# Why and When Organizational Climate Affects Attitudes and Behavior of Employees in Work and Non-Work Settings

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Universitätsverlag Hildesheim

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Das Dokument steht im Internet kostenfrei als elektronische Publikation (Open Access) zur Verfügung unter: https://doi.org/10.18442/308

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Hochschulschriftenvermerk:

Dissertation zur Erlangung des Grades eines Doktors der Philosophie (Dr. phil) am Fachbereich 1 Erziehungs- und Sozialwissenschaft der Universität Hildesheim. Tag der Disputation: 31.07.2024.

Prüfungskommission:

Vorsitz der Kommission: Prof. Dr. Carsten Jochum-Bortfeld (Universität Hildesheim)

Erster Gutachter: Prof. Dr. Andreas Mojzisch (Universität Hildesheim)

Zweiter Gutachter: Prof. Dr. Rolf van Dick (Goethe-Universität Frankfurt am Main)

Satz und Layout: Malte Roswag

Umschlaggestaltung: Malte Roswag und Josina Schriek unter der Verwendung von DALL-E 3

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*For Elsa*

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**Abstract**

With this dissertation, I aim to shed light on how the workplace affects employees' attitudes and behaviors in work and non-work settings. A perspective to investigate these workplace influences provides the construct of organizational climate. Organizational climate describes employees' shared perceptions of their organization's policies, practices, and procedures regarding a specific domain of organizational conduct. To develop a comprehensive theoretical framework of *why* and *when* organizational climate affects employees' attitudes and behaviors, I draw on social psychological theories of attitude and behavior change and integrate them with research on organizational climate. Specifically, I propose that organizational climate affects employee behavior through the establishment of social norms in the workplace and that this indirect association is amplified by climate strength (stage 1 moderation) and organizational identification (stage 2 moderation). Furthermore, I suggest that organizational climate can spill over into the non-work domain through a self-perception process. Importantly, through this spillover process organizational climate can even relate to more distal attitudes and behaviors that are relevant for the broader societal context. I utilize the case of the coronavirus disease 2019 (COVID-19) to test my theoretical model in four empirical studies. Overall, the results suggest that social norms mediate associations of organizational climate (i.e., COVID-19 safety climate) and employee behavior (COVID-19 safety behavior) on both the employee-level (Study 1) and unit-level (Study 2). Results were mixed regarding the moderating roles of climate strength and organizational identification. I found no support for an amplifying effect of climate strength (Study 2) and mixed support for an amplifying effect of organizational identification on the employee-level (not in Study 1, but in Study 2). Regarding spillover, the results imply that organizational climate (i.e., COVID-19 safety climate) not only affects employees' behavior in the workplace but further leads them to continue this behavior (i.e., COVID-19 safety behavior) in the non-work

domain. In extension, organizational climate (i.e., COVID-19 safety climate) also extended to more distal attitudes (i.e., COVID-19 vaccine readiness) and behaviors (i.e., COVID-19 vaccination) in the non-work domain. Finally, these associations were moderated by employees' previous attitudes (i.e., their political affiliation). My dissertation thereby contributes to the literature on organizational climate in several ways. First, I integrate social psychological theories of attitude and behavior change with the literature on organizational climate and provide a theoretical framework to explain why and when organizational climate affects employee behavior in the work and the non-work domain. Second, I show that the workplace even affects more distal outcomes such as COVID-19 vaccinations that are not only relevant to the workplace, but also relevant on a broader societal level.

## Zusammenfassung

Mit dieser Dissertation möchte ich untersuchen, wie sich der Arbeitsplatz auf die Einstellungen und das Verhalten der Mitarbeitenden im Arbeits- und im Privatleben auswirkt. Eine Perspektive zur Untersuchung dieser Einflüsse des Arbeitsplatzes bietet das Konstrukt des Organisationsklimas. Das Organisationsklima beschreibt die geteilte Wahrnehmung der Mitarbeitenden der Richtlinien, Verfahren und Praktiken ihrer Organisation in Bezug auf einen bestimmten Bereich des organisationalen Handelns. Um einen umfassenden theoretischen Rahmen dafür zu erarbeiten, warum und wann sich das Organisationsklima auf die Einstellungen und das Verhalten der Mitarbeitenden auswirkt, nutze ich sozialpsychologische Theorien der Einstellungs- und Verhaltensänderung und integriere sie in den Forschungsbereich des Organisationsklimas. Konkret gehe ich davon aus, dass das Organisationsklima das Verhalten der Mitarbeitenden durch die Etablierung sozialer Normen am Arbeitsplatz beeinflusst und dass dieser indirekte Zusammenhang durch die Stärke des Organisationsklimas und die Identifikation mit der Organisation verstärkt wird. Darüber hinaus vermute ich, dass das Organisationsklima durch einen Selbstwahrnehmungsprozess in das Privatleben hineinwirken kann. Eine wichtige Annahme dabei ist, dass sich das Organisationsklima durch diesen Übertragungsprozess sogar auf Einstellungen und Verhaltensweisen auswirken kann, die auch auf gesellschaftlicher Ebene relevant sind. Ich nutze den Anwendungsfall der Coronaviruserkrankung (COVID-19), um mein theoretisches Modell in vier empirischen Studien zu testen. Insgesamt deuten die Ergebnisse darauf hin, dass soziale Normen den Zusammenhang zwischen Organisationsklima (d.h. COVID-19 Schutzklima) und Verhalten der Mitarbeitenden (d.h. COVID-19 Schutzverhalten) sowohl auf der Ebene der Mitarbeitenden (Studie 1) als auch auf der Ebene des Teams (Studie 2) vermitteln. Die Ergebnisse waren jedoch hinsichtlich der moderierenden Rolle von der Stärke des Organisationsklimas und der Identifikation mit der Organisation gemischt. Ich konnte

keinen verstärkenden Effekt der Stärke des Organisationsklimas (Studie 2) nachweisen. Der verstärkende Effekt der Identifikation mit der Organisation auf der Ebene der Mitarbeitenden konnte teilweise nachgewiesen werden (nicht in Studie 1, dafür aber in Studie 2). Hinsichtlich eines Übertragungseffekts deuten die Ergebnisse darauf hin, dass das Organisationsklima (d.h. das COVID-19-Sicherheitsklima) nicht nur das Verhalten der Mitarbeitenden am Arbeitsplatz beeinflusst, sondern sie auch dazu veranlasst, dieses Verhalten (d.h. das COVID-19 Schutzverhalten) in ihrem Privatleben fortzusetzen. Das Organisationsklima (d. h. das COVID-19-Schutzklima) wirkte sich zusätzlich auf weniger naheliegende Einstellungen (d. h. die COVID-19-Impfbereitschaft) und Verhaltensweisen (d. h. die COVID-19-Impfung) im Privatleben aus. Schließlich wurden diese Zusammenhänge durch die bisherigen Einstellungen der Arbeitnehmenden (d. h. ihre politische Zugehörigkeit) moderiert. Meine Dissertation leistet damit in mehrfacher Hinsicht einen Beitrag zur Literatur über Organisationsklima. Erstens verbinde ich sozialpsychologische Theorien zu Einstellungs- und Verhaltensänderungen mit der Literatur zum Organisationsklima und gebe damit einen theoretischen Rahmen, um zu erklären, warum und wann sich das Organisationsklima auf das Verhalten von Mitarbeitenden im Arbeits- und Privatleben auswirkt. Zweitens zeige ich, dass sich der Arbeitsplatz auch auf entferntere Verhaltensweisen wie die Impfung gegen COVID-19-auswirkt, die nicht nur für den Arbeitsplatz, sondern auch auf breiterer gesellschaftlicher Ebene von Bedeutung sind.

# CHAPTER 1

GENERAL INTRODUCTION

## General Introduction

On average, people spend one third of their waking time at work (e.g., Organization for Economic Cooperation and Development, 2023). The workplace therefore constitutes a highly influential factor for employees' attitudes and behaviors. A framework to investigate these workplace influences on employees' attitudes and behavior is organizational climate. Organizational climate broadly refers to employees' shared perceptions of policies, practices, and procedures that are implemented in the workplace (Schneider et al., 2013, 2017). This includes, for example, which topics management regularly informs their employees about, what is relevant for hiring and promotion decisions, what training is offered, or which work materials are made available for employees. Importantly, organizational climate can only be meaningfully understood when it is an organizational climate of "something" and refers to a specific domain of organizational conduct (Schneider, 1983). Prominent domains of organizational conduct in which organizational climate has been investigated are safety and service, (i.e., safety climate; service climates; Griffin & Curcuruto, 2016; Schneider et al., 1998). In both domains, mounting meta-analytically evidence shows that safety climate and service climate are related to employees' safety behavior and service behavior, respectively (e.g., Clarke, 2006; Hong et al., 2013; L. Jiang et al., 2019). Other exemplary domains in which organizational climate and corresponding employee behavior and attitudes have been investigated are pro-environmental behavior (e.g., Norton et al., 2014), health and health behavior (e.g., Sonnentag & Pundt, 2016; Zweber et al., 2016), road safety (e.g., Naveh & Katz-Navon, 2015), or COVID-19 safety (e.g., Hubert et al., 2022). Interestingly, these behaviors are not inevitably restricted to the workplace context. Emerging research on organizational climate in these domains suggests that employees' perceptions of organizational climate can also affect their behavior outside of the workplace (Hubert et al., 2022; Naveh & Katz-Navon, 2015; Sonnentag & Pundt, 2016), hinting at the possibility of organizational climate spillover. Further domains of organizational climate that have received

much attention are diversity climate, ethical climate, psychosocial safety climate, or innovation climate (Dollard et al., 2012; Holmes et al., 2021; Kuenzi et al., 2020; A. Newman et al., 2020). Taken together, organizational climate provides researchers with a useful framework to investigate organizational influences on employees' work- and non-work-related attitudes and behaviors.

Notwithstanding the usefulness of the domain-specific approach of organizational climate to derive predictions for specific types of employee behavior (Schneider, 1983), this approach has led to the development of mostly disconnected research silos of different organizational climate domains (e.g., Beus et al., 2020, 2023). This is problematic for two major reasons: First, organizational climate has different definitions across domains of organizational conduct (Schneider et al., 2017), which endangers the distinctiveness of organizational climate (i.e., jingle and jangle fallacies; Kelley, 1927) and transfer of research findings from one domain to another. Second, domain-independent theorizing is limited which impedes the development of the research field of organizational climate as a whole (Beus et al., 2023; Kuenzi & Schminke, 2009). To illustrate, we still have surprisingly limited knowledge about *why* and *when* organizational climate affects employee behavior. Further, though there is emerging evidence for spillover effects (e.g., Naveh & Katz-Navon, 2015) of organizational climate on employee behavior in non-work settings, we lack a comprehensive theoretical framework to explain and understand these spillover processes. Most studies that have investigated spillover processes of organizational climate did not provide any reasoning on underlying mechanisms of organizational climate spillover. It is therefore necessary to theorize on the underlying mechanisms of organizational climate spillover to fully understand why spillover occurs, which in turn can stimulate knowledge on how to utilize organizational climate for organizational practice. Specifically, a theoretical framework for organizational climate spillover allows testable predictions to be derived for whom and under which

circumstances spillover should occur. This could, in turn, provide a starting point to develop interventions to increase (or decrease) organizational climate spillover.

In my dissertation, I aim to jointly address these limitations by following the basic assumption that organizations are, at their core, social contexts (Katz & Kahn, 1978). Capitalizing on this assumption, I suggest that it is useful, to integrate social psychological principles of attitude and behavior change into the organizational context to better understand organizationally invoked processes of attitude and behavior change (i.e., effects of organizational climate). I draw on established social psychological theories of attitude and behavior change (namely the focus theory of normative conduct, the social identity approach, situational strength theory, and self-perception theory) and connect them with the literature on organizational climate. By connecting these domains of research, I propose an overarching framework for the investigation of effects of organizational climate on employees' attitudes and behavior and organizational climate spillover. Specifically, the theoretical framework of my dissertation entails propositions on *why* and *when* organizational climate affects employee behavior and how this enables organizational climate *spillover* into employees' attitudes and behaviors in the non-work domain.

To explain *why* organizational climate affects employee behavior, I draw on core tenets of the focus theory of normative conduct (Cialdini et al., 1990) which suggest that social norms are key drivers of attitude and behavior change (i.e., social influence). Building on this suggestion, I propose that social norms can explain why organizational climate affects employee behavior because they inform employees about what behavior is adaptive and expected (Deutsch & Gerard, 1955). By doing so, I further address possible jingle and jangle fallacies that have emerged in the literature on organizational climate and social norms in the workplace and propose a conceptualization of both variables that is in line with their central defining pillars, allowing for them to be clearly disentangled and their relationship to be clarified.

To better understand *when* organizational climate affects employee behavior, I propose that the situational strength of organizational climate (i.e., climate strength) and social identification with the organization (i.e., organizational identification) can function as two amplifying moderator variables of attitude and behavior change that is induced by organizational climate. First, I propose that organizational climate should lead to the establishment of stronger social norms when employees' perception of their organization's climate is more similar. This proposition is in line with situational strength theory which posits that unambiguous situations have stronger effects on norm perception than ambiguous situations (Mischel, 1973). Second, I propose social identification with the organization (i.e., organizational identification; E.-S. Lee et al., 2015) as a moderator of the relationship between social norms and employee behavior. Accordingly, social norms should be especially indicative and convincing for employees who identify more strongly with their organization (e.g., Spears, 2021).

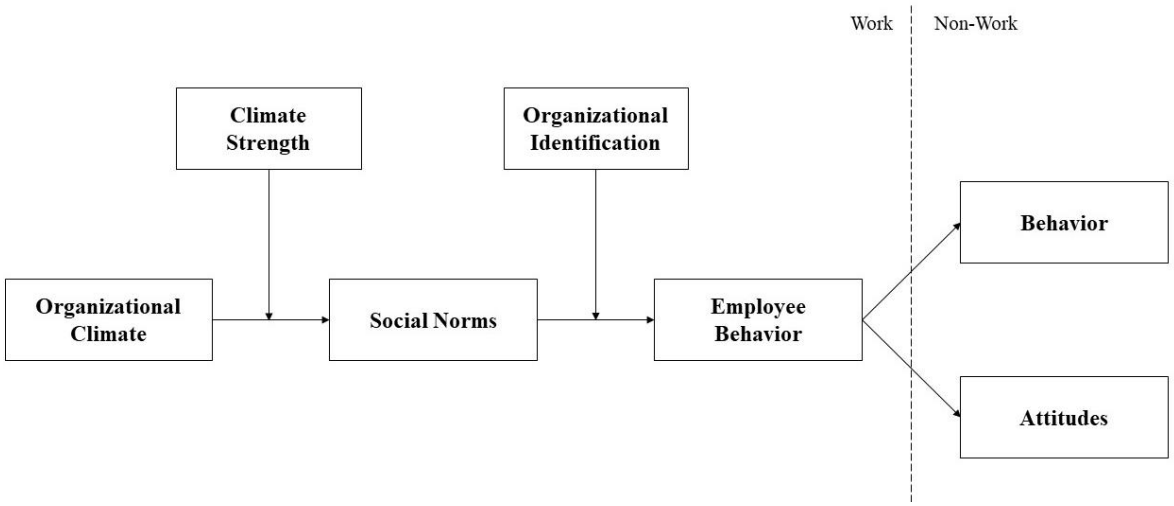
To provide a theory-based explanation of organizational climate *spillover*, I draw on self-perception theory (Bem, 1972) as a theoretical lens to explain spillover effects of organizational climate. Self-perception theory posits that employees should change their attitudes and behavior in the non-work domain due to a self-perception process. This means that if employees show specific types of behavior in the work domain due to their organization's climate, they perceive themselves to value the aims and goals that go along with this type of behavior and adapt their attitudes and behavior in the non-work domain accordingly.

In this dissertation, I conducted four studies, with two (Study 1, Study 3, Study 4) or three measurement points (Study 2), to test predictions derived from the proposed theoretical framework. A full overview of the conceptual model is presented in Figure 1.1. Given that organizational climate must always refer to some domain of organizational conduct, I have examined the case of COVID-19 prevention in this dissertation. Study 1 and Study 2 focused

on the investigation of *why* and *when* organizational climate (i.e., COVID-19 safety climate) affects employee behavior (i.e., COVID-19 safety behavior) on both the employee- and unit-level. They further investigated behavioral spillover of organizational climate to the same behavior shown in the non-work domain. Both studies were combined into one manuscript (Chapter 2). Study 3 focused on organizational climate *spillover* to more distal attitudes in the non-work domain (i.e., COVID-19 vaccine readiness) through behavior change in the work domain (Chapter 3). Study 4 extended this investigation and showed that organizational climate not only affected employees' attitudes in the non-work domain, but further behavior in the non-work domain (i.e., COVID-19 vaccination) that was not shown in (or related to) the work domain (Chapter 4).

**Figure 1.1**

*Conceptual Model*




## Organizational Climate

In the following section, I will review theoretical and empirical articles that were published on organizational climate to provide a working definition of organizational climate. Additionally, I will provide an overview of research on the associations between organizational climate and employee behavior across diverse domains of organizational conduct, and organizational climate spillover.

### *Defining Organizational Climate*

Organizational climate has many definitions due to its widespread use in different domains of organizational research. To illustrate the extent of various definitions that exist within applied psychological research, I provide an overview of all definitions of organizational climate that have been used in articles published in the *Journal of Applied Psychology* over the past 10 years (2014-2024) in the Appendix (Table A1). For instance, organizational climate has been defined as "shared perceptions among lower-level employees of the relative priority top managers put on safety, compared with other competing priorities" for safety climate (Tucker et al., 2016, p. 1229), "employees' shared perceptions of the importance in meeting customers' needs effectively" for service climate (K. Jiang et al., 2015, p. 1092), or "employee perceptions of active support from coworkers, supervisor, and upper management for the physical and psychological well-being of employees" for health climate (S. Kim et al., 2022, p. 63). But there are also definitions of organizational climate with a different focus. For instance, in one article safety climate is defined as a "shared perception of following the procedures and practices related to workplace safety" (Zhang et al., 2023, p. 1699) which focuses on responses to organizational practices, policies, and procedures.

The common aspect that most of these definitions share is that organizational climate refers to employees shared perceptions of their organizational environment. Recent developments aiming at sharpening the definition of organizational climate propose that it is especially employees' shared perception of their organization's policies, practices, and procedures that constitute organizational climate (for a domain-independent definition of organizational climate, see Schneider et al., 2017; for ethical organizational climate, see Kuenzi et al., 2020; for safety climate, see Zohar, 2014). Accordingly, organizational scholars emphasize the importance of (top) management in the investigation of organizational climate: "Organizational climate emerges from the values provided by top management that are implemented through policies, practices, and procedures" (Kuenzi et al., 2020, p. 45).

Importantly, organizational climate always needs a referent. This means that it must be an organizational climate of "something" to be useful for research and practice and allow scholars to make concrete predictions for specific organizational variables (Schneider, 1983): For example, safety behavior should most strongly be influenced by an organizational climate about safety, or the strongest predictor of service behavior should be organizational policies, practices, and procedures that value service.

### *Levels of Analysis*

Organizational climate is conceptualized as an organizational-level phenomenon (Schneider et al., 2013, 2017). This means that organizational climate is an organizational property that is suited to predicting organizational outcomes. However, in recent years theoretical considerations and accumulating research show that it is necessary to go beyond this organizational level perspective to investigate effects of organizational climate on employee behavior (e.g., Kessler, 2019; Ward et al., 2022). Specifically, Kessler (2019) argues that employees are likely to differ in their organizational climate perceptions and that these differences might be relevant for predicting individual behavior. This claim was substantiated by Ward and colleagues (2022) who showed that deviations from the unit mean in diversity climate perceptions were predictive of trust in the organization and turnover intentions. In my dissertation, I therefore test my theoretical framework on these different levels of organizational climate. First, in Study 1, Study 3, and Study 4, I investigated organizational climate from an employee's perspective. These types of organizational climate are typically termed *psychological climate* or *perceived climate* (Jang et al., 2023; Kuenzi & Schminke, 2009). Second, in Study 2, I investigated organizational climate on the unit-level, which refers to an aggregation of unit members perceptions of their organization's climate and corresponds with the definition of organizational climate as employees' shared perceptions of organizational policies, practices, and procedures (Schneider et al., 2013, 2017). Finally, in Study 2, I also investigated individual-level deviations from a unit's shared

organizational climate. This is a relevant extension to previous conceptualizations of organizational climate as it was originally assumed that only the shared part of employees' perceptions of organizational policies, practices, and procedures is relevant for employee outcomes. However, it is also conceivable that employees' deviations from their unit mean are predictive for their behavior as the elicited psychological processes could possibly occur in comparison to other colleagues (e.g., Ward et al., 2022). This level of organizational climate is therefore similar to psychological climate with the extension that the perception of an organization's climate is additionally set in relation to the average organizational climate perception in an employee's work unit.

### *Organizational Climate Spillover*

Whereas the main focus in research on organizational climate lies on associations of organizational climate and employees' attitudes and behavior in the work domain, it is possible that at least some of these consequences of organizational climate spill over into employees' attitudes and behavior in the non-work domain. Spillover is conceptualized as an intraindividual transmission process from the work to the non-work domain and vice versa (e.g., Bolger et al., 1989; Westman, 2001). Through this transmission, "similarities in cognitions (e.g., knowledge, values, attitudes), skills, and behaviors" (Naveh & Katz-Navon, 2015, p. 218) in both domains are generated. Accordingly, organizational climate spillover describes the process when organizational climate triggers behavior change in the work domain which then generalizes to attitude and behavior change in the non-work domain. I propose that many types or organizational climate can elicit spillover. For instance, pro-environmental climate (Norton et al., 2014) revolves around sustainable behavior and pro-environmental attitudes at the workplace (e.g., avoiding business travels by flight) but may also lead to employees engaging in pro-environmental behavior in their non-work time (e.g., considering taking the train for their holiday trip). The same can apply for other domains, such as diversity climate (Holmes et al., 2021), which revolves around valuing demographic

diversity (e.g., race, age), COVID-19 safety climate (Hubert et al., 2022), which addresses prevention of COVID-19, or health behavior climate (Sonnentag & Pundt, 2016), which focuses on the importance of health behavior. In essence, every type of organizational climate that is concerned about issues that are not only relevant to the work domain should instigate spillover processes.

