Reacting to Paradoxes in Organizations:

An Empirical Investigation on Followers' Complex Thinking and Leaders' Complex Behavior in the Context of Paradoxes

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Abstract

My thesis presents three empirical studies, which address one basic research question: How can followers and leaders react to paradoxes in organizations, so that they promote positive outcomes and mitigate negative ones? Paradoxes (i.e., competing, yet interrelated elements) are inherent in organizations and can lead to positive outcomes such as innovation and sustainable work performance, but also to negative outcomes such as experiences of tension and organizational decline. Theory on paradoxes emphasizes that how individuals experience and react to paradoxes determines whether outcomes will be positive or negative. Nonetheless, individual experiences of and reactions to paradoxes were rarely studied empirically. I argue in my dissertation, that followers and leaders can react constructively to paradoxes by thinking complexly and behaving complexly, which should promote positive outcomes (e.g., followers' performance) and mitigate negative ones (e.g., followers' experienced tension).

In three empirical studies I investigated constructive individual reactions in two regards: a) complex thinking to make sense of paradoxes, as characterized by differentiation and integration and as influenced by cultural factors, and b) complex behavior leaders exhibit to meet paradoxical demands (i.e., paradoxical leader behavior). Study 1 is an online experiment investigating whether individuals experience paradoxical task demands negatively. Results showed that individuals working on paradoxical task demands experience tension. They were able to reduce their experienced tension by thinking complexly about the paradoxical demands and, if they did so, they also reported less negative affect and less stress. Study 2 is a field study investigating whether paradoxical leader behavior is associated with lower negative experiences of followers. Results showed that this was the case, and the negative association was even stronger when followers made sense of paradoxical leader behavior by thinking complexly about it. Study 3 is a meta-analysis investigating how paradoxical leader behavior is related to a variety of follower outcomes. Results showed that paradoxical leader behavior is positively related to followers' performance (i.e., task performance, organizational citizenship behavior, creative and innovative performance) and well-being (i.e., hedonic and eudaimonic well-being). A non-significant relationship to followers' negative well-being was moderated by cultural influences on how complexly individuals think about paradoxes.

Taken together, the findings support the central assumptions of paradox research that the positive and negative outcomes of organizational paradoxes depend on both the way followers think and the way leaders behave in response to paradoxes. Finally, I discuss theoretical implications, limitations, as well as practical implications, for example, how followers and leaders can treat paradoxes constructively in order to promote positive outcomes and mitigate negative ones.

Zusammenfassung

In meiner Dissertation werden drei empirische Studien berichtet, welche die folgende zugrundeliegende Forschungsfrage behandeln: Wie können Geführte und Führende auf Paradoxien in Organisationen reagieren, so dass sie positive Folgen fördern und negative Folgen mindern? Paradoxien (i.e., konkurrierende, aber zusammengehörige Elemente) sind inhärent in Organisationen und können zu positiven Folgen wie Innovation und nachhaltiger Leistung führen, aber auch zu negativen Folgen wie wahrgenommener Spannung und schlechteren Unternehmensergebnissen. Theorien zu Paradoxien betonen, dass möglichen positiven oder negativen Folgen von Paradoxien davon abhängig sind, wie Individuen Paradoxien wahrnehmen und auf diese reagieren. Allerdings wurden individuelle Wahrnehmungen und individuelle Reaktionen zu Paradoxien selten empirisch untersucht. Ich argumentiere in meiner Dissertation, dass Geführte und Führende konstruktiv auf Paradoxien reagieren können, indem sie komplex denken und komplex handeln, was positive Folgen (wie z.B. die gesteigerte Leistung der Geführten) fördern sollte und negative Folgen (wie z.B. die von den Geführten erlebte Spannung) verringern sollte.

In drei empirischen Studien untersuche ich zwei Arten von individuellen konstruktiven Reaktionen auf Paradoxien: a) komplexes Denken um Paradoxien zu verstehen, welches von Differenzierung und Integration gekennzeichnet ist und von kulturellen Faktoren beeinflusst wird, und b) komplexes Verhalten, welches Führende zeigen, um den paradoxen Anforderungen gerecht zu werden (i.e., paradoxe Führung). Studie 1 ist ein Online-Experiment, welches untersucht, ob Individuen paradoxe Anforderungen einer Aufgabe als negativ wahrnehmen. Die Ergebnisse zeigten, dass die Individuen, welche an einer Aufgabe mit paradoxen Anforderungen arbeiteten, Spannung erlebten. Sie konnten ihre erlebte Spannung reduzieren, indem sie komplex über die paradoxen Anforderungen nachdachten. Wenn sie ihre erlebte Spannung verringern konnten, berichteten sie ebenfalls weniger negativen Affekt und weniger Stress. Studie 2 ist eine Feldstudie, welche untersucht, ob paradoxe Führung mit geringerem negativen Erleben der Geführten in Zusammenhang steht. Die Ergebnisse zeigten, dass dies der Fall war, und der negative Zusammenhang noch stärker war, wenn die Geführten komplex über die paradoxe Führung nachdachten. Studie 3 ist eine Meta-Analyse, welche untersucht, wie paradoxe Führung mit verschiedenen Variablen auf Geführten-Level in Zusammenhang steht. Die Ergebnisse zeigten, dass paradoxe Führung positiv mit der Leistung von Geführten zusammenhing (in Form von der Erfüllung der Arbeitsanforderungen, von freiwilligen Beiträgen außerhalb der Arbeitsanforderungen, und von kreativer und innovativer Leistung). Die Ergebnisse zeigten zudem, dass paradoxe

Führung positiv mit dem Wohlbefinden der Geführten zusammenhing (in Form von hedonischem und eudaimonischem Wohlbefinden). Ein nicht-signifikanter Zusammenhang zwischen paradoxer Führung und negativem Wohlbefinden wurde moderiert von kulturellen Einflüssen darauf, wie komplex Individuen über Paradoxien nachdenken.

Zusammengenommen unterstützen die Ergebnisse zentrale Annahmen der Forschung zu Paradoxien, nämlich dass die positiven und negativen Folgen von Paradoxien davon abhängen, wie Geführte über die Paradoxien denken und wie Führende sich in Reaktion auf die Paradoxien verhalten. Abschließend diskutiere ich die theoretischen Implikationen und Limitationen dieser Dissertation, sowie praktische Implikationen, beispielsweise wie Geführte und Führende auf Paradoxien konstruktiv auf Paradoxien reagieren können, so dass sie positive Folgen fördern und negative Folgen mindern.

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1.   General Introduction

"Movement results from living within the paradox. This statement itself may seem paradoxical, since living within paradox would seem to entail endless circularity and frustration. However, by staying within the paradox, by immersing oneself in the opposing forces, it becomes possible to discover the link between them, the framework that gives meaning to the apparent contradictions in the experience. The discovery, emotional and intellectual, of the link provides the release essential for group movement"

(K. K. Smith & Berg, 1987/1997, p. 215)

Paradoxes are prevalent in most areas of life and can cause individuals to experience competing demands. For example, individuals experience paradoxical demands when their individual needs clash with group demands, or when work demands clash with family needs. In organizations, paradoxes are inevitable as many goals and roles are inherently paradoxical, such as organizational growth (e.g., change *and* stability), innovation (e.g., exploration *and* exploitation), or leadership (e.g., enforcing requirements *and* allowing flexibility). They affect all organizational actors, including leaders (Y. Zhang et al., 2015) and followers (Miron-Spektor et al., 2018). Depending on whether leaders and followers react constructively to paradoxes, paradoxes can lead to highly beneficial or detrimental outcomes for both the involved individuals and the organization (Schad et al., 2016; W. K. Smith & Lewis, 2011).

Individual reactions to paradoxes, in form of experiences, thinking processes, and resulting behaviors, play an essential role in paradox theory. The definition of paradox itself is tied to individuals experiencing paradoxes as contradictory. An influential model in paradox theory, the Dynamic Equilibrium Model (W. K. Smith & Lewis, 2011), postulates positive outcomes when individuals face paradoxes with emotional equanimity and react to them by thinking and behaving complexly. On the flipside, when individuals face paradoxes with emotional anxiety and defensiveness and do not think and behave complexly, the model predicts detrimental outcomes.

"Although early paradox theory built upon micro-level insights from psychology and philosophy to understand the nature and management of varied competing demands, corresponding empirical studies are rare, offering scarce insights into why some individuals thrive with tensions while others struggle" (Miron-Spektor et al., 2018, p. 26). Empirical studies on complex thinking are rare in paradox research and mainly focus on positive outcomes, such as creativity and performance (e.g., Miron-Spektor et al., 2011, 2018; Leung et al., 2018). These studies did not investigate whether complex thinking influences negative outcomes for those who struggle with the competing demands, such as experienced tension or stress. The empirical studies investigating complex behavior in response to paradoxes often focus on complex behavior that leaders exhibit to meet paradoxical demands (i.e., paradoxical leader behavior). Theories and findings on how paradoxical leader behavior affects followers range from positive (e.g., task performance: L. Wang et al., 2022; commitment: Y. Zhang et al., 2015) to negative outcomes (e.g., job stress: Bashir, 2021; work pressure perception: Meng et al., 2021), calling for integration and aggregation. Overall, further empirical evidence is needed to substantiate the central notions of paradox theory that the positive and negative outcomes of paradoxes depend on how individuals think and behave in response to them.

Addressing the described gaps in paradox research, my dissertation focuses on the question of how leaders and followers can react constructively to paradoxes, so that they promote positive outcomes and mitigate negative outcomes. In four consecutive chapters (see Figure 1), I discuss and empirically address that followers' complex thinking and leaders' complex behavior influence positive (e.g., performance, well-being) and negative follower outcomes (e.g., experienced tension, stress).[1]

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[1] The following two chapters (Chapter 2 and 3) are conceptualized as stand-alone manuscripts, each complete with introduction, method, results and discussion. When referring to the manuscripts, I will switch to "we" to represent all authors of the manuscripts. As the chapters are conceptualized to be independent manuscripts, definitions of shared concepts, background information on theories, and related empirical findings are reiterated per chapter. Similarly, implications, limitations and impulses for future research are reiterated through Chapter 2, Chapter 3, and Chapter 4 (general discussion), but each iteration will be presented in relation to the respective research focus and level of abstraction.

Figure 1

Structure of the dissertation
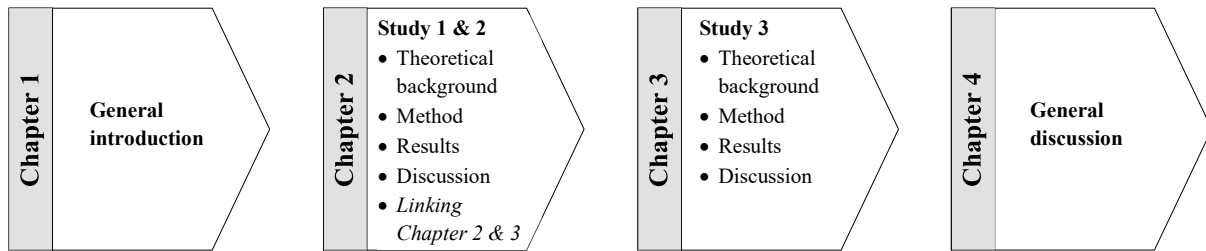
Chapter 1 clarifies the concept of paradoxes and how individuals in organizations can react constructively to them. This general introduction establishes the overarching theoretical framework, research questions, and propositions for the entire dissertation.

Chapter 2 describes Study 1 and 2. Study 1 contributed to the research question by investigating whether followers can mitigate negative outcomes of paradoxes (in terms of their own negative experiences) by thinking complexly about the paradoxes. In more detail, Study 1 investigated the question how individuals' complex thinking (i.e., integrative complex thinking) moderates the relationship between paradoxical task demands and the negative experiences of these individuals while performing the task. Study 2 contributed to the research question by investigating whether leaders can mitigate negative outcomes (in terms of followers' negative experiences) by exhibiting complex behavior in response to paradoxical demands (i.e., paradoxical leader behavior). In addition, Study 2 investigated whether followers can mitigate negative outcomes (in terms of their own negative experiences) even more by thinking complexly about their leaders' paradoxical leader behavior. In other words, Study 2 investigated the question whether paradoxical leader behavior (i.e., leaders' complex reaction to paradoxical demands) is related negatively to followers' negative experiences (e.g., stress) and whether this relationship is more negative when followers think complexly (i.e., integrative complex thinking).

Chapter 3 is dedicated to Study 3, which contributed to the research question by investigating whether leaders can promote positive follower outcomes and mitigate negative

ones by exhibiting complex behavior to meet paradoxical demands (i.e., paradoxical leader behavior). In detail, Study 3 was a meta-analysis investigating the question how paradoxical leader behavior is related to positive (i.e., performance and positive forms of well-being) and negative follower outcomes (i.e., negative well-being). Study 3 included relevant moderators, such as various methodological variables and cultural factors, which are known to impact how complexly individuals think about paradoxes. Thereby, Study 3 contributed further insights on how leaders' paradoxical behavior and followers' thinking (as influenced by culture) interact in promoting positive and mitigating negative follower outcomes.

In Chapter 4, I integrate the presented findings and discusses their theoretical and practical implications, their limitations, and directions for future research.

1.1. Paradoxes in Organizations

"Contradiction and paradox are the "new normal" in this volatile, rapidly changing landscape of organizations [...] In particular, the constant presence of globalization, new technologies, niche markets, flexible yet decentralized structures, and changing economic conditions means that contradictions are an everyday occurrence in the workplace"

(Putnam et al., 2016, p. 2)

This quote stresses that individuals in organizations are inevitably confronted with paradoxes and contradictions, making it necessary for them to find constructive reactions. For example, organizations face the demands to be efficient in the short-term and to develop in the long-term. This paradox leads to paradoxical demands on leaders such as taking incremental risks, but breaking new grounds, and achieving financial goals, while supporting followers' needs and passions (Andriopoulos, 2003). Leaders might ask their followers to exploit existing products and services, while also exploring new opportunities (Rosing et al., 2011), and in doing so, leaders also place paradoxical demands on followers. In turn, followers place paradoxical demands on leaders, such as treating all team members equally, while considering individual needs.

Notably, not all two-sided demands which leaders and followers experience are paradoxical (i.e., competing, yet interrelated demands). For example, some demands might objectively be mutually exclusive (i.e., competing demands that are not interrelated). A constructive reaction to a paradox could be maladaptive for other types of two-sided demands (e.g., mutually exclusive demands). Therefore, I want to distinguish different types of two-sided demands, starting with the concept of paradox, which is the central theme of this dissertation.

1.1.1. Defining Paradox

The concept of paradox dates back to ancient philosophy (παράδοξος / parádoxos: contrary to expectation) and was used to describe "anything inconsistent, or narrowly defined […] absurd interrelationships that defy logic*"* (Fairhurst et al., 2016, p. 174). The definition common in paradox research is that paradoxes are "contradictory yet interrelated elements (dualities) that exist simultaneously and persist over time" (W. K. Smith & Lewis, 2011, p. 387). The competing, yet interrelated elements of a paradox can take on various forms such as task demands (e.g., Leung et al., 2018), values (Quinn, 1984), or roles (e.g., Denison et al., 1995).[2] These paradoxical elements can be located at the level of individuals (e.g., leadership: Denison et al., 1995), teams (e.g., creativity: Andriopoulos, 2003), organizations (e.g., ambidexterity: Andriopoulos & Lewis, 2008), and across organizations (e.g., ambidextrous interorganizational relationships; Im & Rai, 2014; for an overview, see Schad et al., 2016).

For the individuals who experience a paradox, singular elements seem logical if considered on their own. For example, it makes sense that leaders should treat their followers as individuals. But it also makes sense that followers should treat their followers equally.

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[2] Technically, self-referential loops constitute competing, yet interrelated elements that exist simultaneously and persist over time (i.e., paradoxes). "Self-referential loops operate when contradictions are embedded within a cohesive statement, concept or process. For instance, the Liar's paradox – "I am lying" – is a circular statement" (Lewis, 2000, p. 763). The interplay in a self-referential loop differs from typical organizational paradoxes, as the elements in a self-referential loop are, in fact, contradictory, and balance or middle-ground approaches are not possible, independent of an actor's approach to paradoxes. Therefore, our reasoning and findings might not be applicable to self-referential loops.

When juxtaposed, these two elements can appear contradictory and like they cannot be reconciled. Thus, for leaders it may appear that they cannot treat their followers individually *and* equally at the same time (Y. Zhang et al., 2015). The fact that paradox is defined by its *seemingly* contradictory nature highlights the role of individual experience. When leaders experience the demands for individual *and* equal treatment as contradictory, they are unlikely to fulfill these demands. However, if leaders challenge whether these demands are actually contradictory by thinking complexly about them, they can identify ways to exhibit complex behavior and fulfill both demands (Y. Zhang et al., 2015). How complex thinking and complex behavior help individuals to work with paradoxes in organizations is the subject of my dissertation.

1.1.2.   *Sharpening the Concept of Paradox by Distinguishing Similar Terms*

Followers and leaders experience various competing demands – but not all of them are paradoxical. Given the omnipresence of competing demands, research offers several concepts to categorize contradictory or competing elements. In the following, I define the concepts in question and discuss how they relate to the concept of paradox in order to clarify the subject matter of this thesis.

Paradoxes can easily be mistaken for *contradictions*: "Bipolar opposites that are mutually exclusive and interdependent such that the opposites define and potentially negate each other" (Putnam et al., 2016, p. 6). For example, it is impossible to sign a contract and not sign the same contract at the same time: Signing and not signing a contract negate each other.

Some perceived contradictions might actually be paradoxes: A leader might feel that it is impossible to treat followers equally and individually at the same time. However, equal treatment and individual treatment are not mutually exclusive opposites, but still a paradox (i.e., *seemingly* contradictory). Leaders might meet both demands, for example, by providing individualized incentives (i.e., treatment with focus on individual interests) of equal value (i.e., treatment with focus on equal distribution of resources; Y. Zhang et al., 2015).

Similar to contradiction is the concept of *dilemma* which refers to „competing choices, each with advantages and disadvantages" (W. K. Smith & Lewis, 2011, p. 387). A constructive reaction to a dilemma is to weigh the advantages and disadvantages and to choose the option, which appears favorable. For example, when choosing the location of the next office building, a leader should weigh the advantages and disadvantages of the potential buildings and chose the one which appears to be the most favorable. If a suitable building was chosen, there is no need to choose another building.

Some perceived dilemmas might actually be paradoxes, meaning the options are not only competing, but also interrelated: The more one paradoxical element is emphasized, the more the need for the other element arises. For example, top management might perceive the dilemma to choose between the demands for short-term efficiency and long-term development. A sole focus on short-term efficiency would likely lead to organizational decline in the long-run, as no investments are taken, such as innovation or competence development, and the current products or services will become incongruent with changing market demands. A sole focus on long-term development would also likely lead to organizational decline, for example, when financial demands cannot be met during phases of heavy investments. With paradoxes, choosing an option is only a temporary solution with tension building in the long-run (W. K. Smith & Lewis, 2011). For example, when the top management decides to focus on only short-term efficiency over prolonged periods, followers might increasingly demand compensation for their sustained performance such as investments in their well-being, future benefits, or competences. Markets might change, leading to an increasing demand for improved products or services. Overall, the need to focus on long-term development of personnel and product innovation becomes more salient over time.

While the concepts of contradiction and dilemma demand a choice of one element over the other, the concept of *dialectic* includes the integration of competing elements, for

example, in the definition presented by W. K. Smith and Lewis (2011): "contradictory[3] elements (thesis and antithesis) resolved through integration (synthesis), which, over time, will confront new opposition" (p. 387). The interplay of thesis and antithesis can be seen as interplay between elements, but also as a method for structuring discourse or thinking processes when dealing with competing demands. For example, when debating an issue, one might first hear one side of the story (thesis), then hear the other (antithesis), and then strive for a compromise (integration).

The elements in a dialectical process (i.e., thesis and antithesis) can be paradoxical. If this is the case, integration through synthesis is temporary, because integration stresses the interrelatedness while it neglects the competing nature of paradoxical elements. Over time, the synthesis will gradually emphasize one of the elements (Weiser & Laamanen, 2022; Raisch et al., 2018), leading to another cycle in the dialectical process. Consider for example the structure-action paradox in organizations (Poole & van de Ven, 1989): Followers in organizations might feel restricted by organizational structures, for example, by their given role descriptions (thesis: emphasis on structure). They might nonetheless act outside of their role descriptions (e.g., in form of organizational citizenship behavior; OCB) to the benefit of the organization (antithesis: emphasis on action). Over time, these actions might become part of an adapted role description (synthesis of structure and action). When the new role descriptions once again start to restrict how followers act, another dialectical cycle starts.

When individuals experience contradictions, dilemmas, or dialectical situations, they might actually face a paradox. While these concepts are not always distinct in individuals' perceptions, distinguishing them theoretically is important because the individuals' reactions

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[3] Note that the term "contradictory" does not refer to mutual exclusive elements in this definition, but to elements that can be integrated through synthesis. In general, definitions and distinctions regarding the concepts of contradiction, dilemma and dialectics vary in the literature, especially across different fields of research. The here presented definitions and the resulting discussion reflect the understanding (mostly) shared in general paradox research, which is often based on the theoretical work by W. K. Smith and Lewis (2011; Dynamic Equilibrium Model).

should lead to different outcomes depending on the type of competing demands they face. If individuals face a paradox and they choose to a) ignore the contradiction, or b) go for just one of the options of the perceived dilemma, they will likely cause detrimental outcomes. If they face a paradox and c) seek resolution through integration in a dialectical process, they will only obtain a temporary solution. When working with paradoxes, all solutions are temporary: Paradoxes persist over time and will become salient again in the future (on the cyclical nature of paradoxes, see W. K. Smith & Lewis, 2011; Weiser & Laamanen, 2022). As followers and leaders are likely to encounter the same paradoxes repeatedly and inevitably, finding constructive reactions to paradoxes is highly instrumental in order to promote positive outcomes and mitigate negative ones.

1.1.3. *The Divergent Outcomes of Paradoxes for Individuals and Organizations.*

"Paradoxes stare us in the face—taunting our established certainties, while tempting our untapped creativity" (Schad et al., 2016, p. 6). This quote suggests that paradoxes can have negative outcomes, such as uncertainty, and positive outcomes, such as creativity. There is indeed a broad range, from highly positive to highly negative, in how paradoxes can affect individuals and organizations.

Paradoxes Lead to Sustainable Performance for Individuals and Organizations

The confrontation with seemingly contradictory elements can lead individuals to think outside-the-box (Miron-Spektor et al., 2011): The individuals challenge assumptions about the status quo, might reveal hidden deficiencies and might find workable solutions to paradoxical demands (Putnam et al., 2016). Paradoxes were found to increase individual creativity, innovation, and performance (Miron-Spektor et al., 2011, 2018). When followers and leaders find workable solutions to paradoxical demands, this translates to positive outcomes for organizations such as learning (e.g., improving *and* dismantling the current state), ambidexterity (e.g., exploration *and* exploitation), innovation (e.g., idea generation *and* implementation), effectiveness (e.g., stability *and* flexibility), or sustainable performance

(e.g., short-term efficiency *and* long-term performance; for an overview of evidence, see the review by Schad et al., 2016). Theory states that individuals and organizations can enter a virtuous cycle (e.g., the Dynamic Equilibrium Model: W. K. Smith & Lewis, 2011) or learning spiral (Raisch et al., 2018), as they are repeatedly confronted with a specific paradox over time: With each cycle, individuals and organizations can make more sense of the specific paradox and find increasingly constructive reactions, leading to increasingly beneficial outcomes for themselves and their organizations.

Paradoxes Lead to Negative Experiences and Lasting Damage to Organizations.

While paradoxes offer substantial opportunities, the potential downsides are equally substantial: Paradoxes are per definition closely linked to individuals "experiencing competing elements (e.g., demands, goals, interests and perspectives)" and experiencing (emotional, motivational, or cognitive) tension (Miron-Spektor et al., 2018, p. 43). Research on the experience of competing elements strongly points to negative states such as having mixed feelings or being torn between impulses or dissonant cognitions, for example, as captured by the concept of *ambivalence*: "Simultaneously oppositional positive and negative orientations toward an object" (Ashforth et al., 2014, p. 1454). Another concept exploring the experience of competing elements is *role conflict,* which is "defined in terms of the dimensions of congruency-incongruency or compatibility-incompatibility in the requirements of the role, where congruency or compatibility is judged relative to a set of standards or conditions which impinge upon role performance" (Rizzo et al., 1970, p. 155). Meta-analyses on role conflict point to severe downsides for followers such as psychological distress, lower well-being (Gray et al., 2017) and burnout (Alarcon, 2011). While sharing conceptual overlap in the experience of competing elements, the concepts of *ambivalence* and *role conflict* are distinct from the concept of paradox (Ashforth et al., 2014): Paradoxes in organizations, which are embedded in roles, goals and processes (exogenous to individuals) can result in endogenous individual experiences of ambivalence and role conflict if individuals do not find

constructive reactions to them.

When followers and leaders do not find constructive reactions to paradoxes, this can also lead to negative organizational states such as chaos, conflict, and ambivalence, even leading to collapse and organizational decline (for an overview of evidence, see the review by Schad et al., 2016). It is theorized that paradoxes can lead to vicious cycles for individuals and organizations (e.g., the Dynamic Equilibrium Model: W. K. Smith & Lewis, 2011): When individuals or organizations consistently ignore the paradoxical demands or consistently choose to focus on the same paradoxical demand, the ignored paradoxical demands increase in intensity, leading to increased experiences of tension and making the reactions increasingly maladaptive.

1.2. Individual Reactions Determine the Outcomes of Paradoxes

"The problem is not the problem; the problem is the way we think about the problem" (Miron-Spektor et al., 2018, p. 27). Misunderstanding a salient paradox as a contradiction or dilemma will likely result in unconstructive reactions: Individuals could select one of the paradoxical elements over the other, to seemingly resolve the issue. Or individuals could react defensively to the aversive emotional states of contradictions and dilemmas, and, for example, ignore the problem or shift it to other persons. With these reactions, the individuals do not meet the (objective) demands of the paradoxical elements, which could spur vicious cycles of increasing experiences of tension and increasingly maladaptive reactions within organizations (W. K. Smith & Lewis, 2011; Schad et al., 2016).

Paradoxes also hold the potential for increasingly beneficial outcomes and only *seem* like contradictions. Various constructive reactions are advised by paradox theory: Through complex thinking (section 1.2.1) individuals can find workable solutions to paradoxes, enabling them to exhibit complex behavior in order to meet paradoxical demands (section 1.2.2). This dissertation aims to add empirical evidence to these notions: The complex thinking of followers is an integral part of all three studies in this dissertation (integrative

complex thinking: Chapter 2; cultural influences on complex thinking: Chapter 3).[4] The

complex behavior that leaders show in reaction to paradoxes (i.e., paradoxical leader

behavior) and how it affects followers, is an integral part of Study 2 (see Chapter 2) and Study

3 (see Chapter 3). In summary, this dissertation empirically investigates how followers and

leaders can react constructively to paradoxes in organizations, so that they promote positive

outcomes and mitigate negative outcomes.

1.2.1.   Complex Thinking is a Constructive Reaction to Paradoxes

As established, when it comes to paradox, "the problem is the way we think about the

problem" (Miron-Spektor et al., 2018, p. 27). One constructive way to think about paradoxes

has been theorized as paradoxical thinking, which is defined in terms of "cognitive abilities to

recognize opposites, question and reflect on them, and shift mental sets" (Putnam et al., 2016,

p. 60). Another concept to capture individuals' constructive thinking in the context of

paradoxes is paradox mindset: "Individuals who have a paradox mindset tend to value, accept

and feel comfortable with tensions. These individuals see tensions as opportunities, confront

them, and search for both/and strategies" (Miron-et al., 2018, p. 27). While paradoxical

thinking emphasizes the differentiation of paradoxical elements ("recognize opposites"),

paradox mindset emphasizes efforts to integrate them ("search for both/and strategies"). This

emphasis on differentiation and integration is in line with general paradox theory which

emphasizes that complex thinking helps individuals to react to paradoxes, so that they

promote positive outcomes and mitigate negative ones (Dynamic Equilibrium Model; Smith

& Lewis, 2011).

This dissertation explores followers' complex thinking in two regards, namely a) as

individual integrative complex thinking, which is a type of thinking characterized by

differentiation and integration (Study 1 and Study 2) and b) in terms of the cultural prevalence

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[4] Study 1 in Chapter 2 approximates followers' thinking when working on a task by asking individuals
to perform a task in an experimental setting. Study 2 (see Chapter 2) and Study 3 (see Chapter 3) investigate
followers in organizations.

of dialectical thinking and uncertainty avoidance which are likely to influence the degree of differentiation and integration in individuals' thinking processes (Study 3). The three concepts (integrative complexity, dialectical thinking, and uncertainty avoidance) will be described in the following paragraphs, before I derive a general proposition regarding followers' complex thinking in the context of paradoxes.

Integrative Complexity.

Integrative complexity refers to the degree of differentiation and integration in the structure of what individuals think, speak or write (for information on coding verbal or written statements, see Suedfeld et al., 1992), regardless of the content. "Differentiation refers to the perception of perspectives when considering the domain. It is a necessary but not sufficient prerequisite for integration, which is the development of conceptual connections among differentiated dimensions or perspectives" (Suedfeld et al., 1992, p. 393). When thinking in an integrative complex way, an individual "is not only able to see that multiple alternatives are all to some degree legitimate [differentiation] but is also able to delineate the relationship between them [integration]" (Baker-Brown et al., 1992, p. 414). Within the concept of integrative complexity, integration refers to various relationships between perspectives or alternatives, including interaction, interdependency, compromise, equilibrium, and trade-offs.

In the context of paradox, integrative complexity helps individuals to differentiate and integrate the paradoxical elements in their thinking, both when the paradoxical elements are perceived as competing and perceived as interrelated: In the case paradoxical elements are experienced as competing, integrative complex thinking helps individuals to identify how different dimensions (differentiation) have tension between them, but relate to each other (integration; Conway et al., 2008). In the case paradoxical elements are not experienced as competing, integrative complex thinking helps individuals to identify how diverse aspects (differentiation) combine to a single, dominant theme (integration; Conway et al., 2008). In

both cases, integrative complexity can help individuals to find workable solutions to the paradoxical elements.

Thinking characterized by differentiation and integration is an important antecedent of the complex behavior needed to deal constructively with paradoxes (Lüscher & Lewis, 2008, Andriopoulos & Lewis, 2008; Calic et al., 2019). When they thought in an integrative complex way, leaders were more likely to exhibit paradoxical leader behavior (Wilms et al., 2019; Y. Zhang et al., 2015), and task performing individuals were more creative (Miron-Spektor et al., 2011; Leung et al., 2018). Integrative complex thinking helped followers to understand paradoxical leader behavior and, thus, perform better (Shao et al., 2019), while the opposite was true for avoidance of complex thinking (need for closure: She et al., 2020).

Dialectical Thinking.

Another form of complex thinking, which is characterized by differentiation and integration, is dialectical thinking. Because "dialectical thinking" can have varying meaning depending on the respective literature, I want to differentiate the two meanings prevalent in paradox research.

One type of dialectical thinking refers to an analytical thought process which is characterized by moving through thesis, antithesis, and synthesis (K. Peng & Nisbett, 1999). This thought process follows formal logic and involves analytical differentiation of opposing elements (in terms of recognition and opposition), and their integration in form of synthesis (Hargrave & Van de Ven, 2016; Costanzo & Di Domenico, 2015).

The other type of dialectical thinking refers to individuals' "cognitive tendency toward acceptance of contradiction" (K. Peng & Nisbett, 1999, p. 742; Leung et al., 2018). When thinking this way, individuals differentiate paradoxical elements (i.e., differentiation) in terms of two complementary aspects of the same issue (i.e., integration). As this type of thinking is less focused on opposition between paradoxical elements, individuals thinking this way experience less tension and conflict than individuals focusing on opposition. When

individuals perceive the paradoxical elements as complementary, the integration of the paradoxical elements is likely to be a middle-ground approach or compromise strategy. I will call this type of thinking "dialectical thinking" in accordance with literature on perceived contradictions (Schimmack et al., 2002; Bai et al., 2015; Hamamura et al., 2008; Spencer-Rodgers et al., 2010), even though some authors criticize this label due to the potential confusion with the analytical "dialectic logic" described above (Prashantham & Eranova, 2020). Empirically, dialectical thinking was found to be associated with less experienced conflict in the context of paradoxes and resulted in middle-ground approaches and compromise strategies (Spencer-Rodgers et al., 2010; Leung et al., 2018). Leaders' dialectical thinking (in terms of holistic thinking) was found to be positively related to their paradoxical leader behavior (Y. Zhang et al., 2015).

