	Distrust	Reciprocal behavior
It is a kind of hate towards him.	Revenge	Knowledge hiding norms

Second, my findings revealed that knowledge hiding does not necessarily have (negative) consequences. In only two cases participants reported that they confronted the hider with his/her misconduct and tried to deescalate the situation by talking in private to each other. The terms they used to describe this fact (e.g., "settle a dispute", "to ease off", or "to conciliate") were largely consistent: *I appointed a meeting with the colleague, who has not answered my questions, to resolve this problem (RLR17_1).*

Third, I found that knowledge hiding oftentimes resulted in harmed relationship between target and perpetrator. The interviewees characterized 14 incidents by using similar terms (e.g. "to keep out of somebody's way", "to avoid someone" or "to evade someone"): *I avoided contact with him and I tried to manage things on my own (ETM29_1).* Besides just avoiding the perpetrator, my results show that knowledge hiding evokes social tensions between the target and the perpetrator. The interviewees used largely consistent terms (e.g. "reserved attitude", "barrier in-between" or "disappointment") to describe such incidents. *After this I had an aloof relationship with him. Some kind of barrier was between us. In the end I did not ask her again (RLR17_1).* These findings are consistent with the results of Connelly & Zweig (2015) as they showed that depending on the employed strategy knowledge hiding has different effects on the relationship between the target and the perpetrator and may even cause harmed relationship on a long-term perspective.

Fourth and in contrast to de-escalating a situation, interviewees reported that in three cases they engaged in an escalation process. This escalation took place in different ways**.** (1) Perpetrators informed their supervisor about the incident: *"I was not in the mood for an escalation, but I thought it would be better if I my supervisor knows about the facts without asking him for any action against the perpetrator (AKM05_2).* (2) In other cases the escalation process resulted in a dismissal for the perpetrator: *"Finally, it resulted in a notice of termination. I think that he lodged a complaint but without any success" (OAH23_1).* (3) In addition my results showed also that in some cases the conflict became worse and even the knowledge hiding target resigns from the job: *These circumstances, discrepancies and personal resentments had the consequences that this expert left the organization overnight (EWL20_1)*

Last and consistent with recent research (Černe et al., 2014), I found 7 incidents emphasizing that „reciprocal behavior" is another consequence of knowledge hiding in

organizations. Participants characterized the incidents by using mainly similar descriptions ("tit for tat", "to get even", or "to pay back"): *If she requests support from me in the future, I will certainly refuse to help her (GKG28_2).* Other interviewees reported that the perpetrator's behavior causes distrust: *There is a certain degree of distrust towards him, whether he treats you honestly or not (AKM05_2).* In some cases and as a consequences of a knowledge hiding incident, targets had extreme feelings. *I treated him like he treated me before. I did this because of wickedness (ETM29_3).* And another interviewee described his feelings as follows: *"It is a kind of anger. Complete incomprehension. And a conscious lack of interest for cooperation in the future" (AKM05_1).*

To summarize, the interviews demonstrate that knowledge hiding has different and serious consequences for individuals and organizations. They further reveal that many employees regard knowledge hiding as a common behavior in their business environment. My findings highlight the significance of four different outcome dimensions: (1) inefficiencies and waste of resources, (2) harmed relationship and emotional pain, (3) escalation, and (4) vicious circle through reciprocal behavior. Even in cases when the target talks to the perpetrator to de-escalate the situations interviewees reported that merely observing a knowledge hiding incident would affect their behavior towards other colleagues in the future.

3.1.5 Discussion

The findings of Chapter 3.1 revealed that knowledge hiding targets' performance suffered from inefficiencies arising from a lack of knowledge needed for fulfilling task requirements adequately or from being forced to acquire substitute knowledge from other sources. This lowers individual performance but also the organization's output in the long run. In this regard, I concur with (Connelly et al., 2012) who have already described the partly overlap of knowledge hiding and CWB. Earlier research on CWB has considered a wide

range of intentional behaviors that are detrimental for the organization as a whole or for members of the organization (Robinson & Bennett, 1995). CWB research should further consider knowledge hiding as a specific behavior that harms individuals and organizations.

Second, the participants reported that knowledge hiding harmed their relationships with co-workers in terms of social tensions (e.g., the target avoided the perpetrator after the incident). Early work on the relationship of conflict and performance has shown that interpersonal conflicts decrease team performance and deteriorate the productivity of individuals and teams (De Dreu & Weingart, 2003; Deutsch, 1949). In addition, empirical work has endorsed the negative correlation between conflict, team performance, and satisfaction (Saavedra et al., 1993). Thus, recent research on conflicts at work and team performance – in combination with my results – paves the way for further analysis of social tensions from both sides, i.e. as consequence of knowledge hiding but also as a antecedents of knowledge hiding.

Third, my results further indicate that knowledge hiding does not necessarily have (negative) consequences. Some participants reported that there were no consequences at all, and therefore they would not change their behavior. Earlier research has pointed to the significance of the leader as a model of acceptable behavior in the workplace: Employees (perpetrators as well as targets or observers) who learn that harmful and destructive behavior has no consequences if knowledge hiding is tolerated by their supervisor. In contrast, Holtz and Harold (2013) argue that a leader who provides clear standards for behavior and performance (combined with high levels of consideration) may reduce destructive behaviors of employees. Future research should therefore consider the role of leadership in the examination of knowledge hiding behavior and its consequences.

Other participants of my studies stated that the situation was *de-escalated* by talking directly to the perpetrator and offering ways out of the problematic situation. These findings

are consistent with research on workplace bullying: Employees suffering from social undermining are sometimes coping with these problems by applying constructive conflict-solving strategies (Bobocel, 2013).

Provided that constructive conflict-solving strategies do not lead to a desirable outcome, knowledge hiding targets engaged in an *escalation* process that possibly results in sanctions toward the perpetrator and/or even the intention to leave the organization (Nielsen & Einarsen, 2012). These findings suggest that perpetrators are likely to be sanctioned by their supervisors and ostracized by their colleagues. My results are consistent with research on conflict escalation (Nielsen & Einarsen, 2012) and obviously indicate a harm of the interpersonal relationship between perpetrator and target as well as perpetrator and observers. My research indicates that targets employ both strategies to escalate and to de-escalate the knowledge hiding situation. Still, it remains an open question which factors influence the decision to (de-)escalate. Future research may focus on personality traits and contextual factors that act as a moderator.

To summarize, my findings contribute to research on knowledge hiding by delivering new insights with regard to consequences of knowledge hiding in organizations. Additionally, an important contribution of my research is that not only knowledge hiding targets are poised for retaliation but *observers* of knowledge hiding incidents as well. Paying attention on this finding, Chapter 3.2 analyzes third-party reactions on knowledge hiding.

3.2   Third-party reactions on knowledge hiding in organizations[3]
3.2.1   Introduction

Recently scholars focus more and more on the investigation of third-party reactions on employee mistreatment. Observing an incident in which a colleague has to suffer from a

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[3] This chapter is partially based on a working paper by Mangold, Knipfer, & Peus (2015), currently under review at the Journal of Organizational Behavior.

mistreatment (e.g. knowledge hiding) by a leader or another colleague, third-parties are likely to retaliate this misconduct, even if this incident does not affect them personally. The effect of third-party reactions are manifold and include disparaging the company, disposing of company stock or engaging in retaliation of targets of the initial misconduct (Barley, 1991; Bies & Greenberg, 2002; Skarlicki, Ellard, & Kelln, 1998). The results of this research show that there is a potentially large number of third-parties for every single victim of employee mistreatment. The range of third-parties observing such incidents includes informal (e.g., coworkers, family, and friends) as well as more formal (e.g., arbitrators and judges) observers (Skarlicki & Rupp, 2010).

Whereas research has articulated the importance of the third-party perspective, up to date the mechanisms driving third-party reactions are poorly understood (Skarlicki & Kulik, 2005). Facing these shortcomings, the deontic model of justice (Cropanzano, Goldman, & Folger, 2003, 2005) provides an avenue to describe the underlying processes. Based on an evolutionary, visceral reaction to violations of social norms and standards of moral, third-parties react with strong negative emotions even if they are not affected by mistreatment of others (Skarlicki & Rupp, 2010).

With respect to these circumstances, dual processing theories (Evans, 2008; Evans & Stanovich, 2013), specifically, cognitive–experiential self-theory (Epstein, Lipson, Holstein, & Huh, 1992) characterize experiential and rational information processing as two different information processing frames to which extant third-party reactions can emerge on employee mistreatment (e.g. workplace bullying or knowledge hiding). On the one hand, experiential processing includes emotions that can be described as subliminal and facile. On the other hand, rational processes are driven by awareness of the situation and reasoning about the incident and are concordantly characterized by logic and evidence-based decisions (Skarlicki & Kulik, 2005; Skarlicki & Rupp, 2010).

Corresponding to this definition, I found in Chapter 3.1 several consequences of knowledge hiding stemming from different experiential (e.g. reciprocal behavior or poor personal relationships) or rational means (e.g. competitive climate or outcome expectations). To this extant, the same incident might be interpreted differently by observers and evokes different third-party reactions on the employee mistreatment depending on the processing frame. Besides the evidence of these results, dual processing theories have received only limited attention by scholars in terms of research on organizational justice. In this context, third-parties with a positive emotional connection with the target of an employee mistreatment (e.g. knowledge hiding towards friends or coworkers) might react subconsciously and try to protect the victim, whereas others (e.g. arbitrators) are more likely to consciously ponder costs and benefits of an intervention (Elkouri, Elkouri, & Ruben, 1985).

In Chapter 3.1, I identified several consequences of knowledge hiding whereas most of them result in harm for individuals or the organization itself. Besides providing new insights in terms of consequences for a dyadic knowledge hiding relationship between perpetrator and target, my results indicated that there is a possible effect for individuals observing a knowledge hiding incident. Since research on knowledge hiding has strongly focused on the interdependencies of the perpetrator and the target causing distrust and reciprocal behavior so far (Černe et al., 2014; Connelly et al., 2012), Chapter 3.2 aimed at examining other potential consequences of knowledge hiding in terms of third-party reactions on employee mistreatment by knowledge hiding. For this purpose, I employed in this chapter a qualitative approach based and used qualitative interviews to uncover participants' construal of knowledge hiding, which seemed most appropriate for exploratory theory building (Glaser & Strauss, 1965). Based on dual processing theory and observers' different interpretations of knowledge hiding incidents, I was interested in whether different interpretations of knowledge

hiding incidents result in different reactions with respect to third-parties. In addition, if third-parties react to violations of social norms and standards of moral with strong negative emotions even if they are not affected by mistreatment of others (Skarlicki & Rupp, 2010), they might even react to knowledge hiding in a similar manner as direct targets do (Černe et al., 2014; Connelly et al., 2012). More specifically, I investigated to which extent knowledge hiding *does influence the observer's inclination* to hide knowledge themselves in the future?