There is an emergent stream of research substantiating the assumption that organizational climate also affects attitudes and behaviors in the non-work domain. For example, associations between organizational climate and the non-work domain have been shown for pro-environmental climate and pro-environmental attitudes and behavior (Hicklenton et al., 2019), for COVID-19 safety climate and COVID-19 safety behavior (Hubert et al., 2022), for health behavior climate and health behavior (Sonnentag & Pundt, 2016), and for road safety climate and road safety behavior (Naveh & Katz-Navon, 2015). However, most of these studies only measured the respective climate and employees' behavior and attitudes in the non-work domain (for exceptions, cf. Hubert et al., 2022; Naveh & Katz-Navon, 2015). Therefore, these studies offer no insights into whether spillover processes (i.e., intraindividual transmission of behavior from the work domain to the non-work domain) occur. Furthermore, most of these studies employed cross-sectional study designs which makes it impossible to infer whether the work domain affected the non-work domain or vice versa.

Regarding the level of analysis, spillover describes intraindividual transmission processes of behavior from the work domain to the non-work domain and vice versa. Therefore, I argue that organizational climate spillover is an individual-level process that necessitates the investigation of perceived organizational climate. This is in line with previous research that investigated spillover on the employee-level of analysis only (e.g., Hubert et al., 2022; Naveh & Katz-Navon, 2015; Sonnentag & Pundt, 2016).

## Social Psychological Theories of Attitude and Behavior Change

In the following sections, I will briefly describe several social psychological theories of attitude and behavior change that are helpful to understand and predict associations of organizational climate and employee behavior and the process of organizational climate spillover. Specifically, the focus theory of normative conduct (Cialdini et al., 1990), situational strength theory (Meyer et al., 2010; Mischel, 1973), the social identity approach (Tajfel & Turner, 1979; Turner, 1985), self-perception theory (Bem, 1972) and cognitive dissonance theory (Festinger, 1957) are helpful to understand the process of attitude and behavior change and spillover into the non-work domain that is elicited by organizational climate.

### *Focus Theory of Normative Conduct*

The predominant theory to explain the role of social norms for attitude and behavior change is the focus theory of normative conduct (Cialdini et al., 1990). Social norms are broadly defined as "what an individual holds true about others in the social group and/or about what others in the social group do or believe" (Legros & Cislaghi, 2020, p. 67). The focus theory of normative conduct proposes that social norms can and should be categorized into descriptive and injunctive norms. Descriptive norms are defined as an individual's perceptions of their surroundings' observable actions. They therefore refer to the typical behavior other people show in specific situations. In contrast, injunctive norms refer to what people perceive that others in their immediate surrounding expect to be done in a specific situation. Injunctive norms are therefore about what individuals think other people would approve or disapprove of (Cialdini & Goldstein, 2004).

Both descriptive norms and injunctive norms influence behavior through the process of social influence (e.g., Deutsch & Gerard, 1955; Sherif, 1935). However, they are theorized to affect behavior due to different underlying motivational processes (Deutsch & Gerard, 1955). Descriptive norms provide people with value-neutral information as they are merely

based on the observation of the behavior of others (Legros & Cislaghi, 2020). Therefore, people comply with descriptive norms because they assume that the most prevalent behavior in their surrounding must be the most adaptive (e.g., Cialdini, 2007). In contrast, injunctive norms put pressure on people because they transport external obligations (Legros & Cislaghi, 2020). This will lead people to anticipate that their behavior will be evaluated (and incentivized or punished) by others (e.g., Cialdini et al., 1990). Previous research has largely demonstrated that social norms relate to different types of behaviors such as alcohol use, marijuana use or road safety behavior (e.g., Perkins, 2002; Roditis et al., 2016; Simons-Morton et al., 2014).

In the social norms literature, social norms are conceptualized as an individual-level construct, this means that effects of individual perceptions of social norms are theorized and investigated (Legros & Cislaghi, 2020). Nonetheless, social norms are not bound to the individual level and can become collective in a social system, such as work teams or organizations (Chung & Rimal, 2016; Ehrhart & Naumann, 2004). Accordingly, collective social norms refer to group members' aggregated perceptions of descriptive norms and injunctive norms (Fulmer & Ostroff, 2016) and in turn are expected to relate to unit-level behavior (an aggregate of individual employee behavior; Morgeson & Hofmann, 1999).

### *Situational Strength Theory*

Insights into when social norms are more strongly established can be derived from situational strength theory (Meyer et al., 2010; Mischel, 1973). Situational strength theory challenged the view that behavior is the result of stable personality traits and emphasizes the importance of situational factors. The main argument put forward by situational strength theory is that stable personality traits should only affect norm perceptions and subsequent behavior in situations that are ambiguous. In contrast, in unambiguous situations, norm perception and behavior should me more equal across people, irrespective of individual differences in personality traits. Unambiguous, or strong situations are characterized by four

facets (Meyer et al., 2010): *Clarity*, *consistency*, *constraints*, and *consequences*. *Clarity* means that available situational cues are easily available and understandable. *Consistency* refers to whether situational cues contain affirming and not contradictory information. *Constraints* describe the amount of freedom to take actions or make decisions that is given in a specific situation. *Consequences* refer to whether the consequences of a situation are relevant to the person or their environment.

Empirical research has shown that situational strength theory can explain why people behave differently when the ambiguity of a situation varies. For example, in an early study, Mischel & Baker (1973) used a delayed gratification paradigm to investigate what makes preschool children wait longer for their gratification. In the delayed gratification paradigm children can get a higher gratification (i.e., more sweets) when they wait for a longer time. They showed that preschool children wait longer when they are instructed to reframe the sweets as natural objects (e.g., marshmallows as clouds). This shows that situational characteristics, such as instruction are relevant beyond individual characteristics to predict behavior.

### *Social Identity Approach*

A theoretical extension to the process of social influence from social norms to behavior offers the social identity approach (Tajfel & Turner, 1979; Turner, 1985) from which conditions for the efficacy of social norms can be derived (Spears, 2021). The social identity approach integrates social identity theory (Tajfel & Turner, 1979) and self-categorization theory (Turner, 1985) to propose that people self-categorize themselves according to different social identities. A social identity can be understood as “that part of the individuals' self-concept which derives from their knowledge of their membership of a social group (or groups) together with the value and emotional significance of that membership” (Tajfel, 1982, p. 24). Social identity is therefore established when individuals consider themselves part of a social group and this guides attitudes and behavior (Tajfel et al., 1971). For example, even

under conditions of minimal and arbitrary reasons for group membership (e.g., over-estimators vs. under-estimators of dots presented in a frame), individuals preferred their group members over members of other groups and awarded them more money (Tajfel et al., 1971).

In an extension of these findings, Turner (1985) argues that self-categorization as a member of a social group (i.e., social identification) is a prerequisite for social influence. In other words, social influence only occurs when individuals identify with the people the influence comes from. This extends the reasoning of Deutsch and Gerard (1955) that is used by Cialdini and colleagues (1990) and suggests that informational and normative influence should only be possible under conditions of high group identification. This form of social influence is termed *referent informational influence* (Turner, 1985). There are several empirical studies that provide evidence for this moderating effect of social identification on the association of social norms and behavior (e.g., Abrams et al., 1990; Terry & Hogg, 1996). For example, White et al. (2009) showed that the social influence of group norms (operationalized as a combination of descriptive and injunctive social norms) on pro-environmental behavior was exacerbated for highly identified individuals. In this vein, studies further showed that the effects of descriptive social norms on health behavior (i.e., healthy eating) were heightened by social identification with the reference group (J. Liu et al., 2019).

Typical social groups that individuals identify with in their day-to-day life are their family, their work team or the organization they work for or even humankind as a whole (e.g., Ashforth & Mael, 1989; Frenzel et al., 2022; van Dick, 2001). But it is possible to identify with any other (loose) social group such as sports teams or the neighborhood community (Haslam et al., 2023; Thomas et al., 2017).

### *Self-Perception Theory and Cognitive Dissonance Theory*

Complementing theories of attitude change are self-perception theory (Bem, 1972) and cognitive dissonance theory (Festinger, 1957). Both theories propose that individuals change

their attitude in response to (voluntarily) showing behavior that is inconsistent with their previously held attitude.

Cognitive dissonance theory posits that individuals strive for cognitive consistency and change their attitudes when behaviors they have shown do not match their previously held attitudes (Festinger, 1957). The underlying reason for this attitude change is cognitive dissonance. Cognitive dissonance is conceptualized both as a state of psychological discomfort and a state of physical tension and is a result of a cognitive inconsistency between attitudes and behavior (Elliot & Devine, 1994). Due to this psychological discomfort and physical tension, cognitive dissonance motivates individuals to change their cognitions (i.e., attitudes) in order to resolve the dissonance (Zanna & Cooper, 1974). To illustrate, when a person has to choose between two equally appealing options (e.g., between two bicycles), they will rate the option they just chose as more appealing than the option they did not choose, even though a few moments earlier they rated them equally as appealing (e.g., Brehm, 1956; free choice paradigm). The behavior that precedes attitude or behavior change must be shown, at least to some extent, voluntarily. For instance, when a person is asked to voluntarily write a counter-attitudinal essay on a topic (e.g., pro-environmental behavior), they will support the opinion they wrote in favor of more strongly compared to people who had no choice but to write a counter-attitudinal essay (e.g., Zanna & Cooper, 1974; counter-attitudinal essay paradigm). Importantly, attitude change is not the only outcome of cognitive dissonance. Festinger (1957) proposed that people could also change their behavior when cognitive dissonance occurs. However, in many cases it is not possible to change the behavior. For instance, when the behavior is irreversible or when showing the behavior is associated with other costs (e.g., investment of effort). For example, a smoker would rather change their cognitions regarding the health consequences of smoking than quit smoking.

An alternative explanation for this process of attitude change is self-perception theory (Bem, 1972). Self-perception theory posits that individuals change their attitude because they

infer their attitude from their most recently shown behavior, as an external observer would. Accordingly, when thinking about attitude change in the free choice paradigm, self-perception theory postulates that people infer their attitudes by evaluating their most recently shown behavior (as an external observer would). Therefore, only their most recently shown behavior becomes relevant as it is most proximal to their judgement.

While originally seen as two competing theoretical approaches, both theories complement each other as they seem to hold true under different circumstances. That is, people can behave in a counter-attitudinal or more extreme way than their attitude. An experiment by Fazio and colleagues (1977) showed that in cases when people were asked to do something that was in line with their attitude but more extreme than the behavior they would usually show, people report an attitude change with no accompanying tension (i.e., an indicator of cognitive dissonance). However, when people behaved counter-attitudinally they reported more tension that preceded the behavior change, which is an indicator of cognitive dissonance. Taken together, this implies that self-perception theory can serve as a theoretical lens in situations when individuals do not behave in strong contrast to their attitudes.

**A Social Psychological Perspective on Organizational Climate**

In the following section, I will integrate the previously described social psychological theories of attitude and behavior change with research on organizational climate to provide a theoretical framework for associations of organizational climate and employee behavior, and organizational climate spillover. My overarching perspective is that organizations constitute a social context (Katz & Kahn, 1978) to which social psychological theories of attitude and behavior change can and should be applied. Specifically, I take the perspective of social influence (e.g., Asch, 1956; Sherif, 1935) to make domain-independent predictions on *why* and *when* organizational climate affects employee behavior and explain why organizational climate *spillover* occurs.

### *Disentangling Organizational Climate and Social Norms*

To explain *why* organizational climate affects employee behavior, I utilize the focus theory of normative conduct (Cialdini et al., 1990) and propose that social norms transmit the effects of organizational climate on employee behavior.

In the literature on organizational climate, the constructs of organizational climate and social norms have sometimes been implicitly intertwined, leading to jingle- and jangle fallacies (Kelley, 1927). Jingle fallacies are present in the literature on a given construct when one label (i.e., organizational climate) is used for measures that measure different constructs. Jangle fallacies are present when two measures have different labels but actually refer to the same underlying construct (Marsh et al., 2019). Jingle- and jangle fallacies are problematic for research as they create a "conceptual mess" (Bong, 1996, p. 351) that makes it difficult for scholars to identify relevant constructs, understand underlying processes that are shared across similar measures with different labels, or find appropriate measures. For this dissertation, I reviewed all articles on organizational climate or social norms that were published in the *Journal of Applied Psychology* over the past 10 years (i.e., 2014-2024) and found evidence for jingle- and jangle fallacies in the literature on organizational climate. The overview of definitions, measures, and exemplary items in articles investigating organizational climate is presented in Table A1 in the Appendix. The overview of definitions, measures, and exemplary items in articles investigating social norms is presented in Table A2 in the Appendix.

Jingle fallacies can be uncovered when looking at definitions, operationalizations, and items of organizational climate that scholars have used over the years. In the literature on organizational climate, there is some heterogeneity in definitions. While most scholars define organizational climate as employees' shared perceptions of their organization's policies, practices, and procedures (e.g., Schneider et al., 2017), sometimes norms are mentioned in the definition of organizational climate (e.g., Beus et al., 2023; Priesemuth & Schminke, 2024).

However, there is no further elaboration on what kinds of norms are meant and why they constitute a part of organizational climate. For example, Priesemuth and Schminke (2024) define organizational climate as "shared perceptions of both formal and informal policies, practices, procedures, and norms in organizations" (p. 2). It could be argued that the authors do not mean social norms, but rather use the term norms to refer to informal rules that are established in the organization (as a part of organizational climate). However, other authors define organizational climate by including social norms or even solely referring to social norms (e.g., for cooperation climate: "shared perception that employees can count on their coworkers for assistance and that there is a spirit of cooperativeness among colleagues"; Fisher, 2014, p. 725). This conceptual vagueness and variability results in very different approaches to the measurement of organizational climate as scholars use very different measures for organizational climate. To illustrate, scholars who define organizational climate with an emphasis on policies, practices, and procedures implemented by (top) management, measure organizational climate with items that mostly refer to actions and expectations of (top) management. For example, Ward and colleagues (2022, p. 634) measure diversity climate using items like: "I feel that my immediate supervisor does a good job of managing people with diverse backgrounds". In contrast, scholars who define organizational climate with an emphasis on team members' actions tend to measure organizational climate with items that refer to employees' perceptions of their coworkers' behavior. For instance, Zhang and colleagues (2023, p. 1704) measure service climate with items like: "Members in my team place a strong emphasis on patients' health and safety". In addition to this jingle fallacy, the measurement of perceived actions of coworkers is, by definition, a measurement of social norms, which constitutes a jangle fallacy.

Jangle fallacies can be detected by looking at definitions, operationalizations, and items scholars have used in their research on one construct (i.e., organizational climate) and comparing them to operationalizations and items scholars have used in research on a, by label,

different construct (i.e., social norms). In the literature on organizational climate and social norms, it is apparent that some scholars operationalize organizational climate with measures that are non-distinguishable from measures of social norms (e.g., Resick et al., 2023; Zhang et al., 2023), indicating that both constructs are not clearly separated in the literature. For example, Fisher (2014) measures cooperation climate with items like "The people I work with cooperate to get the job done". These items are almost identical to a measure used by Shen and Benson (2016) to assess descriptive cooperation norms (e.g.: "there is a high level of cooperation between team members"). More examples for the assessment of organizational climate with measures that could also be used to measure social norms can be found in several studies that are included in Table A1 in the Appendix (e.g., David et al., 2023; Naveh & Katz-Navon, 2015; Resick et al., 2023; Zhang et al., 2023). Importantly, these examples are, due to their sheer number, not isolated cases but reflect a murkiness of the construct of organizational climate. Therefore, I deem it necessary to address this overlap of organizational climate and social norms conceptually and propose how to distinguish between both constructs.

Drawing on the core aspects of the definitions of organizational climate and social norms, I suggest that social norms are the consequence of and not a part of organizational climate. The main argument for this lies on the organizational level both constructs refer to. Organizational climate is, at least in most review and conceptual articles, defined with an emphasis on the actions and expectations of the (top-)management (e.g., Kuenzi et al., 2020; Schneider et al., 2017). In contrast, scholars investigating social norms tend to refer to beliefs that employees hold about members of their social group within their immediate surrounding (i.e., their coworkers, e.g., Bamberger & Biron, 2012). For instance, in a recent study, injunctive incivility norms were defined as "employees' perceptions concerning the degree to which other organization members engage in uncivil behavior (descriptive) or perceptions concerning the degree to which other organization members approve of uncivil behavior

(injunctive)" (S. G. Taylor et al., 2022, p. 1289). And they were measured with items asking whether their coworkers would approve of given behaviors, such as to "put down others or be condescending to them" (p. 1292) for injunctive norms. For an overview of further definitions of social norms and the exemplary items used to measure them in recent research, see Table A2 in the Appendix.

In addition to the conceptualization of organizational climate and social norms on different levels of organizational conduct, organizational climate and social norms can be differentiated in terms of their formality (Ehrhart & Naumann, 2004). Organizational climate may include informal aspects of organizational conduct, but it is mostly defined through the shared perceptions of organizational policies, practices, and procedures (e.g., Schneider et al., 2017). In contrast, social norms are uniquely informal (e.g., Cialdini & Trost, 1998). Further, organizational climate is solely descriptive while social norms both describe, through descriptive norms, and prescribe, through injunctive norms (Ehrhart & Naumann, 2004).

Building on these arguments, I propose that organizational climate represents a more distal factor in employees' working life that shapes and manifests in the social norms of employees' more proximal surroundings. The underlying rationale for an association of organizational climate and descriptive norms is that employees who perceive higher levels of organizational climate are more prone (e.g., through salience and priming) to perceiving a higher amount of target behavior of their coworkers in their immediate surroundings (Higgins et al., 1977; Srull & Wyer, 1979). For instance, when top management regularly sends communications of the relevance of conserving energy at work, pro-environmental behavior as a topic will become more salient and employees might be more observant of their coworkers' pro-environmental behavior. This eventually leads them to perceiving more pro-environmental behavior of their coworkers. Furthermore, organizational climate should be related to injunctive norms because it provides employees with a cue of what behavior might be expected of them. For example, when top management regularly sends out safety

equipment to all employees, employees might perceive that their coworkers expect them to use this safety equipment and put a greater emphasis on safety. These increased perceptions of social norms will then, through the process of social influence, affect employees' behavior at work. On the unit-level of analysis, individual perceptions of social norms constitute a unit's collective social norm (e.g., Chung & Rimal, 2016; Ehrhart & Naumann, 2004) which is in turn expected to relate to unit-level behavior (an aggregate of individual employee behavior; Morgeson & Hofmann, 1999).

### *The Moderating Roles of Organizational Identification and Climate Strength*

This proposed indirect effect of organizational climate on employee behavior should be contingent on two boundary conditions that can be derived from theories of attitude and behavior change. Specifically, I propose that climate strength and organizational identification can explain *when* organizational climate is indirectly related to employee behavior via descriptive and injunctive norms.

Regarding the link of organizational climate and social norms, situational strength theory provides propositions for when organizational climate will be related to social norms in the workplace. Applied to the construct of organizational climate, situational strength is conceptualized as climate strength, which is the degree of agreement between employees of an organization in their organizational climate perception (Schneider et al., 2002). Integrating the main argument of situational strength theory into organizational climate research, the prediction is that organizational climate affects employee outcomes especially under unambiguous circumstances. An ambiguous situation in the organizational context would be present when policies, practices, and procedures by (top) management are not consistent, as indicated by larger variations in employees' perceptions thereof. In contrast, organizational climate is unambiguous when policies, practices, and procedures are the same for all organizational members across time. Therefore, consequences of organizational climate should be especially strong under unambiguous circumstances (i.e., a strong climate; Dickson

et al., 2006; González-Romá et al., 2002; Schneider et al., 2002). Empirical research substantiates these claims and shows that organizational climate is more strongly related to outcomes when climate strength is higher. For instance, climate strength amplified the positive association of diversity climate and collective positive affect (Reinwald et al., 2019), or procedural justice climate and team performance as well as team absenteeism (Colquitt et al., 2002). I further extend this research by suggesting that climate strength moderates these indirect effects because organizational climate establishes stronger social norms when climate strength is high. Specifically, I build on an assumption inherent to situational strength theory that individuals are more certain about social norms in strong situations (Mischel, 1973). This means that climate strength amplifies the association of organizational climate and employee behavior because a higher climate strength will make employees more certain about the social norms in their surroundings. Further, research that has shown that social interactions increase climate strength (González-Romá et al., 2002) and therefore, employees should be more certain about social norms when they talk about their organization's policies, practices, and procedures with their coworkers.

Regarding the link of social norms and employee behavior, the social identity approach can be integrated into my theoretical framework to derive propositions on when social norms should be predictive of employee behavior. Specifically, the social identity approach suggests that organizational identification moderates the association of both descriptive and injunctive norms and employee behavior and thereby also moderates the indirect effect of organizational climate on employee behavior via descriptive and injunctive norms. This assumption is in line with Turner's (1985) theorizing on referent informational influence and applies these general theoretical arguments to the organizational context. Organizational identification is a form of social identification in the work domain and describes how strongly employees categorize themselves as a part of the organization they work in (e.g., E.-S. Lee et al., 2015; van Dick, 2001). Therefore, I propose that employees

who identify less strongly with their organization will not care as much about descriptive norms or injunctive social norms in the organizational context. In contrast, employees who more strongly identify with their organization will be more observant of the actions of their coworkers and will be more incentivized to comply with surrounding descriptive and injunctive norms.

### *A Self-Perception Theory Perspective on Spillover*

A theoretical lens to explain organizational climate *spillover* into the non-work domain is provided by self-perception theory (Bem, 1972). Self-perception theory is useful to understand organizational climate spillover because organizational climate is most strongly connected to employee behavior (and behavior change) at work and self-perception theory focuses on how behavior change relates to attitude change. In contrast, other theories explaining spillover from the work to the non-work domain and vice versa focus on strain- or resource-based spillover and are therefore not suited to investigating behavioral spillover (e.g., Bolger et al., 1989; ten Brummelhuis & Bakker, 2012; Westman, 2001). Integrating the arguments provided by self-perception theory into the phenomenon of organizational climate induced behavioral spillover from the work to the non-work domain, I suggest that organizational climate spillover occurs due to a self-perception process. In other words, when employees behave in line with their organization's climate while they are working, the self-perception process will lead to them being convinced that showing this kind of behavior is important to them only because they are used to showing this behavior during work. This will lead to them inferring that they have more positive attitudes about the specific domain of organizational climate in general and make them behave in line with their organization's climate even when they are not at work.

For example, in organizations with higher levels of pro-environmental climate, employees will show more pro-environmental behavior, such as advocating for more sustainable production practices to supervisors, while they are working. This will evoke the

self-perception that protecting the environment is important to them. When they now leave organizational boundaries and are confronted with choices that are relevant for the environment (e.g., choice of taking a car vs. public transportation; choice of purchasing meat vs. vegan alternatives) they will be more likely to choose the pro-environmental alternative and hold stronger pro-environmental attitudes. Importantly, this self-perception process is not limited to attitudes and behaviors that map closely to behavior shown in the workplace but can relate to the general domain of the behavior shown.