I argue that individuals are more likely to think dialectically, if they are from a culture with a high prevalence of dialectical thinking. This type of dialectical thinking was conceptualized based on "East Asian lay beliefs characterized by tolerance for contradiction, the expectation of change, and cognitive holism" Spencer-Rodgers et al., 2009, p. 29). Many authors view dialectical thinking in terms of a cultural difference and found higher levels of dialectical thinking in the East compared to the West (Spencer-Rodgers et al., 2010; Schad et al., 2016; cf. Schimmack et al., 2002; cf. Spencer-Rodgers et al., 2004; for an overview on East-West comparisons, see Prashantham & Eranova, 2020). In the presented research (Study 3), dialectical thinking is conceptualized as cultural influence on how individual followers think about paradoxes (for examples of national culture influencing thinking on paradoxes, see Spencer-Rodgers et al., 2010; Leung et al., 2018).

Uncertainty Avoidance.

Complex thinking in the context of paradoxes involves in-depth engagement with the subject. Given that perceiving competing elements can result in negative experiences, some individuals avoid differentiating and integrating paradoxical elements in their thinking.

Instead, they choose unconstructive, defensive thinking such as ignoring the paradox or choosing a one-sided approach (i.e., no differentiation; Putnam et al., 2016). Emotional stability helps individuals to engage with the paradox, or in other words, "minimizes the intense emotional defensiveness and fear and, in doing so, fosters comfort and openness to contradictions" (W. K. Smith & Lewis, 2011, p. 392). This notion is supported by the fact that emotional stability, as well as tolerance for ambiguity are associated with constructive reactions to paradoxes (Ishaq et al., 2021; Miron-Spektor et al., 2018). In congruence, need for closure, or "the extent of an individual's desire for a firm answer on given topic and the avoidance of confusion and ambiguity", is negatively associated with constructive reactions to paradoxes (She et al., 2020, p. 3).

I argue that individuals are more likely to exhibit emotional stability and tolerance for ambiguity, and are less likely to exhibit need for closure, if they are from a culture with low uncertainty avoidance. Uncertainty avoidance is the degree to which "members of collectives seek orderliness, consistency, structure and formalized procedures, and laws to cover situations in their daily lives'' (Sully de Luque & Javidan, 2004, p. 603). Uncertainty avoidance on cultural level shares conceptual overlap[5] with need for closure on individual level in terms of preference for orderliness, consistency and structure, and was found to correlate with emotional stability and tolerance for ambiguity at individual level (Sully de Luque & Javidan, 2004). Overall, I argue that individuals are more likely to engage in-depth with paradoxes and to think complexly, in terms of differentiating and integrating the paradoxical elements, if they are from a culture with low uncertainty avoidance (compared to a culture with high uncertainty avoidance).

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[5] On item-level, the conceptual overlap between uncertainty avoidance on cultural level (GLOBE practices; Sully de Luque & Javidan, 2004) and need for closure on individual level (Roets & Van Hiel, 2007) is notable: "In this society, orderliness and consistency are stressed, even at the expense of experimentation and innovation" (uncertainty avoidance) and "I believe that orderliness and organization are among the most important characteristics of a good student" (need for closure). "In this society, most people lead highly structured lives with few unexpected events" (uncertainty avoidance) and "I enjoy having a clear and structured mode of life" (need for closure).

Summary on Complex Thinking.

My dissertation focuses on individual complex thinking as characterized by differentiation and integration (i.e., integrative complex thinking: Study 1 and Study 2), and as shaped by culture (i.e., shaped by dialectical thinking and uncertainty avoidance on national level: Study 3). Complex thinking should help followers to make sense of paradoxical elements (such as paradoxical task demands, see Study 1, and paradoxical leader behavior, see Study 2 and Study 3), and thereby promote positive outcomes and mitigate negative ones.

General proposition 1: Complex thinking is a constructive reaction to paradoxes: Followers' complex thinking promotes positive follower outcomes and mitigates negative follower outcomes, when followers are confronted with paradoxical elements.

1.2.2.   *Paradoxical Leader Behavior is a Constructive Reaction to Paradoxes*

Complex thinking enables individuals to find constructive responses to paradoxes (Y. Zhang et al., 2015; Lüscher & Lewis, 2008). In their seminal article on relationships of paradoxical elements, Poole and van de Ven (1989) differentiate four ways of responding constructively to paradoxes: (1) accepting paradoxes and using the competing nature of paradoxical elements as source of intellectual stimulation and lens for sensemaking, (2) structural separation of the paradoxical elements such as assigning them to different organizational units, (3) temporal separation of the paradoxical elements such as alternating over time or moving through cycles similar to dialectics (thesis – antithesis – synthesis), and (4) "reconciling" the paradoxical elements through new perspectives which stress the interrelatedness of paradoxical elements, such as stressing that a single paradoxical element only exists because of the respective other (for exemplary application of these approaches, see Poole & van de Ven, 1989; for more comprehensive overviews of approaches towards paradoxes, see Putnam et al., 2016, and Schad et al., 2016).

Some authors argue that reactions which leave the paradox intact and stress its

competing (see 1) or interrelated nature (see 4) are superior to approaches which separate

paradoxical elements structurally (see 2) or temporally (see 3; Putnam et al., 2016). Others

argue that the appropriate reaction depends on the organizational level of the paradox (Weiser

& Laamanen, 2022): When the paradoxical elements are unbalanced on group level or

organizational level, they recommend differentiation and integration of processes or

organizational structures.[6] When the paradoxical elements are unbalanced on the individual

level, they recommend differentiation and integration of either the individuals' thinking or of

the processes they follow.

While having different theories on the most constructive reactions to a paradox, most

authors share two notions (W. K. Smith & Lewis, 2011; Weiser & Laamanen, 2022; Raisch et

al., 2018): First, even constructive reactions do not lead to permanent solutions and

(temporarily) "reconciled" paradoxes will become salient again. And second, constructive

reactions to paradoxes are characterized by some form of differentiation and integration of the

paradoxical elements (be it over time, through processes and structures, or simultaneously).

While the constructive reactions to paradoxes can be conceptualized at different

organizational levels, this dissertation treats them as reactions of indiviudals in organizations.

The four constructive responses to paradoxes formulated by Poole and Van de Ven

(1989) can be translated into ways leaders can react constructively to paradoxes. First, when

leaders accept a salient paradox, they can make sense of their situation and enable "a degree

of comfort with contradictions" for themselves and their team (Lüscher & Lewis, 2008, p.

234). Second, leaders can decide to structurally separate paradoxical elements, such as

building different teams for exploration and exploitation, and integrate their output (W. K.

Smith & Tushman, 2005). Third, leaders can decide to temporally separate paradoxical

elements, for example by alternating the followers' focus between exploration and

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[6] Weiser and Laamanen (2022) acknowledge that the managements' individual characteristics (i.e., cognitive complexity, behavioral complexity, emotional equanimity; Dynamic Equilibrium Model; W. K. Smith & Lewis, 2011) help them to preemptively balance paradoxical elements, also on group or organizational level.

exploitation (Rosing et al., 2011). Fourth, leaders can focus on simultaneous "reconciliation" of the paradoxical elements, for example by maintaining decision control, while allowing followers autonomy (Y. Zhang et al., 2015). While the former two responses (i.e., acceptance and structural separation) are usually found in qualitative research, the latter two responses (i.e., temporal separation and "reconciliation") are also prevalent in quantitative research.

In this dissertation, leader behavior involving temporal separation or simultaneous "reconciliation" of paradoxical elements will be referred to as paradoxical leader behavior: "seemingly competing, yet interrelated, behaviors to meet structural and follower demands simultaneously and over time" (Y. Zhang et al., 2015, p. 538; for an extensive discussion of this definition, see Study 3). Following the definition by Y. Zhang and colleagues (2015), paradoxical leader behavior includes concepts such as tight-loose leadership (allowing followers autonomy, while maintaining control; Sagie, 1997) or ambidextrous leadership (fostering both exploration and exploitation in the innovation process; Rosing et al., 2011; see Study 3 for more examples). Paradoxical leader behavior can be characterized by balance between competing demands (Kaiser & Overfield, 2010), by simultaneous integration (Y. Zhang et al., 2015), or situational switching which allows to meet both competing demands over time (Rosing et al., 2011). This emphasis on complex behavior is in line with general paradox theory which emphasizes that complex behavior helps individuals to react to paradoxes, so that they promote positive outcomes and mitigate negative ones (Dynamic Equilibrium Model; Smith & Lewis, 2011).

While paradox theory clearly states that paradoxical leader behavior is a constructive reaction to paradoxical demands on leaders (e.g., Denison et al., 1995), psychological theories on how paradoxical leader behavior affects followers predict heterogeneous outcomes: Some theories predict positive outcomes (e.g., self-determination theory; Ryan & Deci, 2000; Yang et al., 2021) and others predict detrimental outcomes due to the seemingly competing nature of the leader behaviors (e.g., theory of cognitive dissonance: Festinger, 1957; Shao et al.,

2019). Empirically, paradoxical leader behavior was found to be both positively related to followers' performance (e.g., performance: Ishaq et al., 2021; OCB: Ren & Yang, 2021; creativity: Yang et al., 2021) and well-being (job satisfaction: Kaiser & Kaplan, 2006; motivation: Y. Zhang & Liu, 2022), but also negatively related to well-being in some instances (e.g., job stress: S. Wang et al., 2021; Bashir et al., 2021; work pressure perception: Meng et al., 2021). Overall, the notion that paradoxical leader behavior is a constructive behavioral reaction to paradoxical demands on leaders is justifiable.

General proposition 2: Paradoxical leader behavior is a constructive reaction to paradoxical demands on leaders: Paradoxical leader behavior promotes positive follower outcomes and mitigates negative follower outcomes.

1.3. Research Overview

So far, I established what paradoxes are (section 1.1.1) and to which substantial positive and negative outcomes they can lead for individuals and organizations (section 1.1.3). The followers can react constructively to paradoxes by thinking complexly (section 1.2.1),[7] and how leaders can react constructively to paradoxes by behaving complexly (i.e., paradoxical leader behavior; section 1.2.2). In essence, this dissertation empirically investigated how both, the way followers think and the way leaders behave in reaction to paradoxes, influence positive and negative follower outcomes (see Table 1, for an overview of the studies).

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[7] While paradoxical leader behavior is leader-specific behavior, the discussed forms of constructive thinking are not follower-specific, but generally constructive in the context of paradoxes. My dissertation explores the constructive thinking of followers in organizations, as approximated by the thinking of individuals working on a task (Study 1), by followers' thinking about their leader (Study 2), and cultural influences on followers' thinking (i.e., dialectical thinking and uncertainty avoidance; Study 3).

Table 1

Chapter overview

	Content	Paradox context	Followers' thinking	Follower outcomes		Insights
Chapter 1	General introduction					
Chapter 2	Study 1: Online experiment	Paradoxical task demands	Integrative complexity	Negative experiences: - experienced tension - negative affect - stress	- -	Individual process Changes in experienced tension
	Study 2: Field study	Paradoxical leader behavior	Integrative complexity	Negative experiences: - experienced tension - negative affect - stress - role conflict	- -	Individual process Changes in experienced tension
Chapter 3	Study 3: Meta-analysis	Paradoxical leader behavior	Cultural influences: - Dialectical thinking - Uncertainty avoidance	Performance: - CIP - OCB - task performance Well-being: - eudaimonic - hedonic - negative	- -	Aggregated evidence on individual processes Moderations by methodology and sample characteristics
Chapter 4	General discussion					

Note. CIP = creative and innovative performance. OCB = organizational citizenship behavior.

As stated in the beginning of the thesis, paradox research would benefit from empirical investigation of a) individual reactions, and b) outcomes for individuals, especially in terms of negative experiences. The focus on individual reactions, namely complex thinking and paradoxical leader behavior, was chosen, because complex thinking and complex behavior are theorized to be determining factors for the outcomes of paradoxes (e.g., W. K. Smith & Lewis, 2011: Dynamic Equilibrium Model). Studies that investigated complex thinking in the context of paradoxes did not shed light on whether complex thinking modulates negative experiences of those who are confronted with paradoxes. While paradoxes are conceptually closely linked to experiences of tension, this link was rarely investigated empirically. For paradoxical leader behavior, theory and evidence are heterogenous in whether paradoxical leader behavior leads to positive or negative outcomes for followers. In addition, concepts and theories on the effects of paradoxical leader behavior are scattered in

leadership literature, calling for integration and aggregation. This dissertation aims to address these shortcomings in three studies (see Table 1, for an overview of the studies).

Study 1 (Chapter 2) is an online experiment investigating how paradoxes in the form of paradoxical task demands lead to negative experiences for the individuals working on the task. In addition, Study 1 explores how this effect of paradoxes on individuals' negative experiences is moderated by whether individuals think complexly, as captured by integrative complexity. The focus of the study is on the individual process of encountering and "thinking through" paradoxes, as well as the negative experiences during and resulting from this process.

Study 2 (Chapter 2) is a field study investigating whether paradoxical leader behavior is associated with low negative experiences for followers. Or, on the logical flipside, the study investigates whether unreconciled paradoxical demands on leaders (i.e., *low* paradoxical leader behavior) are associated with high negative experiences for followers. In addition, Study 2 investigates how the relationship between paradoxical leader behavior and followers' negative experiences is moderated by whether followers think complexly, as captured by integrative complexity. The focus of the study is on the individual process of "thinking through" paradoxical leader behavior (or respectively, unreconciled paradoxical demands on leaders; i.e., low paradoxical leader behavior), as well as the negative experiences during and resulting from this process.

Study 3 (Chapter 3) is a meta-analysis investigating whether paradoxical leader behavior is positively related to followers' performance and positive well-being, and negatively related to followers' negative well-being. In addition, Study 3 explores how the relationship between paradoxical leader behavior and follower outcomes is influenced by cultural influences on the followers' complex thinking (i.e., dialectical thinking, uncertainty avoidance). While the aggregated data in the meta-analysis did not allow to directly explore followers' complex thinking, it allowed to explore a variety of cross-study influences such as

cultural influences on thinking, methodological differences, and sample characteristics.

Crucially, the study creates meta-analytical evidence on how paradoxical leader behavior is

related to a broad variety of follower outcomes, both positive and negative.[8]

This dissertation combines the methodological strengths of an online experiment, a

field study, and a meta-analysis in order to explore individual reactions to paradoxes and their

outcomes for followers. Viewed together, the three studies give crucial insights into how

followers and leaders can react constructively to the paradoxes they inevitably encounter in

organizations.

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[8] Chapter 2 (i.e., Study 1 and 2) explores *negative experiences* paradoxes can have on followers, while Chapter 3 (i.e., Study 3) explores *negative well-being* among other follower outcomes. In Study 1 and 2, we focused on various negative experiences which are conceptually closely linked to how paradoxes are perceived. In Study 3, we adopted existing well-being categories including negative well-being (Inceoglu et al., 2018) in order to systematically aggregate variables across studies in a meta-analysis. The negative experiences in Study 1 (i.e., experiencing tension, negative affect, stress) were categorized as negative well-being in Study 3. Study 2 additionally investigates role conflict as negative experience which is related to the concept of paradox through its focus on incongruence or incompatibility in role requirements. Role conflict cannot be categorized as negative well-being, but rather is a mediator between leader behavior and follower well-being (Inceoglu et al., 2018). In summary, while *negative experiences* (Chapter 2) and *negative well-being* (Chapter 3) have considerable overlap, the deliberate shift in terminology is due to different theoretical and methodological foci.

2. Study 1 & 2: Thinking Through Tension: How Integrative Complexity in Thinking Reduces Negative Affect and Stress when Facing Paradoxical Task Demands and Paradoxical Leader Behavior[9]

2.1. Abstract

In daily work life, employees face paradoxes in the form of contradictory, yet interrelated demands, like the demands to work both efficiently and creatively. Much research focuses on paradoxes as opportunities for organizational success and employee performance, with less focus on what employees actually experience when confronted with paradoxes or paradoxical behavior. In an experimental study (Study 1, $N = 234$) and a field study (Study 2, $N = 228$), we explored the negative experiences that can result from paradoxes, such as tension, negative affect, stress, and role conflict, and how individuals can reduce these consequences through integrative complexity in their thinking (i.e., differentiation and integration). Integrative complexity in thinking helped individuals make sense of paradoxical task demands (Study 1) and paradoxical leader behavior (Study 2), thereby reducing experienced tension and negative experiences. The study emphasizes that the consequences of perceived paradoxes depend on how individuals think about them.

Keywords: paradox, paradoxical leader behavior, integrative complexity, tension, affect, role conflict, stress

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2.2. Theoretical Background

Paradoxes are inherent in organizations, meaning that employees are inevitably confronted with them. Employees might be required to explore new ideas, while also implementing efficient solutions (Lavie et al., 2010), to produce work that is both novel and useful (Miron-Spektor et al., 2011), or to both compete and collaborate with others (M. J. Chen, 2008). These are examples of paradoxes, or "contradictory yet interrelated elements (dualities) that exist simultaneously and persist over time" (W. K. Smith & Lewis, 2011, p. 387). The elements constitutive of a paradox seem logical if considered on their own, but juxtaposed, it seems that they cannot be fulfilled at the same time.

Research thus far has mainly focused on how paradoxes and subsequent experiences of tension affect positive behavioral outcomes like creativity, innovation, and performance (Miron-Spektor et al., 2011, 2018), because paradoxes can trigger mental frames that help individuals look at issues from new angles (Miron-Spektor et al., 2011). However, theory on paradoxes and qualitative findings also suggest that individuals can have negative experiences when confronted with paradoxes, because paradoxes can seem like unsolvable dilemmas and involve a struggle between seemingly conflicting demands (cf. Schad et al., 2016; Putnam et al., 2016). Along these lines, meta-analyses in the related fields of goal and role conflicts suggest that the tension resulting from experienced paradoxes could lead to psychological distress, lower well-being (Gray et al., 2017) and burnout (Alarcon, 2011). However, most empirical studies on paradoxes do not explicitly address how paradoxes lead to harmful experiences and, more importantly, how individuals can approach paradoxes to have less harmful experiences.

The actual effects of paradoxes on individuals depend – among other things – on the way individuals think about them (Miron-Spektor et al., 2018; Ingram et al., 2016). When thinking in a complex way, elements of a paradox may not appear as mutually exclusive as they do when thinking simply in black and white terms. In other words, differentiating

between seemingly contradictory elements and looking for ways to integrate them with one another helps individuals find a workable solution to a paradox (Ingram et al., 2016; Wilms et al., 2019; Lüscher & Lewis, 2008; W. K. Smith & Tushman, 2005). This way of thinking is captured and can be measured through the concept of integrative complexity, which refers to the degree to which facets of a potentially complex issue are differentiated and integrated (Suedfeld et al., 1992). Even though studies have shown that integrative complex thinking helps employees utilize paradoxical cues for creativity (Miron-Spektor et al., 2011; Shao et al., 2019) and managers respond to paradoxes in their leadership role (Y. Zhang et al., 2015), little is known about whether integrative complex thinking can also improve the subjective experience of employees facing paradoxes.

In the studies presented here, we investigated (a) whether paradoxes can actually have negative effects on individuals' experiences (i.e., experiences of tension, negative affect, stress, and role conflict) and (b) whether integrative complexity in thinking can reduce those negative effects of paradoxes. We tested our general propositions in two studies, one experimental and one field study. In experimental Study 1, we focused on how individuals deal with (in terms of their level of integrative complexity) and react to (in terms of experienced tension, negative affect, and stress) paradoxical task demands (i.e., striving for usefulness *and* for novelty, a paradox that is mainly salient in the work areas of creativity and innovation; Miron-Spektor et al., 2011; Leung et al., 2018). In field Study 2, we focused on how employees deal with (in terms of integrative complexity) and react to (in terms of experienced tension, negative affect, stress, and role conflict) paradoxical leader behavior (PLB). Note that when PLB is high, leaders exhibit a complex behavioral pattern in order to handle paradoxical demands in leader-follower relationships constructively (Y. Zhang et al., 2015). When PLB is low, the paradoxical demands in leader-follower relationships can become more salient, thereby potentially confronting followers with further disturbing paradoxical experiences, which can have negative effects in terms of experienced tension,

negative affect, stress, and role conflict.

How individuals react to and deal with paradoxes in task demands and paradoxical leader behavior has diverse implications for both organizations and their employees: For example, one key to supporting employees who face paradoxes would be to influence their way of thinking about paradoxes rather than trying to make paradoxes in their work environment less salient. This way, employees could still profit from the performance-enhancing effects of salient paradoxes (cf. Miron-Spektor et al., 2011; Shao et al., 2019; Y. Zhang et al., 2015), while having a less stressful experience. Reducing employees' stressful experiences is important for both employees and organizations, as negative experiences at work hamper employees' performance (Ford et al., 2011; Gilboa et al., 2008), health (Darr & Johns, 2008), well-being and life satisfaction in general (Erdogan et al., 2012).

2.2.1. Negative Consequences of Paradoxes

Paradoxes consist per definition of seemingly contradictory elements. When paradoxes become salient, individuals try to reconcile the seemingly contradictory elements and experience tension during this process. We understand experiences of tension as individuals' experiences when facing paradoxical elements before they find ways to reconcile them. When experiencing tension, individuals feel like they "have goals that contradict each other" or "the possible solutions [to their problems] seem contradictory" (Miron-Spektor et al., 2018, p. 44). While empirical findings mainly emphasize that tension has the potential to spark creativity and performance (Miron-Spektor et al., 2011, 2018), psychological theory strongly points to downsides of experienced tension: Individuals who perceive contradictory information experience so-called cognitive dissonance (Festinger, 1957), which is associated with stress and discomfort. Few empirical studies support this notion: For example, when confronted with a paradox in an experimental setting, individuals report experiences of conflict, discomfort, and disorientation (Miron-Spektor et al., 2011). Similarly, research on other forms of experienced contradictions shows that ambivalence (i.e., simultaneous positive

and negative attitudes towards an object; Ashforth, et al., 2014), mixed messages (i.e., contradictions between statements or between verbal and nonverbal responses; Argyris, 1986) and double-binds (i.e., receiving reciprocally conflicting messages with the inability to address the ambiguity; Hennestad, 1990) lead to negative experiences. For individuals who cannot reconcile paradoxical elements, the experienced contradiction in the form of experienced tension can also lead to negative experiences, such as negative affect, stress, and role conflict.

Negative Affect.

Individuals who experience tension should feel negative affect. We understand negative affect as "a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness" (Watson et al., 1988, p. 1063). As discussed above, feeling torn between the seemingly conflicting elements of a paradox could lead to cognitive dissonance and a general negative emotional state. This negative state has been reported in qualitative studies on paradoxes (e.g., Vince & Broussine, 1996; Ashforth & Reingen, 2014; Huq et al., 2017; Gylfe et al., 2019) in which organizational actors expressed fear, anger, anxiety, and uncertainty in reaction to experienced tension. To our knowledge, quantitative tests confirming the causal relationship are lacking thus far. Instead, research has mainly focused on positive affect in the context of paradoxes (S. Chen et al., 2021).

Stress.

Individuals who experience tension should also experience stress. Individuals perceive stress when demands exceed their coping resources (cf. job demands-resources model; Bakker & Demerouti, 2007). When faced with paradoxes, individuals have to cope with cognitive demands placed on them as they try to reconcile the seemingly contradictory elements. In addition, they have to cope with emotional demands related to experiencing tension and the emotional ambivalence associated with it (Raza-Ullah, 2020). These cognitive and emotional demands make it more likely that individuals who experience tension do not have the resources to cope with the demands and experience stress. While many researchers have theorized that paradoxes lead to experiences of stress (e.g., Fairhurst, 2019; Shao et al., 2019), the relationship has - to our knowledge – not yet been empirically tested.

Role Conflict.

Employees who experience tension at work should experience role conflict. When employees are consistently confronted with paradoxical demands or behavior as part of their work, they may interpret the paradoxes as incongruencies or incompatibilities in the requirements of their role, "where congruency or compatibility is judged relative to a set of standards or conditions which impinge upon role performance" (i.e., role conflict; Rizzo et al., 1970, p. 155). While conflicting demands are essential for our understanding of paradoxes and paradoxes lead to a sense of conflict in experimental settings (Miron-Spektor, 2011), to our knowledge, there are no quantitative studies focusing on perceived role conflict in the context of paradoxes (related research on PLB has focused on such aspects as goal clarity (Kearney et al., 2019; Fürstenberg et al., 2021).

Overall, the negative psychological consequences of experiencing tension are an integral part of paradox theory to which we want to add quantitative evidence. We propose:

Proposition 1: Dealing with paradoxes leads to experienced tension that can result in further negative experiences like negative affect, stress, or role conflict.

2.2.2. *Integrative Complexity in Thinking*

While paradoxes and the experienced tension associated with them can lead to negative experiences, these unfavorable consequences are not inevitable (Miron-Spektor et al., 2018; Ingram et al., 2016). Individuals can find workable solutions to paradoxes if they differentiate the seemingly competing elements, consider how they relate to each other and integrate them (W. K. Smith, 2014; Lüscher & Lewis, 2008). Differentiation and integration of potentially complex (often contradictory) issues is captured by the concept of integrative complexity. The concept of integrative complexity can be used to describe and assess *how* individuals think (which is independent from *what* they think). In order to measure integrative complexity in people's thinking, the degree of differentiation and integration of any written or spoken communication can be analyzed by independent coders (Suedfeld et al., 1992), assuming that the communication reflects the author's thinking. In more detail, the "IC model treats differentiation and integration as characterizing information processing at a particular time. The level of complexity in any given situation is thought to be jointly determined by personality (conceptual complexity), by other internal factors (e.g., fatigue, emotional arousal), and by external situational factors such as danger and time pressure" (Suedfeld, 2010, p. 1674).

Integrative complexity has mostly been researched in the fields of political psychology and conflict (for an overview, see Suedfeld, 2010), but also in organizational, group and inter-group relationship research (Brodbeck et al., 2021; Kugler & Brodbeck., 2014; Kugler & Coleman, 2020; G. Park & DeShon, 2018) as well as paradox research (Miron-Spektor et al, 2011; Shao et al., 2019). It has been found to be positively related to cooperative and constructive forms of dealing with differences, conflicts or complexity.

When individuals encounter paradoxes, the level of integrative complexity in their thinking about the paradox influences how they approach the seemingly contradictory elements. First, low levels of integrative complexity describe "denial of ambiguity and shades

of grey and dichotomous good-bad thinking" (Tetlock et al., 1993, p. 500). Individuals with low levels of integrative complexity in their thinking may ignore information that initially appears irrelevant or contradictory (cf. Tetlock et al., 1993) and therefore are more likely to fail to recognize paradoxes as such. Second, moderate levels of integrative complexity describe thinking characterized by "differentiation but no integration (recognition of divergent viewpoints but no means of synthesizing or tying perspectives together)". Individuals with moderate levels of integrative complexity in their thinking differentiate between the conflicting elements of a paradox, but fail to draw conceptual links between them, mainly selecting one element over the other. Such responses, like ignoring the paradox or selecting one of its elements, are often maladaptive, because the unfulfilled elements of the paradox persist and continue to lead to experiences of tension in the long run (Schad et al., 2016). Third, high levels of integrative complexity describe thinking characterized by "both high differentiation and integration (explicit attempts to grapple with contradictions, to understand their sources, and to cope with their consequences)" (Tetlock et al., 1993, p. 500). Individuals with high levels of integrative complexity in their thinking are more likely to acknowledge the competing, yet interdependent nature of paradoxes and to seek integrative solutions.

Our argument that integrative complexity in individuals' thinking helps them understand paradoxes is supported by empirical findings: Integrative complexity is important for individuals to utilize paradoxical cues for creativity (Miron-Spektor et al., 2011; Shao et al., 2019) and helps managers handle paradoxes connected to their leadership role (Y. Zhang et al., 2015). Managers or their teams can make sense of paradoxes by differentiating and integrating information collectively, moving from an unsolvable problem to workable insights (W. K. Smith & Tushman, 2005; Lüscher and Lewis, 2008).

Based on the presented theoretical and empirical arguments, we propose that individuals experience tension when confronted with paradoxes, but can work "through the tension" by engaging in integrative complex thinking. By making sense of the paradox

through differentiation and integration, they reduce their tension and prevent negative consequences.

Proposition 2: Thinking about paradoxes in an integrative complex way reduces experienced tension and further negative experiences such as negative affect, stress, or role conflict.

2.2.3. *Overview of Studies*

We investigated our propositions in two studies which focused on both a) the potential negative consequences of paradoxes on individuals' experiences and b) how individuals can reduce these negative consequences by thinking in an integrative complex way. In an experimental study (Study 1), we asked participants how organizations can facilitate the process of developing products that are both novel *and* practical and examined whether the paradoxical task demands lead to negative experiences. In a field study (Study 2), we examined whether paradoxical leader behavior - a leader's constructive reaction to paradoxes that they show to meet structural and follower demands- reduces employees' negative experiences. Because both paradoxical task demands and paradoxical leader behavior (PLB) contain paradoxical cues, we assumed that integrative complexity in individuals' thinking helps them make sense of paradoxical task demands and paradoxical leader behavior, resulting in lower experienced tension and lower or less negative consequences such as negative affect, stress or role conflict. In summary, we examined in two different contexts (Study 1: paradoxical task demands in innovation, Study 2: paradoxical leader behavior) and two different types of settings (Study 1: experimental, Study 2: field) whether integrative complexity in thinking helps individuals reduce experienced tension, negative affect, stress, and role conflict.

We measured integrative complexity in thinking in two different ways in both studies (external coding of written statements and a self-report scale). The external coding of the written statements captures integrative complexity in thinking as expressed in the outcome of

the specific task of the study. The self-report scale captures integrative complexity in thinking as indicated by participants themselves in general items. Following Y. Zhang et al. (2015), the two measures for integrative complexity in thinking will be referred to as integrative complexity (coded measure) and integrative complexity (item measure) hereafter. We do not intend to delve deeper into the conceptualization and operationalization of integrative complexity. Instead, we focus on the level of integrative complexity in individuals' thinking when dealing with paradoxes, without exploring the sources for this level of integrative complexity (personality, other internal factors or external situational factors). Moreover, although we measured the level of integrative complexity using a scale in addition to the traditional coding, we mainly did so to explore the robustness of our effects and the validity of our measurements.

2.3. Study 1

In Study 1, we focused on the domains of creativity and innovation, which are known to yield many paradoxes (Miron-Spektor et al., 2011; DeFillippi et al., 2007; Andriopoulos & Lewis, 2008; Raisch et al., 2009; March, 1991). Creativity can be defined as "the production of novel, useful ideas or problem solutions" (Amabile et al., 2005, p. 368), while innovation also includes the implementation of these novel, yet useful ideas (Bledow et al., 2009). The demands for novelty and utility are paradoxical: They can appear contradictory but can also be reconciled (Miron-Spektor et al., 2011; Leung et al., 2018).

In our study, we included two experimental conditions: In the paradoxical condition, we asked participants how organizations can develop products that are both useful and novel (i.e., paradoxical task demands). In the non-paradoxical condition, we asked participants how organizations can develop novel products only. We assumed that the paradoxical task should lead to more experienced tension initially than the non-paradoxical task.

In the paradoxical condition, integrative complexity in participants' thinking should then help participants reduce this tension: They should be able to differentiate their thoughts

on a) how to achieve utility and on b) how to achieve novelty, finding ways to integrate both

paradoxical task demands. By reconciling the paradoxical demands, they should be able to

reduce their experienced tension, which otherwise would have led to negative affect and

stress. However, when participants cannot think in an integrative complex way and thus

cannot reconcile the paradoxical task demands, they should not be able to reduce their

experienced tension, which should then lead to negative affect and stress. In the non-

paradoxical condition, the demand for novelty is not paradoxical and should thus lead to low

levels of experienced tension, independent of participants' level of integrative complexity in

thinking. Refining our general propositions, we posit the following hypotheses for Study 1:

Hypothesis 1: Individuals in the paradoxical condition initially experience more

tension than individuals in the non-paradoxical condition.

Hypothesis 2: Thinking in an integrative complex way reduces experienced tension

more for individuals in the paradoxical condition than for individuals in the non-paradoxical

condition, with lower experienced tension resulting in lower negative affect and stress (see

Figure 2, moderated mediation).