In doing so, the results of Chapter 3.2 contribute to the state of the art research on knowledge hiding in different ways. First, I examine the role of third-party reactions in the context of knowledge hiding by applying an inductive, exploratory approach. Thereby, I provide a radical new perspective in research on knowledge hiding, namely third-party reactions. Until now, research on knowledge hiding was limited to perpetrators' and targets' perspectives. Second, by investigating third-party reactions on knowledge hiding in this chapter, I identified that targets as well as observers of knowledge hiding incidents are likely to get even with hiders by retaliating the initial misconduct or reciprocating knowledge hiding. Thus, a vicious circle in terms of knowledge hiding may establish in organizations, if they do not intervene consequently. That is, by ignoring or tolerating organizational behavior such as knowledge hiding, these behavioral attitudes manifest in organizations and the organizational climate as well as the organizational performance suffers from these destructive social norms.

3.2.2 Review of Literature and Development of Research Question

So far, knowledge hiding was mostly examined from the knowledge hider's and target's perspective but not from an observer's point of view. Others have argued before that knowledge hiding may be construed differently with regard to reasons and consequences by the perpetrator and the target (Connelly & Zweig, 2015). In contrast to earlier research on

knowledge hiding, this thesis investigates *three perspectives of knowledge hiding*. More specifically, I collected knowledge hiding incidents not only from the perpetrator's point of view but included incidents experienced by knowledge hiding targets and incidents observed by a third non-involved person. Thereby, the present thesis covers a new perspective in the examination of knowledge hiding, namely the effects of merely observing a knowledge hiding incident. In doing so, this thesis provides a link between the bodies of knowledge on third-party reactions on employee mistreatment and knowledge hiding. Third-party reactions in terms of organizational justice have recently received more and more attention from research (Skarlicki et al., 1998; Skarlicki & Rupp, 2010).

Organizational justice is an incremental part of the deontic model (Cropanzano et al., 2003, 2005). By definition, this model includes that individuals' misconduct or mistreatment of individuals might violate social norms and moral standards and thereby affect third-parties motivation to retaliate the perpetrators for their initial misconduct. Even in cases if the third-parity does not identify with the target or is not harmed personally by the incident (Turillo, Folger, Lavelle, Umphress, & Gee, 2002). I conclude from this that even merely observing a knowledge hiding incident might evoke third-party reactions in terms of a desire for retaliation.

The deontic response of third-parties on mistreatment as evolutionary-based behavior as many human psychological mechanisms have been developed since the early beginnings of human mankind (Cropanzano et al., 2003; Folger & Skarlicki, 2008). These behavioral mechanisms significantly influenced ancestral survival strategies upon which codes of conduct and social norms have been built. Consequently, violations of these norms negatively affected the challenge for survival, especially if they were dependent on the efficiency of the group in terms of social coordination. This effect is even more visible if individuals are focused on dominating other group members by blind ambition to outperform others careless

of social norms and moral standards (Fehr & Fischbacher, 2004). Subsequently, the violations of codes of conduct also evoked retaliation from third-parties. Following Boehm's (1993) argumentation, still these ancient behavioral mechanisms provide the underlying construct of today's human perceptions fairness and unfairness and therefore determine the interpretation of impression resulting from social interaction as well as the individual motivation to behave in concordance to social norms (Greenwood, 2010). To summarize, based on an evolutionary, visceral reaction to violations of social norms and standards of moral, third-parties react with strong negative emotions even if they are not affected by mistreatment of others (Skarlicki et al., 1998; Skarlicki & Rupp, 2010).

In the experiential information processing frame individuals analyze observed incidents in the light of their own experiences and the evaluation of the situation is strongly affected by emotions. In this context, individuals decide quickly and act immediately (Epstein et al., 1992). Regarding this aspect, the experiential system differs strongly from the rational information processing frame as the rational system is based on a logical decision making process that includes an analytical evaluation of the situation itself, a critical assessment of long-term consequences of the observed situation as well as a conscious dispassionate decision for a certain behavior (Cropanzano et al., 2005; Skarlicki & Rupp, 2010). The articulated differences in terms of logic driven versus emotional driven decisions might also explain the variance in fairness perception of third-parties to employee mistreatment (Maas & van den Bos, 2009; Rupp & Bell, 2010).

Research on organizational justice has emphasized that fairness judgments are based on rational decision-making processes. Accordingly, the equity theory (Adams, 1963) proposes that individuals making fairness decisions consciously weigh the costs and benefits of their action. In addition, fairness theory (Cropanzano et al., 2005) suggests that third-parties are likely to evaluate the observed situations in contrast to an incident in which the

perpetrator did not violate social norms or moral standards. Research on organizational justice meanwhile also included the aspect of emotions affected (De Cremer, Van Knippenberg, Van Dijk, & Van Leeuwen, 2008). In this context Maas and van den Bos (2009) found that individuals show strong negative emotions if they are treated unfairly and they use an experiential information-processing frame for evaluating the situation.

Skarlicki and Rupp (2010) extended the findings of Maas and van den Bos (2009) by third-party reactions. In this context my research fundamentally extends the body of knowledge by connecting the literature on knowledge hiding with those on third-party reactions on employee mistreatment. This is especially important as perpetrators' perspectives and observers' perspectives do not necessarily differ from each other as third-parties might perceive a mistreatment from the target's perspective not as unfair (Skarlicki et al., 1998). In other cases, third-parties are very likely to protect targets, especially if the mistreatment contains sex discrimination (Crosby, 1984). Whereas, it is also possible that third-parties do not care at all about a mistreatment (Skarlicki & Kulik, 2005).

Indirect negative effects of observing a knowledge hiding incident seem very likely considering the following theoretical accounts: First, social exchange theory (Blau, 1964) describes that there is a norm for reciprocity that underlies social interactions. Earlier evidence implies that there is an indirect reciprocity, and social exchange experiences perpetuate to third-party reactions (Peng, Schaubroeck & Yuhui, 2014). Second, social learning theory (Bandura, 1977) implies that others behavior may serve as a cue to understand organizational norms. The observation of knowledge hiding incidents may thus lead to inferences about which behaviors are common and accepted in the organization. A norm of negative reciprocity will likely influence the inclination of an observer to retaliate the behavior in the future. Until now, to the best of my knowledge, there is no empirical research

examining the effects of knowledge hiding on *observers*. I therefore specified a third research question for data analysis:

Research Question 3: Does observing a knowledge hiding incident influence the observer's inclination to hide knowledge themselves in the future?

3.2.3 Study 1 on third-party reactions - Methods

Consistent with Chapter 2.1, I used a purposeful, cross-sectional sampling method (Lincoln & Guba, 1985) that involved sampling from diverse backgrounds, occupations, and organizational levels to obtain a broad range of perspectives (Bryman, 2006). The sample was recruited from a global organization from the automotive industry in Germany. It included two women and 11 men. The participants had been working in a full-time job for two to 35 years (mean work experience was 13.3 years); they were between 25 and 55 years old (mean age was 37.2 years) and had tenure on their actual position between one and ten years (mean tenure on actual position was 2.3 years).

The data collection and data analysis were conducted in the same manner as in Chapter 2.1. For a detailed description of the applied methods please see Chapter 2.1.3. Cohen's Kappa = 0.82 indicated a high degree of inter-rater reliability for the assignment of codes.

3.2.4 Results

My data implies that consequences for targets and observers of a knowledge hiding incident did not differ systematically. But with regard to the effects of observing a knowledge hiding incident, my data showed two interesting patterns: In some cases, observing a knowledge hiding incident did not lead to an inclination to retaliate this behavior in the future. One observer reported the following: *I would talk directly and in personal with the hider*

about what has happened. (GAT16_3). In other cases, observers reported that they would retaliate the knowledge hiding behavior in the future: *Retaliation sounds a bit strange but in the end it was like this. I was angry and there was no reason why I should share my knowledge with him (GKG28_1).* Some interviewees described problems in their working relationship with the perpetrator: *After this incident I distanced myself from him. But I had to work with him for another six months. That was not easy. It was clear that he tries to get an edge over his colleagues (ETM29_1).* Others stated: *That makes cooperation difficult. You act more carefully in the working relationship and you possibly do not share the information (TKR03_4).*

These statements provide first hand evidence confirming the assumption that not only knowledge hiding targets were poised for retaliation but observers of knowledge hiding incidents were as well: *My take was always to be open and cooperative, I am just not the person to hide knowledge, this is not an adequate response (...) But some day, I did it finally, I just ignored his requests, I personally ignored him. (EWL20_4)"* I conclude that secondary spirals are not only spawned by knowledge hiding targets but also by third-parties, who were not involved directly in the original incident. Through viral–like effects, knowledge hiding may become a regular occurrence at work, whether witnessed or experienced first-hand.

In a few number of cases third-parties tried to de-escalate the situation and to re-establish norms of social behavior in the organization: *"I answered every request and was open towards a cooperation with him, only to show him that his initial behavior was wrong"* (EWL20_3) or *"This is a vicious circle, the struggle becomes stronger and stronger, until somebody takes a pity and tries to de-escalate the situation." (AGH26_1)* or „*I did not change my behavior due to this incident. I think acting honestly and saying the truth is always the best. If I recognize a misconduct I talk directly to the people" (GAT16_2).*

To summarize, the interviews demonstrate that knowledge hiding is already manifested in organizations. They further reveal that engaging in hiding is not merely a simple refusal to transfer knowledge. My findings highlight the significance of organizational norms and expectations as well as individual attitudes and subjective norms. I conclude that third-party reactions show three different directions 1) observing a knowledge hiding does not affect the future behavior and observers will not engage in knowledge hiding due to a strong belief in social norms and moral standards, 2) observers show a tendency to retaliate the initial misconduct of the perpetrator, and 3) third-parties adopt the observed behavior and thereby establish new social norms of antagonism.

3.2.5 Discussion

An important contribution of my research is that not only knowledge hiding targets are poised for retaliation but *observers* of knowledge hiding incidents as well. Observers typically assume that, in the future, actors will show similar behaviors as in an observed situation (Baillien et al., 2015). This is due to the fact that observers typically attribute behaviors internally, i.e. to the perpetrator, rather than to external factors such as a shortage of time (Myers, 1999). Observers also focus on the actors' behavior independently of the goal to which it pertains (Jones & Nisbett, 1987). For these reasons, the observation of a knowledge hiding incident may unfold in an "indirect" negative effect on the observers: They are likely to conclude that the knowledge hider will behave similarly in the future towards themselves. Thus, they will experience distrust towards the perpetrator, and a tit-for-tat strategy becomes likely in the future (see e.g., Černe et al., 2014; Holtz & Harold, 2013).

To overcome the limitations of my interview study arising from data collected in only one organization, I conducted an online panel to gather data from a broad variety of individuals and occupational backgrounds.

3.2.6 Study 2 on third-party reactions - Methods

Sample

In the present chapter, I used an online panel for purposeful sampling of adult employees in a wide variety of occupations, organizations, and countries in order to extend the findings of Chapter 3.1 and to gain insights that are valid across contexts. 55 professionals from a voluntary online panel of German-speaking adults completed the questionnaire to elicit knowledge hiding incidents.