As outlined above, self-perception theory can only serve as a theoretical lens when the behavior that employees show at the workplace due to their organization's climate is not counter-attitudinal (Fazio et al., 1977). I argue that employees hold neutral to positive attitudes regarding most behaviors that are targeted by organizational climate (e.g., health behavior, safety behavior, pro-environmental behavior). Therefore, I choose self-perspective theory as the main theoretical lens to investigate organizational climate spillover. However, under some circumstances employees might have stronger attitudes due to non-work-related individual differences, such as political attitudes. Under these circumstances, attitude changes cannot be explained by self-perception theory but rather by the cognitive dissonance theory.

**The Case of COVID-19 Safety Climate**

In the previous sections, I proposed a theoretical framework to explain effects of organizational climate that is domain-independent (i.e., that should apply to all domains of organizational climate). However, as organizational climate always needs a referent (Schneider, 1983), this theoretical framework is only testable when organizational climate refers to a specific domain of organizational climate. In this dissertation, I focus on COVID-19 safety climate as a COVID-specific type of organizational safety climate. COVID-19 safety climate focuses on COVID-19 prevention, which was relevant during the COVID-19 pandemic, to slow down the spread of COVID-19. The COVID-19 pandemic was a global pandemic and lasted from March 2020 until May 2023. During this time, the life of all people

was fundamentally changed by restrictions on social interactions and travel, alterations of working life, and increased mortality salience (e.g., Ernst et al., 2022; Gruber et al., 2021; Hu et al., 2020; Kniffin et al., 2021). Therefore, COVID-19 safety climate and its associations with COVID-19 prevention outcomes were of high practical relevance but also an appealing domain of organizational climate to test my theoretical framework as the topic was highly salient in organizations.

COVID-19 safety climate shares similarities to organizational climates of safety and health behavior, for example, organizational safety climate (Zohar, 2002) or organizational health climate (Zweber et al., 2016). All these types of organizational climate focus on safety and health-related aspects of the work environment and aim to shape employee behavior to reach a climate specific goal (e.g., reducing accidents, promoting health and well-being). Similar to research on safety and health climate, research on COVID-19 safety climate has demonstrated that COVID-19 safety climate is related to employees' COVID-19 safety behavior in the workplace (Bazzoli & Probst, 2022; Hubert et al., 2022).

Derived from the general definition of organizational climate, COVID-19 safety climate is defined as the employees' shared perception of organizational policies, practices, and procedures that are related to COVID-19 prevention. It therefore includes employees' perceptions of their organizations policies, practices, and procedures to enable telework or to provide sufficient tools for employees' safety behavior, such as wearing face masks, supplying and encouraging the use of rapid tests, as well as providing air purifiers for interior spaces. COVID-19 safety behavior, in turn, is the actions employees take to protect themselves and others from infection with COVID-19. For example, this includes keeping an appropriate distance from others, when possible (e.g., at least 1.5 meters), wearing face masks, or staying at home when feeling sick. Employees can show COVID-19 safety behavior at the workplace but also in their non-work time. It is therefore feasible to study spillover effects of COVID-19 safety climate on COVID-19 safety behavior. Importantly, in Chapter 3,

I use the term adherence to COVID-19 guidelines instead of COVID-19 safety behavior. However, both terms describe the same underlying behavior and the difference in terminology is merely due to whether there were governmental policies in place or not. Relevant attitudes for COVID-19 prevention in the non-work domain are COVID-19 vaccination attitudes, as vaccination was assumed to be the only way out of the COVID-19 pandemic (e.g., Altmann & Boyton, 2022). A common measure of vaccination attitudes is vaccine readiness (Betsch et al., 2018). Vaccine readiness consists of the dimensions of confidence, constraints, complacency, calculation, and collective responsibility, which, in turn, have been shown to relate to actual vaccination. Confidence describes the amount of trust people have in the safety and effectiveness of vaccination. Constraints refer to how many barriers people perceive to getting vaccinated (e.g., accessibility). Complacency entails whether people believe that they are threatened by infection if they do not get vaccinated. Calculation refers to how much information people seek about the advantages and drawbacks of getting vaccinated. And collective responsibility describes people's feelings of responsibility to protect their community from infection by getting vaccinated themselves. In my dissertation, I focus on confidence and collective responsibility as core dimensions of vaccine readiness that I deemed most relevant for the specific case of the newly developed COVID-19 vaccine.

**Dissertation Outline**

In this dissertation I present four studies that are divided into three manuscripts (of which two manuscripts are already published). In all chapters, I investigate the consequences of COVID-19 safety climate, either in the work domain or the non-work domain and each manuscript is presented in one chapter (Chapter 2-4). An overview of the focus of each manuscript is depicted in Figure 1.2. Importantly, I conducted all these studies with other scholars. Therefore, I will use the term "we" when presenting these studies in more detail. I will provide a full author list in a footnote at the beginning of each chapter. All studies

presented in this dissertation were financially support by a grant of the German Research Foundation (DFG) that was awarded to my co-authors Andreas Mojzisch and Jan. A. Häusser.

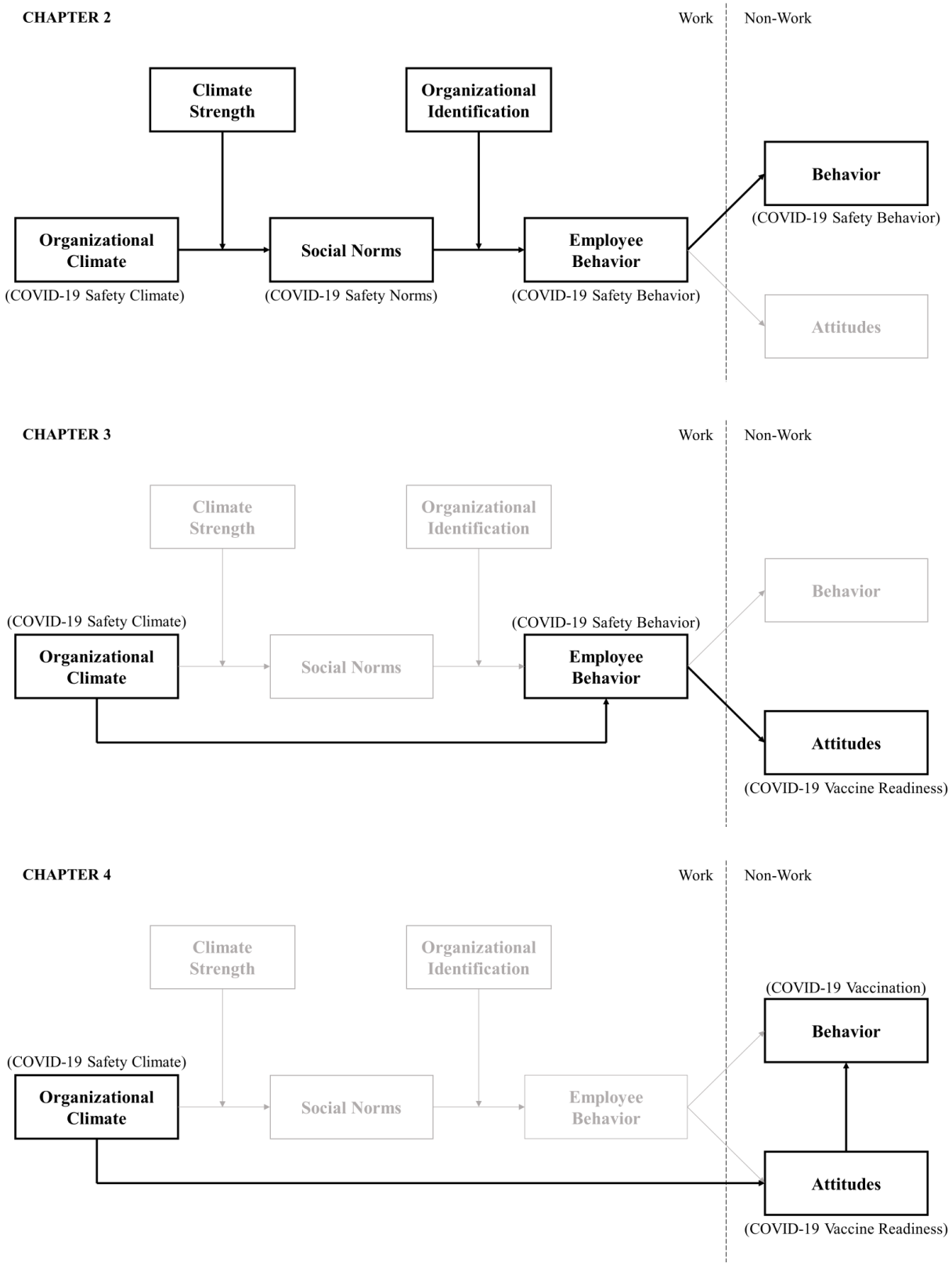
Chapter 2 consists of two studies that investigated the association of COVID-19 safety climate and employee COVID-19 safety behavior with a focus on the mediating role of social norms and the moderating roles of climate strength and organizational identification. The first study employed a time-lagged design with 351 employees over two measurement points. The first measurement point was in April 2020, directly at the beginning of the pandemic and therefore at a time when COVID-19 safety climate was established in organizations. In the second study, we collected data of 646 employees nested in 196 teams over three measurement points later during the pandemic. The focus of this manuscript lies on the association of organizational climate and employee behavior at the workplace. However, we also collected data on employees' behavior in the non-work domain and I present the results of supplementary analyses investigating spillover effects in this chapter.

Chapter 3 presents the third study of my dissertation which investigated organizational climate spillover. Specifically, the aim of this manuscript was to investigate whether organizational climate relates to more distal attitudes in the non-work domain that are not relevant to the work domain. Therefore, we collected data from 351 employees and investigated whether COVID-19 safety climate was related to employees' COVID-19 vaccine readiness. We further tested the proposed self-perception mechanism in this chapter and investigated the mediation role of COVID-19 safety behavior in the workplace.

Chapter 4 presents the fourth study of my dissertation which aimed to replicate and extend the findings presented in Chapter 3. We collected data from 1,158 employees located in the United States and investigated whether political affiliation (i.e., Democratic or Republican) moderated the association of COVID-19 safety climate and COVID-19 vaccine readiness. Further, we investigated whether these associations extended to employees' vaccination behavior (i.e., the amount of COVID-19 vaccine shots received).

**Figure 1.2**

*Conceptual Overview of Dissertation Publications*



In the final chapter (Chapter 5), I will briefly summarize the results of the empirical studies that are part of this dissertation (Chapter 2-4) and discuss these results under consideration of the overarching theoretical framework. Additionally, I will discuss the practical implications, elaborate on the strengths and limitations of this dissertation, and provide directions for future research.

## Research Goals and Contributions

My dissertation aims to answer the following research questions:

- Why does organizational climate affect employee behavior?
- When does organizational climate affect employee behavior?
- How can we understand the phenomenon of organizational climate spillover?
- How distal are attitudinal and behavioral outcomes of organizational climate?

By trying to provide answers to these questions, I aim to make the following contributions to organizational climate theory and research. The contributions are clustered into two main topics: First, contributions to the understanding of organizational climate as a construct and the *why* and *when* of associations of organizational climate and employee behavior. Second, contributions to our understanding of the process of organizational climate *spillover*.

### *Organizational Climate and Employee Behavior*

With this dissertation, I provide a social psychological perspective of theories of attitude and behavior change on the research topic of organizational climate. This increases the understanding of organizational climate as it enables me to draw on a well-established stream of research to understand the process of *why* and *when* organizational climate affects employee behavior. First, this approach points out the necessity to unravel the emerging jingle- and jangle-fallacies in the literature on organizational climate. Scholars have increasingly started to operationalize organizational climate with measures that are indistinguishable from measures of social norms which makes it difficult to differentiate

between both constructs. Thereby, this dissertation aims to demarcate both constructs and come to a shared understanding of the relationship between both constructs. Second, by differentiating between descriptive and injunctive norms, it is possible to gain underlying motivational insights into why employees comply with their organization's climate (Deutsch & Gerard, 1955). This has important implications for theory building and practice as we can infer whether employees comply with their organization's climate due to uncertainty or reward expectations. Third, my theoretical approach enables me to connect theoretically aligned attenuating and amplifying variables of the literature on attitude and behavior change to research on organizational climate. Specifically, I integrate research on climate strength into my theoretical framework. I propose that previously found moderating effects of climate strength on employee behavior have been found because higher levels of social norms are established when employees share their perceptions of organizational policies, practices, and procedures (i.e., the climate is strong). Finally, I connect research on social identification as an enabling variable for effects of social norms on attitudes and behavior to research on organizational climate (Spears, 2021). Thereby, I provide a rationale for why associations of organizational climate and behavior are stronger for some employees (i.e., who more strongly identify with their organization).

### *Organizational Climate Spillover*

With this dissertation, I further provide a new theoretical perspective on organizational climate spillover. This is necessary because previous theorizing on spillover between the work and non-work domain focused on strain-based and resource-based spillover (e.g., Bolger et al., 1989; ten Brummelhuis & Bakker, 2012; Westman, 2001). However, organizational climate is most strongly connected to attitude and behavior change. Therefore, organizational climate spillover is predominantly behavioral or attitudinal. Developing a theoretical perspective for behavioral spillover not only contributes to the organizational climate literature but can also be applied to the broader (behavioral) spillover literature. This is a

relevant contribution for several reasons: It allows researchers to derive testable predictions, provides practitioners with an understanding of what is going on, and can further guide policymaking (Aguinis & Cronin, 2022). Next, my dissertation contributes to the emergent body of research of organizational climate spillover by investigating spillover from behavior shown in the work domain (i.e., COVID-19 safety behavior) into the same behavior in the non-work domain, thereby complementing initial studies that showed behavioral spillover in other domains of organizational climate. I further extend this body of research by investigating how far organizational climate spillover reaches. Specifically, by investigating more distal attitudes (i.e., COVID-19 vaccine readiness) and behaviors (i.e., COVID-19 vaccination) that are not relevant for the work domain, this dissertation can potentially establish the organizational context as an additional factor that is relevant to mastering public challenges.

# CHAPTER 2

## Social Norms Mediate the Effects of Organizational Climate on Employee Behavior

## Social Norms Mediate the Effects of Organizational Climate on Employee Behavior[1]


### Abstract

Organizational climate is widely acknowledged as a framework to study organizational influences on employee behavior. However, we still lack a sound theoretical understanding of the mechanisms and conditions of *why* and *when* organizational climate exerts its effects. In our research, we conceptualize the organization as a social context and, hence, draw on theories of social influence to propose a theoretical framework for the effects of organizational climate. Specifically, we propose that the effects of organizational climate are driven by social norms and are amplified by both climate strength and organizational identification. We conducted two preregistered studies (Study 1: N = 351 employees with two measurement points; Study 2: N = 646 employees nested in 196 teams with three measurement points). We found support for our hypothesis that the relationship between organizational climate and employee behavior is mediated through social norms (especially through descriptive norms). This finding was robust across studies and levels of analysis (unit- and employee-level). In Study 2, we further found evidence that this indirect association is moderated (stage-2 moderation) by employees' identification with their organization, with stronger associations for more strongly identified employees. Our results enhance knowledge on why and when organizational climate can affect employee behavior.


*Keywords*: organizational climate, social norms, organizational identification, climate strength

[1] The studies of this manuscript were conducted together with Jan A. Häusser, Philipp Hubert, Sascha Abdel Hadi, and Andreas Mojzisch, and submitted to a scientific journal.

## Introduction

Organizations can affect their employees' attitudes and behavior in a wide range of domains. For example, research has shown that organizations can improve employees' safety behavior, employees' health behavior (e.g., healthy eating) at work, or their work-related innovation and creativity (e.g., Clarke, 2006; Pirola-Merlo & Mann, 2004; Sonnentag et al., 2017; West & Anderson, 1996). An approach to explain these organizational influences on employee behavior is organizational climate, which is constituted by employees' shared perceptions of, and the meaning attached to the policies, practices, and procedures within an organization (Schneider et al., 2013, 2017).

Whereas the effects of organizational climate on employee behavior have been established in the literature, theorizing on key mechanisms (i.e., mediators) and conditions (i.e., moderators) shaping the effects of organizational climate on employee behavior is incoherent. This is largely due to domain-specific investigations of organizational climate (for a discussion, see Beus et al., 2023; Kuenzi & Schminke, 2009). Although we acknowledge that domain-specific investigations of organizational climate are necessary to derive predictions for specific types of employee behavior (Schneider,1983), these investigations tend to limit the general theoretical development of organizational climate theory (Beus et al., 2020, 2023).

To overcome this limitation, we follow the recent endeavor of developing a domain-independent, integrated theory of organizational climate which yields answers to the questions of *why* and *when* organizational climate affects behavior (Beus et al., 2023), and that can, in turn, be applied to and tested in domain-specific contexts. In our research, we build on the fundamental assumption that organizations constitute a social context (Katz & Kahn, 1978) and propose that principles of social influence can explain *why* organizational climate affects employee behavior. Drawing on the theory of normative conduct (Cialdini et al., 1990), we propose that the effects of organizational climate are driven by social norms in the workplace.

In the literature, the research domains of organizational climate and social norms are sometimes implicitly entwined (e.g., Dickson et al., 2001; Norton et al., 2014). However, there has been little theoretical development or empirical research directly addressing the relationship between these two constructs. Here, we provide a theoretical framework proposing social norms as a mediator for the relationship between organizational climate and employee behavior. In line with the literature on social influence and social norms (Cialdini et al., 1990), we differentiate between descriptive and injunctive norms, as both types of norms influence behavior through distinct motivational mechanisms (Deutsch & Gerard, 1955; Cialdini, 2007).

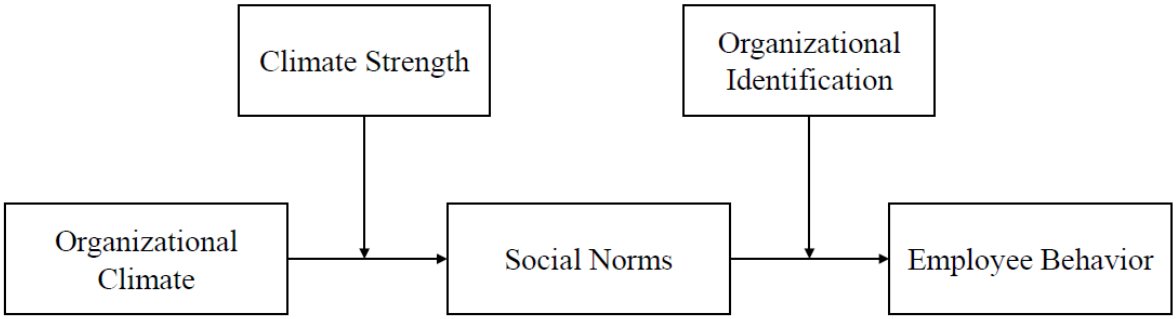
To obtain a more comprehensive understanding of *when* organizational climate affects employee behavior, we include two moderators in our conceptual model that are theoretically strongly aligned with the research domains of organizational climate and social influence. Specifically, we investigate the moderating role of climate strength (e.g., Schneider et al., 2002) for the relationship between organizational climate and social norms. Organizational climate should establish stronger social norms if climate strength is higher, that is, if climate perceptions are more strongly shared among employees (stage-1 moderation). Furthermore, we investigate employees' organizational identification (e.g., E.-S. Lee et al., 2015) as an amplifier of the relationship between organizational climate and employee behavior via social norms. Specifically, we expect employees who are more strongly identified with their organization to be more susceptible to the influence of social norms (stage-2 moderation). Our conceptual model is presented in Figure 2.1.

In our investigation, we use the case of safety climate and safety behavior with a focus on safety regarding COVID-19 infection prevention to test our theoretical framework. We conducted two preregistered studies (Study 1 with two measurement points, Study 2 with three measurement points) to empirically test our theoretical framework on the employee-

(Study 1 and Study 2), and unit-level (Study 2). Preregistrations are available at https://aspredicted.org/9C9_GSM (Study 1) and https://aspredicted.org/XP8_D62 (Study 2).[2]

**Figure 2.1**

*Conceptual Model*




We aim to make several contributions to the literature on organizational climate by connecting research on social influence with the literature on organizational climate. First, we conceptually disentangle organizational climate and social norms. This is an important extension to the literature on organizational climate, as it provides an explanation of *why* organizational climate influences unit-level and employee-level behavior. Second, by differentiating between descriptive and injunctive social norms we provide an in-depth analysis of which types of social norms, and corresponding underlying motivations to conform, are most important in explaining the effects of organizational climate on employee behavior (Deutsch & Gerard, 1955). Third, our approach provides opportunities to investigate amplifying and attenuating variables that are theoretically aligned with the literature on social influence. In particular, we connect research on social identification as a moderator of the social norms – behavior link (Spears, 2021) to the literature on organizational climate. We thereby position organizational identification as a relevant moderator variable in the literature

[2] Please note that we preregistered an additional hypothesis regarding spillover processes which we ultimately decided to not report in the main analyses because it goes beyond the scope of this manuscript. However, we provide and statistical tests of this spillover hypothesis in the online supplementary material.

on organizational climate that can explain why effects of organizational climate are more pronounced for some employees than for others. Moreover, building on situational strength theory (Meyer et al., 2010), we examine if sharedness of climate perceptions (i.e., climate strength) is a boundary condition for the translation of organizational climate into social norms. Finally, we aim to contribute to the ongoing discussion on the appropriate level of analysis of organizational climate (e.g., Kessler, 2019; Ward et al., 2022) and test our theoretical model on both the unit- and the employee-level of analysis.

## Theoretical Framework

Organizational climate can be defined as employees' shared perceptions of an organization's policies, practices, and procedures (e.g., Schneider et al., 2017; Zohar & Hofmann, 2012) and was originally conceptualized as a global construct encompassing multiple dimensions that explain employee behavior (Kuenzi & Schminke, 2009). A shortcoming of this approach is that it is difficult to derive clear predictions regarding associations of organizational climate and specific types of employee behavior (Schneider, 1983). To overcome this issue, scholars started to investigate domain-specific forms of organizational climate (i.e., focused approach) like safety climate or service climate (Schneider, 1983; Zohar, 1980). Although this approach was useful in making specific predictions about specific types of employee behavior (e.g., safety behavior, customer orientation), research on organizational climate has been rather disconnected in its development. This makes it difficult to apply theoretical insights from one domain of organizational climate research to another and therefore decelerates research in all domains of organizational climate (Beus et al., 2020; Kuenzi & Schminke, 2009). It is therefore necessary that researchers make broader predictions on the functioning of organizational climate(s) that are then tested in domain-specific climates for generalizability, assuming that, in principle, different types of organizational climate function similarly (Beus et al., 2023). Note that we do not criticize researchers investigating domain-specific climates, as this is necessary to

meaningfully investigate broader theoretical claims. However, we believe that it is useful to theorize on a more general level and propose mechanisms and conditions that should apply to all (or most) domain-specific types of organizational climate and therefore accelerate research domain-independently. In our theoretical framework, we therefore propose mediators and moderators of organizational climate that can be applied to different types of organizational climate.