Figure 2

Interplay of paradoxical vs. non-paradoxical task and integrative complexity for experiencing
tension and resulting negative affect and stress (Study 1)
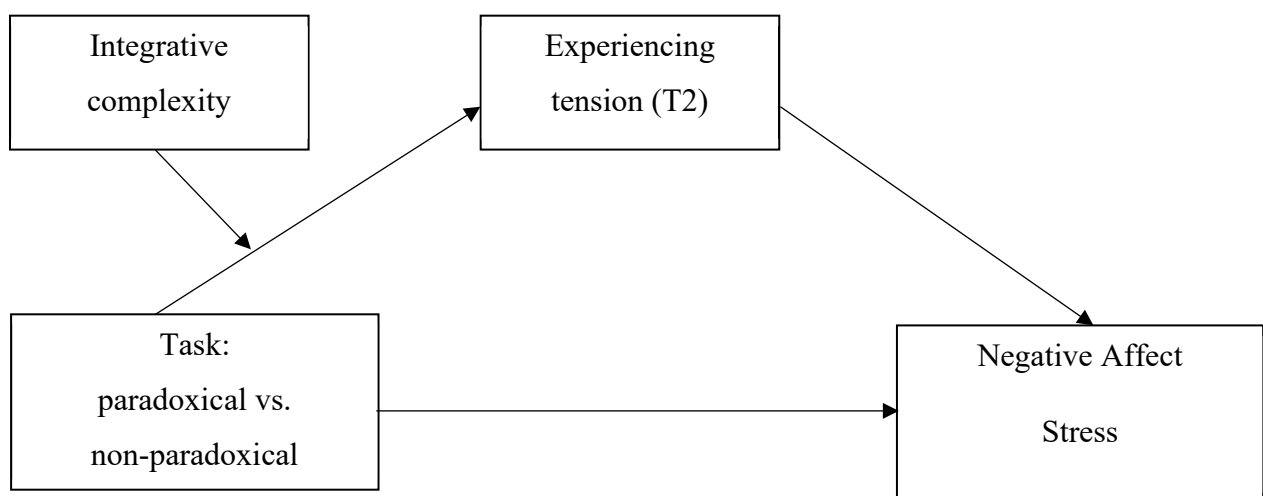
Note. Model controlled for experiencing tension (T1).

2.3.1. Method

Sample.

A convenience sample of $N = 246$ participants completed our survey. We excluded 12 participants because their written answers to the task did not relate to the instructions, resulting in $N = 234$ participants (81.2% female; average age = 23.82 years, SD = 7.74 years, age ranging from 18 to 63 years). The sample consisted mainly of German (91.0%) students (88.5%). As compensation, participants could take part in a lottery (4 x 70€) or receive course credit.

Design and Procedure.

In an online experiment, participants were randomly assigned to one of the two conditions (between-subjects design). Participants were asked to write a persuasive text on how the demands for novelty and utility (paradoxical condition: $N = 118$) or novelty only (non-paradoxical condition, $N = 116$) can be considered in an organization. After having read the respective task, participants indicated their initial degree of currently experienced tension before actually working on the writing task. After completing the writing task, which was later used to code for integrative complexity in thinking (coded measure), participants were asked again to indicate their currently experienced tension as well as negative affect and stress. Afterwards, participants were presented items on integrative complexity in their thinking (item measure)[10] and on sociodemographic variables.

Measures.

English measures were translated to German and back-translated by individuals fluent in both languages. The German instructions are available upon request.

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[10] Please note that for exploratory reasons we also included self-developed items measuring 1) different approaches towards the paradoxical task demands and 2) self-reported state complex thinking. We do not think these items influenced any of our reported results given that they had similar content to the reported measures. Further information about these items can be provided upon request.

Experimental Task. The experimental task included two conditions of a creativity task we adapted from Leung and colleagues (2018): In the paradoxical condition, the following scenario (Leung et al., 2018, p. 454) was presented: "Increasingly, organizations have pushed their research and design department to pursue excellence in product novelty. This promotes branding of the company as the highly novel products become more distinguishable from other competitive enterprises. However, the pursuit of novelty often comes at the cost of practicality. Very often, it is not practical to produce and implement very novel ideas. It is challenging to achieve a high level of novelty and practical utility at the same time. Promoting novelty can be at the expense of utility, and vice versa", followed by the task to "write a persuasive text on how the demands for novelty and utility can be considered in a company. Describe your solution in several paragraphs. Take enough time for this. Also describe what impressions or opinions moved you to make your decision."

In the non-paradoxical condition, the task started and ended identically, but called for only novel products: "[…] distinguishable from other competitive enterprises. Thus, the pursuit of novelty is very important for companies and their future success. Very often, it is difficult for a company to generate and implement very novel ideas. It is challenging to achieve a high level of novelty that can set you apart from competing companies and meet the needs of the business. Please write a persuasive text on how the demand for novelty can be considered […]." The two sets of instructions were as similar as possible and of equal length (103 words each in German).

Integrative complexity. We measured integrative complexity in thinking in two different ways, namely integrative complexity (coded measure) and integrative complexity (item measure). In the coded measure, we assessed integrative complexity in thinking as expressed in the participants' answers to the (non-)paradoxical task by coding the written answers in line with the instructions provided by Baker-Brown and colleagues (1992). This seven-point assessment captures the integrative complexity expressed in the structure of a

text: 1 = no differentiation and no integration, 3 = differentiation, but no integration, 5 = both differentiation and integration, 7 = both differentiation and integration embedded in a systemic analysis or overarching viewpoint (even numbers indicate that the next higher level is emerging, but not fully executed). The same independent raters coded integrative complexity in Study 1 and Study 2 (the interrater reliability was ICC = .806 (two-way mixed, total agreement)). If ratings differed by one point on the integrative complexity scale, we used the mean of the ratings. Larger discrepancies were discussed, leading to agreement in all cases.

In the item measure, we assessed integrative complexity in thinking as indicated by the participants themselves in general items. We used 10 items by Y. Zhang et al. (2015) on a 6-point Likert scale (1 = I strongly disagree, 6 = I strongly agree, α = .86). For example, the items included "I believe in the value of dissent" for differentiation and "When there are different perspectives on an issue, I often point out the common areas of overlap that may serve to bridge these differences" for integration.

Experienced tension. Experienced tension was assessed twice: one time directly after participants were shown the task instructions (T1; α = .85) and a second time after they completed the task (T2; α = .89). The seven items of a scale for "experiencing tensions" (Miron-Spektor et al., 2018) were adapted to fit the context of the study. Items were assessed on a 7-point Likert scale (1 = I strongly disagree, 7 = I strongly agree), including items like "This task is filled with tensions and contradictions" before the task and the item "This task was filled with tensions and contradictions" after the task.

Negative affect. Participants were asked to assess how they felt at the moment, using the German short version of the Positive and Negative Affect Schedule (Krohne et al., 1996). We used a 5-point Likert scale (1 = not at all, 5 = extremely, α = .81).

Stress. Stress was assessed using a one-item measure by Elo and colleagues (2003). The item has demonstrated high convergent validity and high predictive validity for

symptoms of ill health and stress in working populations (Elo et al., 2003). We adapted it to fit our experimental design. After completing the task, participants were asked: "Stress means a situation in which a person feels tense, restless, nervous or anxious or is unable to relax because his/her mind is troubled all the time. Did you feel this kind of stress during the task?"

2.3.2. Results

The calculations were conducted in SPSS 28, using the PROCESS add-on (version 4.1; Hayes, 2017). In line with our directed hypotheses, we used a one-sided significance level (α = .10; p values < .10 are considered significant). For the reported moderation analyses, the continuous predictor was mean-centered. Correlation tables were created using the package apa.tables 2.0.5 in RStudio 1.2.5019 and are reported in Table 2.

Supporting Hypothesis 1, participants in the paradoxical condition initially experienced more tension than participants in the non-paradoxical condition ($t(232) = 4.85$, $p < .001$, $d = 0.63$).

Our main question was whether integrative complexity in participants' thinking helped participants in the paradoxical condition more than participants in the non-paradoxical condition to reduce the tension they experienced during the task, which otherwise would result in negative affect and stress (Hypothesis 2). As we were interested in changes in experienced tension during the task, the following models controlled for experienced tension before participants answered the task (T1). The respective moderated mediations (see Figure 2) were calculated both for the coded measure and the item measure of integrative complexity in thinking (for an overview of the results, see Table 3). As expected, integrative complexity in thinking helped participants in the paradoxical condition more than participants in the non-paradoxical condition to reduce their experienced tension (moderation of mediation's a-path through coded measure: $\beta = -0.26$, $SE = 0.12$, $p = .030$, $R^2 = .36$; moderation of mediation's a-path through item measure: $\beta = -0.24$, $SE = 0.11$, $p = .027$, $R^2 = .36$). As expected, experienced tension after the task was related to stress (mediation's b-path: $\beta = 0.27$, $SE = .08$,

$p < .001$, $R^2 = .13$) and negative affect (mediation's b-path: $\beta = 0.13$, $SE = .08$, $p = .004$, $R^2 = .10$). Thus, the results supported Hypothesis 2. To better understand if the (non-)paradoxical condition and integrative complexity in participants' thinking interacted in the proposed way, we conducted t-tests comparing participants with low and high integrative complexity in their thinking (see Table 4). In the case of the coded measure, we split the groups at the level of emergent integration (IC: < 3.5; IC: ≥ 3.5), as participants working on paradoxical task demands need to realize that those demands can be integrated with one another to reduce their experienced tension. In the case of the item measure, we conducted a median split. On the one hand, in the paradoxical condition, participants with high levels of integrative complexity reduced their experienced tension more than participants with low levels of integrative complexity (coded measure: $t(116) = -1.43$, $p = .078$, $d = -0.42$; item measure: $t(116) = -1.90$, $p = .030$, $d = -0.35$). On the other hand, in the non-paradoxical condition, participants with high levels of integrative complexity reduced their experienced tension less than participants with low levels of integrative complexity (coded measure: $t(101.99) = 3.12$, $p = .001$, $d = 0.57$; item measure: $t(114) = 1.43$, $p = .078$, $d = 0.27$). In summary, integrative complexity facilitated a reduction in experienced tension in the paradoxical condition and hindered a reduction in experienced tension in the non-paradoxical condition, while experienced tension was related to stress and negative affect after the task.

Table 2

Study 1: Means (M), Standard Deviations (SD), Correlation Coefficients, and Alphas

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Gender	1.19	0.39									
2. Age	23.82	7.74	.29** [.16, .40]								
3. Task	1.50	0.50	.06 [-.07, .19]	.03 [-.10, .15]							
4. IC (coded measure)	4.49	1.56	.09 [-.04, .22]	-.00 [-.13, .13]	.40** [.28, .50]						
5. IC (item measure)	5.31	0.90	.03 [-.10, .16]	.05 [-.08, .18]	.18** [.06, .30]	.27** [.14, .38]	(.86)				
6. Experiencing tension (T1)	3.35	1.21	-.03 [-.16, .10]	-.06 [-.19, .07]	.30** [.18, .42]	.08 [-.05, .20]	-.05 [-.18, .08]	(.85)			
7. Experiencing tension (T2)	2.72	1.25	.10 [-.03, .22]	-.05 [-.17, .08]	.20** [.07, .32]	.12 [-.01, .24]	-.07 [-.20, .06]	.59** [.50, .67]	(.89)		
8. Reduction in experienced tension (T1 – T2)	0.63	1.12	-.14* [-.27, -.02]	-.01 [-.14, .12]	.11 [-.02, .23]	-.05 [-.18, .08]	.02 [-.10, .15]	.42** [.31, .52]	-.48** [-.58, -.38]		
9. Negative affect	1.39	0.57	-.05 [-.18, .07]	-.03 [-.16, .09]	-.14* [-.27, -.02]	-.17** [-.29, -.04]	-.21** [-.33, -.08]	.16* [.03, .28]	.24** [.11, .36]	-.09 [-.22, .04]	(.81)
10. Stress	2.11	1.08	-.19** [-.31, -.07]	-.12 [-.24, .01]	-.18** [-.30, -.05]	-.09 [-.22, .04]	-.14* [-.26, -.01]	.17** [.04, .29]	.27** [.15, .39]	-.12 [-.24, .01]	.57** [.47, .65]

Note. IC = integrative complexity. Task: 1 = Non-paradoxical, 2 = paradoxical. Alphas are presented in parentheses along the diagonal. Values in square brackets indicate the 95% confidence interval for each correlation.

$* p < .05.$ $** p < .01.$ $N = 234.$

Table 3

Study 1: Moderated mediation models on the interplay of the paradoxical vs. non-paradoxical tasks and integrative complexity

Effect	Mediator variable models		
	Experiencing tension (T2)		
	β	t	CI
Task: Non-paradoxical vs. Paradoxical	-0.00	-0.01	[-0.24, 0.24]
IC (coded measure)	0.05	0.81	[-0.07, 0.16]
Group x IC (coded measure)	-0.26*	-2.18	[-0.49, -0.02]
Experiencing tension T1 (covariate)	0.59**	10.60	[0.48, 0.70]
Task: Non-paradoxical vs. Paradoxical	0.07	0.58	[-0.16, 0.29]
IC (item measure)	-0.07	-1.24	[-1.18, 0.04]
Group x IC (item measure)	-0.24*	-2.23	[-0.46, -0.03]
Experiencing tension T1 (covariate)	0.58	10.42	[0.47, 0.69]

Effect	Dependent variable models					
	Stress			Negative affect		
	β	t	CI	β	t	CI
Task: Non-paradoxical vs. Paradoxical	-0.51**	-3.96	[-0.76, -0.26]	-0.43**	-3.29	[-0.69, -.17]
Experiencing tension (T2)	0.27**	-3.53	[0.12, 0.42]	0.23**	2.92	[0.07, 0.38]
Experiencing tension (T1) (covariate)	0.09	1.14	[-0.06, 0.24]	0.09	1.16	[-0.06, 0.25]

Note. N = 234. *CI* = 95% confidence interval. IC = integrative complexity. Task: 1 = Non-paradoxical, 2 = paradoxical. Continuous variables were z-standardized. *p < .05. **p < .01. N = 234.

Table 4

Study 1: Group comparisons (t-tests) illustrating the interplay of the paradoxical vs. non-paradoxical tasks and integrative complexity

Effect	Dependent variable: Reduction of experienced tension (T1-T2)							
	Low IC (coded measure)		High IC (coded measure)					
	M	*SD*	*M*	*SD*	*t*	*df*	*p*	Cohen's *d*
Paradoxical task	0.36	0.81	0.89	1.06	-1.43	116	.078	-0.42
Non-paradoxical task	0.85	0.87	0.20	1.35	3.12	101.99	.001	0.57
	Low IC (item measure)		High IC (item measure)					
	M	*SD*	*M*	*SD*	*t*	*df*	*p*	Cohen's *d*
Paradoxical task	0.54	0.98	0.91	1.06	-1.90	116	.030	-0.35
Non-paradoxical task	0.66	1.17	0.35	1.19	1.43	114	.078	0.27

Note. N = 234. One-sided *p*-values. IC = integrative complexity. Coded measure of IC: High = Emergent integration (3.5) and higher levels. Item measure of IC: Median split.

2.3.3. Discussion

We found that paradoxical task demands led to more experienced tension than non-paradoxical task demands. High levels of integrative complexity were more beneficial for reducing experienced tension and the resulting negative affect and stress in the paradoxical condition compared to the non-paradoxical condition. As expected, participants who reduced their experienced tension reported lower negative affect and stress. In summary, we showed in an experimental setting that integrative complexity in individuals' thinking helped them make sense of paradoxical task demands, reducing negative experiences during the process. Interestingly, low levels of integrative complexity were more beneficial for reducing experienced tension and the resulting negative affect and stress in the non-paradoxical condition compared to the paradoxical condition. To examine whether the results apply to other paradoxical cues that employees experience at work, we conducted a field study on how employees make sense of paradoxical leader behavior (Study 2).

2.4. Study 2

When working in organizations, employees not only have to deal with paradoxical tasks themselves but are also confronted with how their managers deal with paradoxical demands. Some paradoxical demands in organizations stem from strategic goals (e.g., change vs. stability: Lewis et al., 2014; short-term efficiency vs. long-term development: Y. Zhang & Han, 2019; for more, see Schad et al., 2016); other paradoxical demands are inherently connected to a manager's role (Dension et al., 1995; Y. Zhang et al., 2015), such as treating employees uniformly, while allowing for individual differences, or maintaining control, while allowing employees autonomy. To meet structural and follower demands, managers need to show "seemingly competing, yet interrelated, behaviors […] simultaneously and over time" (Y. Zhang et al., 2015, p. 538), so called paradoxical leader behavior (PLB). In this study, we focused on PLB in people management, because the associated leadership paradoxes are inherent to the leader role and should thus theoretically apply to all managers (Denison et al.,

1995; Y. Zhang et al., 2015).

The way how managers deal with the paradoxical demands they face should influence how much employees experience tension and negative psychological outcomes. On the one hand, when managers show high levels of PLB, they are able to reconcile the leadership paradoxes consistently and handle paradoxes in a constructive way. Theory proposes that PLB leads to employees experiencing a work environment that allows autonomy and flexibility, while providing structure and guidance (Y. Zhang et al., 2015; Shao et al., 2019). In addition, managers with high levels of PLB set an example for their employees and can engage in sensegiving (Sparr, 2022), facilitating employees' dealing with paradoxical demands. Empirical findings show that high levels of PLB created an environment in which employees felt safe (Xue et al., 2020; X. Li et al., 2020), had positive affect (S. Chen et al., 2021) understood their own role (Kearney et al., 2019) and were able to deal with the demands placed upon them (performance: Y. Zhang et al., 2015; creativity: Shao et al., 2019; Yang et al., 2019). Some authors have theorized that high PLB also reduces employees' negative experiences (Shao et al., 2019). Overall, we propose that when managers show high levels of PLB, their employees are better equipped to understand their role and to handle the demands they face and should therefore experience lower tension, role conflict, and stress.

On the other hand, managers with low levels of PLB fail to reconcile the paradoxes in their leadership role: They might be perceived as one-sided (e.g., focusing only on control and restricting employees' autonomy), or they might flip-flop between the demands, showing misaligned and inconsistent behavior. Thus, their employees are confronted with more unreconciled paradoxes and do not become equipped to handle paradoxical demands themselves. Following our initial reasoning, employees should consequently experience tension, role conflict and stress.

Hypothesis 1a: The less paradoxical leader behavior employees perceive, the more experienced tension they report.

Hypothesis 1b: The less paradoxical leader behavior employees perceive, the more role conflict and stress they report.

While high levels of PLB appear to be managers' constructive response to paradoxes, this approach per definition involves seemingly competing, yet interrelated behaviors that can appear contradictory and inconsistent for employees. As first evidence that high levels of PLB can be a double-edged sword, Shao and colleagues (2019) showed that under workload pressure, PLB increased the creativity of employees with high levels of integrative complexity, while it decreased the creativity of employees with low levels of integrative complexity. Following our initial reasoning, we propose that employees thinking in an integrative complex way are more likely to understand their managers' high levels of PLB as a consistent response towards paradoxical demands, which should in turn make these high levels of PLB more effective at reducing employees' negative experiences.

We examined the interaction of PLB and integrative complexity in employees' thinking in two ways: a) we focused on participants' momentary experiences during the study when thinking about their leader at work (i.e., experiences of tension and negative affect during the study) and b) we focused on participants' actual experiences at work (i.e., role conflict and stress at work). For the first area of focus (a), we propose: If employees are able to understand their managers' PLB through high levels of integrative complexity in thinking, perceived PLB should be more effective in reducing employees' initial experiences of tension when thinking about their daily work (similarly to Study 1, in which integrative complexity reduced experienced tension during a paradoxical task), resulting in lower negative affect.

Hypothesis 2a: Thinking in an integrative complex way reduces experienced tension during the study more for individuals who perceive higher levels of PLB than lower levels of PLB, with lower experienced tension resulting in lower negative affect during the study (see Figure 3, moderated mediation).

Figure 3

Interplay of paradoxical leader behavior and integrative complexity for experiencing tension and resulting negative affect (Study 2, experiences during the study)
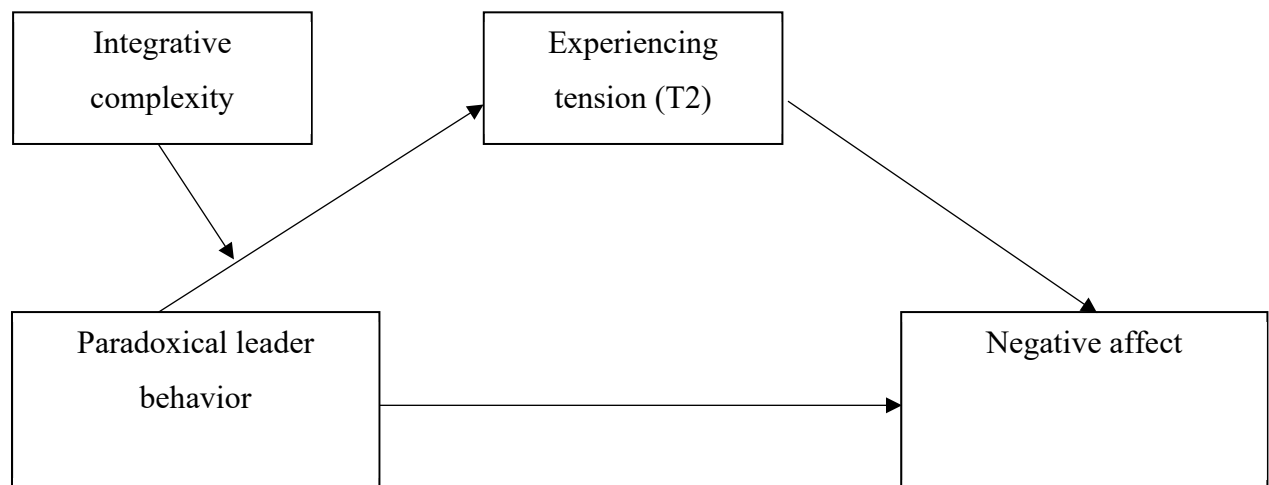
Note. Model controlled for experiencing tension (T1).

For the second area of focus (b), we propose: Regarding experienced role conflict and stress at work, we do not assume short-term changes in employees' experiences during the study. Instead, we assume that PLB is in general more effective in reducing employees' negative experiences when employees exhibit higher levels of integrative complexity in thinking.

Hypothesis 2b: The more employees think in an integrative complex way, the stronger the negative relationship between perceived paradoxical leader behavior and both role conflict and stress (see Figure 4, moderation).

Figure 4

Interplay of paradoxical leader behavior and integrative complexity for role conflict and stress (Study 2, experiences at work)
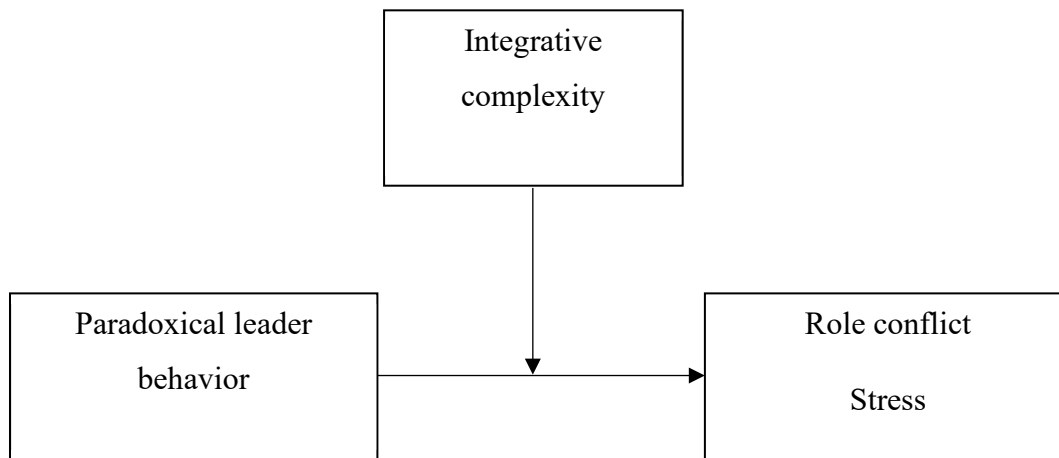
2.4.1. Method

Sample.

A total of 247 employees who reported to a manager were recruited via a panel provider. We excluded 19 participants because they didn't follow the instructions regarding the reflection task. This resulted in $N = 228$ participants used in our analyses (51% female, average age = 42.24 years, SD = 12.39 years, age ranging from 19 to 65 years).

The majority of the participants were German (94.3%). The average duration of their current employment was 10.98 years (SD = 10.93). Participants worked in a variety of industries; the most strongly represented industries were health care (10.1%) and engineering (10.0%). Forty-four participants stated they were in leadership positions themselves.

Design and Procedure.

In an online questionnaire, participants first answered items on experiences of tension in their daily work life. Second, participants wrote short texts in response to the following task: "Please reflect on behaviors by your manager that stick out in your mind (e.g., behaviors that you have already thought about several times). Write several paragraphs on your opinion

and impressions." The outcomes of the writing task were later coded for integrative complexity in thinking (i.e., coded measure). Third, participants were asked to indicate their experienced tension again as well as their negative affect during the study and stress at work. Fourth, we assessed PLB, role conflict at work, and self-reported integrative complexity (i.e., item measure). Fifth, we assessed sociodemographic variables.[11]

Measures.

English measures were translated to German and back-translated by individuals fluent in both languages. The German instructions are available upon request.

Integrative complexity. We measured integrative complexity in thinking in two different ways, namely integrative complexity (coded measure) and integrative complexity (item measure). In the case of the coded measure, we assessed integrative complexity in thinking as expressed in the answers to the reflection task by coding the written answers in line with the instructions provided by Baker-Brown and colleagues (1992). The same independent raters coded integrative complexity in Study 1 and Study 2 (ICC = .766 (two-way mixed, total agreement)). For more information on the coding method, see Study 1. In the case of the item measure, we assessed integrative complexity in thinking as indicated by the participants, using the same items by Y. Zhang et al. (2015; α = .87) as in Study 1.

Experienced tension. Analogously to Study 1, experienced tension was assessed before (T1; α = .90) and after the reflection task (T2; α = .92). Employees answered seven items (Miron-Spektor et al.; 2018) on the same Likert scale as in Study 1. Items included "My work is filled with tensions and contradictions". After the reflection task, employees were shown the same items, following the prompt "Now that you have thought more extensively about your work and your manager, you may want to change your assessment".

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[11] Please note that for exploratory reasons we also included self-developed items measuring 1) self-reported state complex thinking, 2) inconsistent leadership, 3) workload pressure and 4) job complexity. We do not think these items influenced any of our reported results given that they had similar content to the reported measures. Further information about the items can be provided upon request.

Paradoxical leader behavior. Employees answered 22 items by Y. Zhang and colleagues (2015) on a 5-point Likert scale (1 = not at all, 5 = a lot, α = .96). These items capture how employees experience their managers' behavior with regard to the paradoxes of a) treating employees uniformly while allowing for individual differences, b) combining self-centeredness and other-centeredness, c) maintaining decision control while allowing employees autonomy, d) enforcing work requirements while allowing employees flexibility, and e) maintaining both professional distance and friendly closeness to employees. An example item is "My manager uses a fair approach to treat all subordinates uniformly, but also treats them as individuals".

Role conflict. We used a scale by Bowling and colleagues (2017) that contained six items for role conflict on a 7-point Likert scale (1 = I strongly disagree, 7 = I strongly agree; α = .79). An example item is "My superiors often tell me to do two different things that can't both be done".

Negative affect. We used the same items as in Study 1 to measure employees' negative affect when they thought about work (α = .89).

Stress. We used the same one-item measure as in Study 1, this time using the original wording: "Stress means a situation in which a person feels tense, restless, nervous or anxious or is unable to sleep at night because his/her mind is troubled all the time. Do you feel this kind of stress these days?"

2.4.2. Results

The calculations were conducted in SPSS 28, using the PROCESS add-on (version 4.1; Hayes, 2017). In line with our directed hypotheses, we used a one-sided significance level (α = .10; p values < .10 are considered significant). Reported moderation analyses were mean-centered for both predictors. Correlation tables were created using the package apa.tables 2.0.5 in RStudio 1.2.5019 and are reported in Table 5.

Supporting Hypothesis 1, PLB was negatively associated with a) employees' initially experienced tension during the study when thinking about their work (T1; $\beta = -0.24$, $SE = 0.07$, $p < .001$, $R^2 = .24$) and b) employees' role conflict ($\beta = -0.39$, $SE = 0.06$, $p < .001$, $R^2 = .15$) and stress experienced at work ($\beta = -0.20$, $SE = 0.07$, $p = .003$, $R^2 = .04$): The less PLB employees reported their managers showing, the more tension, role conflict and stress they reported experiencing.

Our main question was whether integrative complexity in employees' thinking made high levels of PLB more effective at reducing a) the experienced tension and resulting negative affect employees experienced during the study (H2a; see Figure 3) and b) the role conflict and stress employees reported in their daily work (H2b; see Figure 4). Analyses of the interplay between PLB and employees' integrative complexity were calculated for both the coded measure and the item measure of integrative complexity in thinking.

Hypothesis 2a focused on short-term changes in experienced tension and resulting negative affect when thinking about work during the study. Therefore, we controlled the respective moderated mediation models for experienced tension at T1, which was measured before the reflection task. As expected, employees experienced a reduction in tension during the study if both PLB and integrative complexity in their thinking were high. This interaction was significant for both the coded measure ($\beta = -0.07$, $SE = 0.04$, $p = .052$, $R^2 = .69$) and the item measure of integrative complexity ($\beta = -0.13$, $SE = 0.04$, $p < .001$, $R^2 = .71$). The more employees were able to reduce their experienced tension during the task, the less they felt negative affect afterwards ($\beta = 0.28$, $SE = 0.20$, $p = .007$, $R^2 = .26$). These findings together are in support for Hypothesis 2a (for an overview, see Table 6).

Hypothesis 2b focused on role conflict and stress that employees experience during their daily work. As expected, the negative association between PLB and role conflict was stronger when integrative complexity in employees' thinking was high (see Table 7). This interaction was significant for both the coded measure ($\beta = -0.13$, $SE = 0.06$, $p = .035$,

$R^2 = .18$) and the item measure of integrative complexity ($\beta = -0.08$, $SE = 0.05$, $p = .087$, $R^2 = .24$). Furthermore, we assumed that the negative association between PLB and stress is stronger when the integrative complexity in employees' thinking is high. While this interaction was significant for the coded measure of integrative complexity ($\beta = -0.15$, $SE = 0.07$, $p = .020$, $R^2 = .06$), it was not significant for the item measure of integrative complexity ($\beta = -0.01$, $SE = 0.05$, $p = .794$, $R^2 = .04$). Therefore, we only partially accept Hypothesis 2b.

To better understand whether PLB and integrative complexity in employees' thinking interact in the proposed way, we conducted simple slope analyses for low and high PLB (+/- 1 SD) and low and high integrative complexity (+/- 1 SD; both coded measure and item measure), respectively (see Table 8). Focusing on the effects of PLB, these analyses revealed the following pattern: On the one hand, for employees with high integrative complexity in their thinking (+1 SD coded measure; +1 SD item measure), PLB was negatively associated with role conflict, stress and experienced tension (T2). On the other hand, for employees with low integrative complexity, PLB was either also negatively associated with role conflict (-1 SD coded measure; -1 SD item measure) and stress (-1 SD coded measure) or showed no significant association. In summary, while for employees with high integrative complexity, PLB was associated with better psychological experiences, for employees with low integrative complexity, PLB was *not* associated with worse psychological experiences.