Approximately 17% of the participants were female, and a wide age range was represented (between 22 and 59, $M = 38.82$). The participants had been working in a full-time job for one to 40 years (mean work experience was 17.44 years) and had tenure on their current position between one and 30 years ($M = 9.68$ years). Managers with responsibilities for staff and assets made up 31.0% of the sample. Participants' occupation was very diverse (e.g., production 20.0%, research & development 18.2%, purchasing 12.7%, marketing & sales 10.9% and administration 9.1%). Employers were equally represented from SME to large corporates.

Procedure

Richman et al. (1999) compared different methods for data collection with respect to distortion and biases due to social desirability. In line with their findings, my data collection was conducted using an anonymous online survey. Participants were invited to participate in the online survey by using the authors' personal contacts and online social networks. On the landing page of the survey, an overview about the aim of the online survey was given as well as a disclaimer of anonymity and security of data.

I used the critical incident technique and focused solely on the observer's perspective. This procedure was chosen to provide data with a valid scope of interpretation with respect to third-party reactions on knowledge hiding. Participants were instructed to think of a recent

episode, in which they had observed knowledge incidents in their professional environment. They were asked to describe this situation as detailed as possible. Participants were then asked to describe the consequences for their own behavior in a separate open-ended text field.

Analysis

I selected incidents that fulfilled the following requirements for further analysis: They were 1) detailed descriptions of 2) a concrete knowledge hiding episode in 3) the professional context. 55 knowledge hiding incidents met these criteria and were thus analyzed by coding and counting knowledge hiding incidents using the coding scheme developed in Chapter 3.1.

3.2.7   Results and Discussion

I found further empirical support for third-party reactions on knowledge hiding. My results suggest that there are two different forms of third-party reactions. First, observers have strong values with respect to social norms and moral standards. This integrity results in denying knowledge hiding. Participants used largely the same terms to describe this fact (e.g. "values", "mindset", or "respect"): *From my point of view it is a question of principles…[]… an access for knowledge is essential for each individual in the organization to create values. I will surely share my knowledge (OB_149). I would definitively share my knowledge. Otherwise I would harm myself as I am in a leadership position (OB_242).* In such cases observing a knowledge hiding incident does not affect the third-party reaction's reaction in the future.

Second, during the data analysis it became clearer that observing a knowledge hiding incident influences the future behavior of the observer towards the perpetrator. Participants described the circumstances in a similar manner (e.g. "distrust", "retaliation", "act similarly"): *If I recognize such behavior, I won't share my knowledge in the future (OB_249).* Others showed that knowledge hiding is already a norm in their professional environment:

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Depending on the situation, the requested knowledge and the knowledge seeker. Normally, I share my knowledge but not in a situation characterized by strong competition (OB_137). I can't trust him anymore. From my point of view, he has never communicated trustworthily with colleagues (OB_140). I won't share my knowledge (OB_176). I won't share my knowledge with him. And that's exactly what has happened in our „cooperation" (OB_139). Other participants reported that they would especially withhold valuable information: *For me, passing on information to a knowledge hider is dependent on how valuable this information is. I would be more likely to withhold valuable information and to share common knowledge (OB_236). If I recognize that somebody does not support me in terms of knowledge sharing, I would also not or at least partially not share my knowledge (OB_249).*

Aggregating these insights, my research demonstrates that knowledge hiding has serious consequences for perpetrators, target and especially observers in terms of third-party reactions. Thus, my assumption that knowledge hiding has a viral-like effect in an organization received support as even third-parties are likely to engage in knowledge hiding when observing a single incident.

My data showed that not only knowledge hiding targets were poised for retaliation but observers of knowledge hiding incidents as well. Because observers typically assume that, in the future, actors will show similar behaviors as in an observed situation (Jones & Nisbett, 1987; Nisbett, Caputo, Legant, & Marecek, 1973), observers assume that a colleague, who hides knowledge from another colleague, will behave similarly in the future towards themselves. Additionally, observers also focus on the actors' behavior independently of the goal to which it pertains (Dong, Dai, & Wyer, 2015; Fitzsimons & Lehmann, 2004). Merging the existing body of knowledge with my results, I argued that the observation of a knowledge hiding incident may unfold in an "indirect" negative effect on the observer. Thus, the observer will be more likely to experience distrust, and a tit-for-tat strategy becomes likely in the

future. From these results they concluded that also un-involved persons, who only observed knowledge hiding, are highly impacted by this experience. This means knowledge hiding has not only detrimental effects for the relationship between knowledge hider and seeker but also causes contagion effects of retaliating initial misconducts by reciprocating knowledge hiding. To this account, knowledge hiding has a strong negative influence on the creativity and the innovative capacity of an organization.

To summarize, my findings contribute to research by delivering new insights on consequences of knowledge hiding in organizations with respect to third-party reactions. Consequently, my findings highlight the significance of three different outcome dimensions for observers: (1) third-party reactions in terms of retaliation towards the perpetrator, (2) third-party reactions in terms of adopting destructive knowledge hiding norms, (3) no reaction. Therefore, my research is opening up completely new directions for future research on knowledge hiding.

3.2.8 Theoretical contribution

The main contribution of Chapter 4 is a theoretical framework that includes not only the interpersonal relationship between perpetrator and target but also makes advancements in terms of third-party reactions on knowledge hiding and therefore spans three levels of analysis, namely the individual, interpersonal, and organizational level. Starting from the findings (Černe et al., 2014), it is important to take into account that besides any motivational background on an individual level, knowledge hiding takes place in an interpersonal exchange relationship. In doing so, (Černe et al., 2014) identified that knowledge hiding harms the hiders' creativity in the long run through the reciprocal distrust loop. Connelly & Zweig (2015) found that knowledge hiding harmed the relationship of perpetrator and target. Taking all these findings into account and merging these findings with the literature on third-party

reactions on employee mistreatment, this thesis provides a completely new perspective on the phenomenon of knowledge hiding.

My results showed that even observing a knowledge hiding incident provokes reactions (e.g. retaliation) towards the perpetrator. Consequently, I integrated my findings in the body of knowledge and elaborated on the existing model. To this end, I introduced observers of a knowledge hiding incident and third-party reactions into these models. This incremental elaboration of the reciprocal distrust loop (Černe et al., 2014) is necessary to explain how knowledge hiding can become viral-like and affect a whole organization. In the construction of the theoretical framework depicted in Figure 4, I make several advances in understanding the multilevel nature of consequences arising from knowledge hiding. On the organizational level, I included stakeholders of the organization and linked their reactions on knowledge hiding with the literature on organizational justice and third-party reactions on employee mistreatment. In doing so, my research explains why third-parties are likely to engage in knowledge hiding towards the initial perpetrator due to a desire for retaliation or due to an adopting of destructive norms within the organization. Thus, observing a knowledge hiding incident has consequences in two different directions. First, on the interpersonal level third-party reactions are strongly influenced by mechanisms stemming from social exchange theory as well as justice and fairness theories (e.g. desire to retaliate knowledge hiding, or distrust). Second, third-party reactions might also affect a change in social norms and moral standards. These findings refer to theories of competition and cooperation, social identity theory, social influence theory, and social learning theory. This means that knowledge hiding goes viral and turns social norms of an organization into a destructive direction.

My research integrates separate literatures to explain what are the consequences of knowledge hiding (Černe et al., 2014; Connelly & Kelloway, 2003; Connelly & Zweig, 2015; Connelly et al., 2012; Peng, 2013; Webster et al., 2008), and I have connected the disparate

pieces of the knowledge hiding puzzle to establish a substantially extended understanding of the consequences of knowledge hiding.

Figure 4: Organizational influence of knowledge hiding through third-party reactions on employee mistreatment.
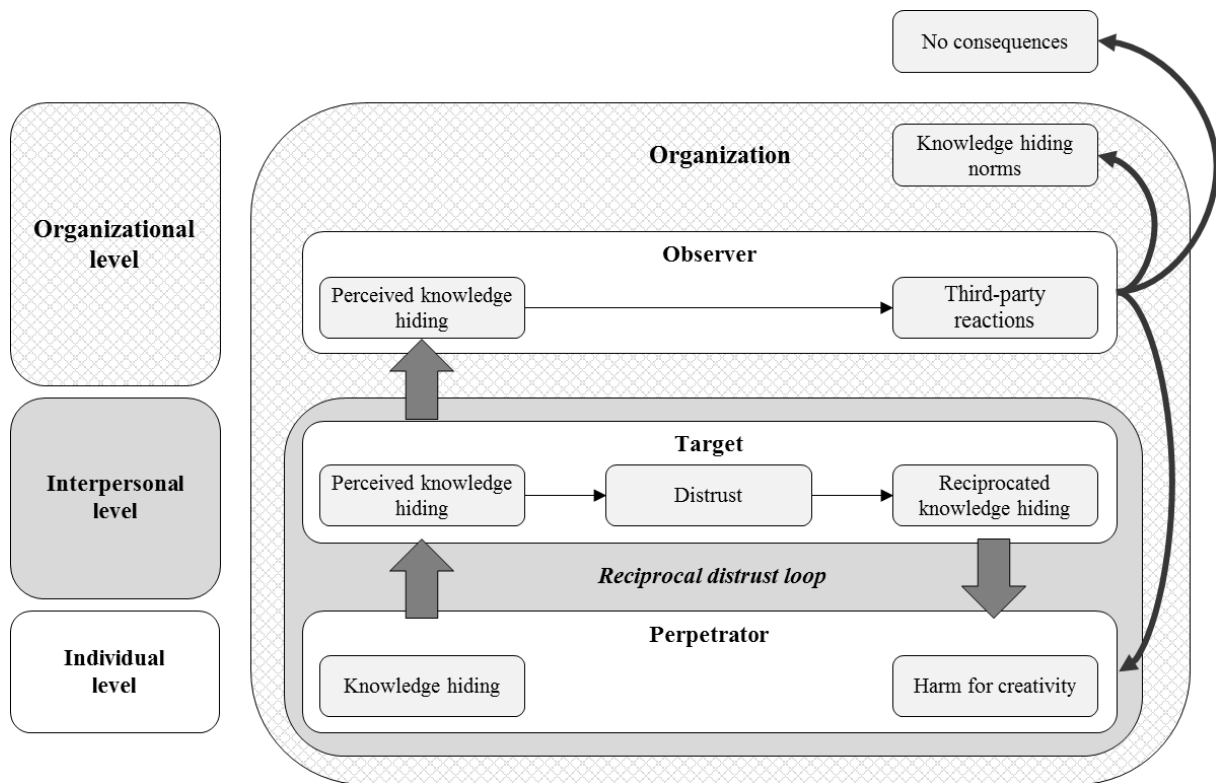
Figure 4 depicts my integrative framework of knowledge hiding's viral-like effect in organization due to third-party reactions. To my knowledge, this is the first research that integrates third-party reactions with respect to knowledge hiding in organizations. Additionally, these theories imply radically different avenues to counteract knowledge hiding in organizations, which I will explain in the following section on managerial implications of my research.