### *The Mediating Role of Social Norms*

In our research, we take the theoretical perspective of social influence (e.g., Asch, 1956; Sherif, 1935) to make domain-independent predictions on *why* organizational climate affects employee behavior. We argue that the organization is a social context to which theories of social influence can and should be applied to. Drawing on the theory of normative conduct (Cialdini et al., 1990; Cialdini & Goldstein, 2004), a highly influential theory of social influence, we propose that organizational climate affects employee behavior through social norms.

Social norms are broadly defined as "what an individual holds true about others in the social group and/or about what others in the social group do or believe" (Legros & Cislaghi, 2020, p. 67). A crucial differentiation in the conceptualization of social norms is the distinction between descriptive and injunctive norms (Cialdini et al., 1990). Descriptive norms are defined as an individual's perceptions of their surroundings' observable actions. They therefore refer to the typical behavior other people show in a given situation. In contrast, injunctive norms refer to what individuals perceive that their others in their immediate surrounding think should be done in a given situation. Injunctive norms are therefore about what individuals think other people would approve or disapprove of (Cialdini & Goldstein, 2004).

In previous research, the domains of organizational climate and social norms have been sometimes implicitly entwined. For example, norms are sometimes mentioned *en*

*passant* in the definition of organizational climate with no further elaboration on norm content or why they are believed to constitute a part of organizational climate (e.g., Beus et al., 2023; Priesemuth & Schminke, 2024). Furthermore, in some cases, organizational climate is operationalized with measures that show a strong resemblance to measures of descriptive norms (e.g., Resick et al., 2023; Zhang et al., 2023). While we completely agree that organizational climate and social norms are conceptually related, we still believe that they are two different constructs and, hence, it is necessary to disentangle them.

Drawing on the definitions of both organizational climate and social norms, we argue that social norms are not a part but rather a consequence of organizational climate. Our main argument relies on the levels of operation used in the definitions of organizational climate and social norms. According to the most prominent conceptualizations, organizational climate refers to employees' shared perception of organizational policies, practices, and procedures that are implemented by the (top-) management of an organization or by employees' supervisors (Schneider, 1983). To illustrate, an exemplary item of the safety climate scale by Zohar & Luria (2005, p. 591) reads as follows: "Top management in this plant/company reacts quickly to solve the problem when told about safety hazards." Similarly, an exemplary item of the diversity climate scale by Ward et al. (2022, p. 634) reads as follows: "I feel that my immediate supervisor does a good job of managing people with diverse backgrounds." Finally, an exemplary item of the service climate scale by Schneider et al. (1998, p. 154) reads as follows: "My manager recognizes and appreciates high quality work and service". Social norms, by contrast, tend to operate in the immediate surroundings of employees and, hence, refer to beliefs that employees hold about the members of their social group, that is, their coworkers. For example, a recent study (S. G. Taylor et al., 2022) measured injunctive incivility norms by asking employees to indicate the extent to which their coworkers would approve of uncivil behaviors. Similarly, in a study on absence norms (Biron & Bamberger, 2012), employees were asked to think about two coworkers with whom they felt strongly

connected and were then asked to indicate the degree to which these coworkers viewed possible reasons for absence as "justifiable."

Building on these definitions and operationalizations of the two constructs, we suggest that organizational climate constitutes a more distal factor in employees' working lives that manifests itself and trickles down into the social norms of employees' more proximal surrounding. In particular, when employees perceive higher levels of organizational climate, the corresponding types of behaviors that their coworkers show are more likely to become more salient or even prime employees to perceive more target behavior in their surroundings (Higgins et al., 1977; Srull & Wyer, 1979). This should relate to stronger perceptions of descriptive norms. To illustrate, when top management regularly schedules training for safety improvement, safety as a topic should be more salient to employees, and employees will be more observant of their coworker's safety behavior. Furthermore, stronger organizational climate perceptions might provide employees with a cue when thinking about what behavior is expected of them. This should relate to stronger perceptions of injunctive norms. To illustrate, when organizations regularly send out new safety equipment, employees might believe that wearing this safety equipment is expected by their immediate coworkers.

Social norms, in turn, inform employee behavior through the process of social influence (e.g., Deutsch & Gerard, 1955; Sherif, 1935). Both descriptive and injunctive norms transmit social influence but are influential due to different motivational processes (Deutsch & Gerard, 1955) that can explain *why* employees comply. Descriptive norms affect behavior because they provide employees with value-neutral information (Legros & Cislaghi, 2020) which lead them to assume that the most prevalent behavior in their immediate surroundings is the most adaptive (e.g., Cialdini, 2007). Injunctive norms, in contrast, influence behavior because they transmit external obligations (Legros & Cislaghi, 2020) which lead employees to expect that their behavior will be evaluated (and incentivized or punished) by their coworkers (e.g., Cialdini et al., 1990). Accordingly, descriptive and injunctive norms influence behavior

because they provide employees with information on what behavior their coworkers show (descriptive norms) and how their coworkers will evaluate their behavior (injunctive norms).

Importantly, social norms (i.e., descriptive and injunctive norms) operate foremost on the individual level, as they refer to how individuals perceive the social norms in their immediate social context (Legros & Cislaghi, 2020). Nonetheless, social norms can become collective in a social system, such as an organization, through social interaction and sensemaking and subsequently affect collective behavior (Chung & Rimal, 2016). Therefore, like organizational climate, which is a shared perception of all employees' perceptions combined, collective social norms constitute a shared perception of employees perceived descriptive and injunctive norms (Fulmer & Ostroff, 2016), which are in turn related to unit-level behavior (an aggregate of individual employee behavior; Morgeson & Hofmann, 1999).

We preregistered our hypotheses to capture the main idea of our theoretical framework. In line with our more specific theoretical arguments, we will differentiate between descriptive and injunctive norms as mediators of organizational climate and investigate all hypotheses on the unit- and employee-level.

*Hypothesis 1*: Organizational climate is related to employee behavior.

*Hypothesis 2*: The relationship between organizational climate and employee behavior is mediated by social norms.

### *The Moderating Role of Climate Strength and Organizational Identification*

Arguably, the indirect effect of organizational climate on employee behavior should be contingent on several boundary conditions. In our investigation, we build on situational strength theory (Meyer et al., 2010; Mischel, 1973) and the social identity approach (Tajfel & Turner, 1979; Turner, 1985) to propose two theoretically aligned moderator variables for the indirect effect of organizational climate on employee behavior.

**First Stage Moderation by Climate Strength.** Situational strength theory suggests that the effectiveness of organizational climate depends on the variability of a unit's

perception of their organizational policies, procedures, and practices (Schneider et al., 2002). Broadly, situational strength refers to "implicit or explicit cues provided by external entities regarding the desirability of potential behaviors" (Meyer et al., 2010, p. 122) that can configure individual behavior. Applied to the concept of organizational climate, the effects of organizational climate should particularly (or even only) be found when the organizational context constitutes a strong situational cue. Therefore, organizational climate should have stronger effects when its perceptions are more strongly shared among employees. Empirical research has confirmed this assumption and has found that the effects of organizational climate are more pronounced when climate perceptions are more strongly shared among employees (i.e., a strong organizational climate). For example, moderating effects of climate strength have been found for diversity climate, psychosocial safety climate, and service climate (e.g., Dollard et al., 2012; Reinwald et al., 2019; Schneider et al., 2002). In the present study, we extend this line of theoretical reasoning and empirical research by arguing that climate strength acts as a first stage moderator in the mediation model described above. Specifically, we build on research that shows that climate strength increases through social interactions between employees (González-Romá et al., 2002). We argue that when stronger climates form during social interactions, employees will perceive more pressure to comply with organizational climate. Furthermore, note that weaker climates are likely to result when policies, practices, and procedures implemented by management are inconsistent (Schneider, 2013). In this case, organizational climate should be less likely to trickle down into social norms. In conclusion, we predict that organizational climate should have a stronger impact on the perception of social norms if climate strength is high. We therefore provide a new explanation for why previous research has found that climate strength moderates the effects of organizational climate on employee behavior. According to this explanation, climate strength is hypothesized to increase the likelihood that organizational climate is translated into descriptive and injunctive norms. Accordingly, we hypothesize that:

*Hypothesis 3*: The mediated relationship between organizational climate and employee behavior through social norms is moderated by climate strength, such that the indirect association is stronger when climate strength is higher (first stage moderated mediation).

**Second Stage Moderation by Organizational Identification.** Building on the social identity approach (Tajfel & Turner, 1979; Turner, 1985), we propose that the indirect effect of organizational climate on employee behavior is further contingent on employees' identification with their organization. The social identity approach integrates social identity theory and self-categorization theory and suggests that it is necessary to incorporate an individual's identification with different subgroups when investigating, for example, social influence (Spears, 2021). In general, individuals identify more or less strongly with different groups or social categories they belong to. This identification is, in turn, related to individuals' susceptibility to social influence (Abrams et al., 1990; Duderstadt et al., 2024.; Terry & Hogg, 1996). In particular, Turner proposed that "uncertainty is a social product of disagreement between people categorized as identical to self" (Turner, 1985; p. 93). In this way, the social identity approach extends and challenges traditional approaches of social influence (e.g., Deutsch & Gerard, 1955) and stresses the importance of incorporating group identity when investigating the effects of social norms. In line with the social identity approach, there is evidence that group norms become relevant to behavior only for individuals who identify strongly with the respective group (e.g., Terry & Hogg, 1996). Employees who only weakly identify with their organization should not care much about descriptive or injunctive social norms in the organizational context. In contrast, employees who are more strongly identified with their organization should be more observant of their surroundings and more incentivized to conform to surrounding descriptive and injunctive norms. Building on the social identity approach, we hence hypothesize that organizational identification acts as a second stage moderator in our mediation model. Taken together, we hypothesize that:

*Hypothesis 4*: The mediated relationship between organizational climate and employee behavior via social norms is moderated by organizational identification, such that the indirect association is stronger when organizational identification is stronger (second stage moderated mediation).

### *The Present Research*

In our research, we aimed to test the preregistered hypotheses of our moderated mediation model for the case of COVID-19 safety climate. From the start of the coronavirus pandemic, many organizations had implemented various safety practices and policies such as providing protective equipment and encouraging remote working in order to mitigate the spread of the virus. Employees' shared perceptions of these organizational safety policies and practices constitute the organization's COVID-19 safety climate (Bazzoli & Probst, 2022; Hubert et al., 2022). COVID-19 safety behavior, in turn, is the behavior employees enact to protect themselves and others from infection with COVID-19. This includes, for example, keeping an appropriate distance from others, when possible (e.g., at least 1.5 meters), wearing face masks, or staying at home when feeling sick.

COVID-19 safety climate shares similarities with other focused climates of safety and health behavior, for example, safety climate (Zohar, 2002) or health climate (Zweber et al., 2016). Similar to research on safety and health climate, research on COVID-19 safety climate has demonstrated that COVID-19 safety climate predicts employees' COVID-19 safety behavior at the workplace (e.g., Hubert et al., 2022). We conducted two preregistered studies (Study 1: N = 243 employees with two measurement points; Study 2: N = 646 employees nested in 196 teams with three measurement points) to test our hypotheses.

### Openness and Transparency

We describe our sampling plan, all data exclusions, and all measures in the study. Analysis code, research materials, data, and analysis code are available at the OSF (https://osf.io/f7m6s/?view_only=711aae56272e493eb10f2b2be67fbc9a). The hypotheses and

analysis were preregistered at https://aspredicted.org/9C9_GSM (Study 1) and https://aspredicted.org/XP8_D62 (Study 2). The data of Study 1 were part of a large data collection effort on various health aspects of the coronavirus pandemic. Please note, however, that we preregistered our hypotheses and key dependent variables prior to collecting the data of T2 in order to avoid cherry picking when analyzing the data. Parts of the data are already published (Hubert et al., 2022; Roswag et al., 2023). In contrast to the already published manuscripts, which focused on spillover of organizational climate on employees' attitudes and behaviors in non-work settings, the present research aimed to investigate the underlying mechanisms and boundary conditions of the effects of organizational climate in the workplace. More specifically, we here examined social norms as a mediator and organizational identification as a moderator of the effects of organizational climate, all variables that were not included in previous manuscripts. Furthermore, please note that the data of Study 2 were collected uniquely for the present manuscript and, hence, have not been used in prior publications. We provide more details on overlapping variables in the Data Transparency Appendix in the OSF.

## Study 1: Method

### *Sample and Procedure*

We conducted a longitudinal study with two measurement points over a time span of one year. In May 2020, we collected the first wave of data and in June 2021, we collected the second wave of data. The study therefore took place during the first year of the COVID-19 pandemic. At the first measurement point, we recruited 351 participants using the crowdsourcing platform Prolific. Participants had to be employed and work at least 20 hours per week. They received approx. $12 for participation at both measurement points. In the sample, 40.2% of the participants were male ($N = 139$), 59.2% were female ($N = 205$), and two participants (0.5%) identified with no binary gender group. The average age of our participants was 41 years ($SD = 11$), and they worked for 35.6 h on average ($SD = 7.9$) per

week. The highest educational degree that was most often reported was a bachelor's degree (38.4%, $N = 135$), followed by a master's degree (18.5%, $N = 65$) and further vocational qualifications (15.9%, $N = 56$). Most of the participants reported that they worked in a white-collar job (71.5%, $N = 251$).

Further, we conducted an attrition analysis to test whether there was any indication of biases in our sample. We conducted chi-squared tests and *t*-tests to analyze differences in the demographics (i.e., gender, age, highest educational degree) between participants at both measurement points and participants who provided answers at the first measurement point only. Results showed that participants who answered both questionnaires were on average 4.5 years older than participants who responded only at T1, $t(202.9) = -3.75$, $p < .001$. In contrast, for gender, $\chi^2(1, N = 351) = 0.57$, $p = 0.45$, education, $t(157.32) = -0.99$, $p = .32$, and perceived COVID-19 safety climate, $t(167.41) = 0.65$, $p = .51$, there was no difference between the two groups.

***Measures***

An overview of all items is presented in the OSF.

**Organizational Climate (T1)**. We measured organizational climate with the referent COVID-19 safety by adapting a safety climate measure (Zohar & Luria, 2005) to the context of COVID-19. The scale has been already published in other publications stemming from this project (blinded for peer-review) and consisted of seven items (sample item: “My organization offers support and provides me with equipment to deal with the circumstances resulting from the coronavirus pandemic”; 6-point scale with 1 = absolutely not true; 6 = absolutely true). Reliability was ω = .94.

**Descriptive and Injunctive Norms (T2)**. We measured both descriptive and injunctive norms regarding adherence to COVID-19 guidelines. Descriptive norms and injunctive norms were assessed using a six-item measure each that we adapted to the context of COVID-19 safety behavior (Gouin et al., 2021). Reliability was ω = .95 for the descriptive

norms measure and ω = .96 for the injunctive norms measure. Sample items for descriptive norms are "How strictly do your coworkers adhere to each of the following COVID-19 guidelines? Strictly wearing a face covering when they are at work.". Sample items for injunctive norms are "How strongly would your coworkers (dis)approve if they learned that you did NOT strictly wear a face covering when you are at work?". Items were measured on two different 5-point scales (1 = not strictly at all; 5 = very strictly) for descriptive norms (1 = they would approve; 5 = they would very much disapprove) for injunctive norms.

**Employee Safety Behavior (T1&T2).** We investigated the corresponding employee behavior to our measure of organizational climate and assessed COVID-19 safety behavior (sample item: "I reduce social contacts at work to the bare minimum"; 5-point scale with 1 = much less than I should; 6 = as much as I should). We developed this measure as part of our larger research project and built on WHO recommendations for behavioral COVID-19 prevention (WHO, 2020). This measure has been already published in other publications stemming from this project (blinded for peer-review). Reliability was ω = .89.

**Organizational Identification (T2).** We measured organizational identification using the four-item scale by Doosje et al. (1995). The scale's reliability was ω = .97. Items were measured on a 5-point scale (1 = strongly disagree; 5 = strongly agree; sample item "I identify with my organization.").

### *Factorial Structure*

We tested the factorial structure of our variables by testing several factor structures. First, we specified a model in which all items loaded on their respective factors (Measurement Model 1). This model showed an acceptable fit to the data, $\chi^2(449) = 692.871$, $p < .001$; comparative fit index (CFI) = .943; root-mean-square error of approximation (RMSEA) = .052; standardized root-mean-square residual (SRMR) = .057. Next, we specified a model in which both types of social norms were collapsed into a single factor (Measurement Model 2) and a model in which the norms and the COVID-19 safety climate items were collapsed into a

single factor (Measurement Model 3). Finally, we also specified a model in which all items loaded onto one factor (Measurement Model 4). Several chi-squared difference tests indicated that Measurement Model 1 fitted the data best (all Satorra-Bentler $\Delta\chi^2 > 246.28$, all *p*s < .001).

### *Analytical Approach*

We tested the preregistered hypotheses in two steps. First, we specified a multivariate path model with descriptive norms and injunctive norms as mediators to test the total and indirect associations of organizational climate at T1 and employee behavior at T2 (Hypothesis 1 and 2). Next, we specified a path model with the interactions of social norms and organizational identification included (Hypothesis 4). Study 1 was a test on the employee-level of analysis only and therefore we were not able to test the moderating effects of climate strength (Hypothesis 3). Mediation and moderation effects were estimated, by calculating bootstrapped standard errors using 5,000 bootstrap samples (Preacher et al., 2007). In all models, we included autoregressive pathways of employee behavior. We followed recommendations for handling of missing data (D. A. Newman, 2014) and estimated missing data applying the full information maximum likelihood method (FIML)

## Study 1: Results and Discussion

Descriptive statistics are presented in Table 2.1. A visualization of the results is presented in Figure 2.2.

### *Test of Preregistered Hypotheses*

In line with Hypothesis 1, organizational climate had a positive total association with employee behavior ($\gamma = 0.10$, *SE* = 0.04; $p = .005$). As predicted by Hypothesis 2, this association of organizational climate and employee behavior was mediated by both descriptive norms (indirect effect = 0.09, *SE* = 0.02; 95%-CI [0.05; 0.14]) and injunctive norms (indirect effect = 0.02, *SE* = 0.01; 95%-CI [0.01; 0.05]). Subsequently, we calculated a confidence interval for the difference of the indirect associations via descriptive and

injunctive norms (Schenker & Gentleman, 2001). This analysis showed that the indirect association of organizational climate and employee safety behavior was stronger via descriptive norms (difference = 0.07, 95%.CI [0.02; 0.11]). Next, we tested Hypothesis 4, which predicted that the indirect effect of organizational climate on employee behavior through norms would be moderated by organizational identification (stage-2 moderated mediation). Rejecting Hypothesis 3, organizational identification did not moderate the effect of descriptive norms ($\gamma$ = -0.03, *SE* = 0.01; *p* = .087) or injunctive norms ($\gamma$ = -0.002, *SE* = 0.02; *p* = .892) on employee behavior.

We found first-time support for our hypothesized model of how organizational climate affects employee behavior. While we found support for injunctive as well as descriptive norms as a mediator for the relationship between organizational climate and employee behavior, the mediating effect of descriptive norms turned out to be more pronounced. By contrast, we found no evidence for Hypothesis 4, that is, there was no evidence for the notion that the effects of organizational climate on employee behavior are moderated by organizational identification.

However, Study 1 has at least two important limitations that we aimed to address in a follow-up study. First, organizational climate is, by definition, a multi-level construct as it is defined by the shared perceptions of an organization's employees. Therefore, Study 1 is limited because it only assessed individual perceptions of organizational climate. Hence, we were unable to test Hypothesis 3 in this study. Second, in Study 1 we measured social norms and employee behavior at the same measurement point. Therefore, we cannot establish a clear temporal order of mediating (i.e., social norms) and outcome variables (i.e., employee safety behavior). To overcome these limitations, in Study 2, we sampled employees nested in teams to measure shared perceptions of organizational policies, practices, and procedures. Furthermore, we assessed all study variables at all three measurement points to better examine the temporal order of the variables in our model.

**Table 2.1**

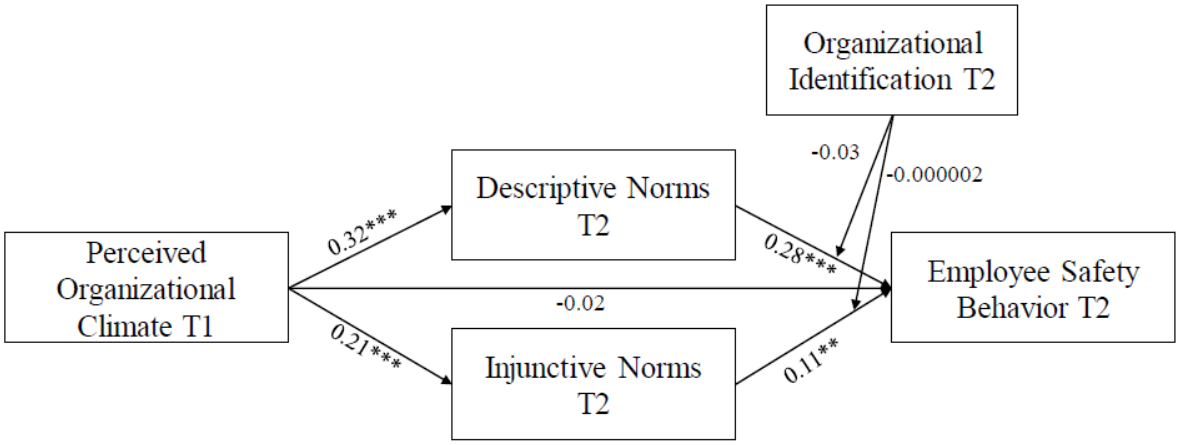
*Means, standard deviations, and correlations of variables in Study 1*

| Variable | *M* | *SD* | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| 1. Organizational Climate T1 | 4.50 | 1.08 | - | - | - | - | - |
| 2. Descriptive Norms T2 | 3.79 | 0.90 | .41** | - | - | - | - |
| 3. Injunctive Norms T2 | 3.75 | 0.81 | .25** | .49** | - | - | - |
| 4. Employee Safety Behavior T1 | 4.60 | 0.46 | .15** | .34** | .30** | - | - |
| 5. Employee Safety Behavior T2 | 4.32 | 0.61 | .23** | .62** | .45** | .48** | - |
| 6. Organizational Identification T2 | 5.01 | 1.61 | .41** | .38** | .31** | .25** | .29** |

*Note.* *M* = Mean. *SD* = Standard Deviation. T1 = First measurement point. T2 = Second measurement point. ***p* < .01

**Figure 2.2**

*Results of Study 1*




*Note*. The autoregressive pathway of employee safety behavior were included in the analysis but not depicted to increase clarity of presentation. Estimates for moderation analyses were taken from separate analyses.