Table 5

Study 2: Means (M), Standard Deviations (SD), Correlation Coefficients, and Alphas

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Gender	1.49	0.50										
2. Age	42.24	12.39	.15* [.02, .28]									
3. PLB	3.30	0.87	.03 [-.10, .16]	.02 [-.11, .15]	(.96)							
4. IC (coded measure)	2.71	1.05	-.08 [-.21, .05]	-.04 [-.17, .09]	.01 [-.12, .14]							
5. IC (item measure)	4.91	0.91	.14* [.01, .27]	.08 [-.05, .20]	.26** [.13, .37]	.16* [.03, .28]	(.87)					
6. Experiencing tension (T1)	3.19	1.31	.01 [-.12, .14]	-.14* [-.26, -.01]	-.24** [-.36, -.11]	-.09 [-.22, .04]	.21** [.08, .33]	(.90)				
7. Experiencing tension (T2)	3.15	1.42	.02 [-.11, .15]	-.13 [-.25, .00]	-.25** [-.37, -.12]	-.10 [-.23, .03]	.17* [.04, .29]	.83** [.78, .86]	(.92)			
8. Reduction in experienced tension (T1-T2)	0.04	0.81	-.01 [-.14, .12]	.00 [-.13, .13]	.05 [-.08, .18]	.03 [-.10, .16]	.05 [-.09, .17]	.17** [.05, .30]	-.41** [-.51, -.30]			
9. Role conflict	3.53	1.27	.04 [-.09, .17]	-.08 [-.21, .05]	-.39** [-.49, -.27]	-.10 [-.23, .03]	.18** [.05, .30]	.61** [.52, .68]	.68** [.60, .74]	-.21** [-.33, -.08]	(.79)	
10. Negative affect	1.61	0.82	-.14* [-.27, -.01]	-.05 [-.18, .08]	-.36** [-.47, -.24]	.10 [-.03, .23]	-.05 [-.18, .08]	.39** [.28, .50]	.43** [.31, .53]	-.11 [-.24, .02]	.47** [.36, .57]	(.89)
11. Stress	2.53	1.25	-.22** [-.34, -.09]	-.17* [-.29, -.04]	-.20** [-.32, -.07]	.02 [-.11, .15]	.02 [-.11, .15]	.40** [.29, .50]	.44** [.33, .54]	-.12 [-.25, .01]	.38** [.26, .48]	.59** [.50, .67]

Note. PLB = paradoxical leader behavior. IC = integrative complexity. Alphas are presented in parentheses along the diagonal. Values in square brackets indicate the 95% confidence interval for each correlation.

* $p < .05$. ** $p < .01$. $N = 228$.

Table 6

Study 2: Moderation mediation models on the interplay of paradoxical leader behavior and integrative complexity

Effect	Mediator variable models		
	Experiencing tension (T2)		
	β	t	CI
PLB	-0.06	-1.54	[-0.13, -0.02]
IC (coded measure)	-0.04	-1.00	[-0.11, .0.04]
PLB x IC (coded measure)	-.07*	-1.95	[-0.15, 0.00]
Experiencing tension T1 (covariate)	0.80**	20.74	[0.73, 0.88]
PLB	-0.06	-1.63	[-0.14, 0.01]
IC (item measure)	-.00	-.04	[-0.08, 0.08]
PLB x IC (item measure)	-.13**	-.4.34	[-.19, -.07]
Experiencing tension T1 (covariate)	.81**	21.03	[0.74, 0.89]
	Dependent variable model		
	Negative affect		
	β	t	CI
PLB	-0.27**	-4.51	[-0.39, -0,15]
Experiencing tension (T2)	-.28**	2.71	[0.08, 0.48]
Experiencing tension (T1) (covariate)	.10	0.95	[-0.10, 0.30]

Note. $N = 228$. *CI* = 95% confidence interval. PLB = paradoxical leader behavior. IC = integrative complexity. All variables were *z*-standardized.

* $p < .10$. ** $p < .01$. $N = 228$.

Table 7

Study 2: Moderation models on the interplay of paradoxical leader behavior and integrative complexity for role conflict and stress

Effect	Dependent variable models					
	Role conflict			Stress		
	β	t	CI	β	t	CI
PLB	-0.39***	-6.37	[-0.51, -0.27]	-0.20***	-3.05	[-0.32, -0.07]
IC (coded measure)	-.11*	-1.87	[-0.24, 0.01]	0.00	.06	[-0.12, 0.13]
PLB x IC (coded measure)	-.13**	-2.13	[-0.25, -0.01]	-0.15**	-2.33	[-0.28, -0.02]
PLB	-0.47***	-7.77	[-.59, -0.35]	-0.22***	-3.22	[-0.35, -0.08]
IC (item measure)	0.29***	4.79	[.17, 0.41]	0.07	1.10	[-0.06, 0.21]
PLB x IC (item measure)	-0.08*	-1.72	[-.18, 0.01]	-0.01	-0.26	[-0.12, 0.09]

Note. $N = 228$. *CI* = 95% confidence interval. PLB = paradoxical leader behavior. IC = integrative complexity. All variables were *z*-standardized.

* $p < .10$. ** $p < .05$. *** $p < .01$. $N = 228$.

Table 8

Study 2: Interplay of paradoxical leader behavior and integrative complexity at specific levels of the interactions

Moderation	Specific Levels	Role conflict			Stress			Exp. tension (T2)[a]		
		β	*SE*	*p*	β	*SE*	*p*	β	*SE*	*p*
PLB x IC (coded measure)	Values of PLB …									
	… for low IC (coded measure)	-0.26	.09	.003	-0.04	.09	.626	0.01	.05	.783
	… for high IC (coded measure)	-0.52	.09	< .001	-0.35	.09	< .001	-0.13	.05	.015
	Values of IC (coded measure) …									
	… for low PLB	0.02	.08	.850	0.16	.09	.070	0.04	.05	.468
	… for high PLB	-0.25	.09	.009	-0.15	.10	.133	-0.11	.06	.052
PLB x IC (item measure)	Values of PLB …									
	… for low IC (item measure)	-0.38	.08	< .001	-0.20	.09	.019	0.07	.05	.171
	… for high IC (item measure)	-0.55	.08	< .001	-0.23	.09	.009	-0.20	.05	< .001
	Values of IC (item measure) …									
	… for low PLB	0.37	.07	< .001	0.09	.08	.286	0.13	.05	.006
	… for high PLB	0.21	.08	.012	0.06	.09	.509	-0.13	.05	.011

Note. N = 228. Low = -1 *SD*. High = +1 *SD*. IC = integrative complexity.

[a] Experiencing tension. Model controlled for experiencing tension (T1). All variables were *z*-standardized.

2.4.3. Discussion

We investigated how PLB – which is theorized to be an appropriate reaction to paradoxes in the leader role – reduced employees' negative experiences and found evidence for the beneficial effects of PLB: Employees who perceived high levels of PLB reported less experienced tension, role conflict and stress. This was especially true for employees who think in an integrative complex way. Integrative complexity also proved to be beneficial in the short run: If employees experienced high PLB, integrative complexity helped them reduce their experienced tension during the study, resulting in lower negative affect.

Additional analyses revealed that, for employees with high integrative complexity in their thinking, PLB was associated with low negative experiences (i.e., low role conflict, low stress, low experienced tension). Interestingly, for employees with low integrative complexity in their thinking, we did not find a detrimental effect of PLB on their experiences. While our analyses revealed upsides of integrative complexity, our additional analyses also revealed that in some cases, integrative complexity in employees' thinking was positively related to role conflict, stress and experienced tension, mostly for employees experiencing low levels of PLB.

Some authors have theorized that PLB, with its seemingly contradictory behaviors, could lead to employees feeling "uncomfortable" (Y. Zhang et al., 2015, p. 560) or could cause cognitive dissonance (Shao et al., 2019) if employees have a "black-white" view. Contradicting this proposition, we did not find negative consequences of PLB for employees with low integrative complexity in Study 2. Instead, we showed in our sample that employees with low integrative complexity in their thinking might not benefit as much from PLB as those with high integrative complexity in their thinking.

2.5. General Discussion

We investigated in two studies the potential negative consequences of paradoxes on individuals and how individuals can mitigate these negative consequences by thinking in an integrative complex way. In our studies, paradoxes resulted from seemingly contradictory task demands in an experimental setting (Study 1) and from how managers were able to handle paradoxical demands in their leadership role – in terms of PLB – in a field study (Study 2). As expected, paradoxes (stemming from paradoxical task demands and low levels of PLB) were associated with negative psychological consequences for individuals, such as experiencing tension, negative affect, stress and role conflict. Thinking in an integrative complex way helped individuals to make sense of paradoxical cues (i.e., paradoxical task demands in Study 1 and high levels of paradoxical leader behavior in Study 2) and to reduce their experienced tension (see Figure 2 and Figure 3), resulting in lower negative affect and, in Study 1, also in lower stress. In addition, thinking in an integrative complex way helped employees increase the negative relationship between PLB and role conflict and stress (Study 2).

The results show that, in accordance with paradox theory and research, paradoxes are not unsolvable problems, but something individuals can make sense of and work through in a beneficial way. They further show that PLB, despite containing seemingly contradictory behaviors, is an appropriate response to paradoxes in the leadership role, especially if employees show high levels of integrative complexity. The finding that integrative complexity in thinking was helpful for reducing tensions in two studies – namely, both for individuals working on paradoxical task demands and for employees reflecting on their leader's behavior – is first evidence for a general tension-reducing effect of integrative complexity in the context of paradoxes.

Adding to the robustness of our findings, we measured integrative complexity in thinking in two different ways in both studies (external coding of written statements and a self-report scale). Both measures of integrative complexity in thinking have their respective

strengths and weaknesses. On one hand, the coding measure based on participants' written statements is objective (i.e., external coding). However, it remains unclear how much of the integrative complex thought process is really expressed in a written statement. For example, a thought process like "If I compare A and B in regards to criteria X and Y, A is the better option" (= high level of integrative complexity) could in some cases be expressed in a written statement like "A is the best option" (= low level of integrative complexity).

The item measure of integrative complexity is assessed by participants themselves, which should give us insights into their preferences for more or less complexity in their thinking. However, it remains unclear to what degree self-reports are biased by, for example, self-serving bias or social desirability bias. The positive correlations between the coded and item measures (Study 1: $r = .27$, Study 2: $r = .16$) were similar to other studies (e.g., Y. Zhang et al., 2015), possibly indicating that we measured the same underlying construct (i.e., integrative complexity in thinking) with measurement errors resulting from the respective measurement methods. While there are differences in some analyses, both the coded and item measures contribute to the overall finding that the differentiation and integration of paradoxical elements helps individuals reduce their negative experiences.

2.5.1. Theoretical Implications

The first contribution of our paper lies in providing quantitative evidence for the theoretical notion that paradoxes can lead to negative experiences such as negative affect, stress or role conflict. While qualitative studies have already reported that paradoxes can result in negative experiences (e.g., Vince & Broussine, 1996; Ashforth & Reingen, 2014; Huq et al., 2017; Gylfe et al., 2019), quantitative evidence is still lacking. Our findings show that paradoxes can indeed lead to negative experiences – especially for employees who cannot make sense of these paradoxes through integrative complex thinking. Consequently, our studies complement the one-sided picture that paradoxes have positive consequences in terms of sparking performance and creativity (Miron-Spektor et al., 2011, 2018; Leung et al., 2018).

A second contribution lies in providing insights on the process of how individuals work through a paradox. We showed that when individuals think about paradoxes with high levels of integrative complexity, they can reduce the tension they experience. This result is in line with theory on integrative complexity, which states that a person first experiences a problem and then draws upon their cognitive resources in order to differentiate and integrate the aspects of a problem and come to an optimal solution (Suedfeld, 2010). The result indicates that an initial feeling of tension is not negative *per se*, but an important step towards effectively working through paradoxes. What stands out is that the tension-reducing effect of integrative complexity was also found in Study 2, in which employees reflected on their leader's behavior. The employees were already familiar with their leader's behavior; however, the integrative complex perspective on their leader's behavior might not have been salient to them before the reflection. This result indicates that integrative complexity helped individuals to make sense even of familiar paradoxes. The result is in line with prior field studies (Shao et al., 2019; Y. Zhang et al., 2015; Lüscher & Lewis, 2008), which showed that integrative complexity helped individuals to deal with paradoxical demands in the field or in their role. Further research is needed to show if the tension-reducing effect of integrative complexity applies to other populations (e.g., students or managers) and other paradoxical contexts (e.g., strategic paradoxes).

2.5.2. *Limitations and Future Research*

Combining an experimental study with a field study, we tried to counterbalance the disadvantages of each respective approach. Nevertheless, our studies have several limitations that should be considered in future research:

First, correlations between our independent variables could have possibly led to multicollinearity in some models. A potential explanation for these correlations could be that paradoxical cues can increase integrative complexity during the study (Miron-Spektor et al., 2011). In our studies, participants' integrative complexity during the studies could have been

increased by the paradoxical cues in the description of the paradoxical task (Study 1) and in the items on PLB (Study 2). Future research could circumvent this issue by choosing paradoxical tasks in which the differentiation of the paradoxical elements is less salient or by measuring integrative complexity before presenting a paradoxical task or items on PLB (like the coded measure in Study 2).

Second, while Study 1 allowed for causal conclusions on the tension-reducing effect of integrative complexity in thinking, for some relationships in Study 2, we cannot rule out reverse causality due to the cross-sectional design. For example, employees experiencing role conflict and stress could have rated their managers' PLB lower because they were unsatisfied with their working conditions. Future research should clarify the causal directions by studying PLB in qualitative longitudinal field studies or by manipulating PLB in a laboratory setting.

Third, there were restrictions in the representativity of our sample in Study 1. The sample consisted of largely female university students, which might restrict the generalizability of our findings. However, Study 2 was balanced in terms of gender and sampled only employees, and likewise demonstrated the tension-reducing effect of integrative complexity when facing paradoxical elements.

Looking at both studies combined, there is clear evidence that integrative complexity reduces negative experiences in the context of paradoxes. While the experimental design of Study 1 with its randomized conditions allows for causal interferences, the field design of Study 2 has higher external validity and representativity with respect to employees in the work setting. In both studies, we found evidence that integrative complexity helped individuals reduce their experienced tension in the context of paradoxes. The studies featured different paradoxical settings (Study 1: paradoxical task demands; Study 2: paradoxical leader behavior), which constitutes first evidence that the effect of integrative complexity on individuals' negative experiences could apply to other paradoxical contexts.

While our studies focused on the individual level, there is also evidence that integrative complexity can be conceptualized at the team level (G. Park & DeShon, 2018; Brodbeck et al., 2021) and that differentiation and integration in teams help to reconcile paradoxes (W. K. Smith & Tushman, 2005; Lüscher & Lewis, 2008). We encourage future research to replicate our findings on integrative complexity and negative experiences on other organizational levels (e.g. teams, organizations) and in other paradoxical contexts, such as paradoxes related to learning (e.g. stability vs. change), organization (e.g. alignment vs. flexibility) or performance (e.g. cooperation vs. competition; cf. Schad et al., 2016).

2.5.3. Practical Implications

Our findings from both studies indicate that personal experiences of stress, tension, negative affect, and role conflict stemming from paradoxes can be reduced if employees think about the underlying paradoxical demands or behaviors in an integrative complex way. Organizations and managers can support their employees by providing resources that spark integrative complexity: Schematic tools can help employees, managers or teams to differentiate demands and start thinking about how seemingly contradictory demands can be reconciled (Helvig-Square: Marsh & Malcapine, 1999; Polarity Map: Johnson, 2014). When working on paradoxical demands as a group, meetings or workshops should be structured in a way that makes it easier for employees to share perspectives and find connections between their perspectives, thereby enhancing integrative complexity in the group (G. Park & DeShon, 2018; Brodbeck et al., 2021). Trained moderators or coaches can challenge assumptions regarding perceived dilemmas and utilize inquiry techniques that help employees differentiate and integrate perspectives (cf. Lüscher & Lewis, 2008). Providing information written in a complex way or a culture that embraces complex thinking have also been found to be beneficial (Kugler & Brodbeck, 2014; Kugler & Coleman, 2020). Our findings further indicate that prompting differentiation and integration can be beneficial with respect to paradoxical issues with which individuals are already familiar. Considering that paradoxes

persist over time and can pop up repeatedly in different ways (Raisch et al., 2018; Cuganesan, 2017), employees should be consistently prompted to think about the potentially paradoxical demands they face in an integrative complex way. Overall, these different means of enhancing differentiation and integration should help employees move from experiencing paradoxes as unsolvable problems towards finding workable solutions, which should simultaneously reduce their negative experiences, such as tension, negative affect, stress, and role conflict.

Our findings also indicate that it is important for employees' experiences that managers fulfill the paradoxical demands of their leadership roles. Organizations can help managers navigate through those paradoxes, such as the seemingly contradictory demands to maintain control and grant employees autonomy, by providing leadership trainings and, if the tension is substantial, individual coaching. A focus of both training and coaching should be to differentiate and integrate seemingly contradictory demands of the leadership role, because integrative complexity also helps managers deal with paradoxes and show PLB (Y. Zhang et al., 2015). In addition, PLB is more effective in reducing employees' negative experiences if employees can make sense of their leaders' seemingly contradictory behaviors via integrative complex thinking. By being transparent about the paradoxical demands they face and by sharing their reasoning regarding those demands, managers who exhibit paradoxical leader behaviors would make it easier for employees to think about these behaviors in an integrative complex way, thus helping to reduce employees' negative experiences.

2.5.4. Conclusion

In their daily working lives, employees inevitably encounter paradoxes and experience the associated tension. We presented evidence that individuals can reduce their experienced tension and negative experiences like negative affect, stress and role conflict by thinking in an integrative complex way about the paradoxes they encounter. What stands out is that this mechanism was found both in the context of paradoxical task demands and in the context of paradoxical leader behaviors. This constitutes first evidence that the tension-reducing effect of

integrative complexity applies to various paradoxical contexts. We discussed how not only organizations, but also employees themselves can enhance the integrative complexity of their thinking to find appropriate responses to paradoxes. Our findings support the notion that "The problem is not the problem; the problem is the way we think about the problem" (Miron-Spektor et al., 2018, p. 27).

2.6. Linking Chapter 2 & 3

In Chapter 2, we presented an online experiment (Study 1) and a field study (Study 2) addressing our propositions on how followers and leaders can react constructively to paradoxes in order to mitigate negative follower outcomes. The focus on negative follower outcomes was chosen as the negative outcomes were especially relevant to theory and quantitative evidence was scarce. Study 1 showed that task performing individuals can mitigate negative outcomes of paradoxes (in form of their own negative experiences) by thinking complexly about the paradoxes. Study 2 showed that leaders can mitigate negative outcomes (in terms of followers' negative experiences) by exhibiting complex behavior in order to meet paradoxical demands (i.e., paradoxical leader behavior). In addition, followers were able to mitigate negative outcomes (in terms of their own negative experiences) even more by thinking complexly about their leaders' paradoxical leader behavior. Study 1 and 2 allowed for process insights into how individuals' complex thinking modulated their experienced tension during the respective tasks (Study 1: task with paradoxical demands, Study 2: task to reflect on the behavior of one's leader): Complex thinking helped task performing individuals (Study 1) and followers (Study 2) to reduce their tension, indicating that complex thinking helped them to make sense of the respective paradoxical elements (Study 1: paradoxical task demands; Study 2: paradoxical leader behavior). Taken together, the studies showed that, in the context of paradoxes, negative outcomes for followers can be mitigated when leaders behave complexly (i.e., paradoxical leader behavior) and followers' think complexly (i.e., integrative complex thinking).

Study 3 is a meta-analysis extending insights into how leaders can mitigate negative follower outcomes, but also promote positive follower outcomes in the context of paradoxes. Next to considering negative follower outcomes like Study 1 and Study 2 (i.e., negative well-being), the meta-analysis considers a variety of positive follower outcomes. Coding a broad variety of follower outcomes into categories (i.e., performance, well-being), respective sub-

categories (e.g., hedonic well-being) and facets (e.g., satisfaction), enabled us to present both highly aggregated evidence and differentiated insights. Concepts, theory and findings on paradoxical leader behavior were heterogeneous and scattered in leadership literature, calling for a comprehensive integration and aggregation. By conducting a meta-analysis, we aimed to address these gaps and to add more evidence to the notion that paradoxical leader behavior is a constructive reaction to paradoxes.

While the available data for the meta-analysis did not allow us to depict changes in experiences or individual complex thinking like Study 1 and Study 2, it allowed us to compare study designs, measures, and sample characteristics. For example, reflection tasks as present in Study 1 and Study 2 might not depict working settings in which followers are less introspective, but we could not explore influences by study design in the original studies. In addition, we know that thinking on paradoxes is influenced by national culture (e.g., Leung et al., 2018). Study 1 and 2 showed that the outcomes of paradoxes and paradoxical leader behavior depend on followers' thinking, but inferring from German samples (as present in Study 1 and Study 2) to other cultures might result in error. When seeking generalizable evidence on individual reactions to paradoxes, cultural influences on individual thinking must be considered. Therefore, Study 3 investigated how cultural influences on individual complex thinking (i.e., dialectical thinking and uncertainty avoidance) moderate the relationships between paradoxical leader behavior and follower outcomes, in order to reflect the role of followers' thinking. Our meta-analysis on how paradoxical leader behavior is related to positive and negative follower outcomes is an important step to answer the question whether paradoxical leader behavior is really a constructive reaction to paradoxical demands on leaders.

3. Paradoxical Leader Behavior and its Relationship to Followers' Performance and Well-being: A Meta-Analysis[12]

3.1. Abstract

To respond to paradoxical demands in organizations, some leaders show seemingly competing, yet interrelated behaviors – also known as paradoxical leader behavior (PLB). As theory and evidence on PLB point towards both beneficial and detrimental effects on followers, we conducted a meta-analysis to investigate how PLB is related to followers' performance and well-being. We also investigated moderations by followers' cultural background in terms of dialectical thinking and uncertainty avoidance, as culture influences how individuals experience and react to paradoxes. The meta-analysis comprised 92 independent samples, 233 effect sizes and $N = 27{,}290$ respondents. We found positive relationships between PLB and followers' task performance ($\rho = .26$), OCB ($\rho = .27$), creative and innovative behavior ($\rho = .27$), hedonic well-being ($\rho = .41$), and eudaimonic well-being ($\rho = .36$), but no significant relationship to negative well-being ($\rho = -.13$). Moderation analyses showed that the relationship between PLB and negative well-being became more negative as dialectical thinking declined and uncertainty avoidance rose. In addition, we found methodological moderations by factors like measurement and study setting. Our findings support the notion that PLB is a constructive response to paradoxical demands.

Keywords: meta-analysis, paradoxical leader behavior, paradoxical leadership, ambidextrous leadership, behavioral complexity

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3.2. Theoretical Background

Ever since ancient philosophy, there have been theories postulating that ideal leadership involves exhibiting seemingly contradictory behavior: About 2000 years ago in the West, Aristotle described the "ideal leader" as someone combining scientific, theoretical knowledge and philosophical wisdom on the one hand, and technical, instrumental knowledge, attentiveness, and intuition on the other hand (Kodish, 2006; for contemporary perspectives on these paradoxes, see Clegg et al., 2002; Dameron & Torset, 2014). At roughly the same time in the East, Lao Tse described the "ideal leader" as someone combining visibility in terms of providing guidance and invisibility in terms of humility and empowerment ("to lead people, one must follow them"; Jameson, 2011; for contemporary perspectives on this paradox, see Fürstenberg et al., 2021; Kearney et al., 2019). In a nutshell, the ancient "ideal leader" is capable of combining seemingly contradictory behaviors – or in other words, engaging in paradoxical leader behavior (PLB).

PLB is featured not only in ancient philosophy, but also in modern scholarship. It is theorized that PLB is a constructive response to paradoxical – that is, interrelated, but competing – demands on leaders. These demands can be follower demands (e.g., individualized, yet equal treatment of followers; Y. Zhang et al., 2015) or structural demands (e.g., stability and flexibility; Y. Zhang & Han, 2019). Paradoxical demands on leaders can become more salient due to factors such as change and scarcity of resources (Schad et al., 2016; W. K. Smith & Lewis, 2011), making it necessary for leaders to find a constructive response.

When leaders respond to paradoxical demands by exhibiting PLB, this naturally affects their followers, who witness the leaders' behavior. Given the omnipresence of paradoxical demands and pressure on leaders to respond to them, it is crucial to shed light on how PLB affects followers. Theory and empirical evidence are scattered and heterogeneous: While some theories such as self-determination theory (Ryan & Deci, 2000; Yang et al.,

2021) posit positive effects of PLB on followers, others, such as the theory of cognitive dissonance (Festinger, 1957; Shao et al., 2019) or meaning maintenance theory (Proulx & Inzlicht, 2012; Y. Zhang et al., 2022) postulate detrimental effects (see Table 10 for an overview of theories). Similarly, empirical findings range from beneficial (e.g., task performance: L. Wang et al., 2022; creativity: Yang et al., 2021; commitment: Y. Zhang et al., 2015) to detrimental outcomes for followers (e.g., job stress: Bashir, 2021; work pressure perception: Meng et al., 2021).

We want to add evidence to the question whether PLB has beneficial or detrimental effects (or both) on followers by conducting a meta-analysis focusing specifically on the relationships between PLB and followers' performance as well as well-being. Thus, the main goal of our meta-analysis is to shed light on whether PLB is positively or negatively related to follower outcomes (i.e., performance and well-being) and, in addition, to verify whether the magnitudes of the relationships are practically relevant. In other words, we want to answer the question: How is PLB related to followers' performance and well-being?

Given that the effects of PLB on follower outcomes appear heterogeneous, we also focus on one moderator – from our perspective important and potentially overlooked – that might explain some of the heterogeneity in findings: followers' cultural background. Culture has a major influence on how individuals experience and react to paradoxes, such as perceiving paradoxical elements as mainly contradictory (prevalent in the West) or as mainly interrelated (prevalent in the East; for East-West differences in the context of paradoxes, see Leung et al., 2018; J. Keller et al., 2017; Prashantham & Eranova, 2020). To the best of our knowledge, no study on PLB has systematically analyzed cultural influences (for an indirect cultural comparison, see Shi, 2018). Thus, the second goal of our meta-analysis is to explore whether culture moderates the relationships between PLB and follower outcomes by analyzing cultural characteristics, which are relevant for followers' reactions to paradoxes, based on the samples' nationality. In a nutshell, we want to answer the question: Does

followers' cultural background influence the relationship between PLB and follower outcomes?

Unlike previous research[13], our meta-analysis offers a systematic integration of different conceptualizations of PLB, leading to robust findings (Cooper, 2010). We differentiate categories of followers' performance and well-being to provide differentiated insights on how the relationship between PLB and follower outcomes is influenced by cultural moderators and methodological moderators in terms of operationalizations and sample characteristics.

3.2.1. *Paradoxical Leader Behavior*

In our meta-analysis, we investigated PLB as defined by Y. Zhang and colleagues (2015, p. 538): "seemingly competing, yet interrelated, behaviors to meet structural and follower demands simultaneously and over time". In the following, we analyze this definition and its implications for our meta-analysis piece by piece. Next, we determine which conceptualizations align with the definition and, therefore, should be included in our meta-analysis.

Leader Behaviors That are Seemingly Competing, yet Interrelated.

PLB is exhibited in response to the paradoxical demands that leaders inevitably experience. A paradox is generally defined as "contradictory yet interrelated elements that exist simultaneously and persist over time. Such elements seem logical when considered in isolation but irrational, inconsistent, and even absurd when juxtaposed" (W. K. Smith & Lewis, 2011, p. 386), such as the demand on leaders to achieve both flexibility and stability. Leaders who exhibit seemingly competing behaviors (i.e., PLB) can meet paradoxical demands (Denison et al., 1995): For example, they experiment with ideas for flexibility, while

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[13] Our meta-analysis exceeds the scope of the short meta-analytic review by A. Lee and colleagues (2023) by including more search terms in our systematic search, resulting in a larger number of studies and a concept of PLB independent of a single measurement instrument. In addition, we differentiate categories of follower outcomes in interaction with cultural variables and offer analyses on more methodological moderators. Thus, we hope to be able to draw more comprehensive conclusions on how PLB is related to follower outcomes.

also clarifying directions and priorities for stability.

Leaders' reactions to organizational paradoxes are not necessarily paradoxical themselves. First, there are constructive, non-paradoxical reactions to paradoxes, such as humor (Jarzabkowski & Lê, 2017; Martin, 2004), reflective practice (Huxham & Beech, 2003), collective sensemaking (Lüscher & Lewis, 2008) or facilitating interaction and helpful disagreements within the team (as in complexity leadership; DeLia, 2011). Second, there are defensive, non-paradoxical reactions to paradoxes, such as ignoring the paradox, withdrawing from the situation or delegating the issue to a third person (for an overview of reactions to paradoxes, see Putnam et al., 2016). While those behaviors represent leaders' reactions to paradoxes, they are non-paradoxical and therefore not included in this meta-analysis.

Leader Behaviors That Meet Structural and Follower Demands.

Leaders can be confronted with paradoxes between structural demands (e.g., short-term efficiency and long-term development; Y. Zhang & Han, 2019), between follower demands (e.g., uniform and individual treatment; Y. Zhang et al., 2015), and between structural and follower demands (e.g., productivity and work-life balance; Lawrence et al., 2009; for another classification of paradoxes, see W. K. Smith & Lewis, 2011). In this meta-analysis, we include PLB in response to all paradoxical organizational demands, independently of whether they stem from followers or structure. We did not include PLB in response to non-organizational demands such as societal expectations regarding gender roles (e.g., agency-communion tensions on leaders: Zheng et al., 2018) or stemming from personal life (e.g., work-life tensions; Kalysh et al., 2016).

While PLB can be a response to paradoxical follower and structural demands, leaders might also act paradoxically to exercise power (Julmi, 2021). Leaders can intentionally design new paradoxes that follow a neither/nor logic to which there is no solution ("damned if you do and damned if you don't"; Julmi, 2021, p. 634). This can be seen as toxic and "anti-subordinate" (e.g., para*toxical* leadership: Julmi, 2021, p. 634; double-bind leadership:

Hennestad, 1990). In this meta-analysis, we excluded conceptualizations that are anti-subordinate per design, and focused on PLB exhibited in order "to meet structural and follower demands" (Y. Zhang et al, 2015, p. 538).

Leader Behaviors That are Shown Simultaneously and Over Time.

Leaders can focus on paradoxical demands simultaneously or alternate their focus between the paradoxical demands. For example, to meet the demands for individual, yet uniform treatment, leaders could alternate between emphasizing followers' individual needs and emphasizing followers' uniformity (i.e., temporal separation), or emphasize the demands simultaneously by giving each follower an individualized gift of equal value (Y. Zhang et al., 2015). Some authors argue that simultaneous emphasis is preferable to temporal separation, because the tension between the paradoxical demands is not severed and can lead to more sustainable outcomes (S. Chen et al., 2021; H.-J. Lee & Reade, 2018; Lewis & Smith, 2014; Y. Zhang et al., 2015). Others argue that by focusing fully on one paradoxical element after another, "leaders can avoid the trap of being stuck in the middle" (Volk et al., 2023, p. 633) and can accommodate spontaneously emerging demands (Rosing et al., 2011). Still others combine these perspectives and propose a dynamic equilibrium, in which there is alternating emphasis on the paradoxical elements, but potentially also on both paradoxical elements at once (W. K. Smith & Lewis, 2011; for other views on cyclical responses to paradoxes, see Raisch et al., 2018; Weiser & Laamanen, 2022). In this meta-analysis, we did not differentiate between simultaneous or separated approaches, but rather included all concepts that acknowledge the interrelatedness of paradoxical elements ("simultaneous') and their persistence ("over time").

Which Conceptualizations Align with the Definition?

Following the logic described in the previous three sub-chapters, we identified several conceptualizations that align with the definition of PLB by Y. Zhang and colleagues (2015) and therefore were included in our systematic literature search. Although based on different

approaches to building theory (e.g., qualitative studies: Y. Zhang et al., 2015; literature reviews: Rosing et al., 2011; theoretical frameworks: Denison et al., 1995, Sparr et al., 2022) and referring to different contexts (e.g., innovation: Rosing et al., 2011; people management: Y. Zhang et al., 2015), all included conceptualizations acknowledge the existence of paradoxical demands on leaders and emphasize that an effective leader's behavioral repertoire includes seemingly competing behaviors and the competence to use them appropriately. Table 9 shows how the conceptualizations included in the systematic literature search align with the definition of paradoxical leader behavior. The list of all conceptualizations finally included in the meta-analysis is available upon request.

Including varying conceptualizations in our meta-analysis yields two benefits: First, we can explore potential differences in how different conceptualizations of PLB relate to follower outcomes (i.e., methodological moderator analysis). This analysis may provide insights into which specific conceptualizations are more related to specific desired outcomes (e.g., creative and innovative behavior). Second, aggregating effects across different conceptualizations should lead to robust findings: We agree with Cooper's view of meta-analyses (2010, p. 30) that "[t]here probably is no better way to ensure that operations contain different patterns of error than to have different researchers with different theoretical backgrounds perform related investigations".