4   General conclusions

4.1   General discussion and main contributions

The goal of this thesis was to make a contribution to the management literature by investigating why employees engage in knowledge hiding and which consequences arise from such behavior in an organizational and entrepreneurial environment. To this end, this thesis drew on major theories of human behavior from the fields of psychology, organization science and management as well as economics to elaborate on the motivational mechanisms underlying the reasons to engage in knowledge hiding and the consequences of this behavior. This multidisciplinary perspective allows for a substantially improved understanding of this phenomenon. The empirical Chapters 2 and 3 developed and tested theory on the role of knowledge hiding in the context of organizational behavior. Overall, the present thesis makes the following general contributions to the management literature.

First, this thesis demonstrates that knowledge hiding is driven by various reasons on multi levels. By integrating my findings about the multilevel nature of the antecedents of knowledge hiding and delineating differential avenues to reduce or ameliorate knowledge hiding intentions in organizations, this thesis advances the understanding in the field of organizational behavior. Since research on knowledge hiding has strongly focused on the interdependencies of the perpetrator and the target driven by distrust and reciprocal behavior so far (Černe et al., 2014; Connelly et al., 2012), this thesis aimed at examining other potential reasons. I elaborated theory and established a multi-level model for the reasons of knowledge hiding. This model is based on theory from different disciplines to provide a holistic view on the mechanisms of knowledge hiding and allows to derive implications on how to facilitate knowledge exchange.

Second, this thesis further demonstrates that not only antecedents of knowledge hiding are multi-facetted but also the consequences of this behavior. By integrating these insights

into organizational and managerial literature this thesis contributes directly to different calls for research stemming from recent publications (Černe et al., 2014; Connelly & Kelloway, 2003; Connelly & Zweig, 2015; Connelly et al., 2012; Peng, 2013; Webster et al., 2008). Furthermore, while previous research has focused on knowledge hiding as a dyadic exchange relationship, this thesis integrated third-party reactions and took into account actor-observer-biases. In doing so, the present thesis augmented the understanding of knowledge hiding in organizations and is the first empirical work to identify that even merely observing a knowledge hiding incident may have a viral-like effect in organizations.

4.2 Summary of findings and contributions

This thesis' empirical parts (Chapters 2-3) each build and test theory on the role of knowledge hiding behavior in different organizational and entrepreneurial contexts. The findings and contributions of each empirical chapter will be briefly summarized in the following paragraphs.

The aim of Chapter 2.1 was to build theory in the area of knowledge hiding in organizations by filling the gap in the existing body of knowledge. Concordantly, I sought to extend the current understanding of knowledge hiding by providing new categories of reasons and refining existing categories (Lee et al., 1999; Locke, 2001). I suggest that a sound understanding of the reasons why people engage in active and intentional knowledge hiding is crucial in today's knowledge economy, in which knowledge is a major source of competitive advantage for organizations (Drucker, 1969; Grant, 1996).

When being asked about knowledge hiding almost every interviewee was able to report details about a directly experienced knowledge hiding incident. In contrast to this insight Connelly et al. (2012) characterized knowledge hiding as a low-base rate event. The results of my research are contradictory to this assumptions and indicate that knowledge

hiding is not a low-base rate event but is relatively under reported as individuals adopt behavior from each other with the effect that even misconducts are very likely to result in organizational norms of behavior.

It appears that employees' knowledge hiding is not only influenced by distrust (e.g., Connelly et al., 2012), reciprocal knowledge hiding in terms of tit for tat (e.g., Černe et al., 2014), and beliefs of knowledge ownership (e.g., Peng, 2013). This thesis extends previous research by introducing new reasons to engage in knowledge hiding such as gaining a competitive advantage overs peers, maximizing own benefits or diminishing the performance of others, compliance to social norms or to leader's demands, lack of personal benefits or fear of adverse outcomes, desire for retaliation of a prior misconduct of the knowledge seeker, personal dislike, and employees' perceptions of knowledge as an asset.

In a highly individualistic climate, where individual goals have priority over collective goals, knowledge hiding seems to be instrumental to either gain a competitive advantage over one's co-workers or to obtain valuable outcomes such as promotion or financial resources. However, in addition to that, the participants of my studies also highlighted the fact that knowledge hiding behavior is oftentimes, implicitly or explicitly, triggered by norms and expectations: It is necessary to distinguish between obedience to implicit organizational norms and obedience to explicit instructions of the leader. My results showed that employees sometimes felt obliged to conceal their knowledge, whereas their own beliefs and attitudes did not influence their action in the first place. I conclude from that knowledge hiding may be motivated by reasons other than egoistic motives.

Investigating the antecedents of knowledge hiding into detail, Chapter 2.2 builds on the insights from Chapter 2.1 and focuses on elaborating as well as testing theory. The main contribution of Chapter 2.2 is a theoretical framework that is not only multifaceted but also spans three levels of analysis, namely the individual, interpersonal, and organizational level,

to explain why employees hide knowledge from their co-workers. In the construction of the theoretical framework, this thesis makes several advances in understanding the multilevel nature of antecedents of knowledge hiding. On the organizational level, I included structural reasons to engage in knowledge hiding and linked them to theories of competition and co-operation, social identity theory, social influence theory, and social learning theory. On the interpersonal level, I referred to social exchange theory and justice and fairness theories to explain the mechanisms underlying the reasons such as the desire to retaliate knowledge hiding as well as distrust. Finally, I connected the antecedents of knowledge hiding on the individual level with theories of planned behavior and reasoned action to account for the fact that employees perceive their knowledge as an asset they want to preserve. The present thesis integrates separate literatures to explain why people engage in knowledge hiding (Černe et al., 2014; Connelly & Kelloway, 2003; Connelly & Zweig, 2015; Connelly et al., 2012; Peng, 2013; Webster et al., 2008), and thereby has connected the disparate pieces of the knowledge hiding puzzle to establish a substantially extended understanding of why employees engage in knowledge hiding.

My integrative framework of reasons to engage in knowledge hiding, weaves together my findings with respect to the antecedents of knowledge hiding, relevant theories to explain underlying mechanisms and managerial implications. To my knowledge, this is the first thesis that integrates the broad range of antecedents of knowledge hiding with multidisciplinary theories. Additionally, these theories imply radically different avenues to counteract knowledge hiding in organizations, which I will explain in the following section on managerial implications of my research.

In Chapter 3.1, this thesis switched the focus of analysis and changed from the perpetrators' reasons to the consequences of knowledge hiding for targets and perpetrators. The interviews showed that in many cases knowledge hiding had no direct consequences for

the perpetrator. However, the general response to knowledge hiding within the organization is likely to foster the formation of knowledge hiding norms, and indeed, several interviewees reported that knowledge hiding is a common and accepted behavior in their organization. Considering that knowledge hiding is a common behavior, perpetrators assume that their behavior has no negative consequences as they behave conform to organizational norms. Indeed, even if targets recognized knowledge hiding, there were no consequences for perpetrators as most knowledge hiding targets deescalated the situation by talking directly with the perpetrator about his/her misconduct. In contrast to this finding knowledge hiding caused inefficiencies for targets and the organization and in some cases perpetrators had to bear sanctions from an escalation process. Beside these findings, the present thesis replicated former research by identifying harmed relationships, distrust and reciprocal behavior as other consequences of knowledge hiding (Černe et al., 2014; Connelly & Kelloway, 2003; Connelly & Zweig, 2015; Connelly et al., 2012; Peng, 2013; Webster et al., 2008).

The aim of Chapter 3.2 was to investigate third-party reactions on knowledge hiding as some participants described in Chapter 2 and 3.1 that they observed and adopted the behavior of other colleagues when they joined their organization. Observers thus assume that the perpetrator will show the same behavior as in the observed situation in the future (Baillien et al., 2015). The observation of a knowledge hiding incident may unfold in an indirect negative effect. In Chapter 3.2 observers reported to experience distrust towards the perpetrator and that they would consider a tit-for-tat strategy in the future (see e.g., Černe et al., 2014; Holtz & Harold, 2013). This finding extends the 'reciprocal distrust loop' (Černe et al., 2014) and highlights the necessity to consider observers as a new part, possibly the most important part of the knowledge hiding mechanism as for each knowledge hiding incident there might be dozens of observers that might act as multiplier in their organizations by third-

party reactions. Through viral–like effects, knowledge hiding may become a regular occurrence at work, whether witnessed or experienced first-hand.

I suggest that thinking about concrete managerial implications of my research is important as I found that even merely observing a knowledge hiding incident may have a viral-like effect in organizations. Secondary spirals of knowledge hiding are very likely to result in knowledge hiding norms in organizations ultimately, which will further increase employees' intentions to conceal knowledge in the future

4.3   Implications for practice

Overall, this thesis also offers a number of practical implications. Understanding the reasons that underlie employees' knowledge hiding is crucial for deriving interventions to prevent or ameliorate this phenomenon. In the following, I will showcase approaches towards reducing knowledge hiding based on the reasons identified in my research. As *competition and rivalry* emerged as a common reason managers are asked to consider how they can counterbalance a competitive climate in their organizations with a culture of caring, compassion or fairness (cf. Peus, 2011). In facilitating this culture an emphasis on norms pertaining in particular to informational and interpersonal justice (Colquitt, Conlon, Wesson, Porter, & Ng, 2001) is necessary. Furthermore, managers are challenged to question if the incentive systems in place are likely to stimulate knowledge hiding, for example because employee performance is evaluated and rewarded based on a comparison of individual, intellectual contributions against that of other employees. Even in cases where collaboration is needed, individuals do not necessarily pursue the same or a collective goal. This means that knowledge hiding is possibly motivated by a conflict of individual versus collective goals (Winkler, 2006). An approach that favors behavior over outcome control (Ouchi, 1979) or mastery over performance orientation (Černe et al., 2014) seems worth considering.

Negative outcome expectations as a driver of knowledge hiding might be ameliorated by establishing high levels of psychological safety (Edmondson & Lei, 2014) within the team and the organization. A fruitful path towards this goal is to employ a leadership style that facilitates every employee's individual development, critical thinking, and voicing of new ideas as has been posited and empirically shown for transformational leadership (e.g. Braun, Peus et al., 2013). Finally, information exchange within the team can be facilitated by applying team reflection, as discussed by Schippers, Edmondson, and West (2014).

If knowledge hiding is motivated by *compliance*, leaders should ask themselves if they focus on short-term goals–at the cost of compromising long-term goals such as facilitating innovation in the team. In line with findings pointing to the importance of long-term orientation for the economic success (Hofstede & Minkov, 2010) managers may want to consider facilitating long-term orientation in their organizations. In setting up teams managers are likely to benefit from the recommendations Hackman (2002) put forth, in particular to assemble team members to work on an interdependent task, towards a (shared) compelling direction, structured by clear norms of conduct (which comprise knowledge sharing as expected behavior). Further, in order to prevent destructive obedience such as the fulfilling of arbitrary commands of the leader ("You must not share knowledge with another sub-unit of this organization"), organizations should raise the levels of moral and ethical judgment of their employees (Zeigler-Hill et al., 2013).