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behavior). To overcome these limitations, in Study 2, we sampled employees nested in teams to measure shared perceptions of organizational policies, practices, and procedures. Furthermore, we assessed all study variables at all three measurement points to better examine the temporal order of the variables in our model.

## Study 2: Method

### *Sample and Procedure*

We conducted a longitudinal study with three measurement points over a time span of three months (eight weeks between each measurement point). In comparison to Study 1, we chose shorter time lags in this study to investigate whether the results would replicate over a shorter time. In total, we recruited six organizations to participate in our study. All organizations came from a broad range of sectors: one governmental organization, two health care organizations, two technology companies, and one financial company. In these organizations, employees were further clustered by teams as our unit of aggregation. We decided to cluster by teams because some organizations' employees worked in different locations. Furthermore, teams have been shown to be a meaningful unit of aggregation in organizational climate research because team leaders are key amplifiers of organizational climate and therefore shape a unit's organizational climate perceptions (e.g., Kozlowski & Ilgen, 2006; Zohar & Luria, 2010). In these six organizations, we sent out invitations for study participation through the respective HR representatives and all employees were allowed to participate in the surveys during working time. Our study was approved by local workers' councils if one was in place. The study was announced as a study about working under COVID-19. Employees were told that they would answer questions about their organizations and actions that their organizations took during the COVID-19 pandemic. Employees were paid €50 for participation at all three measurement points and €30 for participation at two measurement points. Invitations to participate in the study were sent out to approximately 3500 employees. Of these 3500 employees, 1095 responded and participated at the first

measurement point (response rate approx. 32%). We then excluded participants who responded carelessly to our questionnaire, as indicated by relative completion speed index < 2 (for more elaboration on this index, see: Leiner, 2019) or did not finish the first questionnaire (63 participants excluded). Next, we excluded employees who changed their team over the course of our study (185 participants excluded). Further, we excluded all participants that were the only team member in their respective team (201 excluded). This led to a final sample 646 employees that were nested in 196 teams at the first measurement point. At the second measurement point, 493 employees that were nested in 178 teams answered the questionnaire. At the third measurement point 457 employees that were nested in 180 teams responded to our questionnaire.

Three hundred and forty-four employees identified as female (53.3 %) and 294 as male (45.4%). Eight employees identified with neither binary gender category or gave no response (1.3%). Employees in our sample were on average 42.9 years old (SD = 11.8) and worked on average 35.3 hours (SD =7.3) per week. The most prevalent highest educational degree was a bachelor's or master's degree (42.1%), followed by further vocational qualifications (22.9%).

***Measures***

We used the same measures as in Study 1, but we shortened the COVID-19 safety behavior measures to reduce the burden on our participants. An overview of all items is presented in the OSF. We calculated reliabilities for all measures on the unit- and employee-level (Geldhof et al., 2014). Reliabilities were $\alpha_{between}$ = .97 and $\alpha_{within}$ = .87 for the COVID-19 specific organizational safety climate measure, $\alpha_{between}$ = .92 and $\alpha_{within}$ = .85 for descriptive norms, $\alpha_{between}$ = .96 and $\alpha_{within}$ = .91 for injunctive norms, $\alpha_{between}$ = .97 and $\alpha_{within}$ = .89 for organizational identification, $\alpha_{between}$ = .90 and $\alpha_{within}$ = .79 for COVID-19 specific safety behavior.

### *Factorial Structure*

We conducted the same model tests as in Study 1. However, this time, we applied multilevel confirmatory factor analyses (MCFA) due to the multilevel nature of our data. For the MCFA we analyzed all variables at the first measurement point. First, we specified a model in which all items loaded on their respective factors (Measurement Model 1). This model showed an acceptable fit to the data, $\chi2(139) = 256.454$, $p < .001$; CFI = .977; root-mean-square error of approximation RMSEA = .036; standardized root-mean-square residual $SRMR_{within} = .036$; $SRMR_{between} = .096$. Next, we specified a model in which both types of social norms were collapsed into a single factor (Measurement Model 2) and a model in which the norms and the COVID-19 safety climate items were collapsed into a single factor (Measurement Model 3). Finally, we also specified a model in which all items loaded onto one factor (Measurement Model 4). Several chi-squared difference tests indicated that Measurement Model 1 fitted the data best (all Satorra-Bentler $\Delta\chi2 > 554.5$, all $ps < .001$).

### *Data Aggregation*

The ICC(1) values of all study variables ranged from .18 to .39, therefore multilevel analysis was indicated. Next, we calculated $rwg_j$ (James et al., 1984) to assess the within-unit agreement of each measure. A value above .80 indicates that there is sufficient within-unit agreement to aggregate a measure to the unit-level (LeBreton & Senter, 2008). Results showed that it was indicated to aggregate organizational climate ($rwg_j = .92$), both descriptive norms ($rwg_j = .87$) and injunctive norms ($rwg_j = .88$), and employee safety behavior ($rwg_j = .85$) to the unit-level. In contrast, for organizational identification we found no sufficient within-unit agreement ($rwg_j = .57$). We therefore decided to test moderating effects of organizational identification at the employee-level only.

### *Analytical Approach*

We tested our hypotheses utilizing a hierarchical multilevel structural equation modeling (MSEM) approach in Mplus (software version 8.9; Muthén & Muthén, 2017).

MSEM allows us to investigate the associations of our study variables on the unit- and employee-level simultaneously (Preacher et al., 2010). All predictor variables at T1 were person-mean centered on the employee-level and grand-mean centered at the unit-level (Enders & Tofighi, 2007). All other variables were modeled at the employee- and unit-level simultaneously and therefore latent-mean centered at the employee-level (Preacher et al., 2010). Moderator variables were calculated by multiplying the grand-mean centered interaction variables for unit-level moderators (i.e., climate strength) and by multiplying the group-mean centered interaction variables for employee-level moderators (i.e., organizational identification). We modeled all associations on the employee-level as fixed slopes because there was no significant slope variance. Following recommendations for handling of missing data (D. A. Newman, 2014), we estimated all missing data using the full information maximum likelihood method (FIML). A full overview of the Mplus syntax is provided in the OSF.

For the test of our hypotheses, we first specified a model (Model 1) to test the association of organizational climate at T1 and employee safety behavior at T3 on the employee- and the unit-level (H1). In this and all subsequent models, we included autoregressive pathways from T1 to all outcome variables. Next, we specified two separate models (Model 2 and Model 3) to test indirect associations via descriptive norms and injunctive norms at T2 on employee safety behavior at T3 (H2). We had to model both types of social norms in separate models to achieve acceptable model fit. In the mediation models, we modeled no pathway of organizational climate on employee safety behavior because model fit improved when the direct pathway was not included in the model. Then, we tested the moderating effect of climate strength at T1 (H3) and added climate strength as a unit-level moderator (Model 4 including descriptive norms; Model 5 including injunctive norms). Following previous research on climate strength, we operationalized climate strength as the inversed standard deviation of organizational climate per unit (e.g., Schneider et al., 2002).

We did not test possible cross-level effects of climate strength, because there was no slope variance in the association of organizational climate and descriptive and injunctive norms on the employee-level. Finally, we specified a model (Model 6 including descriptive norms; Model 7 including injunctive norms) in which we included organizational identification at T2 as an employee-level moderator variable (H4).

**Study 2: Results and Discussion**

Descriptive statistics are reported in Table 2.2. Results for Model 1 are reported in Table 2.3, results for all models including descriptive norms as a mediator are reported in Table 2.4, and results for all models including injunctive norms as a mediator are reported in Table 2.5. The model fits were acceptable for all models and are reported in Tables 2.4 and 2.5. A visualization of the results is presented in Figure 2.3

***Test of Preregistered Hypotheses***

In Model 1, organizational climate at T1 was not associated with employee safety behavior at T3 on the unit- ($\gamma = 0.04$, $p = .356$) and the employee-level ($\gamma = 0.04$, $p = .404$), when the autoregressive pathway of employee behavior ($\gamma = .70$, $p < .001$) was included in the model[3]. Therefore, Hypothesis 1 was not supported. Next, we analyzed indirect associations of organizational climate on employee behavior via descriptive norms (Model 2) and injunctive norms (Model 3). As predicted, organizational climate was indirectly associated with employee behavior via descriptive norms on both the unit-level (indirect effect = 0.02, 95%-CI = [0.001; 0.05]) and employee-level (indirect effect = 0.02, 95%-CI = [0.01; 0.05]). In contrast, we only found an indirect association via injunctive norms on the employee-level (indirect effect = 0.02, 95%-CI = [0.001; 0.03]), but not on the unit-level (indirect effect = -0.001, 95%-CI = [-0.003; 0.004]). Therefore, Hypothesis 2 was partially supported.

[3] Due to this strong stability of employee safety behavior, we additionally specified a model without autoregressions. In this model, organizational climate at T1 predicted employee safety behavior at T3 on the unit- ($\gamma = 0.18$, $SE = 0.06$, $p = .001$) and the employee-level ($\gamma = 0.14$, $SE = 0.05$, $p = .003$).

**Table 2 .2**

*Means, standard deviations, and correlations of variables in Study 2*

| Variable | *M* | $SD_b$ | $SD_w$ | ICC | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Organizational Climate T1 | 4.93 | 0.73 | 0.68 | .39 | - | .13*** | .12*** | .11*** | .07*** | .09*** | .08*** | - | .30*** |
| 2. Descriptive Norms T1 | 3.83 | 0.46 | 0.56 | .22 | .15*** | - | .20*** | .15*** | .11*** | .15*** | .11*** | - | .19*** |
| 3. Descriptive Norms T2 | 3.74 | 0.39 | 0.64 | .29 | .16*** | .16*** | - | .15*** | .17*** | .13*** | .17*** | - | .23*** |
| 4. Injunctive Norms T1 | 4.34 | 0.45 | 0.60 | .18 | .08** | .11*** | .10*** | - | .15*** | .12*** | .11*** | - | .17*** |
| 5. Injunctive Norms T2 | 4.31 | 0.49 | 0.57 | .20 | -.04 | .09*** | .13*** | .10*** | - | .10*** | .12*** | - | .14*** |
| 6. Employee Safety Behavior T1 | 4.18 | 0.43 | 0.52 | .18 | .10** | .11*** | .10*** | .08*** | .07** | - | .20*** | - | .13*** |
| 7. Employee Safety Behavior T3 | 4.03 | 0.39 | 0.60 | .30 | .10** | .11*** | .11*** | .08*** | .11*** | .15*** | - | - | - |
| 8, Climate Strength T1 | -0.66 | 0.47 | - | - | .19*** | .08*** | .07** | .05** | .02 | .03 | .04* | - | .15*** |
| 9. Organizational Identification T2 | 5.38 | 0.59 | 1.19 | .20 | .36*** | .10* | .12** | .09** | .07 | .09* | .09* | .09* | - |

*Note.* *M* = Mean. $SD_b$ = Standard deviation on the unit-level. $SD_w$ = Standard deviation on the employee-level. *ICC* = Intraclass correlation. T1 = First measurement point. T2 = Second measurement point. T3 = Third measurement point. *$p < .05$, **$p < .01$, ***$p < .001$. Correlations below the diagonal are unit-level correlations, correlations above the diagonal are employee-level correlations.

**Table 2.3**

*Path Estimates for the Association of Organizational Climate and Employee Safety Behavior*

| Effect Type | *b* | *SE* | 95%-CI |
|---|---|---|---|
| *Model 1: Team-Level* | | | |
| Organizational Climate T1 → Employee Safety Behavior T3 | 0.04 | 0.04 | [-0.04; 0.11] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.79*** | 0.08 | [0.63; 0.95] |
| *Model 1: Employee-Level* | | | |
| Organizational Climate T1 → Employee Safety Behavior T3 | 0.03 | 0.03 | [-0.04; 0.09] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.69*** | 0.04 | [0.61; 0.98] |

*Note*. ***$p < .001$.

**Table 2.4**

*Hierarchical Multilevel Path Models Including Descriptive Norms as a Mediator*

| Effect Type | *b* | *SE* | 95%-CI |
|---|---|---|---|
| *Model 2: Team-Level* | | | |
| Organizational Climate T1 → Descriptive Norms T2 | 0.11** | 0.04 | [0.03; 0.19] |
| Descriptive Norms T1 → Descriptive Norms T2 | 0.69*** | 0.07 | [0.55; 0.83] |
| Descriptive Norms T2 → Employee Safety Behavior T3 | 0.21* | 0.10 | [0.02; 0.40] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.69*** | 0.08 | [0.53; 0.85] |
| Organizational Climate T1 → Descriptive Norms T2 → Employee Safety Behavior T3 | 0.02 | | [0.001; 0.05] |

| | | | |
|---|---|---|---|
| *Model 2: Employee-Level* | | | |
| Organizational Climate T1 → Descriptive Norms T2 | 0.10* | 0.04 | [0.02; 0.18] |
| Descriptive Norms T1 → Descriptive Norms T2 | 0.60*** | 0.05 | [0.51; 0.69] |
| Descriptive Norms T2 → Employee Safety Behavior T3 | 0.25*** | 0.05 | [0.16; 0.35] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.59*** | 0.05 | [0.50; 0.68] |
| Organizational Climate T1 → Descriptive Norms T2 → Employee Safety Behavior T3 | 0.03 | | [0.01; 0.05] |
| *Model 4: Team-Level* | | | |
| Organizational Climate T1 → Descriptive Norms T2 | 0.12* | 0.05 | [0.01; 0.22] |
| Safety Climate Strength T1 → Descriptive Norms T2 | 0.02 | 0.08 | [-0.14; 0.17] |
| Organizational Climate x Safety Climate Strength T1 → Descriptive Norms T2 | 0.09 | 0.12 | [-0.16; 0.33] |
| Descriptive Norms T1 → Descriptive Norms T2 | 0.70*** | 0.07 | [0.57; 0.83] |
| Descriptive Norms T2 → Employee Safety Behavior T3 | 0.20* | 0.10 | [0.01; 0.39] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.69*** | 0.08 | [0.54; 0.85] |
| *Model 4: Employee-Level* | | | |
| Organizational Climate T1 → Descriptive Norms T2 | 0.10** | 0.04 | [0.03; 0.17] |
| Descriptive Norms T1 → Descriptive Norms T2 | 0.60*** | 0.04 | [0.51; 0.67] |
| Descriptive Norms T2 → Employee Safety Behavior T3 | 0.25*** | 0.05 | [0.16; 0.33] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.59*** | 0.05 | [0.50; 0.66] |

| | | | |
|---|---|---|---|
| *Model 6: Team-Level* | | | |
| Organizational Climate T1 → Descriptive Norms T2 | 0.11** | 0.04 | [0.03; 0.20] |
| Descriptive Norms T1 → Descriptive Norms T2 | 0.68*** | 0.07 | [0.54; 0.82] |
| Descriptive Norms T2 → Employee Safety Behavior T3 | 0.21* | 0.10 | [0.02; 0.41] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.71*** | 0.07 | [0.55; 0.87] |
| *Model 6: Employee-Level* | | | |
| Organizational Climate T1 → Descriptive Norms T2 | 0.11** | 0.04 | [0.03; 0.18] |
| Descriptive Norms T1 → Descriptive Norms T2 | 0.57*** | 0.05 | [0.48; 0.66] |
| Descriptive Norms T2 → Employee Safety Behavior T3 | 0.23*** | 0.05 | [0.14; 0.32] |
| Organizational Identification T2 → Employee Safety Behavior | 0.01 | 0.03 | [-0.05; 0.07] |
| Descriptive Norms x Organizational Identification T2 → Employee Safety Behavior T3 | 0.12** | 0.04 | [0.04; 0.21] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.59*** | 0.05 | [0.50; 0.68] |
| *Conditional Indirect Effects* | | | |
| Index of Moderated Mediation | 0.01 | | [0.002; 0.03] |
| Organizational Identification +1SD | 0.04 | | [0.01; 0.07] |
| Organizational Identification -1SD | 0.01 | | [-0.001; 0.03] |

*Note*. Model fits: Model 2: $\chi^2(6) = 24.549$, $p < .001$, CFI = .968, RMSEA = .069, $SRMR_{within} = .050$, $SRMR_{between} = .049$; Model 4: $\chi^2(8) = 27.060$, $p < .001$, CFI = .970, RMSEA = .061, $SRMR_{within} = .049$, $SRMR_{between} = .038$; Model 6: $\chi^2(13) = 48.876$, $p < .001$, CFI = .939, RMSEA = .065, $SRMR_{within} = .076$, $SRMR_{between} = .066$. *$p < .05$, **$p < .01$, ***$p < .001$.

**Table 2.5**

*Hierarchical Multilevel Path Models Including Injunctive Norms as a Mediator*

| Effect Type | *b* | *SE* | 95%-CI |
|---|---|---|---|
| *Model 3: Team-Level* | | | |
| Organizational Climate T1 → Injunctive Norms T2 | -0.002 | 0.04 | [-0.10; 0.09] |
| Injunctive Norms T1 → Injunctive Norms T2 | 0.48*** | 0.08 | [0.33; 0.64] |
| Injunctive Norms T2 → Employee Safety Behavior T3 | 0.32* | 0.14 | [0.04; 0.60] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.71*** | 0.08 | [0.55; 0.87] |
| Organizational Climate T1 → Injunctive Norms T2 → Employee Safety Behavior T3 | -0.001 | | [-0.003; 0.004] |
| *Model 3: Employee-Level* | | | |
| Organizational Climate T1 → Injunctive Norms T2 | 0.08* | 0.04 | [0.005; 0.16] |
| Injunctive Norms T1 → Injunctive Norms T2 | 0.44*** | 0.05 | [0.34; 0.54] |
| Injunctive Norms T2 → Employee Safety Behavior T3 | 0.19*** | 0.05 | [0.09; 0.28] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.63*** | 0.05 | [0.54; 0.73] |
| Organizational Climate T1 → Injunctive Norms T2 → Employee Safety Behavior T3 | 0.02 | | [0.001; 0.03] |
| *Model 5: Team-Level* | | | |
| Organizational Climate T1 → Injunctive Norms T2 | -0.004 | 0.04 | [-0.10; 0.10] |
| Safety Climate Strength T1 → Injunctive Norms T2 | 0.005 | 0.10 | [-0.20; 0.21] |
| Organizational Climate x Safety Climate Strength T1 → Injunctive Norms T2 | -0.10 | 0.12 | [-0.34; 0.15] |

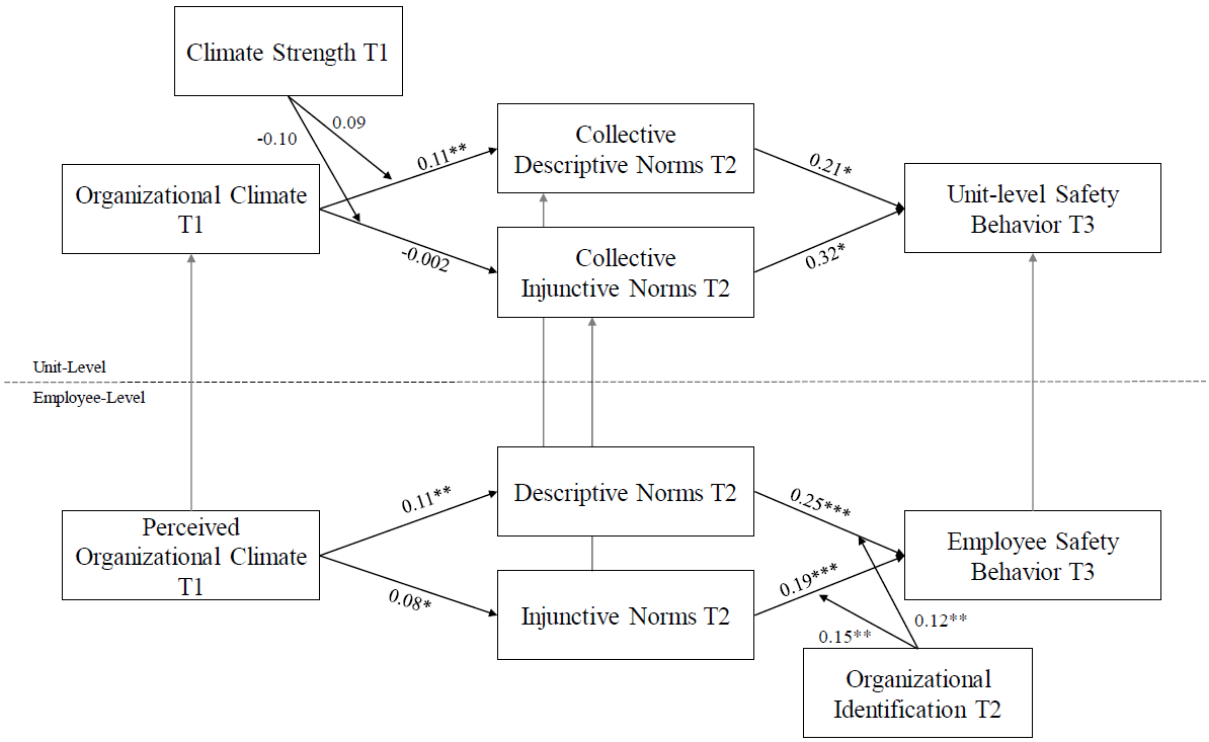
| | | | |
|---|---|---|---|
| Injunctive Norms T1 → Injunctive Norms T2 | 0.48*** | 0.08 | [0.31; 0.64] |
| Injunctive Norms T2 → Employee Safety Behavior T3 | 0.31* | 0.14 | [0.02; 0.60] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.71*** | 0.12 | [0.55; 0.88] |
| *Model 5: Employee-Level* | | | |
| Organizational Climate T1 → Injunctive Norms T2 | 0.08* | 0.04 | [0.003; 0.16] |
| Injunctive Norms T1 → Injunctive Norms T2 | 0.44 | 0.05 | [0.34; 0.54] |
| Injunctive Norms T2 → Employee Safety Behavior T3 | 0.19 | 0.05 | [0.09; 0.29] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.63 | 0.05 | [0.17; 0.26] |
| *Model 7: Team-Level* | | | |
| Organizational Climate T1 → Injunctive Norms T2 | 0.001 | 0.05 | [-0.09; 0.09] |
| Injunctive Norms T1 → Injunctive Norms T2 | 0.48*** | 0.08 | [0.32; 0.64] |
| Injunctive Norms T2 → Employee Safety Behavior T3 | 0.34* | 0.15 | [0.03; 0.64] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.71*** | 0.09 | [0.54; 0.88] |
| *Model 7: Employee-Level* | | | |
| Organizational Climate T1 → Injunctive Norms T2 | 0.09* | 0.04 | [0.01; 0.16] |
| Injunctive Norms T1 → Injunctive Norms T2 | 0.42*** | 0.05 | [0.32; 0.53] |
| Injunctive Norms T2 → Employee Safety Behavior T3 | 0.19*** | 0.05 | [0.09; 0.28] |
| Organizational Identification T2 → Employee Safety Behavior | 0.03 | 0.03 | [-0.04; 0.09] |
| Injunctive Norms x Organizational Identification T2 → Employee Safety Behavior T3 | 0.15** | 0.05 | [0.06; 0.24] |

| | | | |
|---|---|---|---|
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.62*** | 0.05 | [0.52; 0.72] |
| Conditional Indirect Effects | | | |
| Index of Moderated Mediation | 0.02 | | [0.001; 0.03] |
| Organizational Identification +1SD | 0.03 | | [0.002; 0.06] |
| Organizational Identification -1SD | 0.004 | | [-0.01; 0.01] |

*Note*. Model fits: Model 3: $\chi^2(6) = 23.286$, $p < .001$, CFI = .956, RMSEA = .067, $SRMR_{within} = .056$, $SRMR_{between} = .098$; Model 5: $\chi^2(8) = 25.087$, $p < .001$, CFI = .963, RMSEA = .058, $SRMR_{within} = .056$, $SRMR_{between} = .074$; Model 7: $\chi^2(13) = 27.433$, $p = 0.01$, CFI = .959, RMSEA = .041, $SRMR_{within} = .061$, $SRMR_{between} = .098$. *$p < .05$, **$p < .01$, ***$p < .001$.