Table 9

Concepts included in the systematic literature search

Types of PLB	Definition	Elements ("Seemingly competing, yet interrelated behaviors")	Demands ("To meet structural and follower demands")	Type of integration ("Simultaneously and over time")
Paradoxical leader behavior	"seemingly competing, yet interrelated, behaviors to meet structural and follower demands simultaneously and over time" (Y. Zhang et al., 2015, p. 538)	E.g., uniformity AND individualization, self-centeredness AND other-centeredness, decision control AND autonomy, work requirements AND flexibility, distance AND closeness	Mainly paradoxes between structural and follower demands	Simultaneously (and) over time
Ambidextrous leadership	"ability to foster both explorative and exploitative behaviors in followers by increasing or reducing variance in their behavior and flexibly switching between those behaviors" (Rosing et al., 2011, p. 957)	E.g., opening AND closing	Paradoxes between structural demands, mainly in innovation contexts	Mainly flexible switching
Behavioral complexity	"ability to exhibit contrary or opposing behaviors (as appropriate or necessary) while still retaining some measure of integrity, credibility, and direction" (Dension et al., 1995, p. 526)	E.g., collaborate AND control, create AND compete (cf. Lawrence et al., 2009), based on the Competing Values Framework: Internal AND external, flexible AND stable	Paradoxes between structural and follower demands (collaborate and control), paradoxes between structural demands (create and compete)	Balance of simultaneous roles, behavioral repertoire and situational adaptation
Flexible leadership/ leader versatility	"ability to turn freely between opposing styles like an assertive "forceful" approach vs. a more considerate "enabling" approach or between a focus on long-range strategic needs vs. near term operational matters" (Kaiser et al., 2007 p. 42)	E.g., forceful AND enabling, strategic AND operational	Paradoxes between structural and follower demands (forceful and enabling), paradoxes between structural demands (strategic and operational)	Dynamic equilibrium, behavioral repertoire and situational adaptation

3.2.2. Paradoxical Leader Behavior and Follower Outcomes

In the following, we focus on how PLB is related to various types of follower outcomes. First, we discuss theoretical arguments in the literature on how PLB affects followers, focusing on followers' performance and well-being specifically. Second, we discuss how followers' cultural background might moderate the relationship between PLB and follower outcomes, focusing specifically on cultural differences in dialectical thinking and uncertainty avoidance.

Various theories have been used to predict how and why PLB influences follower outcomes. Theories from the identified quantitative articles and their theoretical arguments regarding PLB are listed in Table 10. In the following, we discuss shared characteristics of these theoretical arguments and how they can impact followers' performance and well-being. Performance and well-being were chosen as outcome categories for our meta-analysis because both concepts comprise a variety of followers' experiences and behaviors, which can also be grouped into lower-order categories for more differentiated insights.

First, PLB is seen as a constructive reaction to paradoxes inherent in organizations (see (a) in Table 10). When the paradoxes in followers' working environment are reconciled, followers should experience a stable work environment (W. K. Smith & Lewis, 2011) in which they perform better and their well-being is less threatened by salient tensions. Second, the situational and contextual adaptability of PLB (e.g., based on contingency theory, see (b)) should help leaders to flexibly meet followers' needs, thereby increasing followers' performance and well-being. Third, by observing PLB, followers may learn to constructively deal with their own paradoxical tasks (see (c)), thereby increasing their own performance and well-being during paradoxical tasks. Fourth, PLB can create resources for followers such as goal clarity and work autonomy (see (d)) and thus fulfill followers' needs (see (e)), leading to higher performance and well-being. Fifth, by fulfilling social demands, PLB can positively influence the relationship between follower and leader as well as the relationships among

followers in the team (see (f); for an exception, see Bashir, 2021). Better relational regulation at work should increase followers' performance and well-being. Sixth, PLB can positively influence followers' attributions and information processing, thereby leading to more psychological safety and role clarity (see (g)), which should in turn increase followers' performance and well-being.

In contrast to these theoretical arguments in favor of PLB, several authors have argued that the seemingly competing nature of PLB can lead to ambivalence, cognitive dissonance or stress among followers (see (h)). A negative influence on followers' well-being has been predicted particularly for followers with low tolerance for contradictions. While some authors argue that followers' stress from perceiving contradictions could decrease their performance (e.g., Shi & Shaw, 2019), others argue that perceiving contradictions can be beneficial for creative performance (Leung et al., 2018; on the curvilinear effect of stress and creative performance in general, see Byron et al., 2010).

In summary, most theories predict that PLB benefits followers' performance and well-being, but several theories also predict downsides, especially for followers' well-being (see (h)). Empirically, PLB has been found to be positively related to both followers' performance (e.g., performance: Ishaq et al., 2021; OCB: Ren & Yang, 2021; creativity: Yang et al., 2021) and well-being (job satisfaction: Kaiser & Kaplan, 2006; motivation: Y. Zhang & Liu, 2022), but also negatively related to well-being (e.g., job stress: S. Wang et al., 2021; Bashir, 2021; work pressure perception: Meng et al., 2021).

Given that a dominant share of theories predict positive relationships between PLB and followers' performance, as followers are better equipped to handle their own tasks and perform better, we propose that overall, *PLB is positively related to followers' performance*. In addition, a dominant share of theories claim positive relationships between PLB and followers' well-being, as followers are provided with resources and their needs are met. Therefore, we also propose that overall, *PLB is positively related to followers' well-being*.

Table 10

Theories used to predict follower outcomes of paradoxical leader behavior (PLB)

Theory	Argumentation in the context of PLB	Theory-based prediction	Articles referring to the theory
a) Constructive reaction to inherent paradoxes			
Yin-Yang/Taoism (e.g., Lao Tse, 4th century BC)	Opposing cosmic energies interact to shape all universal phenomena (cf. Fang, 2012) and PLB is a constructive reaction to them	PLB = constructive reaction to paradoxes	e.g., Y. Zhang et al. (2015), Yang et al. (2021)
Paradox theory (e.g., W. K. Smith & Lewis, 2011)	Competing, yet interrelated elements (i.e., paradoxes) exist and persist over time and PLB is a constructive reaction to them	PLB = constructive reaction to paradoxes	e.g., Meng et al. (2021), Huertas-Valvidia et al. (2019)
Paradoxical Leader Behaviour Theory (e.g., Y. Zhang et al., 2015; see Shi, 2018)	Paradoxical leader behavior is positively associated with followers' work role performance	PLB = constructive reaction to paradoxes in leadership → more performance of followers	e.g., Shi (2018), Shi & Shaw (2019)
Competing Values Framework (e.g., Quinn & Rohrbaugh, 1983)	Criteria for organizational effectiveness are inherently competing and PLB is a constructive reaction to them	PLB = constructive reaction to competing demands in organizations	e.g., Denison et al. (1995)
Quinn's model of leadership roles (e.g., Quinn, 1984)	Demands in the leader role are inherently competing and PLB is a constructive reaction to them	PLB = constructive reaction to competing leadership roles	e.g., Denison et al. (1995)
Role theory (e.g., Biddle, 1979)	Leaders have diverse roles and tackle different relational issues for which PLB is a constructive reaction	PLB = constructive reaction to competing leadership roles	e.g., Guo et al. (2020)
Behavioral complexity theory (e.g., Denison et al., 1995; see Shi, 2018)	Cognitive and behavioral complexity helps leaders to perform contrary behaviors, such as PLB, to deal with complex demands	PLB = constructive reaction to complex demands	e.g., Shi (2018)
Leaderplex model (e.g., Hooijberg et al., 1997)	Cognitive, social and resulting behavioral complexity, such as PLB, lead to leader effectiveness and organizational effectiveness	PLB = constructive reaction to complex leadership roles	e.g., Dodd (2009)
Ambidexterity theory / Ambidextrous leadership theory (e.g., Rosing et al., 2011)	Both exploration and exploitation are needed for innovation. Leaders foster both by showing PLB (i.e., opening and closing behavior)	PLB = constructive reaction to paradoxes in innovation	e.g., Usman et al. (2020), Oluwafemi et al. (2020)
Loose-tight theory / Loose-tight leadership theory (e.g., Sagie, 1997)	The loose-tight principle refers to the paradox of empowerment and control in leadership to which PLB is a constructive response	PLB = constructive reaction to loose-tight paradox	e.g., Bell et al. (2018), Y. Zhang et al. (2015)
Differentiation-integration paradox	This refers to the paradox of treating followers individually and uniformly to which PLB is a constructive response	PLB = constructive reaction to differentiation-integration paradox	e.g., Sulphey & Jasim (2022), Xue et al. (2020)

Table 10 (continued)

b) Influence on followers through adaptability of leader behavior

Contingency theory (e.g., Fiedler, 1967)	Flexible application of behaviors that can appear competing when shown simultaneously enables an effective reaction to situations	PLB = constructive reaction to competing demands dependent on situational contingencies	e.g., Luu, Dinh, & Qian (2019), L. Wang et al. (2022)
Path-goal theory (e.g., House, 1996)	Flexible application of behaviors that can appear competing when shown simultaneously enables an effective reaction to followers	PLB = constructive reaction to competing demands dependent on followers' characteristics	e.g., Boneberger et al. (2021), Gammel (2020)
Trait-activation-theory (e.g., Tett et al., 2013)	Leaders' traits and situational cues lead to PLB. Followers' reactions to PLB depend on their traits and situational cues.	PLB = constructive reaction to competing demands dependent on leaders' traits and situational cues	e.g., Gammel (2020)

c) Influence on followers learning in the context of paradoxes

Social learning theory (e.g., Bandura, 1971)	If leaders show paradoxical behavior, followers adapt and show paradoxical behavior themselves	PLB → followers learn how to react to paradoxes	e.g., Sparr (2018), Ishaq et al. (2021)
Social cognitive theory (e.g., Bandura, 1986)	Leaders are role models and establish a supportive environment conducive to managing tensions	PLB → followers learn how to react to paradoxes	e.g., X. Li et al. (2020), Shao et al. (2019)
Mindset theory (e.g., Dweck & Leggett, 1988)	Through PLB, leaders foster their followers' paradoxical mindset which enables followers to react constructively to paradoxes	PLB → followers learn how to make sense of paradoxes	e.g., Boemelburg et al. (2020)
Sensemaking theory (e.g., Weick, 1995)	PLB helps individuals to interpret competing demands positively and to seek a constructive reaction	PLB → followers learn how to make sense of paradoxes	e.g., Sparr (2018), Y. Zhang et al. (2021)
Uncertainty management theory (e.g., Lind & Van den Bos, 2002)	Leaders show their followers that paradoxical tasks and roles can be handled and are "fair"	PLB → followers learn that paradoxes can be handled	e.g., Sparr (2018), Ren & Yang (2021)
Goal orientation theory (e.g., Ames, 1992)	PLB is likely to value and support followers' learning orientation, leading to increased understanding and improved competence	PLB → more learning orientation of followers (→ better reactions to paradoxes)	e.g., Shi (2018)

d) Influence on followers' resources

Socially embedded model of thriving (e.g., Spreitzer et al., 2005)	PLB affects followers' work contexts, resources and stimulates motivational behaviors, leading to followers' workplace striving	PLB → more resources for followers → more thriving	e.g., Usman et al. (2020)
Job demands-resources model (e.g., Demerouti et al., 2001)	PLB provides (also seemingly competing) resources to followers, leading to more engagement	PLB → more resources for followers → more engagement	e.g., Cai et al. (2021) Fürstenberg et al. (2021)
Conservation of resource theory (e.g., Hobfoll, 1989)	PLB is a contextual resource for followers, leading to the personal resource of followers' workplace striving	PLB → more resources for followers → more thriving	e.g., Usman et al. (2020) Ishaq et al. (2021)
Social exchange theory (e.g., Homans, 1958)	PLB provides resources (benefit), leading to followers' willingness to adapt their leader's behavior or to perform in general (cost)	PLB → more resources for followers → more engagement	e.g., Cai et al. (2021) Wu et al. (2020)
Substitute for leadership theory/model (e.g., Kerr & Jermier, 1978)	PLB can be a substitute for organizational policies and provide organizational resources for followers, leading to followers' thriving	PLB → more organizational resources for followers → more thriving	e.g., Luu, Dinh & Qian (2019)
Dynamic capabilities theory (e.g., Teece et al., 1997)	PLB fosters organizational and strategic routines by which firms achieve new resource configurations	PLB → better configuration of resources	e.g., Luu (2017)

Table 10 (continued)

e) Influence on followers' need fulfillment and motivation			
Self-determination theory / Basic Psychological Needs Theory (e.g., Ryan & Deci, 2000)	PLB fulfills of followers' needs such as needs for autonomy, competence, and relatedness, leading to more motivation	PLB → fullfillment of followers' needs → more self-efficacy & motivation	e.g., Y. Zhang & Liu (2022), Huertas-Valdivia et al. (2019)
Control theory (e.g., Eisenhardt, 1989)	PLB allows followers autonomy in uncertain situations, enabling followers to meet paradoxical demands	PLB → more task autonomy of followers → more performance	e.g., Van der Borgh & Schepers (2014)
Self-efficacy theory (e.g., Bandura, 1977)	PLB involves uniform workload, while also considering followers' capabilities, increasing to followers' self-efficacy	PLB → more self-efficacy of followers	e.g., Huertas-Valdivia et al. (2019)
Model of proactive motivation (e.g., Parker et al., 2010)	PLB fosters "can do" motivational states such as self-efficacy, leading to proactive goal processes such as taking charge	PLB → more self-efficacy of followers → motivation	e.g., Feng et al. (2022)
Goal setting theory (e.g., Locke & Latham, 1990)	PLB is likely to increase followers' work load, time pressure and responsibility, challenging followers and increasing their motivation	PLB → challenge stressors for followers → more motivation	e.g., Tripathi (2019) De Graaff (2020)
Affective events theory (e.g., Weiss & Cropanzano, 1996)	PLB prompts positive affect in followers, leading to more affect-driven behaviors such as OCB	PLB → positive affect of followers → more affect-driven behavior	e.g., S. Chen et al. (2021), Wu et al. (2020)
f) Influence on followers' relational regulation			
Social identity theory (e.g., Tajfel & Turner, 1979)	PLB fulfills followers' needs and expectations, increasing followers' identification with the leader and performance	PLB → more identification with the leader → more performance	e.g., G.-L. Peng (2020), She et al. (2020)
LMX theory (e.g., Dienesch & Liden, 1986)	PLB leads to a high-quality leader-member exchange, increasing followers' psychological safety and trust in the leader	PLB → more LMX → psychological safety of followers	e.g., Xue et al. (2020), Alghamdi (2018)
Equity theory (e.g., Adams, 1963)	PLB fulfills the demand for followers in the same position should to be treated with respect to their performance	PLB → more perceived equity → more performance	e.g., Fu et al. (2020)
Equality theory (e.g., Morand & Merriman, 2012)	PLB fulfills the demand for followers in the same position to be treated similarly	PLB → more perceived equality → more performance	e.g., Fu et al. (2020)
Social comparison theory (e.g., Festinger, 1954)	PLB involves treating followers differently which can be perceived as favoritism, thereby increasing comparisons and conflict	PLB → more perceived favoritism → more interpersonal conflict in team	e.g., Bashir (2021)
g) Influence on followers' attributions and information processing			
Construal level theory (e.g., Trope & Liberman, 2010)	PLB involves communicating vision, raising followers' construal level, despite also being allowed autonomy and focus on details	PLB → higher construal level of followers → more goal achievement	e.g., Maran et al. (2022)
Social information processing theory (e.g., Zalesny & Ford, 1990)	PLB is a major source of cues for followers, thereby improving their attitudes, such as self-efficacy, and actions, such as performance	PLB → more psychological safety, self-efficacy & role clarity of followers → performance	e.g., Xue et al. (2020), Hu et al. (2020)
(Motivated) information processing theory (e.g., De Dreu et al., 2008)	PLB leads to teams sharing and integrating distinctly different perspectives, leading to innovation	PLB → information differentiation and integration → more innovation	e.g., Q. Li et al. (2018), Xue et al. (2020)
Role theory (e.g., Biddle, 1979)	PLB enable followers to anticipate the consequences of their behaviors, thereby reducing uncertainty and increasing performance	PLB → more role clarity of followers → more performance	e.g., Shi (2018)

Table 10 (continued)

Causal attribution theory (e.g., Kelley, 1973)	PLB reduces followers' fear of negative consequences by providing psychological safety, thereby increasing risk taking such as OCB	PLB → more psychological safety → more risk taking	e.g., Iqbal et al. (2020)
Attribution theory (e.g., Heider, 1958)	PLB prioritizes providing resources to followers, increasing their perceived obligation to act in the interest of the organization	PLB → more resources for followers → more obligation	e.g., Meng et al. (2021)
h) Influence on followers through contradiction and inconsistency			
Cognitive dissonance (e.g., Festinger, 1957)	For followers with low integrative complexity, PLB is perceived as conflicting with conflicting cognitions leading to stress	PLB → more conflicting cognitions of followers → more stress *[for followers with low integrative complexity]*	e.g., Shao et al. (2019)
Distraction arousal theory (e.g., Teichner et al., 1963)	For followers with low integrative complexity, PLB leads to distraction and arousal, resulting in stress and reduced creativity	PLB → more cognitive strain on followers → more stress → less creativity *[for followers with low integrative complexity]*	e.g., Boneberger et al. (2021)
Meaning maintenance theory (e.g., Proulx & Inzlicht, 2012)	For followers with low holistic thinking, PLB is a violation of mental representations and motivates compensatory behaviors like creativity	PLB → more ambivalence towards leader → more creativity *[for followers with low holistic thinking]*	e.g., Y. Zhang et al. (2022)
Uncertainty reduction theory (e.g., Berger & Calabrese, 1975)	For followers with low paradoxical mindset, PLB can be hard to predict for followers, leading to stress for followers	PLB → less perceived predictability of leaders' behavior → more stress *[for followers with low paradox mindset]*	e.g., Tripathi (2019)
Fairness heuristic theory (e.g., Lind & MacCoun, 1992)	For followers with Western cultural backgrounds, PLB can be difficult to understand and perceived as inconsistent and unfair	PLB → less perceived supervisory fairness → less performance *[for followers from Western cultural backgrounds]*	e.g., Shi and Shaw (2019), Shi (2018)
Regulatory focus theory / regulatory fit theory (e.g., Higgins, 1997; Higgins, 2000)	For followers with high prevention focus, PLB can appear as contradicting the clear rules, responsibilities, and duties	PLB → less self-efficacy & less psychological safety *[for followers with high prevention focus]*	e.g., X. Li et al. (2020)
Regulatory focus theory / regulatory fit theory (e.g., Higgins, 1997; Higgins, 2000)	For followers with unbalanced promotion and prevention focus (i.e., low ambidexterity balance), PLB can lead to cognitive strain	PLB → more cognitive strain → less job satisfaction *[esp. for followers with low ambidexterity balance]*	e.g., DeCarlo et al. (2021)

Note. This list reflects theoretical arguments from quantitative articles and is not meant as an exhaustive overview of the literature on paradoxical leader behavior. PLB = paradoxical leader behavior.

Performance categories.

For differentiated insights on the relationship between PLB and followers'
performance, we followed the meta-analysis by Harari and colleagues (2016) and categorized
performance into a) task performance, b) organizational citizenship behavior, and c) creative
and innovative performance. Task performance refers to "the proficiency with which
employees carry out the core requirements of their jobs, such as those tasks that are specified
in a job description" and includes variables such as proficient behavior or in-role
performance. Organizational citizenship behavior (OCB) refers to "discretionary behaviours
that, while not formally recognized as constituting performance in a given job, nonetheless
contribute to the functioning of organizations" and includes variables such as extra-role
performance and proactive behavior. Creative and innovative performance refers to "the
proficiency with which employees generate and implement novel ideas in the workplace"
(Harari et al., p. 496) and includes a variety of creativity and innovation measures. Applying
this classification to our proposition on followers' performance leads to our first hypothesis:

Hypothesis 1: Paradoxical leader behavior is positively related to followers' a) task
performance, b) organizational citizenship behavior, and c) creative and innovative
performance.

Well-being categories.

For differentiated insights on the relationship between PLB and followers' well-being,
we categorized well-being into a) hedonic well-being, b) eudaimonic well-being, c) physical
well-being, and d) negative well-being (Inceoglu et al., 2018, p. 181). Hedonic well-being
"emphasizes the subjective experience of pleasure" and includes variables such as employee
satisfaction and positive affect. Eudaimonic well-being "stress[es] subjective vitality" and
includes variables such as work engagement and thriving at work. Physical well-being refers
to "bodily health and functioning" and includes variables such as sleep quality or physical
stress symptoms. Negative well-being refers to "negative forms of psychological well-being",

such as experienced stress or experiences of irritation. Applying this classification to our proposition on followers' well-being leads to our second hypothesis:

Hypothesis 2: Paradoxical leader behavior is positively related to followers' a) hedonic well-being, b) eudaimonic well-being, c) physical well-being, and d) negatively related to followers' negative well-being.

3.2.3. Culture as Moderator

How people experience and react to paradoxes is influenced by the culture of the country in which they live. First, culture influences the extent to which paradoxes appear as contradictions. While both Eastern and Western philosophy acknowledge paradoxes, traditional Eastern dialectical philosophies emphasize the interdependence of paradoxical elements, while traditional Western philosophies emphasize their contradiction (Schad et al., 2016; cf. Schimmack et al., 2002; cf. Spencer-Rodgers et al., 2004; for an overview, see Prashantham & Eranova, 2020). In the present day, paradoxes lead to less experience of conflict in the East than in the West (J. Keller et al., 2017; Leung et al., 2018). This difference is explained by "East Asian lay beliefs [which are] characterized by tolerance for contradiction, the expectation of change, and cognitive holism" (i.e., dialectical thinking; Spencer-Rodgers et al., 2009, p. 29).

Concerning the influence of dialectical thinking on the relationship between PLB and followers' outcomes, we identified competing rationales: (A) followers with high dialectical thinking could be more tolerant to the perceived contradictions in PLB (Shi & Shaw, 2019), mitigating potential downsides of PLB. Alternatively, (B) followers with high dialectical thinking could be more tolerant to leaders not showing PLB, as they experience fewer contradictions in the resulting unreconciled paradoxical demands in their work environment (Sparr, 2018; see also (a) in Table 10). Thus, theory posits that dialectical thinking may increase *or* reduce the positive relationship between PLB and follower outcomes.

Second, culture in terms of uncertainty avoidance influences how individuals react to ambiguous situations. Uncertainty avoidance is the degree to which "members of collectives seek orderliness, consistency, structure and formalized procedures, and laws to cover situations in their daily lives'' (Sully de Luque & Javidan, 2004: 603). In cultures with high uncertainty avoidance, tolerance for ambiguity and emotional stability is less prevalent (Sully de Luque & Javidan, 2004). Furthermore, tolerance for ambiguity and emotional stability is associated with constructive individual reactions to paradoxes (Ishaq et al., 2021; Miron-Spektor et al., 2018). Thus, a culture should react more constructively to paradoxes, the less it emphasizes uncertainty avoidance. Regarding PLB, we again identified competing rationales: (A) followers from cultures with low uncertainty avoidance could react more constructively to the perceived contradictions in PLB, or (B) they could react more constructively to leaders not showing PLB, as they are less bothered by the resulting unreconciled paradoxical demands in their work environment (Sparr, 2018). In summary, theory posits that uncertainty avoidance may reduce *or* increase the positive relationship between PLB and follower outcomes.

To the best of our knowledge, no study has systematically analyzed cultural influences on how PLB relates to follower outcomes (for an indirect cultural comparison, see Shi, 2018). As cultural influences are likely, but paradox theory does not offer adequate insights to specify the direction of the cultural influence, we propose that *followers' cultural background moderates the relationship between PLB and followers' performance and well-being.* Using the discussed classifications for followers' performance (Harari et al., 2016) and well-being (Inceoglu et al., 2018), we derive the following undirected hypotheses:

Hypothesis 3: Followers' cultural background in terms of dialectical thinking and uncertainty avoidance moderates the relationship between paradoxical leader behavior and a) task performance, b) organizational citizenship behavior, and c) creative and innovative performance.

Hypothesis 4: Followers' cultural background in terms of dialectical thinking and uncertainty avoidance moderates the relationship between paradoxical leader behavior and a) hedonic well-being, b) eudaimonic well-being, c) physical well-being, and d) negative well-being.

3.3. Methods

3.3.1. Identification of Studies

In the following, we report how we identified studies, describing the process from the initial search to the final dataset.

Search Strategies.

We conducted a systematic literature search to identify empirical studies investigating the relationship between PLB and followers' performance and/or well-being. The first three search strategies were employed until May 2022 to identify the majority of published studies. To consider as many studies as possible, we screened the published studies first before employing the fourth and fifth search strategies, in which we directly contacted authors and asked for studies up until June 2023.

First, we conducted an online literature search on PsycInfo, Web of Science, ProQuest Dissertation and Thesis Databases (for the years 1900-2022), and Google Scholar, screening full texts for the following terms (cf. Table 9): *[leader* OR manager* OR supervisor*] AND [paradox* OR Ambidextr* OR "Competing values" OR Complex* OR Flexib* OR Versatil*].* In case of Google Scholar (using the software *Publish or Perish* (Software version 8.2.3943.8118; Harzing, 2007), an extremely high number of results (up to 1.5 million results

per term) led to us using more specific terms.[14]

Second, we screened the conference programs of the Academy of Management (AOM; for the years 1998-2021), the Society for Industrial and Organizational Psychology (SIOP; for the years 2004-2021), and the European Group for Organizational Studies (EGOS; for the years 2009-2013, 2019; for 2020, only the paradox subtheme could be screened). Third, we conducted a forward search of papers which developed measurements aligning with our definition of PLB using Google Scholar via Publish or Perish (Harzing, 2007). In this way, we intended to find all papers that cited the following articles: Denison et al. (1995), Kaiser et al. (2007), Kaplan & Kaiser (2003), Lawrence et al. (2009), Rosing et al. (2011), Y. Zhang et al. (2015), Y. Zhang & Han (2019).

Fourth, we directly contacted authors who had published papers on PLB (including all authors and co-authors of the articles mentioned in the section above) and asked for (unpublished) research. Fifth, to find more unpublished studies, we sent requests via the website of the Society for Industrial and Organizational Psychology (SIOP) and via the mailing lists of the subgroup for work, organizational and economic psychology (Fachgruppe Arbeits-, Organisations- und Wirtschaftspsychologie) of the German Psychological Society (DGPs), the Paradox Research Education and Practice (PREP) conference, and an

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[14] The following search phrases were used: "Paradoxical leader", "Paradoxical leaders", "paradoxical leadership", "paradoxical manager", "paradoxical managers", "paradoxical supervisor", "paradoxical supervisors", "competing values" AND leader*, "Competing values" AND manager*, "competing values" AND supervisor*, "complexity leadership", "complex leadership", "complex leader", "complex leaders", "complex leadership", "complex manager", "complex managers", "complex supervisor", "complex supervisors", "behavioral complexity" AND leader*, "behavioral complexity" AND manager*, "behavioral complexity" AND supervisor*, "Flexible leader", "Flexible leaders", "Flexible leadership", "Flexible manager", "Flexible managers", "Flexible supervisor", "Flexible supervisors", "Versatile leader", "Versatile leaders", "Versatile leadership", "Versatile manager", "Versatile managers", "Versatile supervisor", "Versatile supervisors", ambidexterity AND leader*, ambidexterity AND manager*, ambidexterity AND supervisor*, "ambidextrous leader", "ambidextrous leaders", "ambidextrous leadership", "ambidextrous manager", "ambidextrous managers", "ambidextrous supervisor", "ambidextrous supervisors". In some years the number of results for some terms exerted the software's export limit of 1000 items. This was the case for ambidexterity AND leader* (2017-2021), ambidexterity AND manager* (2016-2021), ambidexterity AND supervisor* (2019, 2020, 2021), "competing values" AND supervisor* (2016-2021), "competing values" AND manager* (2006-2021), "competing values" AND leader* (2005-2021). In the affected years, we exported the first 1000 results. Additionally, we searched for articles that included the terms in their title. Thus, we ensured that the most relevant articles in terms of citations and topic were included into our analysis.

international reading group on paradoxes. In addition, we posted our request on a website focusing on paradox research (leveragingtensions.com) and in the Paradox Community on Twitter (@paradox_bothand). Our search strategies yielded a total of 479,104 potentially relevant records for our meta-analyses.

Inclusion Criteria.

To be included in the meta-analysis, studies had to meet the following criteria: a) the study was empirical and quantitative in nature, b) the study was published in English or German, c) the study explored paradoxical behavior by leaders, supervisors or managers,[15] and d) the study reported a sample size and a bivariate correlation coefficient (or data allowing for its calculation) between PLB and followers' performance and/or well-being.

Screening Process.

After identifying 479,104 records that were potentially relevant for our meta-analysis, we screened the studies to find those that met the criteria. Figure 5 describes the steps and details of the successive process. First, we performed an automated search via Python to identify duplicates, erroneous records (no author or only a number as title), and records in neither English nor German. To avoid erroneous automatic exclusions, the excluded records were manually reviewed. Second, from the remaining 233,868 records, we excluded 159,995 records with irrelevant topics in their title or abstract. Irrelevant topics were identified by automatedly screening titles for word stems and manually coding frequently used word stems for relevance. To avoid erroneous automatic exclusions, we conducted an additional search for key terms (i.e., *ambidextr*, competing values, complex*, explor*, flexib*, paradox*, versatil**) in the excluded titles. Third, four individuals (one of the authors, one research assistant, and two students writing their master's theses on the topic) screened the titles of the remaining 73,868 records, excluding 71,222 titles identified as irrelevant. All individuals were

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[15] We included different forms of direct leadership (leaders who directly interact with followers), but not leadership on the organizational level (e.g., Kung et al., 2020: ambidextrous leadership on the organizational level).

familiar with the topic and empirical research methods. Fourth, the same four individuals read the abstracts of the remaining 2,646 records, excluding another 2,152 records (e.g., because the records were not quantitative research). A further 103 entries were excluded as they were not available or were identified as not meeting the criteria after we received information from the authors. Fifth, the four individuals screened the full texts of 391 records and excluded 219 titles, leading to 72 full texts that met the criteria and 100 full texts not available to us. The 100 full texts were requested, if possible, leading to additional 6 identified full texts that met the criteria (for details, see Figure 5). Throughout the entire process, we contacted the authors of the respective studies whenever documents or specific results were unavailable to us.

Figure 5

Flowchart of study identification process

Records identified through search strategies: **479,104**[a]

245,241 records excluded

239,063 duplicates[b]
5,920 non-English/German records
258 erroneous entries

Meta-data screened: **233,863**

159,995 records excluded via automated search for irrelevant topics in title or abstract[c]

Titles screened: **73,868**[d]

71,222 records excluded because their titles were identified as irrelevant

Abstracts screened: **2,646**

2,152 records excluded

1,119 not quantitative
437 not paradoxical
333 no leader
69 duplicates
60 no relevant dependent variables
54 no behavior
53 meta-data not reconstructable
27 non-English/German records

Full texts screened: **391**

103 abstracts were not available to us

103 records excluded[e]

3 articles whose authors did not provide them
11 articles did not match criteria for inclusion
58 no author responded
31 no contact information

219 records excluded

107 no relevant dependent variables
37 not paradoxical
24 not quantitative
17 non-English/German records
16 no leader
11 duplicates/old versions of published papers
5 missing statistics
2 no behavior

72 full texts identified as eligible

100 full texts were not available to us

94 records excluded[e]

6 articles whose authors could not provide data
25 articles did not match criteria for inclusion
55 no author responded
8 no contact information

6 full texts identified

Included: 78 eligible full texts included 92 independent studies and 233 effect sizes

Note. [a]479,067 stemmed from systematic search in databases and conference programs: Google Scholar: 148,650; PsycINFO: 22,725; Web of Science: 95,208; ProQuest Dissertation & Theses Global Database: 207,099; annual meeting of the Academy of Management: 1,552; colloquium of the European Group for Organizational Studies: 83; annual conference of the Society for Industrial and Organizational Psychology: 108; Forward analyses: 3,642. [b]Further duplicates were still included due to differences in how databases listed the same article. [c]By stemming the titles of the 233,775 studies remaining from the systematic search in databases and conference programs, we created a list of word stems (e.g., *abnorm*), the forms found in the study (e.g., abnormally, abnormal, abnormalities), and the count of how many titles contained the stem. Once narrowed down to 26 counts, the stems were manually coded for irrelevance (480 irrelevant stems identified) and studies including the irrelevant stems in their title or abstract were automatically removed. The full list of stems is available upon request. [d]This number includes 1,431 studies that were initially automatically removed due to irrelevant stems, but were added back due to containing the following key terms in the title: *ambidextr*, competing values, complex*, explor*, flexib*, paradox*, versatil*.* The additional search of key terms in the title was conducted to avoid erroneous automatic exclusions. [e]Whenever e-mail addresses were retrievable, we contacted up to five authors of each record per e-mail. For entries with no available e-mail addresses, we contacted authors via LinkedIn and ResearchGate, if possible.