If knowledge hiding is largely motivated by *reciprocal behavior and poor personal relationships* managers might want to ask themselves whether the way they set the team up was suboptimal in terms of Hackman's (2002) recommendations. Furthermore, managers are challenged to change their employees' attitudes and behaviors towards a more ethical level. Research pertaining to current models of leadership such as ethical (e.g. Brown & Trevino, 2006) or authentic leadership (e.g. Walumbwa, Avolio, Gardner, Wernsing, & Peterson,

2008) might be particularly valuable. For example, a leader might stimulate knowledge sharing by giving the respective example (being a „moral person" in the terminology of ethical leadership), sanctioning knowledge hiding (being a „moral manager" in the terminology of ethical leadership), or showing relational transparency as comprised in the concept of authentic leadership (cf. Peus, Kerschreiter, Frey, & Traut-Mattausch, 2010).

Finally, managers may decrease the level of knowledge hiding in their organizations by adjusting employees' *beliefs of knowledge ownership*. They should emphasize that the sharing of knowledge cannot be regarded as an indicator of extra effort or organizational citizenship behaviors (cf. Coleman & Borman, 2000) but is rather expected as in-role performance. Employees who experience high levels of organizational commitment and identification are less likely to view knowledge as proprietary to themselves and to hide it in order to preserve and extend their personal power, respectively.

Despite the assumption of a low-base rate event (Connelly et al., 2012), employee mistreatment in terms of knowledge hiding occurs frequently in organizations. These incidents might be observed by a larger number of third-parties that represent different stakeholder groups and are likely to take revenge on the perpetrator internalize destructive forms of behavior for the organization. Proactively counteracting knowledge hiding in organizations is key in order to prevent it from spreading throughout the organization. Specifically, my findings concerning the significance of the perspective of an uninvolved observer go beyond existing research: From these findings, I conclude that secondary spirals are not only spawned by knowledge hiding targets but also by third-parties, who were not involved directly in the incident. This is due to the fact that observers typically attribute behaviors internally, that is to the perpetrator rather than to external factors such as a shortage of time (Myers, 1999). Due to an actor-observer bias, observers focus on the actor's behavior independently of the goal to which it pertains and while ignoring rather situational reasons for

this behavior such as lack of time (Jones & Nisbett, 1987). Observers thus assume that the perpetrator will show the same behavior as in the observed situation in the future (Baillien et al., 2015). The observation of a knowledge hiding incident may unfold in an indirect negative effect: Observers reported to experience distrust towards the perpetrator and that they would consider a tit-for-tat strategy in the future (see e.g., Černe et al., 2014; Holtz & Harold, 2013). This finding extends the 'reciprocal distrust loop' proposed by (Černe et al., 2014) and highlights the necessity to consider an observer as a new part of this mechanism. Through viral–like effects, knowledge hiding may become a regular occurrence at work, whether witnessed or experienced first-hand.

Each organization should be aware about the antecedents of knowledge hiding as they represent the direct antecedent of a variety of destructive consequences for employees and the organization itself. Proactively counteracting knowledge hiding in organizations is key in order to prevent it from spreading throughout the organization. Specifically, my findings concerning the significance of the perspective of an uninvolved observer go beyond existing research: From my findings, I conclude that secondary spirals are not only spawned by knowledge hiding targets but also by third-parties, who were not involved directly in the incident.

The fact that every interviewee reported knowledge hiding from either the observer's, targets, or perpetrator's perspective suggests that these behaviors occur not as rarely in organizations as one might assume. In fact, this thesis showed that three quarter of the respondents admitted to hide knowledge from their colleagues and reported one or even more episodes of knowledge hiding behavior. Still, perpetrators often seem to get away with knowledge hiding.

4.4   Directions for future research

The results of this thesis have demonstrated the importance of knowledge hiding in organizations and the consequential negative effects on individual and organizations. The findings obtained in this research offer several directions for future research which will be outlined in the following paragraphs.

First, while gathering only self-reported data I do not have information about a specific incident from more than one perspective. Future research should compare and contrast the different perspectives. In doing so, research might focus on potential differences in the construal of knowledge hiding by involved persons that is different in (attributed) reasons from each distinct perspective. Future research may specifically focus on the construal of knowledge hiding by an observer and the effects of observing a knowledge hiding incident to further investigate the question of how knowledge hiding spreads in an organization.

Second, this thesis builds theory from cross-sectional data only. I based the clustering of findings such as codes and theoretical categories as well as the analysis of frequencies of reasons on narrative causality only (Cassell & Symon, 2011). By applying a longitudinal approach (Shepherd & Sutcliffe, 2015), researchers could further investigate how knowledge hiding mechanisms unfold over time, for example with regard to the viral-like effect. A longitudinal approach would also strike a new path for the examination of questions such as the long-term effects of competition on knowledge hiding.

Third, as employees' intentions to hide knowledge are strongly influenced by organizational norms and leadership behaviors, it might be interesting to see whether different leadership behavior have different effects on employees' knowledge hiding intentions. In this context colleagues of mine and I investigated the effects of exploitative leadership on knowledge hiding. We identified a direct negative effect of this leadership behavior on

knowledge hiding. Thus, the more leaders showed exploitative behavior the stronger were employees' intentions to hide knowledge. Future research may take into account other leadership behaviors to provide salient ways out of the vicious circle of knowledge hiding.

Fourth, I investigated the consequences of knowledge hiding only by a small sample consisting of 16 critical incidents collected from 13 interviewees. According to state of the art literature on knowledge hiding my findings not only supported the yet identified consequences but provided new insights. Due to the relatively small sample it is possible that there are other consequences than the ones described in this thesis. Additionally, up to date there is only little empirical evidence concerning the long-term consequences of knowledge hiding in organizations. Thus, it might be a fruitful avenue for future research to examine the consequences arising from knowledge hiding by a longitudinal approach and thereby to take into account changing variables over time.

Fifth, this thesis is the first to identify third-party reactions on knowledge hiding. I embedded this finding in the context of third-party reactions on employee mistreatment. As this finding represents a radical new perspective on knowledge hiding, it is necessary to further examine the individuals' perceptions with respect to observing a knowledge hiding incident to understand the underlying mechanism into detail.

Finally, this thesis aimed at gathering data from a diverse sample with regard to nationality. I think (and my data support this assumption) that knowledge hiding is a global phenomenon and my findings point to the significance of individual knowledge beliefs and attitudes as well as organizational culture aspects. I propose to investigate cross-cultural differences with regard to the reasons to engage in knowledge hiding in the future.

In conclusion, across multiple empirical studies, this thesis provides evidence demonstrating the necessity of integrating knowledge hiding into organizational research and management literature. The results of this thesis have demonstrated the importance of

knowledge hiding in organizations and the consequential negative effects on individuals and organizations. Consequently, the findings obtained in this research offer several directions for future research and intend to stimulate further efforts analyzing knowledge hiding in organizational contexts.

5 References

Adams, J. S. (1963). Toward an understanding of inequity. *Journal of Abnormal Psychology, 67*(5), 422-436. doi:10.1037/h0040968

Ancona, D. G., & Caldwell, D. F. (1992). Bridging the boundary: External activity and performance in organizational teams. *Administrative Science Quarterly, 37*(4), 634-665. doi:10.2307/2393475

Andersson, L. M., & Pearson, C. M. (1999). Tit for tat? The spiraling effect of incivility in the workplace. *Academy of Management Review, 24*(3), 452-471. doi:10.5465/AMR.1999.2202131

Baer, M. (2012). Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal, 55*(5), 1102-1119. doi:10.5465/amj.2009.0470

Baillien, E., Camps, J., Van den Broeck, A., Stouten, J., Godderis, L., Sercu, M., & De Witte, H. (2015). An eye for an eye will make the whole world blind: Conflict escalation into workplace bullying and the role of distributive conflict behavior. *Journal of Business Ethics*. doi:10.1007/s10551-015-2563-y

Bandura, A. (1977). *Social learning theory*. Oxford, England: Prentice-Hall.

Barley, S. R. (1991). Contextualizing conflict: Notes on the anthropology of disputes and negotiations. *Research on negotiation in organizations, 3*, 165-199.

Barrick, M. R., & Mount, M. K. (1991). The big 5 personality dimensions and job-performance - a metaanalysis. *Personnel Psychology, 44*(1), 1-26. doi:10.1111/j.1744-6570.1991.tb00688.x

Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of Leadership & Organizational Studies, 9*(1), 64-76. doi:10.1177/107179190200900105

Baruch, Y. (1999). Response rate in academic studies - A comparative analysis. *Human Relations, 52*(4), 421-438. doi:10.1023/A:1016905407491

Bass, B. M., Avolio, B. J., Jung, D. I., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology, 88*(2), 207-218. doi:10.1037/0021-9010.88.2.207

Beersma, B., Hollenbeck, J. R., Humphrey, S. E., Moon, H., Conlon, D. E., & Ilgen, D. R. (2003). Cooperation, competition, and team performance: Toward a contingency approach. *Academy of Management Journal, 46*(5), 572-590. doi:10.2307/30040650

Bies, R. J., & Greenberg, J. (2002). *Justice, culture, and corporate image: The swoosh, the sweatshops, and the sway of public opinion*.

Bitner, M. J., Booms, B. H., & Mohr, L. A. (1994). Critical service encounters: The employee's viewpoint. *Journal of Marketing, 58*(4), 95-106. doi:10.2307/1251919

Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: John Wiley & Sons.

Bobocel, D. R. (2013). Coping with unfair events constructively or destructively: The effects of overall justice and self–other orientation. *Journal of Applied Psychology, 98*(5), 720-731. doi:10.1037/a0032857

Bock, G.-W., & Kim, Y.-G. (2002). Breaking the myths of rewards: an exploratory study of attitudes about knowledge sharing. *Information Resources Management Journal, 15*(2), 14-21.

Bock, G.-W., Zmud, R. W., Kim, Y.-G., & Lee, J.-N. (2005). Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly, 29*(1), 87-111.

Boehm, C. (1993). Egalitarian behavior and reverse dominance hierarchy. *Current Anthropology, 34*(3), 227-254. doi:10.1086/204166

Bordia, P., Irmer, B. E., & Abusah, D. (2006). Differences in sharing knowledge interpersonally and via databases: The role of evaluation apprehension and perceived benefits. *European Journal of Work and Organizational Psychology, 15*(3), 262-280. doi:10.1080/13594320500417784

Braun, S., Peus, C., Weisweiler, S., & Frey, D. (2013). Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust. *Leadership Quarterly, 24*(1), 270-283. doi:10.1016/j.leaqua.2012.11.006

Brislin, R. W. (1986). The wording and translation of research instruments. In W. J. Lonner & J. W. Berry (Eds.), *Field methods in cross-cultural research.* (pp. 137-164). Thousand Oaks, CA, US: Sage Publications, Inc.