**Figure 2.3**

*Results of Study 2*




*Note*. Autoregressive pathways of all variables were included in the analysis but not depicted to increase clarity of presentation. Estimates for moderation analyses were taken from separate analyses.

Next, we tested the moderating role of climate strength (Model 4 for descriptive norms as a mediator; Model 5 for injunctive norms as a mediator). The analyses showed that climate strength at T1 did not moderate the association of organizational climate at T1 and both types of social norms at T2 on the unit-level (for descriptive norms: $\gamma = 0.09$, $p = .484$, for injunctive norms: $\gamma = 0.01$, $p = .438$). Therefore, Hypothesis 3 was not supported. Finally, we tested whether organizational identification at T2 moderated the indirect association of organizational climate at T1 and employee behavior at T3 via social norms at T2 (Model 6 for descriptive norms as a mediator; Model 7 for injunctive norms as a mediator). As predicted, organizational identification at T2 moderated the indirect association of organizational climate at T1 and employee behavior at T3 via social norms at T2 (for descriptive norms:

IMM = 0.01, 95%-CI = [0.002; 0.03]; for injunctive norms: IMM = 0.02 95%-CI = [0.001; 0.03]. Subsequent simple slope analyses revealed that the indirect effect was stronger for employees who were stronger identified with their organization (for descriptive norms: indirect effect = 0.04, 95%-CI = [0.01; 0.07]; for injunctive norms: indirect effect = 0.03, 95%-CI = [0.002; 0.06]) compared to those who were weaker identified with their organization (for descriptive norms: indirect effect = 0.01, 95%-CI = [-0.001; 0.03]; for injunctive norms: indirect effect = 0.004, 95%-CI = [-0.01; 0.01]). Therefore, Hypothesis 4 was supported.

The results of Study 2 thereby replicate the results of Study 1 that descriptive and injunctive norms mediated the effects of organizational behavior on the employee-level. Further, the results show that descriptive norms also mediate the effects of organizational climate on employee behavior on the unit-level. However, no such effects have been found for injunctive norms.

## General Discussion

The results of our two-study investigation show that organizational climate affects employee behavior through social norms, both on the unit- and the employee-level. They further provide evidence, albeit only in Study 2, that organizational identification amplifies this indirect association of organizational climate and employee behavior by moderating the association of social norms and behavior.

### *Theoretical Implications*

Our studies provide a new theoretical perspective on associations of organizational climate and employee behavior. By conceptualizing organizations as social contexts in which basic principles of social influence apply, we were able to derive predictions on the functioning of organizational climate that are based on the literature on social influence (Cialdini et al., 1990). Our results suggest that the effects of organizational climate, a construct conceptualized as employees' shared perceptions of more distal organizational

policies, practices, and procedures, trickle down into proximal perceived social norms in employees' direct surroundings and thereby shape employee behavior on the individual- and unit-level.

Interestingly, our results also showed that descriptive norms had more explanatory power as a mediator, as compared to injunctive norms. Following theorizing on social influence and the functioning of descriptive and injunctive norms (e.g., Cialdini, 1990), this result hints at the underlying motivation on why employees behave in line with their organizations' climate. Descriptive norms affect behavior because they offer information to employees on what behavior is adaptive in terms of effectively navigating their (social) environment (i.e., informational influence; Deutsch & Gerard, 1955). In contrast, injunctive norms put pressure on employees to follow the crowd (i.e., normative influence; Deutsch & Gerard, 1955). When employees perceive stronger injunctive norms, they actively consider potential outcomes of (non-)conforming and act accordingly with their evaluation of these outcomes (e.g., making a positive impression on their supervisor). Following this reasoning, our results suggest that employees behave in line with organizational climate and subsequent social norm perceptions in the workplace because they interpret their social surroundings as useful information for adapting their behavior. This interpretation provides tentative evidence against a common assumption in the literature on organizational climate, namely that employees primarily conform to organizational climates due to reward expectations (e.g., Beus et al., 2023). By contrast, our results suggest that organizational climate should be rather interpreted as providing cues that inform about the adaptiveness of behavior instead of a pressure to show specific behavior to get rewarded.

We further advance the literature on organizational climate by delimiting organizational climate and social norms theoretically and empirically. In particular, we demonstrate that both constructs, which are frequently entwined in the organizational climate literature, should be differentiated to obtain a better understanding of the functioning of

organizational climate. Hence, an important implication of our results is that scholars should take care when conceptualizing organizational climate and choosing their corresponding measures. Otherwise, they might confound organizational climate with its consequence (i.e., social norms).

Our theoretical framework additionally provides opportunities to investigate amplifying and attenuating variables that affect *when* organizational climate affects employee behavior via social norms. In our investigation, we investigated two variables that are theoretically strongly aligned with the research domains of organizational climate and social influence. First, we investigated climate strength as a moderator of the association between organizational climate and social norms. Contrary to our expectations, climate strength did not moderate the association between organizational climate and unit-level social norms. This finding therefore adds to the critical discussion on the relevance of climate strength for the climate-outcome relationship and provides further evidence that it is necessary to go beyond investigating mere interactions of organizational climate and climate strength (He et al., 2023; Keeler et al., 2023). Second, we investigated organizational identification as a moderator variable that is assumed to amplify the effects of social norms on behavior (Spears, 2021). We found support, albeit only in Study 2, for this amplifying effect of organizational identification. As predicted, our results showed that the indirect association of organizational climate and employee behavior via both descriptive and injunctive norms was stronger when employees identified more strongly with their organization. An important implication of these findings is that theorizing on consequences of organizational climate could (and should) draw more strongly from theories of social influence to better understand under which conditions effects of organizational climate are stronger or weaker. Albeit speculatively, a possible explanation for the inconsistent results between our two studies is the difference in analysis methods. In Study 1, we analyzed a multivariate path model, while in Study 2, we analyzed a multi-level multivariate path model, in which all variables were unit-mean centered. This

means that the results in Study 2 must be interpreted in a way that the interaction of the deviations from the unit-mean for social norms and organizational identification predict subsequent employee behavior. Building on recent theorizing on the psychological meaning of organizational identification on multiple levels of analysis (Häusser et al., 2020; Junker et al., 2022), we argue that organizational identification moderates the indirect association of organizational climate and employee behavior when employees identify more strongly with their organization than their immediate coworkers.

Moreover, our results have important theoretical implications for the ongoing debate on whether it is necessary to aggregate individual employee perceptions of organizational climate to the unit-level (e.g., Kessler, 2019; Luria, 2019). In our study, we investigated associations of organizational climate and employee behavior with a focus on mediating psychological processes that explain why organizational climate affects employee behavior. Our results were largely similar on both levels of analysis which implies that it might not be necessary to sample unit-level data when investigating psychological processes mediating effects of organizational climate. Furthermore, we did not find support for the moderating role of climate strength. Climate strength is a variable that can only be investigated when aggregating organizational climate to the unit-level. Given the lack of relevance of climate strength in our model, this provides further arguments that a mere employee-level investigation might be sufficient.

Finally, our results advance theories of social influence, specifically the theory of normative conduct (Cialdini et al., 1990) by investigating descriptive and injunctive norms as a unit-level phenomenon. We show that social norms can be aggregated to the unit-level and are predominantly shared by unit members. Furthermore, our results suggest that the effects of social norms can be replicated at the unit-level. This provides evidence for the utility of conceptualizing social norms not only as individual perceptions but also as a construct that exists at the unit-level, is shared by unit members, and guides unit-level behavior. Following

this approach also allows us to make theoretical predictions of unit-level social norms on unit-level outcomes. For example, team social norms regarding service behavior could be connected to overall team financial performance or customer satisfaction.

### *Practical Implications*

Our research provides several practical implications for organizations to influence their employees' behavior more efficiently. Our results provide knowledge of the underlying mechanisms of organizational climate. Namely, organizational climate affects employee behavior through the establishment of descriptive and injunctive social norms. This is an important insight for management practitioners who aim to increase the effects of their organizational climate. According to our results, organizational climate interventions should be designed in a way that enables the establishment of social norms. For the establishment of social norms, role models are especially influential (Legros & Cislaghi, 2020). In organizational contexts, leaders can function as role models, as they are by role definition a relevant anchor point for their employees (Zohar & Luria, 2010). Therefore, changing leaders' behavior to establish social norms in organizations could be a promising approach for organizational climate interventions. Finally, and maybe most importantly, we found that descriptive norms were a stronger mediator than injunctive norms. This implies that it might not be necessarily relevant to implement reward structures to ensure that organizational climate affects employee behavior.

### *Limitations and Directions for Future Research*

As with all research, our studies have limitations that also offer avenues for future inquiry. First, we utilized a correlational design which does not allow for causal conclusions to be drawn. To address this limitation and establish temporal precedence, we measured our variables at different time points and included autoregressive pathways in all analyses. Notwithstanding, future research should test for causality by conducting experimental

research, either in a laboratory setting with teams (e.g., Horvath et al., 2023) or in a field setting utilizing intervention studies (J. Lee et al., 2019).

Second, we relied on self-report measures for all study variables. Although variables as organizational climate or social norms require the use of self-report assessments, our assessment of COVID-19 safety behavior is possibly subjectively biased (Mojzisch et al., 2022). Furthermore, using only self-report measures comes with the risk of common method bias. We tried to minimize the risk of common method bias by measuring predictor, mediator, and outcome variables at different time points (Podsakoff et al., 2024), however future research could address this issue by measuring safety behavior objectively (e.g., through behavioral coding).

In addition, our choice of climate might limit the generalizability of the finding that descriptive norms were a stronger mediator than injunctive norms. In the context of safety, it can be argued that employees are motivated to show safety behavior because they deem it adaptive (as transmitted by descriptive norms) and not because they expect to get rewarded (as transmitted by injunctive norms). In other contexts, for example, pro-environmental behavior, this motivation might play out differently and employees might be more motivated to change their behavior due to injunctive norms and reward expectations going along with conforming to injunctive norms.

Regarding further directions for future research, we argued that organizational climate affects the perception of social norms by increasing the salience of those types of coworker behavior that are consistent with the respective climate. For example, if the management of an organization actively encourages remote working, employees will be more observant of those coworkers working from home. So far, however, there is no empirical evidence for this idea. Exploring this gap is an interesting avenue for future scholars to pursue.

### *Conclusion*

In the present study, we found support for a domain-independent theoretical perspective of organizational climate. In particular, we proposed and found that principles of social influence can explain why organizational climate affects employee behavior. From a theoretical perspective, our results suggest that organizational climate and social norms, two constructs that have frequently been entwined in the literature, can and should be disentangled to obtain a better understanding of the functioning of organizational climate. From a practical perspective, our results suggest that organizations should take care to establish social norms when implementing new policies, practices, and procedures.

**Supplementary Material**

**Measures**

**Organizational Climate (COVID-19 Safety)**

1. My organization offers support and provides me with equipment to deal with the circumstances resulting from the corona pandemic.

2. My organization reacted quickly when told about the safety hazards of the corona virus.

3. My organization emphasizes safety procedures over working procedures/productivity.

4. My organization reacts with wide-ranging measures against the corona virus even if these measures are costly.

5. Information material promoting prevention of the corona virus (e.g. handwashing, respiratory hygiene, wearing facemasks) are displayed in the organization and/or displayed in the intranet and/or send via E-Mail.

6. Top-Management of my organization listens carefully to workers' ideas about improving safety regarding the corona virus.

7. My organization takes reasonable and appropriate measures to protect the staff from infection during work.

**Descriptive Norms (COVID-19)**

How strictly do your coworkers adhere to each of the following COVID-19 guidelines?

1. Making sure to keep a distance of at least 1.5 meters (5 feet) from other persons, when they are at work.

2. Washing their hands according to the WHO recommendations (e.g. for at least 30 seconds).

3. Strictly wearing a face covering when they are at work.

4. Doing everything to reduce health risks for their coworkers.

5. Encouraging their coworkers to follow the recommendations to keep their distance, washing hands etc.

6. Knowing the specific health direction that apply to our organisation.

**Injunctive Norms (COVID-19)**

How much would your coworkers (dis)approve if they learned that you did NOT ...

1. ... make sure to keep a distance of at least 1.5 meters (5 feet) from other persons, when you are at work?

2. ... wash your hands according to the WHO recommendations (e.g. for at least 30 seconds)?

3. ... strictly wear a face covering when you are at work?

4. ... do everything to reduce health risks for your coworkers?

5. ... encourage your coworkers to follow the recommendations to keep their distance, washing hands etc.?

6. ... know the specific health direction that apply to your organisation?

**Employee Safety Behavior (COVID-19)**

1. I reduce social contacts at work to the bare minimum.

2. When in the organization, I make sure to keep a distance of at least 1.5 meters (5 feet) between myself and my coworkers.[4]

3. I approve home office if it is possible.

4. At work, I wash my hands according to the WHO recommendations (e.g. for at least 30 seconds).[1]

5. At work, I clean and disinfect objects of daily use (e.g. Keyboard, Mouse, Smartphone) regularly.

6. I encourage my coworkers to follow the recommendations to keep a distance, washing hands etc.[1]

7. I know the specific health direction that apply to my organization.[1]

8. I do everything to reduce health risks for my coworkers.[1]

[4] Used in Study 2

9. I am aware about the importance of staying away from work immediately when I show symptoms like fever, cough and breathing difficulties.

10. I strictly wear a face covering when I am at work.[1,5]

**Organizational Identification**

1. I identify with my organisation.

2. I feel committed to my organisation.

3. I am glad to be a member of my organisation.

4. Being a member of my organisation is an important part of how I see myself.

## Analysis of Spillover Effects on Safety Behavior in Non-Work Settings

### *Measure: Safety Behavior in Non-Work Settings*

We measured safety behavior in non-work settings using six items (sample item: "I strictly wear a face covering in my private life."; 5-point scale with 1 = *much less than I should*; 6 = *as much as I should*). We developed this measure as part of our larger research project and built on WHO recommendations for behavioral COVID-19 prevention (WHO, 2020). This measure has been already published in other publications stemming from this project (Hubert et al., 2022).

### *Data aggregation*

Calculation of $rwg_j$ (James et al., 1984) showed that it was not indicated to aggregate safety behavior in non-work settings to the unit-level ($rwg_j$ = .71). Therefore, we tested the indirect effects of organizational climate on safety behavior in non-work settings via social norms and safety behavior at work on the employee-level only. Like the main analyses, we specified separate models for descriptive norms and injunctive norms as mediators. Results of these analyses are presented in Supplementary Table 2.1 and Supplementary Table 2.2

[5] Not used at T1 of Study 1

**Supplementary Table 2.1**

*Multilevel Path Models Including Descriptive Norms and Safety Behavior in Non-Work Settings*

| Effect Type | *b* | *SE* | 95%-CI |
|---|---|---|---|
| *Employee-Level* | | | |
| Organizational Climate T1 → Descriptive Norms T2 | 0.10* | 0.04 | [0.02; 0.18] |
| Descriptive Norms T1 → Descriptive Norms T2 | 0.60*** | 0.05 | [0.51; 0.69] |
| Descriptive Norms T2 → Employee Safety Behavior T3 | 0.24*** | 0.05 | [0.15; 0.33] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.57*** | 0.05 | [0.50; 0.66] |
| Employee Safety Behavior T3 → Safety Behavior (Non-Work) T3 | 0.47*** | 0.06 | [0.36; 0.58] |
| Safety Behavior (Non-Work) T1 → Safety Behavior (Non-Work) T3 | 0.42*** | 0.05 | [0.33; 0.52] |
| Organizational Climate T1 → Descriptive Norms T2 → Employee Safety Behavior T3 → Safety Behavior (Non-Work) T3 | 0.01 | | [0.002; 0.02] |

*Note*. Model fit: $\chi^2(12) = 45.931$, $p < .001$, CFI = .961, RMSEA = .066, $SRMR_{within} = .063$.

**Supplementary Table 2.2**

*Multilevel Path Models Including Injunctive Norms and Safety Behavior in Non-Work Settings*

| Effect Type | *b* | *SE* | 95%-CI |
|---|---|---|---|
| *Employee-Level* | | | |
| Organizational Climate T1 → Descriptive Norms T2 | 0.08* | 0.04 | [0.003; 0.18] |
| Injunctive Norms T1 → Descriptive Norms T2 | 0.44*** | 0.05 | [0.34; 0.54] |
| Injunctive Norms T2 → Employee Safety Behavior T3 | 0.18*** | 0.05 | [0.08; 0.27] |
| Employee Safety Behavior T1 → Employee Safety Behavior T3 | 0.61*** | 0.05 | [0.51; 0.71] |
| Employee Safety Behavior T3 → Safety Behavior (Non-Work) T3 | 0.48*** | 0.06 | [0.37; 0.59] |
| Safety Behavior (Non-Work) T1 → Safety Behavior (Non-Work) T3 | 0.42*** | 0.05 | [0.33; 0.52] |
| Organizational Climate T1 → Injunctive Norms T2 → Employee Safety Behavior T3 → Safety Behavior (Non-Work) T3 | 0.01 | | [0.001; 0.01] |

*Note*. Model fit: $\chi^2(12) = 42.540$, $p < .001$, CFI = .952, RMSEA = .063, $SRMR_{within} = .068$.

# CHAPTER 3

## Organizations Affect Their Employees Vaccine Readiness: A Self-Perception Theory Perspective

Chapter 3 is already published in the journal *Applied Psychology: Health and Well-Being* and was removed from the published version of this dissertation. The original publication can be accessed at the journal: Roswag, M., Häusser, J. A., Abdel Hadi, S., Hubert, P., & Mojzisch, A. (2023). Organizations affect their employees' vaccine readiness: A self-perception theory perspective. *Applied Psychology: Health and Well-Being*, *15*(4), 1603–1618. https://doi.org/10.1111/aphw.12457

# CHAPTER 4

## Political Affiliation as a Moderator of the Relationship Between Organizational Climate and COVID-19 Vaccine Readiness

Chapter 4 is already published in the journal *Social Science & Medicine* and was removed from the published version of this dissertation. The original publication can be accessed at the journal: Roswag, M., Häusser, J. A., Abdel Hadi, S., Hubert, P., & Mojzisch, A. (2024). Political affiliation as a moderator of the relationship between organizational climate and COVID-19 vaccine readiness. *Social Science & Medicine,* 116557. https://doi.org/10.1016/j.socscimed.2024.116557

# CHAPTER 5

GENERAL DISCUSSION

# General Discussion

In the following general discussion, I will briefly summarize the results of the studies I conducted as part of this dissertation and were presented in Chapter 2-4. Then, I will discuss theoretical and practical implications, limitations, and directions for future research by integrating the results of all studies I conducted with the overarching theoretical framework presented in Chapter 1.

## Summary of Results

In Chapter 2, which presented Studies 1 and 2, I shed light on *why* and *when* organizational climate affects employee behavior. Specifically, the results show that both on the unit- and the employee-level COVID-19 safety climate relates to COVID-19 safety behavior. These associations can be found over longer time spans (more than one year in Study 1) and shorter time spans (three months in Study 2). However, over shorter time spans, COVID-19 safety climate and COVID-19 safety behavior are only associated when autoregressive pathways of employee behavior are excluded (i.e., no change is modeled). Across both studies and levels of analysis these associations of organizational climate and employee behavior were mediated by social norms. Specifically, both descriptive and injunctive norms mediated this association, but descriptive norms were the stronger mediator. Next, I found evidence, in Study 2 and on the employee-level only, that this indirect association of organizational climate and employee behavior was moderated by organizational identification. The association of both descriptive and injunctive norms, and thereby the indirect association, was stronger for employees who identified more strongly with their organization. Finally, the studies presented in this chapter provide evidence that behavior change in the work domain elicited by organizational climate spills over into behavior change in the non-work domain.

In Chapter 3, which presents Study 3 of my dissertation, I focus on spillover processes into more distal non-work-related attitudes. Results of this study suggest that COVID-19

safety climate was positively associated with employees' COVID-19 vaccine readiness. Further, this association was mediated by adherence to COVID-19 guidelines at the workplace. Interestingly, in an exploratory analysis I found that COVID-19 safety climate was negatively related to COVID-19 vaccine readiness for employees that were not vaccinated (i.e., probably held negative attitudes towards vaccination). This hints that organizational climate might have detrimental effects for some employees.

In Chapter 4, which presents Study 4 of this dissertation, I further zoomed into the association of COVID-19 safety climate and COVID-19 vaccine readiness by investigating employees' political affiliation as a potential moderator variable. Results suggest that the association of COVID-19 safety climate and COVID-19 vaccine readiness was more pronounced for employees who were affiliated with the Republican party compared with employees who were affiliated with the Democratic party.

Overall, the results of the studies of this dissertation show that organizational climate is an influential predictor for employees' attitudes and behavior, both in the work and the non-work domain.