Final Dataset.

Ultimately, 78 full texts containing 92 independent studies were included in the meta-analysis. In total, we were able to include $k = 233$ effect sizes based on N = 27,290 followers' performance and/or well-being. The studies' sample sizes ranged from Min = 49 to Max = 3029; the average number of participants per effect size was 297. For the categories of performance and well-being, the number of effect sizes was as follows: task performance: $k = 32$; organizational citizenship behavior: $k = 25$; creative and innovative performance: $k = 53$; hedonic well-being: $k = 21$; eudaimonic well-being: $k = 24$; physical well-being $k = 0$ (Hypothesis 1c is not examined); negative well-being $k = 20$. All included studies are marked by an asterisk in the references.

3.3.2. Coding Procedures

All studies were coded by the first author and double-coded by a research assistant (agreement per category: 91% or above). All discrepancies were resolved by discussion. To test whether characteristics of the studies' methodological approaches influenced the effect sizes (i.e., methodological moderators), the following aspects were coded: peer review status, study setting (experiment vs. field), operationalization of PLB (measurement, rating scale format, calculation of score), raters of PLB and follower outcomes, reported clustering in the data, and sample characteristics (share of women, average age, and average tenure of followers).

Paradoxical Leader Behavior and Follower Outcomes.

To test our hypotheses on the relationship between PLB and followers' performance (H1) and well-being (H2), we coded the criterion variables into the sub-categories of performance (i.e., task performance, organizational citizenship behavior, and creative and innovative performance; based on Harari et al., 2016) and well-being (i.e., hedonic well-being, eudaimonic well-being, and negative well-being; based on Inceoglu et al., 2018; for

physical well-being, our screening process yielded no records).[16]

Culture.

To test our hypotheses on the moderation by followers' culture (H3 and H4), we coded the country from which participants were mainly recruited. Based on the country,[17] we coded followers' cultural background in terms of dialectical thinking on the country level and uncertainty avoidance on the country level.

To capture East-West differences in perceiving and reacting to paradoxes, we assigned two indicators for naïve dialectical thinking on the country level: the Dialectical Self-Scale (DSS; Spencer-Rodgers et al., 2015) and the Asian Dialectical Philosophies index (ADP; Schimmack et al., 2002). The DSS describes an individual's naïve dialecticism (i.e., tolerance for contradiction, cognitive and behavioral change) and is often used to illustrate East-West differences (e.g., Spencer-Rodgers et al., 2004). The DSS is a self-report measurement and a sample item is "I sometimes believe two things that contradict each other" (1 = strongly disagree; 7 = strongly agree). The DSS shows adequate validity (Spencer-Rodgers et al., 2004) and measurement equivalence (Spencer-Rodgers et al., 2009). We based our coding of country-level scores on the cross-cultural investigation by Zell and colleagues (2013; country-level cultural differences are relatively stable over time: Beugelsdijk et al., 2015). Missing values for countries were imputed from other studies.[18] If country values were not available (e.g., for Pakistan), studies were omitted from the respective moderator analyses.

The ADP assumes that dialectical lay beliefs are rooted in Asian philosophies (Confucianism, Buddhism, Hinduism). The binary ADP index differentiates countries with

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[16] In cases where a measure contained aspects of several sub-categories, we chose the sub-category reflected by most items in the used scale.

[17] In cases where the samples stemmed from two countries and no information on the respective shares were given, we averaged the values of the countries. In case no country was reported, we coded for the country of the researchers' affiliation, if unambiguous.

[18] Australia: Church et al., 2012; Germany: Domke, 2021; South Korea: J. Kim et al., 2014; Malaysia: Church et al., 2012; Netherlands: Lu et al., 2017; India: Chua et al., 2022. Some values are based on small samples (Germany: N = 58; Netherlands: N = 34) and/or on shortened versions of the DSS (South Korea: 24 items; Netherlands: 14 items; India: 14 items).

low (ADP = 0) and high prevalence of Asian philosophies (ADP = 1). We used the values

from Schimmack et al. (2002). For missing values, we coded ADP based on the national

prevalence of Buddhism and Hinduism[19] (The Pew Research Center's Forum on Religion &

Public Life, 2012).

To capture uncertainty avoidance, we assigned country scores based on the response-

bias corrected GLOBE Uncertainty Avoidance practices (UA practices; Sully de Luque &

Javidan, 2004). UA practices reflect ''the extent to which members of collectives seek

orderliness, consistency, structure, formalized procedures and laws to cover situations in their

daily lives" (Sully de Luque & Javidan, 2004, p. 603). A sample item is "In this society,

societal requirements and instructions are spelled out in detail, so citizens know what they are

expected to do" (1 = strongly disagree; 7 = strongly agree). If country values were not

available, we used the average score for the cultural cluster in which that country was

located.[20]

3.3.3. Statistical Methods

We conducted meta-analyses that differentiated between followers' performance (H1)

and well-being (H2), as well as their categories: followers' task performance (H1a), OCB

(H1b), creative and innovative performance (H1c), hedonic well-being (H2a), eudaimonic

well-being (H2b), and negative well-being (H2d). For negative well-being, correlations were

reversed to allow aggregation with hedonic and eudaimonic well-being. The results for

negative well-being were back-reversed before reporting to depict the original direction of

effects. The meta-analyses were computed in R (Version 4.2.3) using the psychmeta package

(Dahlke & Wiernik, 2019).

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[19] Unfortunately, no objective indicator was available for the prevalence of Confucianism. Due to the binary nature of the ADP and the likely co-occurrence of Asian philosophies, we assume the countries are reflected correctly nonetheless.

[20] These countries and clusters were: Norway (Nordic Europe), Pakistan (South Asia; Crede et al., 2019), Peru (Latin America), Saudi Arabia (Middle East; Crede et al., 2019), Vietnam (Confucian Asia; Crede et al., 2019). For Germany, we averaged the scores of East and West Germany.

Main Effects.

For the main analyses, random-effects models (Schmidt & Hunter, 2015) were used to generate average weighted correlations (ρ) corrected for reliability in both the leader variable and follower outcome via artifact distributions. If studies only reported correlations between facets of PLB and follower outcomes (e.g., separate correlations for opening and closing, e.g., Hu et al., 2020) or more than one relevant correlation for the same effect estimate, we computed composite scores (Schmidt & Hunter, 2015). Likewise, if studies only reported reliability estimates for facets of PLB, we calculated respective composite reliabilities (Schmidt & Hunter, 2015).[21] In general, the reliability of single-item measures was set to .70 (Wanous & Hudy, 2001) and the reliability of objective indicators was set to 1.00 (Riketta, 2005, p. 365). In the case of missing reliability information, values were obtained from inventory manuals, meta-analyses or primary studies applying that particular instrument.

For each meta-analytic relationship, we report the total number of independent effect sizes (k), the total sample size across studies (N), the sample-weighted correlation (r), the corrected correlation (ρ), and their standard deviations (SD_r, SD_ρ). High variability in effect sizes after accounting for sampling error and measurement error (i.e., high SD_ρ) can indicate the presence of moderators (Harms et al., 2017, p. 182).

In addition, 95% confidence intervals for ρ were used to determine statistical significance (i.e., confidence intervals excluding zero). To assess the heterogeneity in the population, we report 80% credibility intervals. The 80% credibility intervals indicate the range of values of ρ in which 80% of all studies are likely to lie and thus give population estimates of heterogeneity, unlike metrics such as I^2 or Q (Borenstein et al., 2021).

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[21] If the facets of PLB reflected individual paradoxical elements (e.g., opening as a facet, closing as a facet), we calculated Mosier composite reliabilities as presented in Schmidt and Hunter (2015). If the facets each reflected two paradoxical elements, we used the Spearman-Brown formula presented in Schmidt and Hunter (2015). In the few cases in which composite reliabilities could not be calculated, we resorted to averaging the sub-dimensions' reliabilities as a conservative estimate. If more than one effect size fell into the same analysis, effect sizes were automatically collapsed into composites by the R package psychmeta.

Moderator Effects.

All analyses on moderators were based on meta-analyses with individual correction for sampling error and measurement error (Schmidt & Hunter, 2015). We conducted meta-regressions in order to test the moderations by continuous moderators (e.g., uncertainty avoidance) and moderators with two categories (e.g., ADP). For moderators with more than two categories (e.g., rating scale format), significance and confidence intervals were calculated via an analysis of variance (ANOVA) and Wald-type pairwise comparisons for each level of the categorical moderators (Dahlke et al., 2022). Meta-analytical effect sizes of subgroups are reported for significant moderations (further information is available on request).

3.4. Results

First, we report information on publication bias and heterogeneity. Second, we report results on the direct relationships between PLB and followers' performance and well-being. In addition, these relationships were subject to more granular exploratory analyses of the follower outcomes (e.g., task performance was split into the facets in-role performance and proficient behavior, see Appendix). As our outcome categories were broad, we wanted to be transparent about the prevalence of specific facets in our data and provide meta-analytic information for readers interested in a specific facet. Third, we conducted methodological moderation analyses, as the main effects could potentially be influenced by study characteristics, such as measurement or sample characteristics. Fourth, we report cultural moderations of the direct relationships in the form of a) East-West differences in terms of dialectical thinking and an exploratory comparison of the two most prevalent countries in our data, Germany and China, as well as through b) uncertainty avoidance.

### 3.4.1. *Publication Bias and Systematic Heterogeneity*

In order to visually detect publication bias or systematic heterogeneity, funnel plots were created for the corrected correlations between PLB and performance and well-being, respectively (see Figure 6, transparent plots on the respective right side). In the absence of both publication bias and heterogeneity, points should show a symmetrical pattern and 90% (dotted line) and 95% (solid line) of the points should lie within the respective confidence interval around the estimated effect. In our funnel plots, far less points lay within the defined regions. Instead, both funnel plots – but especially the plot for well-being – showed horizontal scattering. Horizontal scattering in combination with a high estimated variance of true effects (see $SD\rho$ in Table 11) indicates heterogeneity among studies that might stem from moderators (Sterne et al., 2011).

While the funnel plot for correlations with performance was fairly symmetrical, the funnel plot for correlations with well-being appeared asymmetric, with more effect sizes on the right side. To distinguish publication bias from other causes of asymmetry, we created contour-enhanced funnel plots (see Figure 6, contour-enhanced regions on the respective left sides) representing the conventional significance levels of null-hypothesis tests being centered around a true effect of zero (lines: 90%, 95%, 99%, respectively; correlations corrected individually; Peters et al., 2008). The contour-enhanced funnel plots did not hint at significance-related publication bias among our sampled studies, as the points were not clustered around conventional significance levels. To account for publication bias in the magnitude of effect sizes, we checked for moderator effects of peer review status. For performance as outcome, there was a significant moderation by peer review status ($b = 0.11$, $SE = 0.05$, $p = .030$, k = 70, 95% CI [0.01, 0.21]). Peer-reviewed articles featured higher correlations ($\rho = .31$, $k = 49$, $N = 15,351$, 95% CI [0.25, 0.36]) than not peer-reviewed articles ($\rho = .19$, $k = 21$, $N = 4,121$, 95% CI [0.13, 0.26]). For well-being as outcome, there was no significant moderation ($b = -0.09$, $SE = 0.07$, $p = .210$, k = 48, 95% CI [-0.23, 0.05]) in terms

of peer-reviewed (ρ = .30, k = 30, N = 12,202, 95% CI [0.21, 0.39]) and not peer-reviewed articles (ρ = .35, k = 18, N = 3,718, 95% CI [0.30, 0.41]). While publication bias in terms of effect size accounted for some heterogeneity in the performance analyses, this result was not found for the well-being analyses, which showed greater heterogeneity. Instead, the asymmetry in the funnel plot for well-being was likely due to either true heterogeneity or other confounding factors such as studies with smaller N using weaker study designs.

Figure 6

Funnel plots for performance overall (left) and well-being overall (right)
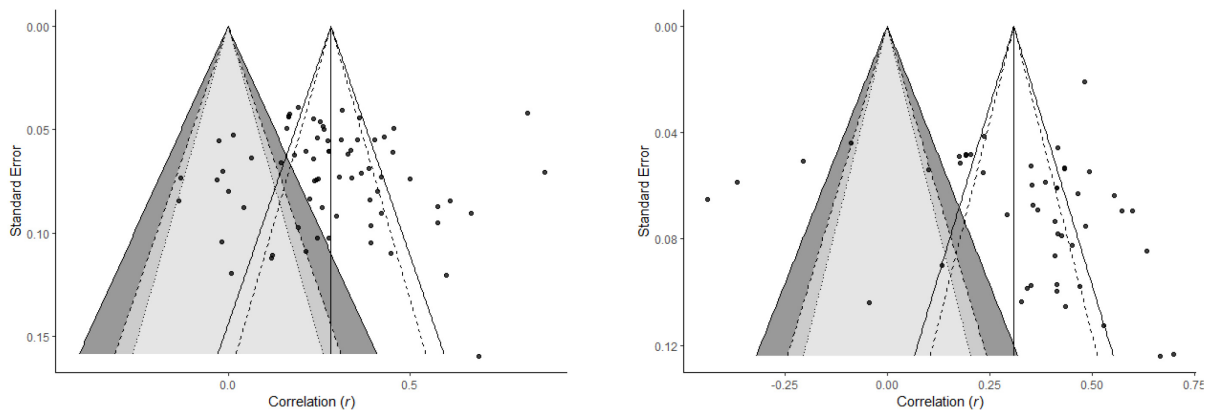
Note. In each plot, the transparent funnel on the respective right side reflects a 90% (dotted line) and 95% (solid line) confidence interval around the estimated true effect between paradoxical leader behavior and the respective follower outcome. The contour-enhanced funnel on the respective left side reflects conventional significance levels of null hypothesis tests (lines: 90%, 95%, 99%, respectively), being centered around a true effect of zero. Correlations corrected individually.

3.4.2. Direct Relationships

The direct relationships between PLB and follower outcomes are displayed in Table 11. As postulated in our hypotheses, PLB was significantly (i.e., confidence intervals did not include zero) and positively related to followers' task performance (ρ = .26, H1a), OCB (ρ = .27, H1b), innovative and creative performance (ρ = .27, H1c), hedonic well-being (ρ = .41, H2a) and eudaimonic well-being (ρ = .36, H2b). Although the correlation between

PLB and negative well-being was negative, as expected (ρ = -.13), the confidence interval included zero, indicating that the relationship was not significant (95% CI = [−.25, .00], H2d rejected). What stood out was the high heterogeneity in our findings on negative well-being ($SD\rho$ = .26; 80% CR [-0.48, 0.22]), likely caused by moderating influences on this effect such as followers' cultural background.

Table 11

Results of meta-analyses: Direct relationships

Outcome	k	N	$\bar{r}$	SD_r	SD_{res}	$\bar{\rho}$	SD_{r_c}	SD_ρ	95% CI	80% CR
Performance	70	19 472	.25	.17	.15	.29	.19	.18	[.24, .34]	[.06, .52]
Task performance	32	10 240	.22	.15	.14	.25	.18	.16	[.19, .32]	[.04, .47]
OCB	25	8 675	.23	.13	.12	.27	.15	.13	[.21, .33]	[.09, .44]
Creative & innovative	53	13 273	.24	.16	.15	.27	.19	.18	[.22, .33]	[.04, .50]
Well-being	48	15 920	.27	.20	.19	.31	.23	.22	[.24, .37]	[.02, .60]
Hedonic	21	4 264	.36	.14	.13	.41	.16	.15	[.33, .48]	[.21, .60]
Eudaimonic	24	9 444	.31	.11	.10	.36	.13	.11	[.31, .41]	[.21, .51]
Negative[a]	20	5 406	−.11	.24	.23	−.13	.27	.26	[−.25, .00]	[−.48, .22]

Note. [a]For negative well-being, correlations were reversed to allow for aggregation with hedonic and eudaimonic well-being. The results for negative well-being were back-reversed before reporting to depict the original direction of effects. k = number of studies contributing to the meta-analysis; N = total sample size; $\bar{r}$ = mean observed correlation; SD_r = observed standard deviation of r; SD_{res} = residual standard deviation of r; $\bar{\rho}$ = mean true-score correlation; SD_{r_c} = observed standard deviation of corrected correlations (r_c); SD_ρ = residual standard deviation of ρ; CI = confidence interval around $\bar{\rho}$; CR = credibility interval around $\bar{\rho}$. Correlations corrected using artifact distributions.

3.4.3. Methodological Moderations

Direct relationships might be influenced by methodological characteristics of the original studies. We report exploratory analyses on the measurement of PLB, its methodological conceptualization (calculation, rating scale), study setting (experiment vs. field, who reported performance outcomes, clustering in the data), and sample characteristics (share of women, average age, average tenure of followers). For analyses on methodological moderators, we differentiated only followers' overall performance and overall well-being to increase statistical power and reduce alpha error cumulation. Only for the analyses on measurement of PLB did we also consider the categories of follower performance and follower well-being, as some measures were designed to predict specific outcomes (e.g., ambidextrous leadership predicting innovative behavior; Rosing et al., 2011) and, therefore, differential effects were likely. Given the limited total number of studies for each methodological moderator analysis, some analyses could not be conducted (i.e., source of ratings for PLB or followers' well-being, field studies versus experiments for well-being as outcome) and some findings should be interpreted with caution.

First, we compared the *two most prevalent measurements* (PLB in people management: Y. Zhang et al., 2015; ambidextrous leadership: Rosing et al., 2011). We found a significant moderation by measure ($b = 0.17$, $SE = 0.05$, $p = .001$, k = 38, 95% CI [0.07, 0.28]), with ambidextrous leadership more strongly correlated with creative and innovative performance ($\rho = .41$, $k = 16$, $N = 3{,}131$, 95% CI [0.35, 0.47]) than PLB in people management ($\rho = .28$, $k = 22$, $N = 6{,}756$, 95% CI [0.20, 0.36]). This finding was not surprising, as the measure by Rosing and colleagues focuses on paradoxes of innovation, while the measure by Y. Zhang and colleagues focuses on general paradoxes of people management. For other outcomes, no differences were found (task performance: $b = 0.09$, $SE = 0.08$, $p = .239$, k = 23, 95% CI [-0.06, 0.24]; OCB: $b = -0.03$, $SE = 0.11$, $p = .798$, k = 22, 95% CI [-0.25, 0.19]; hedonic well-being: $b = -0.03$, $SE = 0.10$, $p = .759$, k = 15,

95% CI [-0.23, 0.17]; eudaimonic well-being: b = -0.03, SE = 0.07, p = .687, k = 21, 95% CI [-0.16, 0.10]; negative well-being: b = 0.39, SE = 0.27, p = .150, k = 18, 95% CI [-0.92, 0.14]).

Focusing on the *methodological conceptualization*,[22] we found the type of calculation of PLB (e.g., summative scores, multiplicative scores, composite scores calculated for this meta-analysis) to moderate the relationship between PLB and well-being ($F(4, 6.77)$ = 6.77, p = .031). Correlations using multiplicative scores (ρ = .48, k = 2, N = 3,142, 95% CI [0.44, 0.51]) were higher than those using averages of double-barreled items (ρ = .27, k = 28, N = 8,115, 95% CI [0.18, 0.37]), and those using summative scores (ρ = .26, k = 6, N = 2,491, 95% CI [0.18, 0.34]). For performance, no difference was found ($F(4, 6.48)$ = 2.73, p = .247). The type of rating scale (e.g., frequency scales, too little/too much scales) can influence the correlations between PLB and follower outcomes (Kaiser & Kaplan, 2006), but we found no such differences (performance: $F(2, 5.43)$ = 0.96, p = .877; well-being: $F(2, 7.18)$ = 1.72, p = .491).

Focusing on *study design*, we found a significant difference between experiments and field studies (b = 0.33, SE = 0.07, p < .001, k = 70, 95% CI [0.19, 0.47]), with field studies showing a positive correlation between PLB and followers' performance (ρ = .31, k = 63, N = 18,048, 95% CI [0.27, 0.35]), but experiments not showing such correlation (ρ = -.01, k = 7, N = 1,424, 95% CI [-0.05, 0.03]). For performance as outcome, we found no differences between self-reported and leader-reported performance outcomes (b = -0.02, SE = 0.05, p = .609, k = 63, 95% CI [-0.12, 0.07]). We also analyzed reported clustering in the data (e.g., data from several individuals working in the same team), which can be appropriately taken into account in multilevel analysis, but can distort correlations. We found a significant moderation for well-being as outcome (b = -0.19, SE = 0.08, p = .018, k = 48, 95% CI [-0.35,

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[22] These analyses on types of calculation, rating scale, and raters of followers' performance did not include effect sizes from studies which manipulated paradoxical leader behavior (see comparison of experiments and field studies).

-0.03]), with the correlations in studies reporting clustering (ρ = .17, k = 10, N = 4,269, 95% CI [0.02, 0.31]) lower than the correlations in studies that did not (ρ = .36, k = 38, N = 11,651, 95% CI [0.29, 0.43]). Therefore, unaccounted-for clustering may have influenced our analyses on well-being, with the true effect sizes likely being higher. For performance as outcome, we found no effect of reported clustering (b = -0.04, SE = 0.06, p = .480, k = 70, 95% CI [-0.15, 0.07]).

Analyzing sample characteristics, we found no significant moderation by average age (performance: b = 0.00, SE = 0.00, p = .614, k = 46, 95% CI [-0.01, 0.01]; well-being: b = 0.00, SE = 0.00, p = .648, k = 35, 95% CI [-0.01, 0.01]) or tenure (performance: b = -0.00, SE = 0.01, p = .775, k = 26, 95% CI [-0.02, 0.01]; well-being: b = 0.01, SE = 0.01, p = .388, k = 27, 95% CI [-0.01, 0.03]). Research showed that gender can affect the experience of paradoxes (e.g., agency and communion tension on women; Zheng et al., 2018). We found a significant moderation by the share of women in a sample for performance as outcome (b = -0.31, SE = 0.15, p = .042, k = 64, 95% CI [-0.60, -0.01]), with a higher share of women associated with a lower correlation between PLB and performance. For well-being as outcome, we found no moderation by the share of women (b = 0.28, SE = 0.21, p = .176, k = 43, 95% CI [-0.13, 0.69]).

3.4.4. Cultural Moderations

We predicted the relationships between PLB and follower outcomes to be moderated by dialectical thinking, reflecting high tolerance for contradiction in the East compared to the West, and by low uncertainty avoidance, reflecting low tolerance for ambiguous situations in societies. We did not specify the direction of these moderations as high dialectical thinking and low uncertainty avoidance are assumed to help individuals react to paradoxes if their leader shows PLB (i.e., behavior containing paradoxical elements), but also if their leader does not (i.e., unreconciled paradoxical demands by structure and followers remain salient). First, we report moderations by dialectical thinking, measured by the Dialectical Self-Scale

(DSS), the Asian Dialectical Philosophies index (ADP), and an exploratory comparison of the

most prevalent countries Germany (i.e., a Western country) and China (i.e., an Eastern

country). Second, we report moderations by uncertainty avoidance, measured by GLOBE UA

practices.

First, analyzing *dialectical thinking* (in terms of the Eastern approach towards

contradiction), we found the DSS to moderate the relationship between PLB and negative

well-being (H2d; $b = 0.78$, $SE = 0.36$, $p = .031$, k = 18, 95% CI [0.07, 1.48]): Higher values

on DSS were associated with a weaker negative relationship between PLB and negative well-

being. No moderation by DSS was found for task performance (H1a; $b = 0.13.$, $SE = 0.09$,

$p = .127$, k = 27, 95% CI [-0.04, 0.31]), OCB (H1b; $b = 0.17$, $SE = 0.10$, $p = .104$, k = 22,

95% CI [-0.03, 0.37]), creative and innovative performance (H1c; $b = -0.06$, $SE = 0.06$,

$p = .313$, k = 45, 95% CI [-0.18, 0.06]), hedonic well-being (H2a; $b = 0.17$, $SE = 0.16$,

$p = .286$, k = 18, 95% CI [-0.15, 0.50]), and eudaimonic well-being (H2b; $b = -0.02$,

$SE = 0.09$, $p = .861$, k = 20, 95% CI [-0.20, 0.16]).

Similarly, for the ADP, we found a marginally significant moderation on the

relationship between PLB and negative well-being (H2d; $b = 0.21$, $SE = 0.11$, $p = .065$,

k = 20, 95% CI [-0.01, 0.44]): Higher values on ADP were associated with a weaker negative

relationship between PLB and negative well-being. Giving the marginal significance of this

finding, we provide information per group (ADP low/high): While there was a negative

correlation between PLB and negative well-being such as stress in countries with low ADP

(i.e., the West; $\rho = -.22$, $k = 13$, $N = 2,639$, 95% CI [-0.36, -0.09]), there was no correlation in

countries with high ADP (i.e., the East; $\rho = -.03$, $k = 7$, $N = 2,767$, 95% CI [-0.20, 0.13]). No

moderation by ADP was found for task performance (H1a; $b = 0.02$, $SE = 0.06$, $p = .793$,

k = 31, 95% CI [-0.11, 0.14]), OCB (H1b; $b = 0.10$, $SE = 0.08$, $p = .205$, k = 25, 95% CI

[-0.05, 0.25]), creative and innovative performance (H1c; $b = -0.02$, $SE = 0.06$, $p = .694$,

k = 53, 95% CI [-0.14, 0.09]), hedonic well-being (H2a; $b = -0.00$, $SE = 0.09$, $p = .980$,

k = 18, 95% CI [-0.18, 0.17]), and eudaimonic well-being (H2b; $b = -0.02$, $SE = 0.06$, $p = .725$, k = 24, 95% CI [-0.13, 0.09]).

In addition, we exploratively compared the two countries most prevalent in our data: Germany, a Western country, and China, an Eastern country. For negative well-being, we found a significant moderation by country (i.e., Germany vs. China; $b = 0.29$, $SE = 0.10$, $p = .002$, k = 17, 95% CI [0.10, 0.48]): While there was a negative correlation between PLB and negative well-being such as stress in Germany ($\rho = -.33$, $k = 10$, $N = 1,728$, 95% CI [-0.41, -0.25]), there was no correlation in China ($\rho = -.03$, $k = 7$, $N = 2,767$, 95% CI [-0.20, 0.13]). For other outcomes, no moderation by country was found (task performance: $b = 0.02$, $SE = 0.06$, $p = .753$ k = 18, 95% CI [-0.09, 0.13]; OCB: $b = 0.09$, $SE = 0.09$, $p = .356$, k = 17, 95% CI [-0.10, 0.27]; creative and innovative performance: $b = 0.06$, $SE = 0.07$, $p = .386$, k = 28, 95% CI [-0.07, 0.19]; hedonic well-being: $b = -0.11$, $SE = 0.08$, $p = .192$, k = 12, 95% CI [-0.27, 0.05]; eudaimonic well-being: $b = 0.04$, $SE = 0.09$, $p = .626$, k = 13, 95% CI [-0.13, 0.22]). In summary, East-West differences were only found to moderate the relationship between PLB and negative well-being, with more negative correlations in the West compared to the East.

Second, *uncertainty avoidance* was found to moderate the relationships between PLB and both OCB and creative and innovative performance: The higher the uncertainty avoidance, the less positive the relationship between PLB and both OCB (H1b; $b = -0.17$, $SE = 0.08$, $p = .024$, k = 25, 95% CI [-0.32, -0.02]) and creative and innovative performance (H1c; $b = -0.17$, $SE = 0.06$, $p = .002$, k = 52, 95% CI [-0.28, -0.06]). In contrast, the higher uncertainty avoidance, the *more* positive the relationship between PLB and well-being, in terms of lower negative well-being (H2d; $b = -0.26$, $SE = 0.11$, $p = .022$, k = 20, 95% CI [-0.48, -0.04]). No significant moderation by uncertainty avoidance was found for task performance (H1a; $b = -0.12$, $SE = 0.08$, $p = .111$, k = 30, 95% CI [-0.27, 0.03]), hedonic well-being (H2a; $b = 0.13$, $SE = 0.08$, $p = .114$, k = 19, 95% CI [-0.03, 0.29]), or eudaimonic

well-being (H2b; *b* = -0.01, *SE* = 0.06, *p* = .872, k = 24, 95% CI [-0.12, 0.11]) as outcomes.

In summary, we found that culture moderated some of the effects: For performance outcomes, we found no moderation by East-West differences (dialectical thinking measured by DSS and ADP; Germany versus China). However, we found uncertainty avoidance to moderate the relationships between PLB and both OCB and creative and innovative performance. Our findings indicate that in cultures where people prefer clarity and predictability (i.e., high uncertainty avoidance), PLB might be less effective in inspiring extra efforts or innovation.

In terms of well-being, in Western cultures (i.e., low dialectical thinking, Germany) and uncertainty avoidant cultures, PLB was more negatively correlated to negative well-being than in their counterparts (i.e., high dialectical thinking, China, low uncertainty avoidance). In both Western and uncertainty avoidant cultures, it could be more important that leaders reduce salient paradoxes in followers' work environment by showing PLB, thereby also reducing followers' negative states. For hedonic and eudaimonic well-being, no moderation by culture was found.

3.5. Discussion

Our *main research question* guiding this meta-analysis was how PLB is related to followers' performance and well-being. We found in support of our hypotheses that PLB was positively related to followers' task performance, OCB, and creative and innovative performance, as well as with followers' hedonic and eudaimonic well-being. The relationships between PLB and follower outcomes showed medium effect sizes (Cohen, 1992) common to meta-analyses on leadership (e.g., destructive leadership, Schyns & Schilling, 2013; leadership in general, Bosco et al., 2015). Contrary to our hypothesis, no direct relationship between PLB and followers' negative well-being was found. For this relationship, we found a high variance in effect sizes, which indicates the presence of moderators. This finding is in line with theories that predict the relationship between PLB and negative well-being

specifically to be moderated by followers' characteristics or cultural background (see (h) in Table 10). In summary, in the vast majority of original studies and on the meta-analytical level, PLB was positively associated with followers' performance and well-being. This supports the notion that PLB is a beneficial reaction to the paradoxical demands which leaders inevitably face (W. K. Smith & Lewis, 2011; Y. Zhang et al., 2015).

In addition, we analyzed whether methodological moderators influenced the effect sizes found. When comparing the two most prevalent measures, ambidextrous leadership (Rosing et al., 2011) was more positively related to followers' creative and innovative performance than PLB in people management (Y. Zhang et al., 2015; no differences were found for other follower outcomes). Studies using averages of double-barreled items or summative scores of PLB both showed lower correlations between PLB and followers' well-being than studies using multiplicative scores (no difference was found for performance). In field studies, the relationship between PLB and followers' performance was more positive than in experiments (analysis not conducted for well-being). Aggregating only experiments, we found no significant correlation between PLB and followers' performance. For studies that reported clustering within the data (e.g., data from several individuals working in the same team, which can distort correlations), the relationship between PLB and followers' well-being was less positive than for studies not reporting clustering (no difference was found for performance). The higher the share of women among followers, the lower the correlation between PLB and followers' performance. Other analyses did not yield significant findings (rating scale formats, composite scores, follower- vs. leader-reported performance, followers' age and tenure) or could not be conducted due to a lack of available studies (i.e., source of ratings for PLB and well-being). In summary, the relationships between PLB and follower outcomes were subject to some methodological moderation by measurement, type of calculation, study setting, and share of women among followers.

The *second research question* guiding this meta-analysis was whether the

relationships between PLB and follower outcomes are moderated by followers' cultural background. We found that the higher the tolerance for contradictions (i.e., high dialectical thinking, low uncertainty avoidance) in a sample, the less negative the relationship between PLB and followers' negative well-being. This may indicate that in cultures with high tolerance for contradiction, PLB is less helpful for reducing followers' negative well-being (e.g., stress). We did not find evidence that this cultural moderation extends to positive forms of well-being (i.e., hedonic and eudaimonic well-being). In addition, we found that uncertainty avoidance reduces the positive relationship between PLB and both OCB and creative and innovative performance. This indicates that in cultures with low uncertainty avoidance, PLB is more effective in inspiring extra efforts or innovation from followers than in cultures with high uncertainty avoidance, where people prefer clarity and predictability. No moderations by culture were found in terms of task performance, hedonic and eudaimonic well-being. In summary, only some of the hypothesized cultural moderation effects were found, but our findings support theory-building on the nature of the cultural moderations, which we could not specify prior to the analyses.