Brown, M. E., & Trevino, L. K. (2006). Ethical leadership: A review and future directions. *Leadership Quarterly, 17*(6), 595-616. doi:10.1016/j.leaqua.2006.10.004

Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research, 6*(1), 97-113. doi:10.1177/1468794106058877

Buller, D. B., & Burgoon, J. K. (1996). Interpersonal deception theory. *Communication Theory, 6*(3), 203-242. doi:10.1111/j.1468-2885.1996.tb00127.x

Cabrera, A., Collins, W. C., & Salgado, J. F. (2006). Determinants of individual engagement in knowledge sharing. *International Journal of Human Resource Management, 17*(2), 245-264. doi:10.1080/09585190500404614

Campbell, D. J., & Furrer, D. M. (1995). Goal-setting and competition as determinants of task-performance. *Journal of Organizational Behavior, 16*(4), 377-389. doi:10.1002/job.4030160408

Cassell, C., & Symon, G. (2011). Assessing 'good' qualitative research in the work psychology field: A narrative analysis. *Journal of Occupational & Organizational Psychology, 84*(4), 633-650. doi:10.1111/j.2044-8325.2011.02009.x

Černe, M., Nerstad, C. G. L., Dysvik, A., & Škerlavaj, M. (2014). What goes around comes around: Knowledge hiding, perceived motivational climate, and creativity. *Academy of Management Journal, 57*(1), 172-192. doi:10.5465/amj.2012.0122

Chang, Y.-Y., Gong, Y., & Peng, M. W. (2012). Expatriate knowledge transfer, subsidiary absorptive capacity, and subsidiary performance. *Academy of Management Journal, 55*(4), 927-948. doi:10.5465/amj.2010.0985

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology, Vols. 1 and 2 (4th ed.)* (pp. 151-192). New York, NY, US: McGraw-Hill.

Cohen, J. (1968). Weighted kappa: Nominal scale agreement provision for scaled disagreement or partial credit. *Psychological Bulletin, 70*(4), 213-220. doi:10.1037/h0026256

Coleman, V. I., & Borman, W. C. (2000). Investigating the Underlying Structure of the Citizenship Performance Domain. *Human Resource Management Review, 10*(1), 25. doi:10.1016/S1053-4822(99)00037-6

Collier, S. A., Ryckman, R. M., Thornton, B., & Gold, J. A. (2010). Competitive personality attitudes and forgiveness of others. *Journal of Psychology, 144*(6), 535-543. doi:10.1080/00223980.2010.511305

Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology, 86*(3), 425-445. doi:10.1037//0021-9010.86.3.425

Connelly, C. E., & Kelloway, E. K. (2003). Predictors of employees' perceptions of knowledge sharing cultures. *Leadership & Organization Development Journal, 24*(5), 294-301. doi:10.1108/01437730310485815

Connelly, C. E., & Zweig, D. (2015). How perpetrators and targets construe knowledge hiding in organizations. *European Journal of Work & Organizational Psychology, 24*(3), 479-489. doi:10.1080/1359432X.2014.931325

Connelly, C. E., Zweig, D., Webster, J., & Trougakos, J. P. (2012). Knowledge hiding in organizations. *Journal of Organizational Behavior, 33*(1), 64-88. doi:10.1002/job.737

Constant, D., Kiesler, S., & Sproull, L. (1994). What's mine is ours, or is it - a study of attitudes about information sharing. *Information Systems Research, 5*(4), 400-421. doi:10.1287/isre.5.4.400

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory (3rd ed.).* Thousand Oaks, CA, US: Sage Publications, Inc.

Cropanzano, R., Goldman, B., & Folger, R. (2003). The Deontic justice: the role of moral Incubator principles in workplace fairness. *Journal of Organizational Behavior, 24*(8), 1019-1024. doi:10.1002/job.228

Cropanzano, R., Goldman, B., & Folger, R. (2005). Self-interest: defining and understanding a human motive. *Journal of Organizational Behavior, 26*(8), 985-991. doi:10.1002/job.353

Crosby, F. (1984). The Denial of Personal Discrimination. *American Behavioral Scientist, 27*(3), 371. doi:10.1177/000276484027003008

Cummings, J. N. (2004). Work Groups, Structural Diversity, and Knowledge Sharing in a Global Organization. *Management Science, 50*(3), 352-364.

De Cremer, D., Van Knippenberg, D., Van Dijk, E., & Van Leeuwen, E. (2008). Cooperating if one's goals are collective-based: Social identification effects in social dilemmas as a function of goal transformation. *Journal of Applied Social Psychology, 38*(6), 1562-1579.

De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology, 88*(4), 741-749. doi:10.1037/0021-9010.88.4.741

De Long, D. W., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *Academy of Management Executive, 14*(4), 113-127. doi:10.5465/AME.2000.3979820

Deci, E. L., & Ryan, R. M. (1975). *Intrinsic motivation*. New York, NY: Plenum Press.

Deutsch, M. (1949). A theory of cooperation and competition. *Human Relations, 2*, 129-152. doi:10.1177/001872674900200204

Dong, P., Dai, X., & Wyer, R. S., Jr. (2015). Actors conform, observers react: The effects of behavioral synchrony on conformity. *Journal of Personality and Social Psychology, 108*(1), 60-75. doi:10.1037/pspi0000001

Drucker, P. F. (1969). *The Age of Discontinuity; Guidelines to Our Changing Society*. New York, NY: Harper and Row, Publishers, Inc.

Duffy, M. K., Ganster, D. C., & Pagon, M. (2002). Social undermining in the workplace. *Academy of Management Journal, 45*(2), 331-351. doi:10.2307/3069350

Edmondson, A. C., & Lei, Z. K. (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. In F. P. Morgeson (Ed.), *Annual Review of Organizational Psychology and Organizational Behavior, Vol 1* (Vol. 1, pp. 23-43). Palo Alto: Annual Reviews.

Elkouri, F., Elkouri, E. A., & Ruben, A. M. (1985). *How arbitration works*: Bureau of National Affairs Washington, DC.

Empson, L. (2001). Fear of exploitation and fear of contamination: Impediments to knowledge transfer in mergers between professional service firms. *Human Relations, 54*(7), 839-862. doi:10.1177/0018726701547003

Epstein, S., Lipson, A., Holstein, C., & Huh, E. (1992). Irrational reactions to negative outcomes - Evidence for two conceptual systems. *Journal of Personality and Social Psychology, 62*(2), 328-339. doi:10.1037//0022-3514.62.2.328

Evans, J. (2008). Dual-processing accounts of reasoning, judgment, and social cognition *Annual Review of Psychology* (Vol. 59, pp. 255-278). Palo Alto: Annual Reviews.

Evans, J., & Stanovich, K. E. (2013). Dual-Process Theories of Higher Cognition: Advancing the Debate. *Perspectives on Psychological Science, 8*(3), 223-241. doi:10.1177/1745691612460685

Fehr, E., & Fischbacher, U. (2004). Third-party punishment and social norms. *Evolution and Human Behavior, 25*(2), 63-87. doi:10.1016/s1090-5138(04)00005-4

Ferrin, D. L., & Dirks, K. T. (2003). The Use of Rewards to Increase and Decrease Trust: Mediating Processes and Differential Effects. *Organization Science, 14*(1), 18-31. doi:10.1287/orsc.14.1.18.12809

Fischer, P., Kastenmüller, A., Frey, D., & Peus, C. (2009). Social comparison and information transmission in the work context. *Journal of Applied Social Psychology, 39*(1), 42-61. doi:10.1111/j.1559-1816.2008.00428.x

Fitzsimons, G. J., & Lehmann, D. R. (2004). Reactance to recommendations: When unsolicited advice yields contrary responses. *Marketing Science, 23*(1), 82-94. doi:10.1287/mksc.1030.0033

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin, 51*(4), 327-358. doi:10.1037/h0061470

Fletcher, T. D., Major, D. A., & Davis, D. D. (2008). The interactive relationship of competitive climate and trait competitiveness with workplace attitudes, stress, and performance. *Journal of Organizational Behavior, 29*(7), 899-922. doi:10.1002/job.503

Folger, R., & Skarlicki, D. P. (2008). *The evolutionary bases of deontic justice*. Charlotte: Information Age Publishing-Iap.

Fox, S., Spector, P. E., & Miles, D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. *Journal of Vocational Behavior, 59*(3), 291-309. doi:10.1006/jvbe.2001.1803

French, J. R. P., Jr. (1956). A formal theory of social power. *Psychological Review, 63*(3), 181-194. doi:10.1037/h0046123

French, J. R. P., Jr., & Raven, B. (1959). The bases of social power. In D. Cartwright (Ed.), *Studies in social power.* (pp. 150-167). Oxford, England: Univer. Michigan.

Gagné, M. (2009). A model of knowledge-sharing motivation. *Human Resource Management, 48*(4), 571-589. doi:10.1002/hrm.20298

Gardner, H. K., Staats, B. R., & Gino, F. (2012). Dynamically integrating knowledge in teams: Transforming resources into performance. *Academy of Management Journal, 55*(4), 998-1022. doi:10.5465/amj.2010.0604

Garud, R., & Kumaraswamy, A. (2005). Vicious and virtuous circles in the management of knowledge: The case of Infosys Technologies. *MIS Quarterly, 29*(1), 9-33.

Glaser, B. G., & Strauss, A. L. (1965). Discovery of substantive theory: A basic strategy underlying qualitative research. *American Behavioral Scientist, 8*(6), 5-12. doi:10.1177/000276426500800602

Gong, Y., Kim, T.-Y., Lee, D.-R., & Zhu, J. (2013). A multilevel model of team goal orientation, information exchange, and creativity. *Academy of Management Journal, 56*(3), 827-851. doi:10.5465/amj.2011.0177

Gouldner, A. W. (1960). The norm of reciprocity: a preliminary statement. *American Sociological Review, 25*(2), 161-178.

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal, 17*, 109-122. doi:10.1002/smj.4250171110

Greenberg, J. (1986). Determinants of perceived fairness of performance evaluations. *Journal of Applied Psychology, 71*(2), 340-342. doi:10.1037/0021-9010.71.2.340

Greenwood, C. A. (2010). Evolutionary theory: The missing link for conceptualizing public relations. *Journal of Public Relations Research, 22*(4), 456-476. doi:10.1080/10627261003801438

Gupta, A. K., & Govindarajan, V. (2000). Knowledge flows within multinational corporations. *Strategic Management Journal, 21*(4), 473. doi:10.1002/(SICI)1097-0266(200004)21:4<473::AID-SMJ84>3.0.CO;2-I

Hackman, J. R. (2002). Leading Teams: Setting the Stage for Great Performances. *Harvard Business School Press Books*, 1.

Hansen, M. T., Nohria, N., & Tierney, T. (1999). What's your strategy for managing knowledge? *Harvard Business Review, 77*(2), 106-116.

Hareli, S., & Weiner, B. (2002). Dislike and envy as antecedents of pleasure at another's misfortune. *Motivation and Emotion, 26*(4), 257-277. doi:10.1023/A:1022818803399

Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology, 53*, 575-604. doi:10.1146/annurev.psych.53.100901.135109

Hislop, D. (2002). Mission impossible? Communicating and sharing knowledge via information technology. *Journal of Information Technology (Routledge, Ltd.), 17*(3), 165-177. doi:10.1080/02683960210161230

Hislop, D. (2003). Linking human resource management and knowledge management via commitment: A review and research agenda. *Employee Relations, 25*(2), 182-202.