**Theoretical Implications**

My dissertation offers a new theoretical perspective on organizational climate that contributes to the recently proposed endeavor of developing a domain-independent theory of organizational climate (Beus et al., 2023). I further provide a starting point for more elaborate theorizing on the process of organizational climate spillover. Specifically, I proposed that organizational climate relates to employee behavior through descriptive and injunctive norms and that this indirect association is further amplified by climate strength (stage 1 moderation) and organizational identification (stage 2 moderation). Further, I proposed that organizational climate spills over into attitudes and behavior in the non-work domain through a self-perception process. Results support the mediating role of descriptive and injunctive norms, especially descriptive norms (Study 1 and Study 2). However, I found no support for the

moderating role of climate strength, Regarding the moderation role of organizational identification, I found mixed support, in Study 2 only, for the moderating role of organizational identification. Results further support that organizational climate spills over into both behavior that is similar to the behavior shown in the work domain (Study 1 and Study 2) and attitudes and behaviors that are more distally related to the behavior shown in the work domain (Study 3 and Study 4).

### *Organizational Climate, Social Norms, and Employee Behavior*

The first theoretical implication of this dissertation refers to the relationship between organizational climate and social norms. In my dissertation, I measured organizational climate with items referring to employees' perceptions of policies, practices, and procedures that were implemented by the management of the organization and social norms with items referring to actions and expectations of employees' immediate coworkers. These operationalizations are in line with the most commonly shared definitions used in current research on organizational climate (e.g., Kuenzi et al., 2020; Schneider et al., 2013, 2017; Ward et al., 2022) and social norms in the workplace (e.g., Biron & Bamberger, 2012; Shen & Benson, 2016; S. G. Taylor et al., 2022), albeit contrary to operationalizations of organizational climate used by some authors (e.g., Fisher, 2014; Resick et al., 2023; Zhang et al., 2023). Across two studies, the results imply that organizational climate and social norms are distinct constructs, as indicated by several confirmatory factor analyses. My dissertation thereby contributes to the construct "clean-up" of organizational climate and provides recommendations on how to measure organizational climate in future research. Scholars should focus on employees' perceptions of practices, policies, and procedures that are implanted by (top) management when operationalizing organizational climate, otherwise they might confound organizational climate with its outcome (i.e., social norms), and contribute to further jingle- and jangle fallacies between organizational climate and social norms.

This problem should not be underestimated because a substantial amount of recently published articles contributes to it. To quantify this argument, I reviewed all articles published in the *Journal of Applied Psychology* that investigated and assessed organizational climate over the past ten years (2014-2024). In total, I identified 39 articles that investigated and assessed organizational climate (see Table A1 in the Appendix). Of these 39 articles, I would categorize 16 articles (41 %) as contributing to jingle- and jangle fallacies between organizational climate and social norms, as shown by items that refer to coworkers' behavior and expectations (i.e., the definition of social norms). I indicate whether I would categorize an article as contributing to jingle- and jangle fallacies in the column "Items refer to". If categorized as "Coworkers" the items used in this article solely refers to perceptions of actions and expectations of coworkers and could also be used to measure social norms. If categorized as "Management / Coworkers" at least some items refer to perceptions of actions and expectations of coworkers and therefore measure, to some extent, social norms.

The next theoretical implication regards the functioning of organizational climate and its relationship with employee behavior. Specifically, my dissertation provides a domain-independent theory-based explanation for why organizational climate affects employee behavior. The results imply that organizational climate affects employee behavior by shaping social norms, both on the unit- and the employee-level. This shows that organizational climate is a more distal factor in the working lives of employees (i.e., actions and expectations of management) that trickles down and manifest itself in the more proximal surrounding of employees' working life (i.e., coworker social norms). Importantly, the results can be found when controlling for autoregressive pathways of social norms and employee behavior respectively. Therefore, tentative conclusions regarding the directionality of the effect can be drawn (i.e., organizational climate precedes changes in social norms).

Further, by drawing on the focus theory of normative conduct (Cialdini et al., 1990) and differentiating between descriptive and injunctive norms, this dissertation provides deeper

insights into the motivational mechanisms underlying the organizational climate – employee behavior link. Building on the seminal work of Deutsch and Gerard (1955) we can assume that descriptive norms relate to employee behavior because they provide employees with information about what behavior can help to successfully navigate their organizational environment (i.e., informational influence). In contrast, employees are motivated to comply with injunctive norms because they anticipate being negatively evaluated by their coworkers if they behave differently (i.e., normative influence). Across two studies, results indicate that the association of organizational climate and employee behavior was more strongly mediated by descriptive norms, compared to injunctive norms. This offers the implication that it is not necessarily reward expectations that explain why organizational climate affects employee behavior, a suggestion that is common in the literature on organizational climate (e.g., Beus et al., 2023). Instead, the results can be interpreted as tentative evidence that organizational climate affects employees because it reduces uncertainty by providing information on adaptive behavior in the organizational environment.

My dissertation additionally provides theoretical implications for the broader literature on social norms. Social norms are most commonly investigated on the individual level of analysis (i.e., perceived social norms; Cialdini et al., 1990; Legros & Cislaghi, 2020). However, they are often theorized to be a constituting and connecting part of the functioning of social groups and thereby implicitly assumed to be shared across group members and guide subsequent group behavior (e.g., Ehrhart & Naumann, 2004; Legros & Cislaghi, 2020). The results of this dissertation imply that group members seem to majorly agree on the social norms. Therefore, social norms can become collective in groups and guide subsequent group behavior (i.e., aggregate individual behavior; Morgeson & Hofmann, 1999).

### *The Role of Climate Strength*

Contrary to my expectation according to the theoretical framework of my dissertation, I did not find support for the proposition that climate strength moderates the association of

organizational climate and social norms. However, this result is in line with the findings of a study that showed that it is necessary to go beyond merely analyzing interaction terms to uncover the functioning of climate strength (He et al., 2023). Specifically, the authors, following a unit-centered approach instead of a variable-centered approach, showed that work units can be categorized into different profiles of configurations of climate level and climate strength. Results showed, similar to Study 2 of my dissertation, no interactions of climate strength in the variable-centered approach. Instead, units that were characterized by a profile of a high level of organizational climate and a strong to medium climate strength were associated with beneficial outcomes, compared to profiles of medium and low levels of climate combined with low to high climate strength. This implies that it is necessary to establish comparatively high levels of organizational climate before climate strength is beneficial. It is important to note that the prevalence of a profile that is identified by high levels of organizational climate and a high climate strength varied between different types of organizational climate. For productivity climate and promotion climate, no group showed this beneficial profile. For safety climate and ethical climate, up to 18% of the units investigated were characterized by this beneficial profile. And for prevention climate, 47% of the units investigated showed this profile. Therefore, climate strength might be more relevant for climates such as prevention climate with a higher prevalence of these beneficial climate profiles.

Another explanation for the absence of the moderation of climate strength might be the operationalization of climate strength that I employed in Study 2. In line with other research, I operationalized climate strength as the standard deviation of a unit's organizational climate perceptions (e.g., Koopmann et al., 2016; Schneider et al., 2002). However, when comparing this procedure to the definition of situational strength, there might have been better options to investigate the moderating role of climate strength. Meyer and colleagues (2010) provided four facets of situational strength: *Clarity*, *consistency*, *constraints*, and

*consequences*. To iterate: *Clarity* means that available situational cues are easily available and understandable. *Consistency* refers to whether situational cues contain affirming and not contradicting information. *Constraints* describe the amount of freedom to take actions or make decisions in a given situation. *Consequences* refer to whether the consequences of a situation are relevant to the person or their environment. Accordingly, the operationalization of organizational climate used in study 2 of my dissertation can at best be understood as a measurement of consistency. However, I argue that situational strength is something that individual employees need to *perceive* before it can shape their norm perception and subsequent behavior. To scrutinize this hypothesis, future studies should assess climate strength by asking employees directly how strongly they perceive the perceptions of organizational policies, practices, and procedures to be shared among employees. This approach could be extended by further asking employees about the clarity, constraints, and consequences they perceive in their organization's policies, practices, and procedures to provide a full test of situational strength theory in the research domain of organizational climate.

### *The Role of Organizational Identification*

The results regarding the moderating role of organizational identification are mixed. Whereas in Study 1 no moderating influence of organizational identification could be detected, in Study 2 I found evidence for a moderating influence of organizational climate on the indirect association between organizational climate and employee behavior on the employee-level. Specifically, organizational climate moderated both the association of descriptive norms with employee behavior as well as injunctive norms with employee behavior. This implies that it might be helpful to draw on social psychological theories of attitude and behavior change to fully understand why and when organizational climate relates to employee behavior. However, this partial finding necessitates further research and

theorizing to better understand why evidence for the moderating role of organizational climate is inconsistent.

One explanation for this inconsistency might lie in the referent group of identification. As I was interested in associations of organizational climate, I operationalized social identification on the same organizational level (i.e., organizational identification). However, research on the moderating influence of social identification on the effect of social norms on behavior exclusively aligns the reference group for social norms with the reference group for social identification (e.g., Duderstadt et al., 2024; White et al., 2009). In the context of work, previous research shows that it is insightful to differentiate between organizational and work unit identification and that work unit identification seems to be the stronger predictor of employee behavior towards members of the work unit (i.e., extra role performance; Riketta & van Dick, 2005). Further, social identities need to be activated to be salient and affect behavior (Turner et al., 1987). In employees' day-to-day life it possible that work-unit identification is more strongly activated to guide behavior than organizational identification. Therefore, it might have been a better test of the underlying social identity approach mechanism to operationalize social identification referring to the same group as social norms (i.e., the work unit) compared to referring it to the whole organization.

Another reasoning for this inconsistent finding relates to the different sampling and analysis strategies used in both studies. The main difference was that I sampled employees nested in work units and therefore used multilevel modeling techniques to analyze the data in Study 2, compared to Study 1. Therefore, I unit-mean centered all variables and results on the employee-level must be interpreted as results of individual employees' deviations from their respective unit-mean. This statistical difference between analysis techniques and subsequent interpretation of the results can be connected to recent developments in the research field of social identification. In a recent theoretical article on associations of social identification and well-being, Häusser and colleagues (2020) provide theoretical arguments that it is necessary

to differentiate between different forms of social identification. The authors differentiate between three forms of social identification: Group identification, individual group identification, and individual perceived group identification. Group identification refers to the average group identification of all group members. Individual identification describes how strongly each group member identifies with the group. Individual perceived group identification, in turn, refers to how strongly group members perceive the average group identification to be. The combination of group identification and individual group identification in particular can explain the inconsistent findings. Häusser and colleagues (2020) propose that individual deviations from the average group identification are psychologically relevant. They coin this form of identification *relative group identification*. They propose that group members who identify less strongly with their group than the average group member could perceive group norms as stressors. In contrast, group members who are relatively strongly identified should be particularly committed to behave in favor of the group. This reasoning can be applied to explain the result of Study 1 and Study 2 that organizational identification only moderated the association of social norms and employee behavior when employees were *relatively* more strongly identified. On the one hand, relatively strongly identified employees might be extra motivated to comply with group norms. On the other hand, relatively low-identified employees might perceive group norms as especially aversive which could lead them to comply less with these norms. Taken together, when investigating relative identification, the moderating influence of social identification might be enlarged which could explain why the moderating effect was only found in Study 2. Importantly, this is one of the first times that relative group identification has been investigated (for an exception, cf. Avanzi et al., 2023; Junker et al., 2022) and provides nascent evidence on the relevance of differentiating between individual group identification and relative group identification in broader social identity research.

### *Organizational Climate Spillover*

My dissertation further provides theoretical implications for the literature on organizational climate spillover. The results affirm previous findings that influences of organizational climate on employees' behavior change can spillover into the non-work domain (e.g., Hubert et al., 2022; Naveh & Katz-Navon, 2015). By utilizing tenets of self-perception theory (Bem, 1972) as a lens for organizational climate spillover, I was able to derive predictions for organization climate spillover to more distal non-work-related attitudes and behaviors. My dissertation therefore extends previous research by providing theoretical arguments and empirical evidence for organizational climate spillover that is not limited to the exact behavior that is shown in the work domain. Specifically, by showing that COVID-19 safety climate affects COVID-19 vaccine readiness through changes in COVID-19 safety behavior in the work domain, my dissertation broadens the scope of possible outcomes of organizational climate. This is relevant for organizational research as it provides scholars with knowledge about constructs that can be expected to have fundamental consequences on attitudes and behavior that are not related to the workplace. This further has the implication that organizational scholars should think more holistically about consequences of work-related phenomena not only for the work domain but also for the non-work domain and broader public and societal challenges (e.g., political radicalization, climate change). For instance, there is first cross-sectional evidence that authoritarian attitudes are associated with the degree of participation employees experience in their workplace (Kiess & Schmidt, 2020). In other words, the more employees were able to participate in the organizational decision-making process the less authoritarian attitudes they reported.

The perspective of self-perception theory on organizational climate theory is complemented by cognitive dissonance theory (Festinger, 1957). Whereas self-perception theory can explain why organizational climate spillover occurs when employees have no strong attitudes towards the domain of organizational climate, cognitive dissonance theory

can explain why spillover occurs even under these circumstances. Therefore, the lens of cognitive dissonance theory is needed to understand why COVID-19 safety climate, in Study 4, was a stronger predictor of COVID-19 vaccine readiness for Republicans compared to Democrats.

### *Can Organizational Climate Backfire?*

Next, some of the results of my dissertation imply that organizational climate can have unintended detrimental consequences. Albeit based on a very small portion of the sample, exploratory analyses in Study 3 showed that organizational climate had detrimental effects for employees who were not vaccinated (even though the vaccine was already available) and therefore seemingly had a very strong dismissive attitude towards the topic of COVID-19 safety. In the broader organizational spillover literature, this phenomenon is named compensation, as the opposite pole of spillover (e.g., Staines, 1980). If taken seriously, this finding of compensation can be explained by reactance theory (Brehm, 1966). Reactance theory's main assumption is that psychological reactance is evoked when people feel that they are restricted in their freedom. Psychological reactance in turn will lead to people dismissing these perceived attempts to restrict their freedom. They can try to dismiss these attempts to restrict their freedom by engaging in the behavior they feel restricted in or by changing their attitudes towards the behavior (Brehm & Brehm, 1981). To illustrate, if a person is told that they are not allowed to write on a sheet of paper, they will likely perceive this as a restriction of their freedom and develop the desire to write on this sheet of paper. Of note, perceived restrictions of freedom are subjectively construed and can vary from person to person (Rosenberg & Siegel, 2018). Furthermore, if people know that someone is trying to persuade them, they will show more psychological reactance and respond with less attitude change to the persuasion attempt (Heller et al., 1973).

Applying this logic to the context of COVID-19 safety climate, I could derive the post-hoc explanation that employees respond with less COVID-19 vaccine readiness when

they feel that their freedom is restricted by their organization's policies, practices, and procedures, as indicated by higher perceptions of COVID-19 safety climate. Therefore, this finding implies that under some circumstance organizational climate can be perceived as attempts to restrict personal freedom and persuade employees to show specific types of behavior (i.e., COVID-19 safety behavior). If employees perceive organizational climate in this vein, they might act in contrast to the intended consequences.

Reactance theory can also explain another empirical result that showed differential consequences of organizational health climate for some employees. In a recent study, Jang and colleagues (2023) investigated the indirect effect of perceived health climate, a type of organizational climate that focuses on organizational support for physical and psychological health, on insomnia through emotional exhaustion. The results show that there was an overall beneficial association between perceived health climate and insomnia via emotional exhaustion. However, this indirect association was less pronounced for employees with a higher body mass index (BMI). This result can be explained by psychological reactance: Consistently perceiving organizational policies, practices, and procedures to value physical health might lead to chronic feelings of psychological reactance, as employees feel restricted in their freedom to make unhealthy choices, which manifests itself in worse emotional exhaustion and subsequent well-being (e.g., Rosenberg & Siegel, 2016). Admittedly, an alternative explanation for these not-as-beneficial effects of perceived health climate for employees with a higher BMI might be feelings that they are being stereotyped by supervisors, coworkers, or customers (e.g., King et al., 2006). Both competing hypotheses could be tested in future research. Therefore, this example illustrates that it is helpful to apply social psychological theories of attitude and behavior change to the literature on organizational climate.

### *(Only) a Case of COVID-19?*

Finally, it is necessary to discuss whether the results of my dissertation are idiosyncratic to the case of COVID-19 or generalizable to the broader organizational climate literature. I argue that the associations found in my dissertation generalize to other types of organizational climate for two reasons: First, my proposed process variables are not context specific and have been shown to function in various contexts. For instance, climate strength as a moderating variable of organizational climate has been investigated in several domains of organizational conduct, such as diversity, justice, or service (e.g., Colquitt et al., 2002; Reinwald et al., 2019; Schneider et al., 2002). Further, the effects of descriptive and injunctive norms on behavior and the amplifying role of social identification have also been shown in several domains. For example, health behaviors such as exercising and healthy eating, or pro-environmental behavior (e.g., Farrow et al., 2017; J. Kim et al., 2019; Robinson et al., 2014). This makes it likely that the process proposed in my theoretical framework also applies to these domains of organizational climate. Second, COVID-19 safety climate is a specific case of safety climate (e.g., Zohar, 1980), which makes it likely that associations generalize at least to these more similar types of organizational climate. For instance, these types of organizational climate aim at improving employees' safety and health in work and non-work settings by implementing similar policies, practices, and procedures with the only difference that they refer to different safety-related topics. This is even more evident when looking at the items I used for the measurement of COVID-19 safety climate, which are adapted from a safety climate measure and only slightly altered to refer to COVID-19 specifically. COVID-19 safety behavior can also be conceptualized as a health behavior (Zhou et al., 2023), such as healthy eating behavior. This makes it likely that predictors of COVID-19 safety behavior are similar to predictors of health behavior.

However, there are also reasons to assume that some findings are more relevant in the context of COVID-19 safety than in other domains of organizational conduct. For example,

the results that descriptive norms are the stronger mediator of the association between organizational climate and employee behavior than injunctive norms might not generalize to other types of organizational climate. In the context of safety, it can be assumed that employees comply with social norms because they deem safety behavior adaptive and not because they expect social rewards for showing safety behavior. Furthermore, the context of COVID-19 was characterized by increased feelings of uncertainty that are usually not as pronounced in organizational environments (S. Taylor, 2022). This makes it even more likely that informational influence (through descriptive norms) is more influential in the context studied in my dissertation. In other contexts, such as pro-environmental behavior or diversity, it is possible that injunctive norms are at least equally relevant for the transmission of organizational climate into employee behavior.

**Practical Implications**

The results of this dissertation have several practical implications, both for practitioners working in organizations and implementing organizational policies, practices, and procedures, and for policymakers that need to design policies to tackle public and societal challenges such as the COVID-19 pandemic.

First, my dissertation shows that organizations can affect their employees' behavior by implementing corresponding policies, practices and procedures that signal to employees that certain behaviors are valued and expected. Specifically, identifying descriptive and injunctive norms as mediator variables for this association is insightful for practitioners. They should keep in mind that the goal of their policies, practices, and procedures should be to affect social norms to effectively influence their employees' behavior. They can do so, for example, by establishing focus group discussions in which employees are enabled to discuss with each other about behaviors pertaining to the domain of organizational climate (D. T. Miller & Prentice, 2016). Second, the results show that organizations are a powerful lever to affect the behavior of their employees in the non-work domain. This has the implication for

policymakers that organizations should be included in governmental policies to holistically tackle public challenges. For example, the results showed that organizational climate was especially influential for Republicans who are not as likely to be influenced by governmental messages from a Democratic administration. Finally, the results imply that, notwithstanding the beneficial consequences of organizational climate, there might be circumstances under which organizational climate does not lead to the desired outcomes. It is possible that employees' perceptions of organizational policies, practices, and procedures will make them feel threatened in their personal freedom, evoking psychological reactance and subsequent resistance to attitude and behavior change (Brehm, 1966). Although this might only be the case for some employees, it is nonetheless necessary to keep this in mind while designing and implementing organizational policies, practices, and procedures. There are several methods to reduce psychological reactance that are mentioned in the literature. For instance, reactance can be reduced when people understand the importance of the policies, practices, and procedure (S. Taylor & Asmundson, 2021). Further, reactance can be reduced by using autonomy-supportive language (e.g., C. H. Miller et al., 2007) or emphasizing that people have a free choice on whether to follow organizational policies, practices, and procedures (e.g., Bessarabova et al., 2013). Both these strategies aim at securing people's control beliefs as perceived restriction of control is a central driver of psychological reactance (Brehm, 1966). Other strategies include showing empathy to reduce anger and thereby indirectly psychological reactance (L. Shen, 2010).

## Strengths, Limitations, and Directions for Future Research

### *Strengths*

The first strength of my dissertation is the connection of social psychological theories that describe basic principles of attitude and behavior change with the literature on organizational climate. This connection enabled me to identify jingle- and jangle-fallacies in the literature on organizational climate and social norms and provide recommendations on

how to define, measure, and differentiate both constructs. It further allowed me to develop a domain-independent theoretical framework that can be used to explain how organizational climate affects employee behavior and provides opportunities for interventions. Furthermore, I was able to develop a theoretically based model of organizational climate spillover that allowed me to uncover that associations of organizational climate reach far further than previously expected. Specifically, this showed that organizational climate is not only a relevant construct for organizational research but can also be of interest for multidisciplinary research (e.g., public health, environmental sciences, political sciences).

The second strength relates to the study designs I utilized and the samples I examined. Across all studies, I always collected data on at least two (Studies 1,3, and 4) and up to three (Study 2) measurement points to establish temporal precedence of the study variables and investigate change in outcome variables. This is especially a strength in the research domain of organizational climate as many studies that investigate organizational climate employ cross-sectional designs (e.g., Koopmann et al., 2016; Priesemuth et al., 2014; Reinwald et al., 2019). This is surprising as the drawbacks of conducting cross-sectional studies have been established in the literature. For example, for a conscientious test of mediation models, it is necessary to collect data on more than one measurement point (Maxwell & Cole, 2007). Further, I collected data in several countries which shows that the results can be generalized, at least across Western countries. Specifically, I collected data in Germany (Study 2), the United Kingdom (Study 1 and Study 3), and the United States (Study 4).

Finally, I employed principles of open science (Center for Open Science, 2024) in my dissertation. I preregistered the main associations of my theoretical framework (Study 1 and Study 2) and published all data, the analysis code, and other study materials in the online repository of the Open Science Framework (OSF). This allows other researchers to replicate my analyses or reuse the data for alternative investigations. Further, I tested the main assumption of my theoretical framework that social norms mediate the association of

organizational climate and employee behavior in two separate samples and showed that it was replicable (Study 1 and Study 2). This also applies to the association of organizational climate and more distal attitudes (Study 3 and Study 4).