3.5.1. *Theoretical Implications*

In the following, we discuss how our findings on the direct relationships between PLB and follower outcomes clarify some heterogeneity in existing theory. Afterwards, we discuss how our findings on methodological moderations as well as cultural moderations support theory-building and necessitate future research. Further recommendations for future research can be found in our discussion of the limitations of this meta-analysis.

Main Findings in Relation to Existing Theory.

Theories on PLB predominantly point towards beneficial effects on followers, but some also suggest downsides (see Table 10). Most theories share the notion that PLB is beneficial for followers' performance (e.g., paradoxical leader behavior theory; Shi, 2018). This is congruent with our findings: We found consistently positive relationships between

PLB and followers' task performance, OCB, creative and innovative. Notably, theories diverge in predicting well-being outcomes. Some theories predict that PLB increases followers' well-being (e.g., self-determination theory; Yang et al., 2021), while other theories predict that it decreases followers' well-being (e.g., theory of cognitive dissonance; Shao et al., 2019). Our meta-analysis clarifies some of this heterogeneity by differentiating positive (i.e., hedonic and eudaimonic) and negative well-being. Our findings revealed positive relationships between PLB and followers' hedonic and eudaimonic well-being, with no significant relationship found for negative well-being (especially for negative affect and stress, see Appendix for more granular analyses of outcomes).

Interestingly, theories predicting negative influences on followers' well-being mostly include moderating mechanisms such as complex thinking, prevention focus, holistic thinking or cultural background (see (h) in Table 10). Specifically, in the theories, the moderators impact whether PLB *increases* followers' negative well-being (e.g., PLB increasing stress for followers low in complex thinking; Shao et al., 2019). Congruently, for negative well-being, we found a notable variance in effect sizes, which suggests the presence of moderators. The broad credibility interval of negative well-being indicates that PLB might increase followers' negative well-being in some samples. In our findings, the cultural moderations did not influence whether PLB was associated with increased negative well-being. Rather, they influenced whether PLB was associated with *lower* negative well-being (e.g., lower stress; e.g., in the West) or not associated with negative well-being at all (e.g., in the East). We found no meta-analytic correlations indicating detrimental effects of PLB on followers. On the study level, while some authors reported negative relationships between paradoxical leadership and performance or well-being, the majority did not (see Figure 6 for an overview of corrected correlations). Overall, while we found moderators of the effects, theories predicting benefits for followers better align with the overall data than those predicting downsides.

Paradox Theory and Measurements of Paradoxical Leader Behavior.

In the following, we discuss how our findings on methodological moderators may assist theory development. First, when comparing the most prevalent measures, ambidextrous leadership (Rosing et al., 2011) was more positively related to creative and innovative performance than PLB in people management (Y. Zhang et al., 2015). This is not unexpected, given that Rosing's ambidextrous leadership scale was designed for the innovation context, while Y. Zhang's PLB in people management scale was based on five different paradoxes in general people management. Overall, our finding indicates some context specificity (or: paradox specificity) of the different measures.

Second, we analyzed differences in how the PLB scores were calculated. A theoretically sound approach is to calculate multiplicative scores of the paradoxical elements, as this allows for an interplay between them (e.g., ambidextrous leadership as the multiplication of opening and closing; see also a review by Rosing & Zacher, 2023). This is congruent with our finding that PLB based on multiplicative scores showed higher correlations with followers' well-being than PLB based on summative scores or averages of double-barreled items (note that in the specific case of double-barreled items, multiplicative scores are not applicable; Y. Zhang et al., 2015). However, this finding is based on only a few studies with multiplicative scores. If not reported by the original authors, the studies did not allow for calculation of multiplicative scores. We encourage future research to utilize multiplicative scores and Response Surface Analyses (e.g., M. J. Zhang et al., 2022) in order to understand the interplay of the elements of PLB and their relationship with follower outcomes in depth.

Third, while not part of our statistical analyses, we noticed a large range of correlations between the paradoxical elements of PLB (Kaiser & Kaplan, 2006: forceful and enabling: $r = -.41$; Ruhnke & Mulder, 2016: opening and closing: $r = .77$). These correlations were theorized to reflect the competing, yet interrelated nature of the elements of PLB.

Correlations might vary due to measuring different paradoxes with distinct interplays or using different rating scale formats, where negative correlations can appear in too little/too much formats, and positive correlations in frequency and evaluation scales (Kaiser & Kaplan, 2006). However, even within the same paradox and rating scale, correlations varied markedly (e.g., Oluwafemi et al., 2020: $r = .10$; Ruhnke & Mulder, 2016: $r = 0.77$; both using the measurement by Rosing et al., 2011). Whether PLB elements show more positive (interrelated elements) or negative correlations (contradicting elements) may depend on leader or follower characteristics (e.g., paradoxical mindset, Miron-Spektor et al., 2018; management level, Biermeier-Hanson, 2014) or contextual factors (e.g., resource scarcity; Schad et al., 2016; W. K. Smith & Lewis, 2011). In our data, many studies employed double-barreled items, limiting the exploration of these correlations. The correlations between paradoxical elements are usually not a focus of primary studies. We call for future research to systematically explain the variance in correlations. For example, under time pressure (W. K. Smith & Lewis, 2011: 390), leaders might struggle to integrate paradoxical behaviors, thereby lowering the correlation between these paradoxical behaviors. The competing, yet interrelated nature of paradoxical leader behaviors should not be an overlooked premise, but clarified with quantitative evidence on their correlations.

Cultural Moderations.

Existing theory did not offer adequate insights to specify directions in our cultural moderation hypotheses and, to our knowledge, there were no studies on the culture-specific effectiveness of PLB (for culture-specific mediations, see Shi, 2018; Shi & Shaw, 2019). Based on paradox research in general, we determined that cultures with high dialectical thinking and low uncertainty avoidance should deal constructively with paradoxes. In the case of PLB, there are paradoxical elements in leaders' behavior when PLB is high (Y. Zhang et al., 2015), while unreconciled paradoxical demands in followers' work environment should exist when PLB is low (Sparr, 2018). Our findings suggest that followers from cultures adept

in dealing with paradoxes (i.e., high dialectical thinking, low uncertainty avoidance) can cope better with low PLB (i.e., unreconciled paradoxical demands prevail) with less negative impact on their well-being. For example, this could mean that it is less stressful for Chinese followers than for German followers to witness only one-sided behavior (e.g., individual treatment), with demands for the other behavior unfulfilled (e.g., uniform treatment; Y. Zhang et al., 2015). Therefore, PLB would be less stress-reducing for Chinese followers than for German followers.

Uncertainty avoidance also influenced how PLB was related to OCB and creative and innovative performance. Our findings on uncertainty avoidance appeared contradictory at first: Higher uncertainty avoidance was associated with a more negative relationship between PLB and negative well-being (e.g., more stress-reducing), but with a less positive relationship between PLB and both OCB and creative and innovative performance (e.g., less proactive or creative behavior). This finding can be explained in the context of prior paradox research: Paradoxes can lead to a sense of conflict (a form of negative well-being) and thus increase creativity (a form of creative and innovative performance; Miron-Spektor et al., 2011). This specific mechanism was found to be moderated by culture: When confronted with paradoxes, individuals from Eastern cultures sensed less conflict and consequently were less creative than individuals from Western cultures (Leung et al., 2018). Likewise, for followers from cultures with low uncertainty avoidance, unreconciled paradoxical demands in their work environment (i.e., low PLB) were less associated with a sense of conflict and other negative states (i.e., negative well-being), but also less associated with creative and innovative behavior and OCB.

In general, our findings, albeit complex, are congruent with cross-cultural findings on paradoxes in general. We encourage future research to build on our meta-analytical exploration and further analyze cultural influences on the relationship between PLB and follower outcomes.

3.5.2. Limitations and Future Research

In the following, we discuss the limitations of our meta-analyses and how future research could improve upon these limitations.

Available Studies and Power.

Certain analyses faced limitations due to low numbers of studies. Similar to many meta-analyses, our statistical power was low when analyzing study-level moderators, particularly in cases with high heterogeneity (Hempel et al., 2013). In instances our findings were based on relatively few studies, we encourage readers to interpret them with caution and consider confidence and credibility intervals. Due to low numbers of studies, some analyses were not executed. Notably, the hypothesis on physical well-being could not be tested, as no corresponding studies were identified. Discrepancies between reported and objectively measured well-being are common (Weber et al., 2022), and given the high heterogeneity in negative well-being outcomes, physically measuring stress levels could help to differentiate true heterogeneity from subjective biases such as common method bias or memory bias.

In addition to relatively few studies for some analyses, the cultural moderation analyses were influenced by the strong prevalence of German and Chinese studies, especially for negative well-being as an outcome. Other cultural differences between Germany and China than dialectical thinking, such as greater collectivism in China (Brodbeck et al., 2008), might also have influenced our moderation analyses. In countries with high collectivism, relationships at work are more important and misunderstandings are more influential. The seemingly competing nature of PLB has the potential for misunderstandings and could be more stressful for Chinese followers, thereby counterbalancing the stress-reducing qualities of PLB, which we observed for German followers. We encourage future cross-cultural research on PLB to analyze various cultural moderators simultaneously for differentiated insights.

Causality.

Like many meta-analyses, our findings are based on cross-sectional or time-lagged studies and therefore open to alternative explanations. For example, it is plausible that leaders switch to one-sided behavior (e.g., prioritizing work requirements over allowing flexibility; Y. Zhang et al., 2015) as a reaction to low team performance or in times of challenging deadlines, during which followers are generally stressed. This would also lead to a positive relationship between PLB and followers' performance (i.e., reverse causality), as observed in general, and between PLB and followers' negative well-being (i.e., spurious correlation), as observed in Western countries. While our meta-analysis comprised experiments, they did not provide sufficient causal evidence and overall showed no significant relationship between PLB and followers' performance. Future research should clarify this causal ambiguity, as otherwise theoretical and practical conclusions might be severely biased; for example, this could be done by utilizing cross-lagged panel designs or field experiments (for examples, see Eden, 2021).

Underlying Processes.

Despite its importance for both theorizing on PLB and practical interventions, we did not analyze underlying processes of how PLB can lead to follower outcomes (for meta-analytical information on how PLB is related to mediators, see A. Lee et al., 2023). In the theories predicting follower outcomes of PLB (see Table 10), the same mediator variable is part of several theoretical arguments, including psychological safety (e.g., causal attribution theory, regulatory focus theory), self-efficacy (e.g., self-efficacy theory, model of proactive motivation, self-determination theory), role clarity (e.g., role theory, social information processing theory), autonomy (e.g., self-determination theory, control theory), and perceived fairness (e.g., fairness heuristic theory, uncertainty management theory). Empirically, there is also evidence for mediators such as psychological safety (e.g., J. E. Kim, 2021), self-efficacy (e.g., Shao et al., 2019), role clarity (e.g., Hu et al., 2020), autonomy (e.g., Fürstenberg et al.,

2021), or perceived fairness (e.g., Ren & Yang, 2021). As the same mediator variables are used in studies with varying theoretical arguments, varying interpretations of the underlying processes remain: For example, it is unclear if PLB is associated with followers' self-efficacy because leaders consider the followers' capabilities when assigning tasks (Huertas-Valdivia et al., 2019), because leaders fulfill followers' needs (Y. Zhang & Liu, 2022) or both. Further research is needed to differentiate empirically which theories – despite their similarity – actually explain the underlying processes.

3.5.3.   *Practical Implications*

We provide strong evidence for practically relevant positive relationships between PLB and followers' performance and positive well-being (performance: ρ = [.26; .27]; hedonic well-being: ρ = .41; eudaimonic well-being: ρ = .36, see Table 11). Considering that we found no indication of overall negative influences on followers, we encourage leaders to engage in PLB in response to paradoxical demands. With respect to creative and innovative work, we specifically recommend ambidextrous leader behavior (i.e., fostering both exploration and exploitation; see Rosing et al., 2011). While we found no indication of overall negative influences on followers, we found the non-significant relationship between PLB and followers' negative well-being to be highly variable. This could be due to the complex and therefore potentially straining nature of PLB (for leaders: T. Keller & Weibler, 2015; for followers: Bashir, 2021). Leaders struggling to exhibit PLB could be supported by peer exchange groups, training or, if the struggle is substantial, individual coaching. To prevent strain on followers, leaders could regularly inquire about their followers' well-being and signal that they are open for upward feedback. This might be especially helpful for followers who are not tolerant of ambiguous situations or who are from cultures low in uncertainty avoidance or high in dialectical thinking.

We want to stress that PLB is not to be confused with inconsistent leader behavior. Inconsistent leader behavior – which is not a response to paradoxical demands – can have

severe downsides for followers, such as ambiguity, frustration, powerlessness or even low self-esteem (e.g., para*toxical* leadership: Julmi, 2021; double-bind leadership: Hennestad, 1990; inconsistent leadership: De Cremer, 2003). If leaders fear being perceived as inconsistent when engaging in PLB, we recommend some form of sensegiving: For example, they could explain why responding to specific paradoxical demands, such as demands for exploration and exploitation, is beneficial, and could act as role models and guides in the process (Rosing et al., 2011; Sparr, 2018). Concerns about preventing strain or perceived inconsistency should not be overstated: In the great majority of studies, PLB was associated with positive follower outcomes, supporting the notion that it is a beneficial and sustainable reaction to the paradoxical demands which leaders inevitable face (W. K. Smith & Lewis, 2011; Y. Zhang et al., 2015).

3.5.4. Conclusion

In organizations, leaders have to find a constructive approach to meet paradoxical demands such as PLB. Given the heterogeneity in theory and evidence on PLB, we wanted to shed light on follower outcomes of PLB. Aggregating conceptualizations which align with the definition of PLB, we found positive meta-analytic relationships between PLB and a wide range of follower outcomes: followers' task performance, OCB, creative and innovative behavior, hedonic well-being and eudaimonic well-being. The relationship with negative well-being was not significant overall. However, the lower the level of dialectical thinking and the higher the level of uncertainty avoidance were in followers' culture, the more was PLB negatively related to negative well-being such as stress. Importantly, on a meta-analytic level, we found no indication that PLB is detrimental for followers. Our findings support the proposition that PLB is a constructive response to the omnipresent paradoxical demands on leaders.

4. General Discussion

I presented three studies contributing to the question of how followers and leaders can react constructively to paradoxes, so that they promote positive follower outcomes and mitigate negative ones. The three studies investigated how followers' complex thinking and leaders' complex behavior (i.e., paradoxical leader behavior) influence follower outcomes in the context of paradoxes, and whether the magnitude of the effects is practically relevant. The following general discussion continuous the overarching reasoning, which I established in the general introduction (see Figure 1). First, I summarize the results of the studies (section 4.1). Then, I integrate them, while focusing on the central concepts of complex thinking and paradoxical leader behavior, in order to derive theoretical implications (section 4.2). Afterwards, I discuss limitations of this dissertation and how future research could expand upon them (section 4.3), as well as implications for praxis (section 4.4), before ending with some concluding thoughts (section 4.5).[23]

Figure 1 (reiteration)

Structure of this thesis
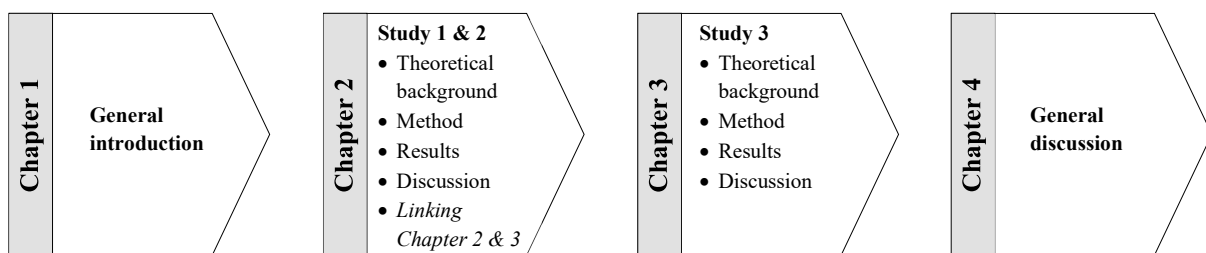
4.1. Summary of the Research

My dissertation starts with a quote stating that paradoxes have the potential for endless frustration, but also pointing out that one can move forward by engaging with the paradoxes emotionally and intellectually. My dissertation aims to clarify this process, focusing on

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[23] In the general discussion, I use the term "I" to refer to my dissertation and argumentation in the general introduction and discussion. When I refer to specific studies or findings, I use the term "we" to represent all authors of the respective manuscripts. The authors are named in the respective manuscripts (Chapter 2, Chapter 3).

individual experiences, thinking, and behavior. Outcomes of paradoxes in organizations reach from positive, such as performance and innovation, to negative, such as negative experiences and organizational decline (Schad et al., 2016). The central question of my dissertation is how leaders and followers can react constructively to paradoxes, so that they promote positive outcomes and mitigate negative outcomes of paradoxes. Building on paradox theory, I investigated followers' complex thinking, and leaders' complex behavior as constructive reactions to paradoxes (e.g., the Dynamic Equilibrium Model: W. K. Smith & Lewis, 2011).

Empirical paradox research mostly focused on groups and organizations (Schad et al., 2016). The few studies that investigated individuals' complex thinking in the context of paradoxes mainly focused on positive outcomes, such as creativity and performance (e.g., Miron-Spektor et al., 2011, 2018; Leung et al., 2018), despite the strong theoretical link between paradoxes and negative experiences (Miron-Spektor et al., 2018). To address these gaps, I proposed that followers' complex thinking mitigates negative outcomes for followers (Study 1, Study 2, Study 3) and promotes positive outcomes (Study 3), when they encounter paradoxes (in the form of paradoxical demands, Study 1, and paradoxical leader behavior, Study 2 and Study 3). Followers' complex thinking was captured directly in the form of integrative complex thinking (Study 1, Study 2), and indirectly through cultural influences, namely dialectical thinking and uncertainty avoidance (Study 3).

The empirical studies that investigated complex behavior in response to paradoxes often focused on paradoxical leader behavior. For paradoxical leader behavior, concepts, theory and findings are heterogeneous and scattered in leadership literature, calling for integration and aggregation. To address these gaps, I proposed that paradoxical leader behavior is a constructive reaction to paradoxical demands on leaders and, therefore, positively associated with positive follower outcomes (Study 3) and negatively associated with negative follower outcomes (Study 2, Study 3). Study 2 focused on followers' thinking and changing negative experiences when perceiving paradoxical leader behavior. Study 3 was

a meta-analysis that integrated concepts, theories and findings on how paradoxical leader behavior is related to follower outcomes.

Before integrating the findings across studies (section 4.2), I give a brief summary of the studies (see Table 1) and findings presented in Chapter 2 and 3.

Table 1 (reiteration)

Chapter overview

	Content	Paradox context	Followers' thinking	Follower outcomes	Insights
Chapter 1	General introduction				
Chapter 2	Study 1: Online experiment	Paradoxical task demands	Integrative complexity	Negative experiences - experienced tension - negative affect - stress	- Individual process - Changes in experienced tension
	Study 2: Field study	Paradoxical leader behavior	Integrative complexity	Negative experiences - experienced tension - negative affect - stress - role conflict	- Individual process - Changes in experienced tension
Chapter 3	Study 3: Meta-analysis	Paradoxical leader behavior	Cultural influences: - Dialectical thinking - Uncertainty avoidance	Performance - CIP - OCB - task performance Well-being - eudaimonic - hedonic - negative	- Aggregated evidence on individual processes - Moderations by methodology and sample characteristics
Chapter 4	General discussion				

Note. CIP = creative and innovative performance. OCB = organizational citizenship behavior.

4.1.1. Study 1

In an experimental study (Study 1), we examined whether paradoxical task demands can lead to negative experiences for those performing the task, depending on how they think about the demands. The paradoxical task demands asked participants to describe how organizations can create products which are both novel and useful (non-paradoxical control group: only demand to be novel). While the task was not administered in the field, it relates to an innovation paradox present in many organizations. Participants complex thinking, in terms of integrative complexity, was a) coded as degree of differentiation and integration in the

statements which the participants wrote during the tasks, and b) self-reported by the participants via a questionnaire. Participants' negative experiences were captured in the form of their experienced tension before and after the task, as well as in form of their retrospective negative affect and stress during the task.

When performing the paradoxical task, participants could reduce their experienced tension by thinking complexly during the task (i.e., integrative complex thinking; both coded and self-reported). Participants who were able to reduce their experienced tension, also reported lower stress and negative affect. We found first evidence of a tension-reducing effect of integrative complexity in the context of paradoxes. To examine whether individuals who think in an integrative complex way can reduce their experienced tension also in the context of other paradoxical cues in organizations, we focused on followers' reactions to paradoxical leader behavior in Study 2.

4.1.2. Study 2

In a field study (Study 2), we examined how paradoxical leader behavior is related to followers' negative experiences, depending on how followers think about their leaders' behavior. Paradoxical leader behavior was captured as perceived by the followers. Similarly to Study 1, the integrative complexity in followers' thinking was a) coded from written statements in which the followers reflected on their leader's behavior, and b) self-reported via a questionnaire. Participants' negative experiences were captured in the form of their experienced tension before and after they reflected on their leader's behavior, as well as in form of the negative affect, stress, and role conflict they reported to experience at work.

We found that paradoxical leader behavior was negatively associated with followers' experienced tension, negative affect, stress, and role conflict. Followers' integrative complex thinking moderated how paradoxical leader behavior was related to followers' negative

experiences: For followers with high integrative complexity (both coded and self-reported)[24], paradoxical leader behavior was more negatively associated with negative experiences, than for followers with low integrative complexity. For followers with low integrative complexity, paradoxical leader behavior was *not* associated with more negative experiences, supporting the notion that paradoxical leader behavior is a constructive reaction to paradoxes.

Looking at both Studies 1 and 2, we examined in two different paradoxical contexts (Study 1: paradoxical task demands, Study 2: paradoxical leader behavior) and two different types of settings (Study 1: experimental, Study 2: field) whether integrative complex thinking helps to reduce negative experiences. We found that integrative complex thinking reduced experienced tension both for those confronted with new paradoxical task demands (Study 1) and those reflecting on familiar paradoxical behavior of their leaders (Study 2). Both studies allowed insights into how individuals "think through" paradoxes and how their integrative complex thinking modulates their experienced tension in the process. While Study 2 was an original study on how paradoxical leader behavior is related to negative follower outcomes, Study 3 broadens the scope and contributes meta-analytical evidence on paradoxical leader behavior and its outcomes for followers.

4.1.3. Study 3

By conducting a meta-analysis, we examined how paradoxical leader behavior is related to various positive and negative follower outcomes. Based on the definition of paradoxical leader behavior, we aggregated data on various measures of seemingly competing, yet interrelated leader behaviors such as ambidextrous leadership and behavioral complexity of leaders. We coded a broad variety of individual-level follower outcomes into categories (i.e., performance, well-being), respective sub-categories (e.g., hedonic well-being) and facets (e.g., satisfaction) in order to present both highly aggregated evidence and

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[24] Self-reported integrative complexity moderated the relationships between paradoxical leader behavior and followers' experienced tension and role conflict. We found no moderation by self-reported integrative complexity on the relationship between paradoxical leader behavior and followers' stress.

differentiated insights. As culture is known to impact thinking on paradoxes (Leung et al., 2018), we investigated how cultural influences on individuals' complex thinking (i.e., dialectical thinking, uncertainty avoidance) moderate the relationships between paradoxical leader behavior and follower outcomes. Due to the aggregated data, we were able to consider methodological factors that influence the relationship between paradoxical leader behavior and follower outcomes (e.g., measures of paradoxical leader behavior).

We found that paradoxical leader behavior was positively related to followers' task performance, OCB, creative and innovative performance, hedonic well-being, and eudaimonic well-being. Contrary to our proposition and findings of Study 2, we did not find a negative relationship between paradoxical leader behavior and followers' negative well-being (on the overlap of negative experiences in Study 2 and negative well-being in Study 3, see Footnote 8 in section 1.3). Moderation analyses on cultural influences showed that the relationship between paradoxical leader behavior and negative well-being became more negative with lower dialectical thinking and with higher uncertainty avoidance. The relationship between paradoxical leader behavior and both OCB and creative and innovative performance become less positive, the higher uncertainty avoidance was. In addition, we found methodological moderations through factors like measurement, calculation of the score of paradoxical leader behavior, and study setting.

Study 3 complements our original studies, because it included a broad variety of paradoxical leader behavior measurements and follower outcomes, as well as study-level moderators such as study designs and sample characteristics (e.g., influences through national culture). Thereby, the meta-analysis allowed for insights that Study 2 as an original study could not provide. On the flipside, our original studies also complement the meta-analysis: Both original studies investigated changes in experienced tension facilitated by integrative complex thinking (expressed in the context of the paradox and self-reported). Thereby, the original studies provided insights into followers' psychological processes to which a meta-

analysis could not contribute at the present state of paradox research. In the next section, I integrate the three studies in respect to the general propositions in order to derive theoretical contributions.

4.2. Integration and Implications for Theory

I presented two original studies, which gave insights into how individuals' complex thinking and leaders' complex behavior (i.e., paradoxical leader behavior) influence negative follower outcomes of paradoxes, and a meta-analysis, which gave insights into how paradoxical leader behavior is related to positive and negative follower outcomes. In this section, I integrate the findings of these studies and discuss their theoretical implications along the two central concepts of a) complex thinking in reaction to paradoxes and b) paradoxical leader behavior.

4.2.1. Complex Thinking

I proposed that followers' complex thinking is a constructive reaction to paradoxes, and, therefore, promotes positive follower outcomes and mitigates negative ones, when followers are confronted with paradoxical elements (General proposition 1). In three studies, I showed that especially negative experiences in the context of paradoxes, such as experienced tension or stress, depend on whether the involved individuals think complexly. In Study 1, individuals with high integrative complexity in their thinking were able to reduce their experienced tension when confronted with paradoxical task demands. In Study 2, followers with high integrative complexity in their thinking were able to reduce their experienced tension when perceiving paradoxical leader behavior. Even though followers are familiar with their leaders' paradoxical behavior, integrative complex thinking during the reflection task still allowed followers to reduce their experienced tension. Our findings indicate that, in both paradoxical contexts (new paradoxical task demands, familiar paradoxical leader behavior), integrative complex thinking helped individuals to make sense of the respective paradoxical elements. Previous paradox research studied integrative complexity as antecedent for positive

outcomes like creativity (e.g., Miron-Spektor et al., 2011) or complex behavior (e.g., Y. Zhang et al., 2015). Our studies contribute by emphasizing the role of integrative complex thinking in modulating negative experiences in the context of paradoxes.

Our findings on how individual complex thinking mitigates negative outcomes of paradoxes are in congruence with the general proposition, but our findings on cultural influences are more complex. Like integrative complex thinking on individual level, the cultural influences on individuals' thinking moderated the relationship between paradoxical leader behavior and followers' negative well-being. Contrary to the general proposition, dialectical thinking on national level was associated with paradoxical leader behavior being *less* negatively related to followers' negative experiences. Contrary to the general proposition, the opposite was found for uncertainty avoidance on national level, which was associated with paradoxical leader behavior being *more* negatively related to followers' negative well-being. This is likely the case, because dialectical thinking and uncertainty avoidance are associated with a high and low tolerance for contradiction, respectively. This could make it less (due to high tolerance for contradiction; dialectical thinking) and more (due to low tolerance for contradiction; uncertainty avoidance) necessary that leaders fulfill paradoxical demands in the work environment by exhibiting paradoxical leader behavior. The meta-analytic findings, albeit complex, further indicate that the relationship between paradoxical leader behavior and followers' negative well-being depends on followers' thinking.

Our findings on integrative complex thinking are based on German samples which are influenced by low dialectical thinking and high uncertainty avoidance on national level. For individuals from a cultural background with high tolerance for contradiction (e.g., low uncertainty avoidance, high dialectical thinking), thinking in an integrative complex way might not reduce their negative experiences in the context of paradoxes: It was found that individuals from a culture with high dialectical thinking experience less conflict when confronted by paradoxes (Leung et al., 2018), which could render the tension-reducing effect

of integrative complex thinking less necessary and less effective. Future research is needed to clarify how individual and cultural characteristics interact in shaping individuals' thinking and negative experiences in the context of paradoxes.

In terms of positive follower outcomes, we found, in congruence with our proposition, that higher uncertainty avoidance on national level was associated with a less positive relationship between paradoxical leader behavior and both OCB and creative and innovative performance (Study 3). For task performance, hedonic well-being, and eudaimonic well-being, no moderations by followers' cultural background were found. In terms of positive follower outcomes, future research is needed to clarify the mechanisms of how and when cultural influences on individual thinking interact with paradoxical leader behavior.

Boundary Conditions for When Integrative Complex Thinking is Constructive

The findings point to two boundary conditions for when integrative complexity is constructive for individuals experiencing tension. One boundary condition could be that integrative complex thinking is only a constructive reaction for those who have discretion and agency to address paradoxical demands. When followers perceived *low* paradoxical leader behavior, their integrative complex thinking increased their negative experiences in some cases (see Study 2: Table 8). Low paradoxical leader behavior reflects unfulfilled paradoxical demands on leader-level, and followers have low discretion and agency to fulfill these paradoxical demands. While integrative complex thinking could help followers to understand the unmet paradoxical demands (i.e., low paradoxical leader behavior), this understanding might only further highlight the shortcomings of the leaders. In congruence, it has been theorized that, when individuals face tensions beyond their discretion or agency, it might be better to not reflect upon them in depth, but instead opt to avoid them (on ambivalence in the case of low agency: Ashforth et al., 2014).

The other boundary condition could be that integrative complex thinking is only constructive for those who face paradoxical (or at least, complex) demands. When individuals

faced non-paradoxical, one-sided demands, low levels of integrative complexity were associated with less negative experiences compared to higher levels (see Study 1: Table 4). It has been theorized that "a highly integrated response to a very simple environmental demand may result in failure (or, at least, in interpersonal problems […]): The optimal response may well be a unidimensional (right-wrong) choice" (Satish, 1997, p. 2056). It was found that, under simple or unstable market conditions, CEOs' complex thinking was negatively associated with organizational performance (Malhotra & Harrison, 2022). This was likely the case because the fast decisions which result from simple thinking were more adaptive in these conditions. I conclude that an individual's (integrative) complex thinking is constructive when: a) tensions arise from paradoxical demands rather than one-sided demands, and b) the individual has discretion and agency to address these demands. Future research should expand on these boundary conditions.

The Process of Reacting Constructively to Tension

Our findings not only shed light on how individuals' thinking influences the outcomes of paradoxes, but also on the process of how individuals think constructively through their experienced tension. To illustrate how my dissertation contributes to existing process perspectives, I integrate my findings with the Dynamic Equilibrium Model (W. K. Smith & Lewis, 2011), an influential model in paradox theory. The Dynamic Equilibrium Model theorizes on constructive management strategies for paradoxes: When paradoxes become salient, embracing them and reacting by iterated differentiation and integration should lead to sustainable, increasingly positive outcomes. My dissertation substantiates and enriches the Dynamic Equilibrium Model by viewing it from an individual-level perspective (Figure 7; see (a)) and contextualizing it to how followers (see (b)) and leaders (see (c); on leadership, see (d)) react constructively to paradoxes.