Hofstede, G., & Minkov, M. (2010). Long- versus short-term orientation: new perspectives. *Asia Pacific Business Review, 16*(4), 493-504. doi:10.1080/13602381003637609

Holtz, B. C., & Harold, C. M. (2013). Effects of leadership consideration and structure on employee perceptions of justice and counterproductive work behavior. *Journal of Organizational Behavior, 34*(4), 492-519. doi:10.1002/job.1825

Janssen, O., van de Vliert, E., & West, M. (2004). The bright and dark sides of individual and group innovation: A special issue introduction. *Journal of Organizational Behavior, 25*(2), 129-145. doi:10.1002/job.242

Jarvenpaa, S. L., & Majchrzak, A. (2008). Knowledge collaboration among professionals protecting national security: Role of transactive memories in ego-centered knowledge networks. *Organization Science, 19*(2), 260-276. doi:10.1287/orsc.1070.0315

Jarvenpaa, S. L., & Staples, D. S. (2001). Exploring Perceptions of Organizational Ownership of Information and Expertise. *Journal of Management Information Systems, 18*(1), 151-183.

Jones, E. E., & Nisbett, R. E. (1987). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior.* (pp. 79-94). Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc.

Kane, A. A., Argote, L., & Levine, J. M. (2005). Knowledge transfer between groups via personnel rotation: Effects of social identity and knowledge quality. *Organizational Behavior and Human Decision Processes, 96*(1), 56-71. doi:10.1016/j.obhdp.2004.09.002

Kilduff, G. J., Elfenbein, H. A., & Staw, B. M. (2010). The psychology of rivalry: A relationally dependent analysis of competition. *Academy of Management Journal, 53*(5), 943-969. doi:10.5465/AMJ.2010.54533171

Kim, S., & Lee, H. (2006). The impact of organizational context and information technology on employee knowledge-sharing capabilities. *Public Administration Review, 66*(3), 370-385. doi:10.1111/j.1540-6210.2006.00595.x

King, W. R., & Marks, P. V. (2008). Motivating knowledge sharing through a knowledge management system. *Omega-International Journal of Management Science, 36*(1), 131-146. doi:10.1016/j.omega.2005.10.006

Knipfer, K., Schmid, E., Mangold, S., & Melzer, K. (2015). *If you take it all – I hide it! The effects of exploitative leadership on followers' knowledge hiding within the team: A mediation model of distrust.* Paper presented at the Symposium conducted at the Convention of the Industrial & Organizational Psychology Section of the German Association of Psychology (DGPs). Mainz, Germany.

Kolekofski, K. E., & Heminger, A. R. (2003). Beliefs and attitudes affecting intentions to share information in an organizational setting. *Information & Management, 40*(6), 521-532. doi:10.1016/s0378-7206(02)00068-x

Kollock, P. (1998). Social dilemmas: The anatomy of cooperation. *Annual Review of Sociology, 24*, 183-214. doi:10.1146/annurev.soc.24.1.183

Lanaj, K., Chang, C. H., & Johnson, R. E. (2012). Regulatory focus and work-related outcomes: A review and meta-analysis. *Psychological Bulletin, 138*(5), 998-1034. doi:10.1037/a0027723

Leach, C. W., & Spears, R. (2008). 'A vengefulness of the impotent': The pain of in-group inferiority and schadenfreude toward successful out-groups. *Journal of Personality and Social Psychology, 95*(6), 1383-1396. doi:10.1037/a0012629

LeBlanc, M. M., & Kelloway, E. K. (2002). Predictors and outcomes of workplace violence and aggression. *Journal of Applied Psychology, 87*(3), 444-453. doi:10.1037//0021-9010.873.3.444

Lee, T. W., Mitchell, T. R., & Sablynski, C. J. (1999). Qualitative research in organizational and vocational psychology, 1979-1999. *Journal of Vocational Behavior, 55*(2), 161-187. doi:10.1006/jvbe.1999.1707

Leonard, D., & Sensiper, S. (1998). The role of tacit knowledge in group innovation. *California Management Review, 40*(3), 112-+.

Leventhal, G. S. (1980). What Should Be Done with Equity Theory? In K. J. Gergen, M. S. Greenberg, & R. H. Willis (Eds.), *Social Exchange: Advances in Theory and Research* (pp. 27-55). Boston, MA: Springer US.

Lewicki, R. J., McAllister, D. J., & Bies, R. J. (1998). Trust and distrust: New relationships and realities. *Academy of Management Review, 23*(3), 438-458. doi:10.5465/amr.1998.926620

Li, Q., Maggitti, P. G., Smith, K. G., Tesluk, P. E., & Katila, R. (2013). Top management attention to innovation: the role of search selection and intensity in new product introductions. *Academy of Management Journal, 56*(3), 893-916. doi:10.5465/amj.2010.0844

Liao, L.-F. (2008). Impact of manager's social power on R&D employees' knowledge-sharing behaviour. *International Journal of Technology Management, 41*(1/2), 169-182. doi:10.1504/IJTM.2008.015990

Lin, H.-F., & Lee, G.-G. (2004). Perceptions of senior managers toward knowledge-sharing behaviour. *Management Decision, 42*(1), 108-125. doi:10.1108/00251740410510181

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Beverly: Hills Sage.

Locke, E. A. (1968). Toward a Theory of Task Motivation and Incentives. *Organizational Behavior & Human Performance, 3*(2), 157-189. doi:10.1016/0030-5073(68)90004-4

Locke, K. (2001). *Grounded theory in management research*. Thousand Oaks, CA: Sage.

Maas, M., & van den Bos, K. (2009). An affective-experiential perspective on reactions to fair and unfair events: Individual differences in affect intensity moderated by experiential mindsets. *Journal of Experimental Social Psychology, 45*(4), 667-675. doi:10.1016/j.jesp.2009.02.014

Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality & Social Psychology Bulletin, 18*, 3-9. doi:10.1177/0146167292181001

Mayring, P., & Fenzl, T. (2014). Qualitative inhaltsanalyse. In N. Baur & J. Blasius (Eds.), *Handbuch Methoden der empirischen Sozialforschung* (pp. 543-556): Springer Fachmedien Wiesbaden.

Moorman, R. H. (1991). Relationship between organizational justice and organizational citizenship behaviors: Do fairness perceptions influence employee citizenship? *Journal of Applied Psychology, 76*(6), 845-855. doi:10.1037/0021-9010.76.6.845

Myers, D. G. (1999). *Social psychology (6th ed.)*. New York, NY, US: McGraw-Hill.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review, 23*(2), 242-266. doi:10.5465/AMR.1998.533225

Nielsen, M. B., & Einarsen, S. (2012). Outcomes of exposure to workplace bullying: A meta-analytic review. *Work & Stress, 26*(4), 309-332. doi:10.1080/02678373.2012.734709

Nisbett, R. E., Caputo, C., Legant, P., & Marecek, J. (1973). Behavior as seen by the actor and as seen by the observer. *Journal of Personality and Social Psychology, 27*(2), 154-164. doi:10.1037/h0034779

Ouchi, W. G. (1979). A conceptual framework for the design of organizational control mechanisms. *Management Science, 25*(9), 833-848. doi:10.1287/mnsc.25.9.833

Peng, A. C., Schaubroeck, J. M., & Yuhui, L. I. (2014). Social exchange implications of own and coworkers' experiences of supervisory abuse. *Academy of Management Journal, 57*(5), 1385-1405. doi:10.5465/amj.2012.0080

Peng, H. (2013). Why and when do people hide knowledge? *Journal of Knowledge Management, 17*(3), 398-415. doi:10.1108/JKM-12-2012-0380

Peus, C. (2011). Money over man versus caring and compassion? Challenges for today's organizations and their leaders. *Journal of Organizational Behavior, 32*(7), 955-960. doi:10.1002/job.751

Peus, C., Kerschreiter, R., Frey, D., & Traut-Mattausch, E. (2010). What is the Value? Economic Effects of Ethically-Oriented Leadership. *Zeitschrift Fur Psychologie-Journal of Psychology, 218*(4), 198-212. doi:10.1027/0044-3409/a000030

Phillips, K. W., Liljenquist, K. A., & Neale, M. A. (2009). Is the Pain Worth the Gain? The Advantages and Liabilities of Agreeing With Socially Distinct Newcomers. *Personality and Social Psychology Bulletin, 35*(3), 336-350. doi:10.1177/0146167208328062

Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. *Academy of Management Review, 26*(2), 298-310. doi:10.5465/AMR.2001.4378028

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879-903. doi:10.1037/0021-9101.88.5.879

Pratt, J. W., & Zeckhauser, R. (1985). *Principals and agents: the structure of business*. Boston: Harvard Business School Press.

Ragins, B. R., & Sundstrom, E. (1989). Gender and power in organizations - a longitudinal perspective. *Psychological Bulletin, 105*(1), 51-88. doi:10.1037/0033-2909.105.1.51

Richman, W. L., Kiesler, S., Weisband, S., & Drasgow, F. (1999). A meta-analytic study of
social desirability distortion in computer-administered questionnaires, traditional
questionnaires, and interviews. *Journal of Applied Psychology, 84*(5), 754-775.
doi:10.1037/0021-9010.84.5.754

Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A
multidimensional scaling study. *Academy of Management Journal, 38*(2), 555-572.
doi:10.2307/256693

Rosen, B., Furst, S., & Blackburn, R. (2007). Overcoming barriers to knowledge sharing in
virtual teams. *Organizational Dynamics, 36*(3), 259-273.
doi:10.1016/j.orgdyn.2007.04.007

Rupp, D. E., & Bell, C. M. (2010). Extending the deontic model of justice: moral self-
regulation in third-party responses to injustice. *Business Ethics Quarterly, 20*(1), 89-
106.

Ryckman, R. M., Libby, C. R., van den Borne, B., Gold, J. A., & Lindner, M. A. (1997).
Values of hypercompetitive and personal development competitive individuals.
Journal of Personality Assessment, 69(2), 271-283. doi:10.1207/s15327752jpa6902_2

Ryu, S., Ho, S. H., & Han, I. (2003). Knowledge sharing behavior of physicians in hospitals.
Expert Systems with Applications, 25(1), 113-122. doi:10.1016/s0957-4174(03)00011-
3

Saavedra, R., Earley, P. C., & Van Dyne, L. (1993). Complex interdependence in task-
performing groups. *Journal of Applied Psychology, 78*(1), 61-72. doi:10.1037/0021-
9010.78.1.61

Schat, A. C. H., & Kelloway, E. K. (2003). Reducing the adverse consequences of workplace aggression and violence: The buffering effects of organizational support. *Journal of Occupational Health Psychology, 8*(2), 110-122.