### *Limitations and Directions for Future Research*

The first limitation pertains to the use of self-report data. Although organizational climate, social norms, and organizational identification are variables that require the use of self-assessment, the assessment of COVID-19 safety behavior with self-reports is possibly biased (Mojzisch et al., 2022). Therefore, it would be better to triangulate the self-report of COVID-19 safety behavior with other-reports of COVID-19 safety behavior or real-life observations. Further, the use of self-report variables increases the risk of common method bias. However, I took several measures to minimize the risk of common method bias by measuring predictor, mediator, and outcome variables at different measurement points and by using scales with different anchors for the assessment of the variables (Podsakoff et al., 2024). However, it would still be better to objectively measure at least some of the variables in future research.

Second, all studies that I conducted as part of this dissertation are correlational. This means that no causal conclusions can be drawn. However, besides this limitation that is inherent to all correlational research, I took several steps to establish temporal precedence and provide evidence for change in mediator and outcome variables that is evoked by the predictor variable. Specifically, I assessed the predictor, mediator, and outcome variables at different measurement points and included autoregressive pathways (i.e., controlling for previous levels of mediator and outcome variable) in the statistical analyses. However, it is still desirable to test my theoretical framework in a more controlled setting. For example, there is initial research investigating effects of organizational climate in experimental settings. In a study by Horvath and colleagues (2023), error management climate was experimentally manipulated by providing subjects with different instructions on how to approach a group

task. In the condition of high error management climate, subjects were encouraged to make mistakes. In contrast, in the condition of low error management climate subjects were warned not to make mistakes. This, in turn, affected group performance during group tasks. This approach could be further extended by assessing perceptions of social norms, or even experimentally manipulating social norms with confederates. Furthermore, intervention studies can be useful to establish causality in more ecologically valid field settings (J. Lee et al., 2019).

Third, the implications of my dissertation are limited because I only investigated one type of organizational climate (i.e., COVID-19 safety climate). Even though I developed a theoretical framework that is domain-independent, this does not make it obsolete to substantiate this framework in other domains of organizational conduct. As outlined above, there are reasons to assume that some of my findings are idiosyncratic to the context of COVID-19. Therefore, as a next step, it is necessary to test the theoretical framework I proposed in this dissertation in other domains of organizational conduct, such as pro-environmental behavior (e.g., pro-environmental climate; Norton et al., 2014) or diversity and inclusion (e.g., diversity climate; Holmes et al., 2021).

Another direction for future research relates to the open question of selection or socialization. Specifically, it could be argued that organizational climate relates to employees' attitudes and behaviors because employees change their attitudes and behavior due to their organization's climate (i.e., due to socialization). An opposing perspective provides the attraction-selection-attrition model (ASA; Schneider, 1987). The ASA model proposes that employees' attitudes and behaviors are related to their organization's climate due to a selection process: Employees select organizations as employers and are selected by organizations as employees due to their attitudes and behaviors. In the case of a wrong selection, the ASA model predicts that employees will quit or be fired, thereby contributing to an even stronger association of organizational climate and employee behavior. Tentatively,

the results of my dissertation suggest that there is, at least to some extent, a socialization process at play. For instance, the time lag between measurement waves was eight weeks in Study 2. It is not very likely that a substantial number of employees quit or was fired due to reasons of COVID-19 safety during this short period. Regarding a similar research question of selection versus socialization, a study by de Cooman and colleagues (2009) investigated whether newcomers' work values converged with their organization's values. The authors found evidence for both selection (i.e., evidence for attrition) and socialization (i.e., evidence for increasing person-organization fit of values) processes. This research design of investigating organizational newcomers could be applied to the domain of organizational climate to test the selection hypothesis versus the socialization hypothesis against each other. The design could further be extended by following high school or university absolvents until they have worked in a job for a year.

Next, contrasting the results of Study 3 with the results of Study 4, the open question remains to the circumstances under which employees react to organizational climate according to cognitive dissonance theory or reactance theory. Specifically, in Study 3 employees who were not vaccinated and therefore were likely to hold a negative attitude towards vaccination and COVID-19 prevention measures responded negatively to higher levels of perceived COVID-19 safety climate. In contrast, Republican employees, who can also be expected to hold fewer positive attitudes towards COVID-19 prevention (e.g., Weisel, 2021), responded in line with their organizational climate and even reported more COVID-19 vaccinations when they perceived higher levels of COVID-19 safety climate. Therefore, in two populations that are assumed to have similar attitudes towards COVID-19 prevention, the association between COVID-19 safety climate and COVID-19 safety behavior varied drastically. This implies that only employees who chose not to get vaccinated perceived their organizational climate as an attempt to restrict their freedom regarding their attitudes and behavior towards COVID-19 prevention. In future research it would be interesting to zoom in

on this finding and investigate at what point individuals start to perceive their organizational climate as a threat to their freedom. For example, given that I did not measure attitudes towards COVID-19 prevention directly it is possible that both populations differed in their attitudes which could explain the diverging results. Further, future research could investigate what types of organizational policies, procedures, and practices are most likely to evoke reactance reactions. An empirical study to guide this investigation is a study by Festinger and Carlsmith (1959) who utilized an induced choice paradigm to investigate cognitive dissonance. Specifically, they let people participate in a boring experiment and asked them afterwards to tell newly arriving participants that the experiment is going to be very enjoyable. Participants were paid either $1 or $20 for telling this lie and were subsequently asked how much they enjoyed the experiment themselves. Interestingly, results showed that participants who were paid only $1 for telling the lie reported that they enjoyed the experiment more than participants who were paid $20. Applied to organizational climate induced behavior change this implies that employees need to perceive that they comply voluntarily with their organizational climate for it to be effective and not due to financial reward. Future research could therefore test whether organizational climate leads to detrimental consequences when the organizational practices, policies, and procedures solely entail reward and promotion structures.

Finally, it would be interesting to shed more light on the stability of social norm perceptions. First, in my dissertation I conceptualized social norms as stable variables that show only some variability over time. In a future study, it would be interesting to investigate how temporally stable social norms are. Scholars could utilize weekly or daily diary designs to assess within-person fluctuations in social norms. If social norms show within-person fluctuations over these shorter time spans, it would be insightful to investigate within-person associations of social norms and employee behavior for several reasons. Daily or weekly diary studies have the advantage that they can capture fluctuations in variables and allow

researchers to investigate life as it is lived. They thereby have greater ecological validity and reduce recall bias (e.g., Bolger et al., 2003). Further, investigating within-person associations aligns more strongly with the theorized underlying psychological mechanism of social influence and would thereby provide stronger evidence for the functioning of social norms (Hamaker, 2012). Additionally, I speculate that daily variations in social norm perceptions might be interpreted as norm violations rather than norm changes by employees and thereby do not necessarily have consequences for employee behavior but detrimental consequences for their interpersonal behavior and well-being. Second, when conceptualizing social norms as a unit-level phenomenon (i.e., collective social norms) it could be relevant for unit-level behavior whether norm perceptions are shared across unit members. This phenomenon of sharedness is called norm crystallization in the field of sociology. Norm crystallization is conceptualized as the degree of within-unit consensus regarding social norms (Jackson, 1966, 1975) and is therefore conceptually similar to climate strength. In future studies it could be investigated whether collective social norms only predict unit-level behavior when norm crystallization is high (i.e., norms are shared across unit members).

## Conclusion

This dissertation integrates social psychological theories of attitude and behavior change into the literature on organizational climate and organizational climate spillover to develop a theoretical framework that explains why and when organizational climate affects employees' attitudes and behavior in the work and non-work domain. Across four studies, my dissertation shows that organizational climate affects employee behavior in the work and non-work domain through the establishment of descriptive and injunctive norms (Study 1 and Study 2). Further, organizational climate even relates to more distal attitudinal (COVID-19 vaccine readiness, Study 3 and Study 4) and behavioral outcomes (COVID-19 vaccination, Study 4) in the non-work domain.

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# APPENDIX A

**Table A1**

*Overview of Articles Investigating Organizational Climate in the Journal of Applied Psychology (2014-2024)*

| Reference | Domain | Definition | Sample Items | Items refer to: |
|---|---|---|---|---|
| Beus et al. (2021) | Domain-independent | "[…] shared perceptions among group members of what is prioritized in a work setting [...]." (p. 1332) | -- (Review article, no items used) | -- |
| Beus et al. (2023) | Domain-independent | "Organizational climate constitutes shared, socially derived perceptions of the meanings attached to norms, expectations, and features within an organizational collective [...]." (p. 1) | -- (Review article, no items used) | -- |
| Chen et al. (2015) | Competition | -- | The amount of recognition you get in this salon depends on how your performance compares to other hairstylists | Management |
| David et al. (2023) | Gender Mistreatment | "[...] employee perceptions that gender-based mistreatment is likely to be occurring in their organization." (p. 6) | Sexist jokes were frequently heard<br>A supervisor referred to subordinates of one gender by their first names in public while using titles for subordinates of the other gender | Management / Coworkers |

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|---|---|---|---|---|
| Dollard and Bailey (2021) | Psychosocial Safety | "[…] shared employee perceptions of the organization's policies, practices, procedures, and systems for worker psychological health." (p. 952) | In my workplace senior management acts quickly to correct problems/issues that affect employees' psychological health<br>Psychological well-being of staff is a priority for this organization<br>Information about workplace psychological well-being is always brought to my attention by my manager/supervisor | Management |
| Fisher (2014) | Cooperation | "Climate regarding cooperation implicates the degree to which there is a shared perception that employees can count on their coworkers for assistance and that there is a spirit of cooperativeness among colleagues [...]." (p. 725) | There is a spirit of cooperation and teamwork among the people here.<br>The people I work with cooperate to get the job done.<br>When people need help, they can usually count on getting it from their coworkers. | Coworkers |
| González-Romá and Hernández (2014) | Organizational Support | "[..] work unit's shared perception[...]" (p. 1044) | In my work team, team members feel supported by the organization<br>The team manager supports the team's members | Management |

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|---|---|---|---|---|
| Hammer et al. (2016) | Work-Family | -- (not defined) | In your workplace, employees are expected to take time away from their family or personal lives to get their work done. | Management |
| He et al. (2023) | Safety | "[…] shared perceptions of workplace norms, priorities, and expectations among employees within a collective [...]." (p. 595) | My coworkers are committed to safety improvement. | Management / Coworkers |
| | Productivity | | Management encourages employees to get the job done as quickly as possible. | Management |
| | Promotion | | My organization focuses on promotion-related issues such as work accomplishments. | Management |
| | Prevention | | My organization focuses on following rules and regulations | Management |
| | Ethical | | Employees are expected to comply with the law and professional standards over and above other considerations. | Management |
| Hong et al. (2016) | Initiative | "[...] shared perceptions among employees regarding the specific types of behaviors that are expected and encouraged in the organization [...]." (p. 688) | Employees are encouraged to tackle service-related problems without being explicitly told by their supervisor<br>Employees are expected to challenge tried and tested ways of doing things in guest service," | Management |

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|---|---|---|---|---|
| Huang et al. (2019) | Ethics | "[...] employees' perceptions of the organization's policies, practices, and procedures regarding ethics [...]." (p. 496) | My company strictly enforces policies regarding ethical behavior<br>Top management in my company has let it be known in no uncertain terms that unethical behaviors will not be tolerated | Management |
| K. Jiang et al. (2015) | Service | "[…] employees' shared perceptions of the importance in meeting customers' needs effectively [...]." (p. 1092) | The tools, technology, and other resources provided to employees to support the delivery of superior quality work and service<br>The overall quality of service provided by our store | Management |
| K. Jiang et al. (2016) | Service | "[…] employees' shared perceptions of the policies, practices, and procedures in organizations that expect and reward employees to deliver high quality service […]." (p. 1555) | How would you rate the tools, technology, and other resources provided to employees to support the delivery of superior quality work and service? | Management |
| | Ethics | "[…] employees' shared perception of the organizational environment that guides them to be honorable, just, and virtuous in providing customer service […]." (p. 1555) | Top management supports ethical behavior toward customers<br>I think our theater is more interested in making money than in meeting customers' needs (reverse coded) | Management |

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|---|---|---|---|---|
| Keeler et al. (2023) | Domain-independent | "[…] shared beliefs and perceptions held among organizational members regarding the social and physical environment of the organization (...) and arises from the interactions of organizational members within and between hierarchical levels [...]." (p. 72) | -- (Review article, no items used) | -- |
| S. Kim et al. (2022). | Health | "[...] employee perceptions of active support from coworkers, supervisor, and upper management for the physical and psychological well-being of employees [...]." (p. 63) | If my health were to decline, my coworkers would take steps to support my recovery<br>My supervisor encourages healthy behaviors in my work group<br>My organization provides me with opportunities and resources to be healthy | Management / Coworkers |
| Koopmann et al. (2016) | Psychological Safety | "[…] shared perceptions that the team is safe for interpersonal risk taking [...]." (p. 940) | If you make a mistake on this team, it is often held against you" (reverse-coded)<br>It is safe to take a risk on this team<br>Working with members of this team, my unique skills and talents are valued and utilized. | Management / Coworkers |
| Kundro et al. (2024) | Diversity | "whether they [(employees)] perceive that their organization's policies and procedures foster the integration of minority individuals [...]." (p. 671) | My organization recruits from diverse sources | Management |

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|---|---|---|---|---|
| Li et al. (2023) | Developing Older Workers | "[...] shared perceptions regarding the extent to which an organization prioritizes and encourages their personal development [...]." (p. 985) | In this organization, managers stimulate older workers to keep their knowledge up-to date<br>Training of older workers has a high priority in this organization. | Management |
| | Developing Older Workers | | In my organization, older workers who make an effort to learn new things earn appreciation and respect. | Management / Coworkers |
| | Age-Inclusive | "[…] employees' shared perceptions regarding the extent to which an organization treats employees of all ages in a fair, nondiscriminatory, and inclusive manner [...]." (p. 985) | Our organization makes it easy for people from diverse age-groups to fit in and be accepted. | Management |
| Li et al. (2022) | Inclusion | "Organizational climate for inclusion refers to an organization's effort in cultivating inclusive work environments that make employees feel to be a valued part of the organization [...]." (p. 2285) | This organization invests in the development of all of its employees<br>This organization commits resources to ensuring that employees are able to resolve conflicts effectively | Management |
| Mawritz et al. (2014) | Hostility | "[…] shared perceptions of organizational policies, practices, and procedures [...]." (p. 738) | In my organization, people often feel eaten up with jealousy. | Coworkers |

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|---|---|---|---|---|
| Myer et al. (2016) | Ethical | "[…] shared perceptions regarding the policies, practices, and procedures that are rewarded, supported, and expected within an organization [...]." (p. 1179) | Management at my company sets a good example of ethical business behavior<br>Ethical expectations have been clearly communicated to me by my company | Management |
| | Service | | My company is committed to customer satisfaction," and "My company understands customer needs" | Management |
| Naveh and Katz-Navon (2015) | Road Safety | "[…] shared perceptions of employees concerning the kind of behaviors that get rewarded, supported, and expected within the organization [...]." (p. 217) | To what extent in your unit "road safety is an important value?"; "do people believe that road safety should come first"?; and "road safety rules and procedures are strictly adhered to? | Coworkers |
| Priesemuth and Schminke (2024) | Toxic | "[…] shared perceptions of both formal and informal policies, practices, procedures, and norms in organizations [...]. These shared perceptions materialize when norms, practices, and procedures are expected and supported by organizational members [...]." (p. 2) | -- (Review article, no items used) | -- |

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|---|---|---|---|---|
| Probst (2015) | Safety | "a unified set of cognitions [held by workers] regarding the safety aspects of their organization." (p. 1900) | "Management places a strong emphasis on workplace health and safety";<br>"There is open communication about safety issues within this workplace";<br>"Safety issues are given a high priority in training programs" | Management / Coworkers |
| Reh et al. (2018) | Competition | -- (not defined) | "Our team members 'swim or sink' together,"<br>"Our team members' goals go together," and<br>"Our team members seek compatible goals | Coworkers |
| Resick et al. (2023) | Bottom-line Mentality | "[…] shared perceptions that the norms and expectations are one-dimensional and emphasize attaining bottom-line financial results while disregarding competing priorities [...]." (p. 2054) | In my unit, my colleagues and I ...<br>Are solely concerned with achieving financial results.<br>2 Only care about the business. | Coworkers |
| Schaubroeck et al. (2017) | Power Distance | "[...] the extent values and norms for deferring to authorities become routinized in the practices of work groups [...]." (p. 203) | Managers should be able to make the right decision without consulting others. | Management |

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|---|---|---|---|---|
| Schneider et al. (2017) | Domain-independent | "[...] a summary perception derived from a body of interconnected experiences with organizational policies, practices and procedures (e.g., from leadership and HR practices, and so forth) and observations of what is rewarded, supported, and expected in the organization [...]." (p. 468) | --(Review article, no items used) | -- |
| Shepherd et al. (2020) | Service | "[...] shared perceptions of practices, procedures, and behaviors that get rewarded, supported, and expected with regard to customer service and customer service quality [...]." (p. 1328) | My work unit has a clear understanding of our customers' needs | Management / Coworkers |
| Sonnentag et al. (2017) | Eating | "[...] employees' shared perceptions of the "food environment" [...] they encounter at work." (p. 153) | Management in this organization considers healthy food to be important<br>If you are interested in eating healthier, you will get support from this organization<br>Here we talk openly about how to eat healthy | Management / Coworkers |
| Stoverink et al. (2014) | Interpersonal Justice | "[...] a team's shared perception of the extent to which the team is treated fairly by an authority figure [...]." (p. 1060) | [My supervisor] treated my team with respect<br>[My supervisor] treated my team in a polite manner | Management |

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|---|---|---|---|---|
| Tucker et al. (2016) | Safety | "(…) shared perceptions among lower-level employees of the relative priority top managers put on safety, compared with other competing priorities [...]." (p. 1229) | The CEO/owner insists on thorough and regular safety audits and inspections. | Management |
| | | | Top management reacts quickly to solve the problem when told about safety hazards. | Management |
| Volpone et al. (2018) | Diversity | "[…] perception that an organization has policies and utilizes procedures that foster integration of minority individuals [...]". (p. 253) | [University name] maintains a diversity-friendly work environment | Management |
| | | | [University name] respects the views of people like me. | |
| Ward et al. (2022) | Diversity | "[…] employees' perceptions of how much the organization values diversity [...]." (p. 629) | I feel that my immediate supervisor does a good job of managing people with diverse backgrounds | Management |
| | | | My department is fair in its hiring practices | |
| Watkins et al. (2022) | Eating | "[...] refers to management values related to healthy eating, expectations of other employees regarding food, and communication about nutrition [...]." (p. 1463) | Managers in this department consider healthy food to be important | Management / Coworkers |
| | | | This department makes sure that one can get healthy food in between meals | |
| Wei et al. (2015) | Voice | "[…] the extent to which group members share the perception that free expression of doubts regarding organizational practices is supported within the work group [...]." (p. 1643) | In my group, criticizing or providing information that challenges the feasibility of what is being done is encouraged" | Management / Coworkers |

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|---|---|---|---|---|
| Wolfson et al. (2018) | Non-punitive | "[…] shared belief that individuals can openly discuss medical errors and identify potential hazards [...]." (p. 20) | Staff feel free to question the decisions or actions of those with more authority<br>Staff are afraid to ask questions when something does not seem right | -- (not clear) |
| Zhang et al. (2023) | Service | "[...]shared perceptions of the practices, procedures, and behaviors that get rewarded, supported, and expected with regard to customer service and customer service quality [...]." (p. 1699) | In my team, day-to-day decisions demonstrate that patient care quality is a top priority<br>In my team, we work hard to serve patients to meet their needs. | Coworkers |
| | Safety | "[...] shared perception of following the procedures and practices related to workplace safety [...]." (p. 1699) | Members in my team place a strong emphasis on patients' health and safety<br>Patients' safety is given high priority by my team. | Coworkers |
| Zohar and Polachek (2014) | Safety | "[…] socially shared perceptions of the work environment focusing on key organizational attributes informing employees of the kinds of behavior likely to be supported or rewarded [...]." (p. 113) | My supervisor makes sure we receive all the equipment needed to do the job safety<br>Frequently checks to see if we are all obeying the safety rules<br>Insists we wear our protective equipment even if it is uncomfortable. | Management |

**Table A2**

*Overview of Articles Investigating Social Norms in the Journal of Applied Psychology (2014-2024)*

| Reference | Domain | Definition | Sample Items |
|---|---|---|---|
| Dasborough et al. (2020) | Moral Approbation; Moral Perspective-Taking | "Norms are based on shared obligations that groups establish to distinguish what acts are considered honorable and dishonorable […]), and the corresponding rewards and punishments they employ to guide members' behaviors […]." (p. 440) | -- (Review article, no items used) |
| Duguid and Thomas-Hunt (2015) | Stereotyping | "descriptive norms (i.e., norms regarding how most people behave in a situation)," (p. 345) | -- (Norms were experimentally manipulated) |
| Gonzalez-Mulé et al. (2014) | Cooperation | "Group norms are the informal, socially shared standards against which the appropriateness of behaviors in groups is evaluated […]." (p. 989) | People are willing to sacrifice their self-interest for the benefit of the team<br>It is important for us to maintain harmony within the team. |

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|---|---|---|---|
| Locklear et al. (2021) | Gratitude | "perceived gratitude norms (i.e., perceptions regarding the degree to which organization members express gratitude to one another" (p. 1315) | Members of my organization express their appreciation to one another<br>Members of my organization publicly express gratitude to one another |
| Schuster et al. (2023) | Gender Equality | "what others seem to do (descriptive norms) or what others seem to approve or believe should be done (injunctive norms)" (p. 542) | -- (Norms were experimentally manipulated) |
| S. G. Taylor et al. (2022) | Incivility | "Incivility norm perceptions can be either descriptive or injunctive […], in that they can reflect employees' perceptions concerning the degree to which other organization members engage in uncivil behavior (descriptive) or perceptions concerning the degree to which other organization members approve of uncivil behavior (injunctive)." (p. 1289) | Members of my organization show little interest in someone's opinion<br>Members of my organization would approve to pay little attention to others |

# APPENDIX B

## Appendix B

### Publications Based on This Dissertation

Roswag, M., Häusser, J. A., Hubert, P., Abdel Hadi, S., & Mojzisch, A. (2024). Social norms mediate the effects of organizational climate on employee behavior. Manuscript submitted for publication. Department of Psychology, University of Hildesheim.

Roswag, M., Häusser, J. A., Abdel Hadi, S., Hubert, P., & Mojzisch, A. (2023). Organizations affect their employees' vaccine readiness: A self-perception theory perspective. *Applied Psychology: Health and Well-Being*, *15*(4), 1603–1618. https://doi.org/10.1111/aphw.12457

Roswag, M., Häusser, J. A., Abdel Hadi, S., Hubert, P., & Mojzisch, A. (2024). Political affiliation as a moderator of the relationship between organizational climate and COVID-19 vaccine readiness. *Social Science & Medicine*. 116557. https://doi.org/10.1016/j.socscimed.2024.116557