Figure 7

Findings in relation to the Dynamic Equilibrium Model (W. K. Smith & Lewis, 2011)

| Paradoxical demands | Constructive Reaction | Outcomes |

(a) Theoretical background: Dynamic Equilibrium Model (W. K. Smith & Lewis, 2011, adopted)

- **Latent tensions[a]** Contradictory yet interrelated elements embedded in organizing processes that persist […]
- **Salient tensions** Contradictory yet interrelated elements experienced by organizational actors
- **Individual factors** cognitive and behavioral complexity, emotional equanimity
- **Acceptance** Embracing paradoxical tensions via strategy of "working through"
- **Paradoxical resolution** Confronting paradoxical tensions via iterating responses of splitting and integration
- **Sustainability** Short-term peak performance that fuels long-term success

(b) Implications of findings: Followers experiencing paradoxical demands

- **Paradoxical demands on followers** E.g., development of pragmatic vs. useful product
- **Followers experiencing tension**
- **Followers' integrative complexity**
- **Followers experiencing less tension**
- **Followers' constructive reaction** (e.g., Pool & Van de Ven, 1989)
- **Less negative experiences** Negative affect[b] Stress[b]

(c) Implications of findings: Leaders experiencing paradoxical demands

- **Paradoxical demands on leaders** E.g., work requirements vs. follower flexibility (Y. Zhang et al., 2015)
- **Leaders experiencing tension**
- **Leaders' integrative complexity** (e.g., Y. Zhang et al., 2015)
- **Leaders experiencing less tension**
- **Paradoxical leader behavior** E.g., Enforcing work requirements, while allowing flexibility
- **Positive follower outcomes** Well-being **(including lower negative well-being)** Performance

(d) Implications of findings: Followers experiencing paradoxical leader behavior

- **Paradoxical leader behavior** in response to paradoxical demands on leaders E.g., enforcing work requirements, while allowing flexibility
- **Followers experiencing tension**
- **Followers' integrative complexity**
- **Followers experiencing less tension** (when both PLB and followers' IC are high)
- **Positive follower outcomes** Well-being **(including lower negative well-being)** Performance

Culturally influenced[c]

Note. For (b) to (d), boxes with solid lines reflect direct theoretical implications of this dissertation. Boxes with dotted lines draw on existing evidence to support further theory development. [a] In the Dynamic Equilibrium Model, the label "tension" refers to paradoxes ("contradictory yet interrelated elements"), not experiences of paradoxes (see the definition of "latent tensions"). [b] In the case of (b), negative affect and stress were investigated as short-term outcomes measured in a one-shot experiment. [c] We found cultural influences by dialectical thinking and uncertainty avoidance. Individual-level processes (Study 2) and cultural influences (Study 3) were subject to different studies. Therefore, our findings do not reflect how dialectical thinking and uncertainty avoidance exactly affect experienced tension, integrative complex thinking, and the paradoxical resolution.

First, my findings add further evidence to the proposition of the Dynamic Equilibrium Model that cognitive and behavioral complexity support individuals in reacting constructively to paradoxes (see (a): individual factors). For followers, cognitive complex thinking in form of integrative complex thinking (Satish, 1997) helped them to make sense of paradoxical elements, thereby reducing their experienced tension (Study 1; see (b) and (c)). For leaders, behavioral complexity in the form of paradoxical leader behavior helped them to achieve positive follower outcomes (Study 2; Study 3; see (c)) and to reduce their followers' experienced tension (Study 2; see (d)). The relationship between paradoxical leader behavior and followers' negative experiences was increased by followers' integrative complex thinking (Study 2; see (d)). This indicates that cognitive and behavioral complexity of different organizational actors can interact to achieve even more constructive reactions to paradoxes.

Second, I translate the "contradictory yet interrelated elements experienced by organizational actors" (Smith & Lewis, 2011, p. 389) into experienced tension of individual followers and leaders, as suggested by my findings. By shifting the focus from organizational actors noticing objectively existing (exogenous) paradoxes to the (endogenous) experiential

state associated with them, I want to emphasize the role of (emotional, motivational, and cognitive) psychological processes that help individuals to reduce their experienced tension and accept paradoxical elements.

Third, based on my findings, I want to sharpen our understanding of "emotional equanimity" in the paradoxical context (see (a): individual factors). W. K. Smith and Lewis (2011) describe emotional equanimity as "an emotional calm and evenness, [that] further fosters paradoxical responses by reducing anxiety and fear spurred by inconsistencies" (p. 392). Rather than pointing to complete emotional evenness as constructive reaction, our findings indicate that initial experiences of tensions are not negative *per se.* Rather than being tolerant to the *initial* experience of tension, individuals should embrace it as a functional cue alerting them to potentially salient paradoxes. Thus, initial experiences of tension should not be prevented or avoided, but rather worked through in order to achieve favorable outcomes like creativity (cf., Miron-Spektor et al., 2011). When paradoxes are managed constructively, the experienced tension should ebb and flow with the salience of the paradox. As also Smith and Lewis (2011) note, experienced tension should not escalate, as this could block constructive reactions to paradoxes. In a nutshell, by integrating the Dynamic Equilibrium Model with my findings on followers and leaders, I want to contribute to our understanding of individual thinking (i.e., integrative complex thinking), behavior (i.e., paradoxical leader behavior) and experiences (i.e., changes in experienced tension) and their interplay during the process of working through paradoxes.

Our findings suggest that initial experiences of tension are part of how individuals work through paradoxes. We did not explore under which circumstances experienced tension leads to integrative complex thinking versus defensive mechanisms such as avoidance. Theory and evidence are heterogeneous in how experienced tension affects complex thinking and hint at the existence of moderators: On the one hand, negative experiences were theorized to support integrative complex thinking (e.g., Cognitive Tuning Theory: Shen et al., 2019;

Schwarz & Clore, 2003). Research showed that negative and uncertain emotions lead to systematic information processing (Schwarz & Clore, 2003; Tiedens & Linten, 2001). Experiences of conflict stemming from paradoxes (Miron-Spektor et al., 2011) and cultural value conflicts (Tadmor et al., 2009) were found to be associated with higher levels of integrative complexity. On the other hand, negative experiences could hinder integrative complex thinking, for example, if they serve as cue that cognitive resources are depleted or that further depletion would be unreasonable (Cognitive Manager Model: Suedfeld, 2010). Empirically, integrative complexity was found to decline under emotion-laden stress and under times of criticism and failure (Satish, 1997). Similarly heterogenous are theory and evidence on how ambivalence, which is a specific state of experiencing tension characterized by conflicting attitudes, affects thinking: Ambivalence "elicits one-sided, narrow thinking and bias, but also cognitive breadth, consideration of multiple perspectives, and unlearning" (Rothman et al., 2017, p. 13).

Whether negative experiences, such as experienced tension, leads to integrative complex thinking could depend on the individuals' attribution of the experience, such as identifying the cause of tension (Guarana & Hernandez, 2015) or perceiving the problem as solvable (Suedfeld, 2010). Whether experiences of tension, which stem from paradoxes, foster integrative complex thinking, could also depend on how salient they are, or in other terms, how easy the paradoxical elements are to differentiate. When they are "fuzzy" and hard to differentiate, followers' response could be more likely to be avoidance. Future research should investigate how perception (i.e., salience of the paradox) interacts with the emotional experiences and resulting thinking processes.

4.2.2. Paradoxical leader behavior

I proposed that paradoxical leader behavior is a constructive reaction to paradoxical demands on leaders and, therefore, promotes positive follower outcomes and mitigates negative ones (General proposition 2). Paradoxical leader behavior is usually a form of temporal separation of paradoxical elements or simultaneous "reconciliation", both constructive reactions to paradoxes as theorized by Poole and van de Ven (1989). Next to this general framework of constructive reactions to paradoxes, a variety of theories has been used to specifically predict how paradoxical leader behavior affects followers. When conducting the meta-analysis (Study 3), we systematized these theories on how paradoxical leader behavior affects followers, based on the identified quantitative articles (see Table 10). The majority of theories were used to predict positive outcomes for followers (see (a) to (g) in Table 10). In accordance with the majority of the theoretical arguments, we proposed paradoxical leader behavior to be positively related to positive follower outcomes and found support for this notion (in terms of followers' task performance, OCB, creative and innovative performance, eudaimonic well-being, and hedonic well-being; Study 3).

In addition, we proposed paradoxical leader behavior to be negatively related to negative outcomes for followers, such as stress or role conflict. This was not without question, as some theories focused on the potential for perceived contradiction and inconsistency, and on moderations through followers' individual and cultural characteristics (see (h) in Table 10). Empirical studies showed heterogeneous results. Supporting our proposition that paradoxical leader behavior is a constructive reaction, we found paradoxical leader behavior to be negatively related to followers' negative experiences in our original study (i.e., lower experienced tension, role conflict, and stress; Study 2). Contrary to our proposition and findings of Study 2, we did not find a negative relationship between paradoxical leader behavior and followers' negative well-being in the meta-analysis (Study 3; on the overlap of negative follower experiences in Study 2 and negative well-being in Study 3, see Footnote 8

in section 1.3). The proposed negative relationship was only found for samples from countries with low dialectical thinking, with high uncertainty avoidance, and for German samples. In our German original study (Study 2), this negative relationship was even stronger for followers whose thinking was high in integrative complexity. Our findings indicate that the relationship between paradoxical leader behavior and negative follower outcomes depends on both followers' individual thinking and cultural background.

Theories focusing on the potential for perceived contradiction and inconsistency (see (h) in Table 10) predicted negative outcomes for followers who were not equipped to make sense of their leaders' paradoxical leader behavior. In contrast, we found no indication that paradoxical leader behavior could *contribute* to followers' negative well-being (Study 2, Study 3). Rather for followers whose thinking was not complex (i.e., low integrative complexity), the negative relationship between paradoxical leader behavior and negative experiences was lower or non-existent (Study 2; see Table 8). Similarly, apart from a high heterogeneity in effect sizes (see $SD\rho$ in Table 11), Study 3 gave no indication that paradoxical leader behavior contributed to followers' negative well-being in terms of meta-analytical effects in either direct relationships or moderations. In a nutshell, paradoxical leader behavior is a constructive reaction to paradoxical demands on leaders, and, specifically in terms of negative well-being, some followers benefit more from it than others. Our theoretical contribution on how paradoxical leader behavior affects followers mainly lies in systematizing existing theory, as well as providing evidence for a) a direct relationship to positive follower outcomes, and b) moderations by individual and cultural characteristics for negative follower outcomes.

To generate robust evidence on how paradoxical leader behavior is related to follower outcomes, Study 3 integrated different conceptualizations of paradoxical leader behavior (see Table 9). We adopted the label and definition of paradoxical leader behavior by Y. Zhang and colleagues (2015) and followed their theoretical notion that a general tendency or ability for

paradoxical leader behavior is reflected in different paradoxical behaviors. This is in line with measurements aggregating leader behavior over several paradoxes (e.g., Y. Zhang et al., 2015; Denison et al., 1995; Lawrence et al., 2009, Sparr et al., 2022). Authors report medium to high correlations between the measures (e.g., Sparr et al., 2022: r = .72 between their measurement and Y. Zhang et al.'s, 2015; Y. Zhang et al., 2015: r = .53 and r = .49 between their measurement and Lawrence et al.'s, 2009, and Denison et al.'s, 1995, respectively), which could indicate that the conceptualizations have different nuances.[25] Future research should aim to provide evidence supporting the idea that leaders exhibit a consistent level of paradoxical leader behavior across various paradoxes.

We found some confusion in nomenclature with different labels referring to similar concepts (behavioral complexity: Lawrence et al., 2009; paradoxical leader behavior: Y. Zhang et al., 2015) or same operationalizations (paradoxical leadership: e.g., S. Chen et al., 2021; paradoxical leader behavior: e.g., Y. Zhang et al., 2015). The same label referred to different concepts: For example, G.-L. Peng (2020) defined ambidextrous leadership broadly as "leadership style comprising two complementary leadership behaviors" (p. 1) and investigated it in terms of transactional and transformational leadership styles, while others investigated ambidextrous leadership in terms of other paradoxes (e.g., exploration and exploitation: Rosing et al., 2011; authoritarian and servant behavior: L. Wang et al., 2022). We found in Study 3 that differentiating different concepts and measures of paradoxical leader behavior has merit: Ambidextrous leadership (i.e., Rosing et al., 2011: opening and closing) showed a higher correlation to creative and innovative performance than paradoxical leader behavior (i.e., Y. Zhang et al., 2015, paradoxical leader behavior in people management). Such differential outcomes are likely between different conceptualizations of

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[25] The correlations between these measures are in line with the correlations among the five factors of the measurement by Y. Zhang and colleagues (2015; maximum value *r* = .49). In their article, Y. Zhang and colleagues provide strong evidence for the structure, reliability and validity of their measurement. Therefore, a medium correlation between different paradoxical behaviors is compatible with the notion of a general tendency or ability for exhibiting PLB.

ambidextrous leadership (e.g., opening and closing vs. authoritarian and servant behavior).
More clarity in nomenclature is needed to support effective theorizing in future research.

In the case of paradoxical leader behavior, measurement and theory are closely
intertwined. In Study 3, we found first evidence that measures using multiplicative scores
showed higher correlations to followers' well-being than measures using summative scores or
double-barreled items. Multiplicative scores are a theoretical sound depiction of paradoxical
leader behavior, as they allow for interplay between the paradoxical behaviors (for a
discussion on calculating ambidextrous leadership, see Rosing & Zacher, 2023). In addition,
we noticed a high variance in correlations between facets of the measurements (e.g., opening
and closing), which likely depicts the interplay between the paradoxical behaviors.
While "too little/too much"-scales were found to better reflect the interplay of paradoxical
elements than evaluation or frequency scales (Kaiser and Kaplan, 2006), we did not find
differences between rating scale formats in Study 3, potentially because "too little/too much"-
scales were rarely used. In essence, the measurement of paradoxical leader behavior involves
a variety of theoretical assumptions that future research must substantiate with evidence.

4.3. Limitations & Future research

The limitations of the individual studies have been discussed in their respective
chapters. Moving forward, I will expand on the limitations of the dissertation as a whole and
contextualize them within existing research to identify avenues for future research.

4.3.1. Causality and Longevity of Effects

Our findings on paradoxical leader behavior are correlational. Study 2 is a field study
aimed at measuring naturally occurring paradoxical leader behavior and the related internal
processes of followers. Study 3 is a meta-analysis which is primarily based on correlational
field studies. While the meta-analysis provides robust evidence for the correlations between
paradoxical leader behavior and follower outcomes, these correlations may be influenced by
reverse causality or spurious correlations embedded in the original studies. For example, a)

one-sided leader behavior in response to stressed followers, and b) paradoxical leader behavior reducing followers' stress, could lead to similar negative correlations between paradoxical leader behavior and followers' stress. In addition, we found that experiments on paradoxical leader behavior often failed to create causal evidence (see Chapter 3). Qualitative case studies and interviews indicate that paradoxical leader behavior has positive effects on followers (e.g., Yin, 2022; Kan & Parry, 2004; Andriopoulos, 2003), but these findings could still be subject to confounding factors.

While our findings on integrative complexity and its interplay with experienced tension allow for causal interferences (see Study 1), the findings are based on one-shot studies. Therefore, it involves extrapolation to draw conclusions on individuals working through paradoxes in their work environment over time. This is noteworthy considering that paradoxes persist over time (W. K. Smith & Lewis, 2011). We found that integrative complex thinking reduced experienced tension for followers who reflected on familiar paradoxical elements (i.e., leader behaviors they thought about before; see Study 2). This could indicate, that when confronted with paradoxical elements, repeated in-depth reflection might be useful. With repetition, the in-depth reflections might increase in effectiveness, as it was found that integrative complexity tends to be higher when there was prior thought on a topic (Coleman, 2018). Furthermore, it is unclear how long the tension-reducing effect of integrative complexity lasts and whether the insights gained through integrative complex thinking on a specific paradox can be transferred to other paradoxes.

Future research could address these questions on the causality and longevity of our findings in cross-lagged panels, and intervention studies in the field. Longitudinal studies on paradoxical leader behavior are rare (for an exception, see I.-J. Park et al., 2021), and, to our knowledge, there are no quantitative intervention studies (for qualitative action research, see Lüscher & Lewis, 2008). Future research could for example provide leaders with trainings on paradoxical leader behavior and integrative complexity, and, through repeated evaluation,

gain insights a) into the causality of effects on followers, b) into whether paradoxical leader behavior and integrative complex thinking on paradoxes are a learnable skill, c) into whether the skills can be transferred from one context to another, like implied in some theories (see (c) in Table 10), and d) into whether leaders' thinking on their paradoxical demands retains its integrative complexity over time.

4.3.2. Abstraction Level

The presented studies measure (integrative) complex thinking and paradoxical leader behavior through relatively abstract operationalizations that do not fully reflect the actual thoughts of individuals and actual behavior of leaders.

Study 1 and 2 focused on the structure of individuals' thinking, and not on its content, as intended within the concept of integrative complexity. We did not differ between participants' statements in terms of whether they actually described constructive ways of responding to paradoxes, such as temporal separation or "reconciliation" (Poole & Van de Ven, 1989). Highly integrative complex thinking could in some cases also have led to a well differentiated, integrated and systemically discussed choice to exhibit one-sided behavior; or in other words, to a potentially unconstructive response. While findings show that integrative complex answers were related to reductions of experienced tension, we cannot quantify to what degree this was the case because complexly thinking participants found actually constructive responses to the paradox.

Future research could utilize a mixed methods approach to provide evidence on the link between integrative complex thinking and the preferred ways of responding to paradoxes. Combining qualitative interviews on responses to paradoxes (e.g., coded based on grounded theory) with the coding of integrative complexity could provide valuable insights into whether different ways of responding to paradoxes (e.g., defensive approaches, acceptance, "reconciliation") are associated with different levels of integrative complexity.

The measurements of paradoxical leader behavior depicted leader "behavior" through

relatively broad descriptions, assessed through the followers. Study 2 utilized the measure by Y. Zhang and colleagues (2015), and Study 3 included original studies using a variety of measurements. These measures share that the relatively broad descriptions allow followers across different contexts to relate to them. The measures also share a considerable gap to observable leader behavior (Hansbrough et al., 2015; Fischer et al., 2020), thereby also hindering implications on how paradoxical leader behavior should be implemented by leaders. In addition, the utilized measures are based on varying theories on temporal dynamics (e.g., Y. Zhang et al., 2015: simultaneous emphasis; Rosing et al., 2011: temporal separation). However, the measures do not reflect these temporal dynamics, as theoretical underpinnings often lack specificity regarding corresponding timeframes and the situational factors to which the behavior should be aligned (Gerlach, 2019; for an exception, see Volk et al., 2022).

Future research on paradoxical leader behavior should specify how and when paradoxical leader behavior should be shown, specifying concrete behaviors, timeframes, and situational dependencies. For example, mixed methods studies including observation of leader behavior and interviews of followers could provide insights into the behavioral repertoire of paradoxical leaders and respective temporal dynamics. This is not only important for depicting paradoxical leader behavior in experimental research (for an extensive discussion in the context of ambidextrous leadership, see Klonek et al., 2020), but also for leaders who want to exhibit paradoxical leader behavior, or consultants and trainers who want to bring scientific evidence on paradoxical leader behavior into practical application.

4.3.3. Influences of Organizational Contexts

The presented studies either focused on task performing individuals outside their natural work context (Study 1) or aggregated data over diverse work contexts without examining the influences of varying organizational characteristics (Study 2, Study 3). Some authors criticize that "paradoxes have putatively been removed from their natural habitat [and] the search for best practices has decontextualized, abstracted, and reified them"

(Fairhurst, 2019, p. 1). By considering organizational characteristics and cross-level dynamics, future research could identify factors which influence how needed and effective individual constructive thinking and behavior are in the context of paradox.

Differentiation and integration in how organizations and teams communicate paradoxical demands might reduce the need for followers to individually make sense of the paradoxical demands. I presented findings on integrative complexity in individual thinking (Study 1 and 2). Integrative complexity can also be conceptualized on team level (Brodbeck et al., 2021) and organizational level (Kugler & Brodbeck, 2014). Research indicated that organizations and leaders can engage in sensegiving and "'de-paradoxify' what seems to be a paradox in order to enable action" (Sundgren & Styhre, 2006, p. 47; Knight & Paroutis, 2017). Less is known about how sensegiving by organizations and leaders affect followers' experiences of tension: Their initial experiences of tensions could be increased, as more paradoxes are made salient by others, or reduced, as a workable understanding of the paradoxes is provided pre-emptively (for theory on dyadic interpretations of dualities, see Guarana & Hernandez, 2015).

In addition to organizational sensegiving, structural and processual characteristics could also influence how needed and effective individual constructive thinking and behavior are. For example, within an organizational unit tasked with both generating and implementing ideas, the efficacy of followers' integrative complex thinking and leaders' ambidextrous leadership is likely higher compared to a unit assigned with only one of these tasks (e.g., due to structural separation). In shorter terms, "cognitive, processual, and structural differentiating and integrating practices" might interact across organizational levels (Weiser & Laamanen, 2022, p. 9; Andriopoulos & Lewis, 2008; in the context of ambivalence: Rothman et al., 2017). Future research could utilize ethnographic studies to uncover cross-level interactions, as ethnographers are trained to read effects of environmental influences on language, such as communication on paradoxes, and emotions, such as experiencing tension (see Fairhurst,

2019).

4.3.4. Generalizability

Based on paradox theory, we argued that individuals, who face paradoxes, in general profit from exhibiting paradoxical behavior and thinking complexly. Our studies focused on specific paradoxes from the work context (Study 1: usefulness vs. novelty; Study 2 and 3: paradoxes in leadership). Future research should explore whether our findings can be applied to other organizational paradoxes (e.g., stability vs. change; cooperation vs. competition; Schad et al., 2016) and paradoxes outside the work context such as paradoxes in gender roles, work-life conflict, parenting, or the relational regulation with those close to us.

Crucially, our reasoning and findings focus on paradoxes and are not likely to apply to non-paradoxical sources of experienced tension, such as contradictions, dilemmas and non-paradoxical goal and role conflicts.

4.4. Implications for Praxis

In this section, I detail how followers, leaders, HR and organizations might benefit from our findings. Some of the implications result directly from the presented studies. Other implications result from integrating our findings into existing literature.

4.4.1. Implications for Followers and Leaders

Exhibiting seemingly competing behaviors can pose a challenge for leaders and followers, as being perceived as inconsistent can lead to detrimental outcomes (De Cremer, 2003). Our findings (Study 2, Study 3) showed that when leaders exhibit seemingly competing behaviors in reaction to paradoxical demands on them, their followers report higher well-being and perform better. In an environment of paradoxical demands, showing paradoxical behavior is a consistent response and will be perceived as such, especially when one engages in sensegiving on ones' behavior (Sparr, 2018). Being open to paradoxical behavior and practicing it might also prove useful for other contexts: For example, research on conflict – another field exploring (seemingly) competing interests – showed that

combining contrasting behavior can be more effective than a single approach, such as combining problem-solving and forcing conflict styles, or combining "inquiry (exploring the other's interests and needs) [and] advocacy behaviors (arguing for one's own positions and interests)" (Coleman, 2018, p. 18). When faced with paradoxical demands, one should dare to engage with the paradox rather than ignoring it, and should dare to look for ways to meet all demands.

To be able to exhibit constructive paradoxical behavior, one should think about the paradoxical demands in an integrative complex way (Y. Zhang et al., 2015). Study 1 and 2 emphasized that integrative complexity helps individuals to make sense of paradoxical demands and paradoxical behavior of others: When it comes to paradoxes, the problem is indeed how you think about the problem (Miron-Spektor et al., 2018). When a leader or follower experiences tension, they should allocate time for reflection, as thinking tends to be more integrative complex in the absence of time pressure (Suedfeld et al., 1992). Reflecting repeatedly is also advisable, as prior reflection on a topic is likely to result in more integrative complex thinking (Suedfeld et al., 1992). Reflection on paradoxes, in specific, can be supported by schematic tools (Marsh & Malcapine, 1999: Helvig-Square; Johnson, 2014: Polarity Map). These tools can help to differentiate potential upsides and downsides of single paradoxical elements in order to support complex thinking on how the paradoxical elements might be integrated.

Not all situations in organizations are paradoxical – therefore, complex thinking or behavior is not always the better option: When individuals face one-sided demands or contradictions, simplistic thinking and unilateral decisions are likely to be more constructive (Satish, 1997; W. K. Smith & Lewis, 2011; Malhotra & Harrison, 2022). When they face dilemmas, such as deciding what to do in an emergency, reflecting in an integrative complex way might be maladaptive, as it consumes valuable time (Satish, 1997). I conclude that followers and leaders should be able to think in a complex, integrated manner, and also know

when to use this approach (i.e., metacomplexity: Satish, 1997). To determine if they are

facing a paradox, which warrants complex thinking, followers and leaders should reflect on

the consequences of solely fulfilling one of the demands. If it is anticipated that tensions rise

over time, this signals a paradox and further in-depth reflection could be helpful. If not, a

timely decision could be preferable in order to avoid over-analysis.

4.4.2. Implications for HR

When facing paradoxical demands, leaders and followers should be capable of

thinking and acting complexly. HR can support these competences in the workforce: First, HR

can develop these competences by providing training and feedback (in terms of integrative

and behavioral complexity: Coleman et al., 2017). Training for leaders (and followers, if

acute) could address the paradoxical nature of leadership which already provides leaders with

a differentiated perspective on paradoxical demands. In addition, thinking about how one

could meet all paradoxical demands represents a shift in cognitive frame from viewing them

as mutually exclusive to seeing them as a manageable challenge. Feedback for individuals

working on paradoxical demands could be provided as part of coaching or as a component of

feedback processes (e.g., upward feedback in performance appraisal meetings). For example,

having a respective component in feedback processes would offer followers the opportunity to

express experiences of tension, which they might otherwise hesitate to address.

Other than developing complex thinking and behavior, HR can actively select for

individuals possessing these competences: Through assessment and development centers, HR

could match followers and leaders capable of complex thinking and behavior to positions

where paradoxical demands are prevalent (e.g., middle leadership, innovation tasks; Satish,

1997). For example, HR could employ a task similar to the task in Study 1 in selection

processes; a task, in which participants were asked how organizations could fulfill competing

demands. Behavioral anchors could include whether applicants viewed the issue from

different perspectives (i.e., differentiation) and related them to each other in terms of

compromises, combinations, or links (i.e., integration), whenever possible depending on the

circumstances in question (for coding of integrative complexity, see Baker-Brown et al.,

1992). By employing such a task, HR could also screen whether the participants exhibit key

factors for working constructively through paradoxes, such as the competence to withstand

ambiguous and complex situations (i.e., ambiguity tolerance) and the competence to address

negative emotions – of their own or others – instead of avoiding them (i.e., emotional

competence). HR should *not* screen whether participants react calmly to the paradoxical task

(e.g., via behavioral anchors of stress tolerance), as initial experiences of tension could be

functional part of a constructive process (see Study 1). Next to selection, HR could also

encourage self-selection for respective positions as individuals have insight into their

integrative complexity (see item measure, Study 1; also found for paradoxical mindset:

Miron-Spektor, 2018).

4.4.3. *Implications for Organizations*

Next to HR developing and selecting for competences to manage paradoxes,

organizations as a whole can also support their workforce in doing so. Organizations who

want their workforce to embrace paradoxical demands can lead by example by adopting an

integrative complex vision and mission (on integrative complex corporate communication, see

also Kugler & Brodbeck, 2014). Empirically, integrative complex corporate communication

was positively related to leaders exhibiting paradoxical leader behavior which was, in turn,

negatively related to followers experiencing role conflict (Mayr et al., 2022[26]). This finding

could indicate that good management of paradoxes trickles down throughout organizations. In

addition, organizations can implement structures and processes which enable leaders and

followers to effectively seek and integrate new information in reaction to paradoxes (i.e.,

dynamic capabilities; for an overview, see W. K. Smith & Lewis, 2011) and give room to

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[26] This study was conducted during my dissertation but is not detailed in this thesis.

address perceived competing demands (see more-than approaches: Putnam et al., 2016).

In addition to proactively assisting their workforce in responding constructively to paradoxes, organizations can utilize employee surveys and include questions about experiencing tension. Initial experiences of tension are not a problem per se, as long as they are managed constructively (see Study 1) which organizations can support. Being aware of how much tension is experienced, by specific units or the organization as a whole, should enable organizations to implement targeted countermeasures. When units experience high degrees of tension, this can be addressed in team workshops in the follow-up process of the employee survey. Such workshops could help units to have open discourse (Putnam et al., 2016) and find a collaborative process of working through the paradox (Lüscher & Lewis, 2008). Research also showed that structured workshops can support differentiation and integration on team-level (G. Park & DeShon, 2018; Brodbeck et al., 2021) which can help teams to make sense of paradoxes (Lüscher & Lewis, 2008; W. K. Smith & Tushman, 2005). If the whole organization or sectors report high experiences of tension, constructive reactions could involve changing processes and structures (for processual or structural differentiating and integrating practices, see Weiser & Laamanen, 2022), rather than focusing on individual constructive thinking and behavior.

4.5. Conclusion

Paradoxical demands are inherent in organizations. While the related experience of tension is inevitable for followers and leaders, it not necessarily persists over time: Followers and leaders can reduce this experienced tension and even use it to achieve positive, sustainable outcomes by reacting constructively. My dissertation combines an online experiment, a field study, and a meta-analysis to investigate followers' complex thinking and leaders' complex behavior in the context of paradox, as well as the resulting experiences, well-being, and performance of followers. Main findings are that a) followers can reduce their negative experiences in the context of paradoxes by thinking in an integrative complex way about the paradoxes, and b) paradoxical leader behavior was associated with higher well-being and performance of followers. I conclude that followers and leaders can react constructively to paradoxes by differentiating and integrating paradoxical elements in their thinking (i.e., integrative complex thinking) and behavior (i.e., paradoxical leader behavior). Overall, my findings align with the quote that started this thesis: By immersing oneself in the opposing forces – through both thinking and behavior – it becomes possible to emotionally and intellectually discover the link between them, enabling forward movement.

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Appendix

Results of meta-analyses: Direct relationships including facets of the follower outcomes

Outcome		k	N	$\bar{r}$	SD_r	SD_{res}	$\bar{\rho}$	SD_{r_c}	SD_ρ	95% CI	80% CR
Performance											
task performance		32	10 240	.22	.15	.14	.25	.18	.16	[.19, .32]	[.04, .47]
	in-role performance	19	7 309	.24	.14	.13	.27	.16	.15	[.19, .35]	[.07, .47]
	proficient behavior	20	5 471	.14	.13	.11	.17	.15	.14	[.09, .24]	[−.01, .35]
OCB		25	8 675	.23	.13	.12	.27	.15	.13	[.21, .33]	[.09, .44]
	OCB	12	4 713	.20	.07	.05	.23	.08	.06	[.17, .28]	[.14, .31]
	proactive behavior	15	5 150	.21	.14	.13	.24	.16	.15	[.15, .33]	[.04, .44]
	voice	4	1 248	.26	.19	.18	.30	.22	.21	[−.05, .64]	[−.04, .64]
CIP		53	13 273	.24	.16	.15	.27	.19	.18	[.22, .33]	[.04, .50]
	adaptive behavior	12	3 694	.22	.09	.06	.25	.10	.08	[.19, .32]	[.15, .36]
	creativity	16	4 021	.17	.14	.12	.19	.15	.14	[.11, .27]	[.01, .37]
	exploration	14	2 658	.19	.19	.17	.22	.22	.20	[.10, .35]	[−.05, .50]
	innovation	28	6 289	.28	.19	.18	.32	.22	.20	[.24, .40]	[.05, .59]

Appendix (continued)

Outcome		k	N	$\bar{r}$	SD_r	SD_{res}	$\bar{\rho}$	SD_{r_c}	SD_ρ	95% CI	80% CR
Well-being											
hedonic		21	4 264	.36	.14	.13	.41	.16	.15	[.33, .48]	[.21, .60]
	commitment	9	2 476	.33	.13	.12	.38	.15	.14	[.26, .49]	[.19, .57]
	positive affect	4	813	.41	.09	.07	.47	.10	.07	[.30, .63]	[.34, .59]
	satisfaction	10	1 250	.36	.18	.16	.42	.21	.18	[.27, .57]	[.17, .68]
eudaimonic		24	9 444	.31	.11	.10	.36	.13	.11	[.31, .41]	[.21, .51]
	engagement	16	6 217	.35	.09	.08	.39	.10	.09	[.34, .45]	[.28, .51]
	learning/thriving	8	3 227	.24	.12	.11	.29	.15	.13	[.17, .41]	[.10, .48]
negative[a]		20	5 406	−.11	.24	.23	−.13	.27	.26	[−.25, .00]	[−.48, .22]
	disengagement/leave intention[a]	8	2 288	−.23	.10	.08	−.26	.11	.09	[−.35, −.17]	[−.39, −.13]
	negative affect[a]	4	1 358	−.10	.19	.18	−.11	.21	.20	[−.45, .22]	[−.45, .22]
	stress[a]	9	1 988	.01	.32	.31	.01	.37	.36	[−.28, .30]	[−.50, .52]

Note: [a]For negative well-being, correlations were reversed to allow for aggregation with hedonic and eudaimonic well-being. The results for negative well-being were back-reversed before reporting to depict the original direction of effects. k = number of studies contributing to meta-analysis; N = total sample size; $\bar{r}$ = mean observed correlation; SD_r = observed standard deviation of r; SD_{res} = residual standard deviation of r; $\bar{\rho}$ = mean true-score correlation; SD_{r_c} = observed standard deviation of corrected correlations (r_c); SD_ρ = residual standard deviation of ρ; CI = confidence interval around $\bar{\rho}$; CR = credibility interval around $\bar{\rho}$. Correlations corrected using artifact distribution.