Schepers, P., & van den Berg, P. T. (2007). Social factors of work-environment creativity. *Journal of Business & Psychology, 21*(3), 407-428. doi:10.1007/s10869-006-9035-4

Schippers, M. C., Edmondson, A. C., & West, M. A. (2014). Team Reflexivity as an Antidote to Team Information-Processing Failures. *Small Group Research, 45*(6), 731-769. doi:10.1177/1046496414553473

Sedlmeier, P., & Renkewitz, F. (2007). *Forschungsmethoden und statistik in der psychologie*. München: Pearson Studium

Shepherd, D. A., & Sutcliffe, K. M. (2015). The use of anthropomorphizing as a tool for generating organizational theories. *Academy of Management Annals, 9*(1), 97-142. doi:10.1080/19416520.2015.1011510

Skarlicki, D. P., Ellard, J. H., & Kelln, B. R. C. (1998). Third-party perceptions of a layoff: Procedural, derogation, and retributive aspects of justice. *Journal of Applied Psychology, 83*(1), 119-127. doi:10.1037/0021-9010.83.1.119

Skarlicki, D. P., & Kulik, C. T. (2005). Third-party reactions to employee (mis)treatment: A justice perspective. In B. M. Staw & R. M. Kramer (Eds.), *Research in Organizational Behavior: An Annual Series of Analytical Essays and Critical Reviews, Vol 26* (Vol. 26, pp. 183-229). San Diego: Jai-Elsevier Science Inc.

Skarlicki, D. P., & Rupp, D. E. (2010). Dual Processing and Organizational Justice: The Role of Rational Versus Experiential Processing in Third-Party Reactions to Workplace Mistreatment. *Journal of Applied Psychology, 95*(5), 944-952. doi:10.1037/a0020468

Sprinthall, N. A. (2009). Milgram, kohlberg, and dostoevsky. *American Psychologist, 64*(7), 620-621. doi:10.1037/a0017111

Stanne, M. B., Johnson, D. W., & Johnson, R. T. (1999). Does competition enhance or inhibit motor performance: A meta-analysis. *Psychological Bulletin, 125*(1), 133-154. doi:10.1037/0033-2909.125.1.133

Szulanski, G. (1996). Exploring internal stickiness: impediments to the transfer of best practice within the firm. *Strategic Management Journal, 17*, 27-43. doi:10.1002/smj.4250171105

Tajfel, H., & Turner, J. C. (1985). *The social identity theory of intergroup behavior* (S. Worshel & W. G. Austin Eds. 2nd ed.). Chicago: Nelson-Hall.

Taylor, W. A., & Wright, G. H. (2004). Organizational readiness for successful knowledge sharing: challenges for public sector managers. *Information Resources Management Journal, 17*(2), 22-37. doi:10.4018/irmj.2004040102

Thibaut, J. W., & Walker, L. U. (1975). *Procedural Justice: A Psychological Analysis*. Hillsdale, N.J.: L. Erlbaum Associates.

Turillo, C. J., Folger, R., Lavelle, J. J., Umphress, E. E., & Gee, J. O. (2002). Is virtue its own reward? Self-sacrificial decisions for the sake of fairness. *Organizational Behavior and Human Decision Processes, 89*(1), 839-865. doi:10.1016/s0749-5978(02)00032-8

van Knippenberg, D., van Knippenberg, B., De Cremer, D., & Hogg, M. A. (2004). Leadership, self, and identity: A review and research agenda. *Leadership Quarterly, 15*(6), 825-856. doi:10.1016/j.leaqua.2004.09.002

Vroom, V. H. (1964). *Work and motivation*. Oxford, England: Wiley.

Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management, 34*(1), 89-126. doi:10.1177/0149206307308913

Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review, 20*(2), 115-131. doi:10.1016/j.hrmr.2009.10.001

Webster, J., Brown, G., Zweig, D., Connelly, C. E., Brodt, S., & Sitkin, S. (2008). Beyond knowledge sharing: Withholding knowledge at work. *Research in personnel and human resources management, 27*, 1-37. doi:10.1016/S0742-7301(08)27001-5

Wegner, D. M. (1987). Transactive memory: A contemporary analysis of the group mind. In B. Mullen & G. R. Goethals (Eds.), *Theories of Group Behavior* (pp. 185-208). New York, NY: Springer New York.

Willem, A., & Scarbrough, H. (2006). Social capital and political bias in knowledge sharing: An exploratory study. *Human Relations, 59*(10), 1343-1370. doi:10.1177/0018726706071527

Winkler, I. (2006). Network Governance Between Individual and Collective Goals: Qualitative Evidence from Six Networks. *Journal of Leadership & Organizational Studies, 12*(3), 119-134.

Yao, L. J., Kam, T. H. Y., & Chan, S. H. (2007). Knowledge sharing in asian public administration sector: the case of hong kong. *Journal of Enterprise Information Management, 20*(1), 51-69. doi:10.1108/17410390710717138

Yuan, F., & Woodman, R. W. (2010). Innovative behavior in the workplace: the role of performance and image outcome expectations. *Academy of Management Journal, 53*(2), 323-342. doi:10.5465/AMJ.2010.49388995

Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management Perspectives, 26*(4), 66-85. doi:10.5465/amp.2012.0088

Zeigler-Hill, V., Southard, A. C., Archer, L. M., & Donohoe, P. L. (2013). Neuroticism and negative affect influence the reluctance to engage in destructive obedience in the milgram paradigm. *Journal of Social Psychology, 153*(2), 161-174. doi:10.1080/00224545.2012.713041

Appendix

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Appendix A. Interview Guideline

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A. Introduction.

- Short introduction of study purpose and general information about the interview
- Assurance of data privacy and anonymity
- Request permission to audio-record the interview

B. Knowledge hiding incidents.

1. Observer's perspective
   - Have you ever observed that a colleague has intentionally withheld information? Could you please describe this situation? Who was involved? What happened exactly? How did you notice that information has been withheld?
   - What do you think about this situation? What reasons may this colleague have for this behavior?
   - Which consequences did arise from this incident? What impact did this incident have on your own relationship with the knowledge hider?

2. Knowledge Seeker – target's perspective
   - Maybe you have experienced that one of your colleagues has concealed information from you yourself? Could you please describe this situation? Who was involved? What happened exactly? How did you notice that information has been withheld? How did you notice that information has been withheld?
   - What do you think about this situation? For what reasons did your colleague behave like that?
   - Which consequences did arise from this incident? What impact did this incident have on your own relationship with the knowledge hider?

3. Knowledge Hider – perpetrator's perspective
   - Have you ever intentionally withheld information from your colleagues? Could you please describe this situation? Who was involved? What did you do exactly to conceal the information?
   - You may have a good reason not to share the knowledge or information. I am wondering why you concealed the information.
   - Which consequences did arise from this incident? What impact did this incident have on your cooperation with the knowledge seeker?

C. Debriefing and further information about the study on request.

Appendix B. Online Survey

<u>**Page 1**</u>

Welcome!

Thank you for participating in a short survey of the Technischen Universität München. In this study we investigate a phenomenon that recently has attracted the attention of academia: "Knowledge Hiding".

Focusing on the intentional withholding of information towards colleagues, we want to identify the reasons of individuals for withholding knowledge and to understand the consequences of their action. The results of our research will be directly used in vocational trainings and senior management trainings. Accordingly, by participating in this survey you contribute directly to the actual research.

To participate in this survey, you should be employed at least for one year, whereby the kind of your occupation does not matter. The census has a duration of about 10 minutes.

Guarantee of anonymity and data security:

We ensure the anonymity and security of your data to its entirety.
1. Nobody, who is working on the analysis, is able to retrace the origin of the data.
2. All information is used only in an aggregated and anonymized data set. Hence, under no circumstances it is possible to draw any conclusions to a participant.

Best regards,

Prof. Dr. Claudia Peus, Dr. Kristin Knipfer, Dipl.-Kfm. Sebastian Mangold
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<u>**Page 2**</u>

Recent studies show that in more than 50 percent of the cases information is intentionally withheld and requested knowledge is transferred fragmentary or not a bit. Corresponding to the results of these studies, nearly each employed person has experienced such a situation. Focusing on the intentional withholding of information towards colleagues, we want to identify the reasons of individuals for withholding knowledge and to understand the consequences of their action.

Subsequently, we would like to ask you to rethink a situation of your business life in which you have withheld intentionally information from another person. That includes giving an evasive answer, feigning ignorance or presenting an excuse for not sharing your knowledge. We want to develop a better understanding of the reasons why people withhold knowledge from each other's, which strategies they are applying and which consequences these behaviors have on themselves, their colleagues and their environment.

Please mention that there are no right or wrong answers – we are interested in your personal experience.

Please rethink a concrete situation in which you have withheld knowledge or information from another person. It is of great importance to describe this situation very detailed, so that we are able to reenact the situation at its best.

Who requested **which** information from you and **how** did you react concretely?

Why did you withhold your knowledge in this specific information?

Which consequences had this behavior for yourself, your colleague and your environment?

Page 3

Thank you very much for this description.

We would like to ask you to answer a few questions referring to this situation.

Please rate how strong the following statements apply to your situation.

Please answer all questions!

scales	
1	disagree
2	partially disagree
3	neither
4	partially agree
5	agree

In this specific situation, I…

Items	
11	Agreed to help him/her but never really intended to
12	Agreed to help him/her but instead gave him/her information different from what s/he wanted
13	Told him/her that I would help him/her out later but stalled as much as possible
14	Offered him/her some other information instead of what he/she really wanted
21	Pretended that I did not know the information
22	Said that I did not know, even though I did
23	Pretended I did not know what s/he was talking about
24	Said that I was not very knowledgeable about the topic
31	Explained that I would like to tell him/her, but was not supposed to
32	Explained that the information is confidential and only available to people on a particular project
33	Told him/her that my boss would not let anyone share this knowledge

34	Said that I would not answer his/her questions
41	did notice the request of colleague, but did not react
42	Pretended that I did not notice the request
43	Pretended that I was very busy, so he/she did not ask me
44	I did not attend a meeting, just to be safe that he/she could not ask me
45	left the room, just to be safe that he/she could not ask me
51	Agreed to help him/her but instead gave him/her adulterated information
52	Agreed to help him/her but instead gave him/her intentionally wrong information
53	gave him/her information that sent him/her on a devious route
54	gave him/her information that gave me an edge towards him/her

Page 4

At least we need a few information about your person.

Demographics		
1	gender	female
2		male
3	Age in years	
4	In which position are you employed?	employee
5		manager
6		director
7		Managing board
8		freelance
9		other
10	In which company division are you employed?	Research & development
11		Purchasing
12		production
13		Marketing & Sales
14		Administration
15		Human Resource
16		other
17	Professional experience in the actual position? (in years)	
18	Professional experience in total (in years)	
19	Do you draw a performance-based, variable compensation?	Yes

20		no
21	How many employees are working in your company?	Only me
22		10.001 or more
23	You are the leader of how many employees?	
24	At least we are interested in your opinion. Corresponding to your personal experience, how often is knowledge withheld in a professional context? Please klick on the appropriate percentage at the scroll bar (to wit "X percent of all knowledge exchange situations").	