A Psychological Perspective on Strikes: Attitudes, Behavioral Reactions, and Willingness to Participate

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ZUSAMMENFASSUNG

Streiks haben in der Arbeitswelt eine lange Tradition. Gewerkschaften nutzen sie seit Jahrzehnten in allen Ländern und Sektoren, um bei Tarifverhandlungen Druck auf die Arbeitgebenden auszuüben. Dementsprechend hat die Forschung zu Streiks ein breites Spektrum von Fragen abgedeckt. Diese wurden jedoch weitgehend auf einer anderen als der individuellen Ebene behandelt. Mehr über die individuelle Perspektive auf Streiks zu wissen, ist jedoch wichtig, um den Veränderungen in der Arbeitswelt zu begegnen. Ziel meiner Dissertation ist es daher, einen Überblick über die bestehende Forschung zu Streiks auf individueller Ebene zu geben und diese Forschung durch eine neu entwickelte Skala zur Messung von Einstellungen und Verhaltensabsichten zu Streiks zu erweitern. In einem ersten Schritt habe ich eine systematische Literaturrecherche durchgeführt, um den aktuellen Stand des Forschungsfeldes zu Streiks aus individueller Perspektive zu bewerten. Der zweite Schritt bestand in der Entwicklung einer Skala zur Messung von Streikeinstellungen und Verhaltensreaktionen auf Streiks. Ergänzt wurde dies durch eine Studie zur Überprüfung der Messäquivalenz der Skala in Stichproben aus dem Vereinigten Königreich, Deutschland und Frankreich. In einem dritten Schritt untersuchte ich die Unterschiede zwischen den drei Ländern hinsichtlich ihrer Streikeinstellungen und replizierte die beobachteten Unterschiede zwischen deutschen und französischen Stichproben im Rahmen einer weiteren Studie. Schließlich habe ich in einem vierten Schritt gezeigt, dass sowohl dispositionelle als auch kontextuelle Aspekte die Streikeinstellungen beeinflussen können. Die dispositionelle Tendenz, Ungerechtigkeiten wahrzunehmen, sagte in einer deutschen und einer französischen Stichprobe eine positivere Streikeinstellung voraus. In der sechsten und letzten Studie meiner Dissertation untersuchte ich den Einfluss der Heimarbeit als kontextuellen Faktor auf die Streikeinstellung und stellte fest, dass Personen, die von zu Hause arbeiteten, eine negativere Einstellung zu Streiks hatten als diejenigen, die im Büro arbeiteten. Meine Dissertation bietet somit einen Überblick über die bestehende Forschung zu Streiks auf individueller Ebene und neue Erkenntnisse über Streikeinstellungen. Diese

Erkenntnisse betreffen Unterschiede zwischen den Ländern, zwischen Gewerkschaftsmitgliedern und Nichtmitgliedern sowie Unterschiede in Bezug auf dispositionelle und kontextuelle Faktoren. Dies können nur erste Schritte sein, um ein besseres Verständnis von Streiks aus einer individuellen Perspektive zu erlangen. In meiner Dissertation fordere ich daher zukünftige Forschung dazu auf diese Perspektive einzunehmen, um unser Wissen über Streiks zu erweitern.

GENERAL ABSTRACT

Strikes have a long-lasting tradition in the world of work. Unions have used them for decades across countries and sectors to exert pressure on employers during collective bargaining. Accordingly, research on strikes has covered a wide range of questions. These have however widely been addressed on other than individual levels. Knowing more about the individual's perspective on strikes is nonetheless important to face changes in the world of work. The aim of my dissertation is therefore to offer an overview of existing individual-level research on strikes and extend this research using a newly developed measure to assess attitudes and behavioral intentions to strikes. In a first step, I conducted a systematic literature review to evaluate the current state of the research field on strikes from an individual-level perspective. The second step consisted of a scale development to assess strike attitudes and behavioral reactions to strikes. This was supplemented by a study testing the measurement equivalence of the scale in samples from the United Kingdom, Germany, and France. As a third step, I assessed differences in the three countries in their strike attitudes and replicated the observed differences between German and French samples as part of another study. Finally, and as a fourth step, I showed that dispositional as well as contextual aspects can influence strike attitudes. The dispositional tendency to perceive injustices predicted more positive strike attitudes in a German and a French sample. In the sixth and final study of my dissertation, I examined the influence of working from home as a contextual factor influencing strike attitudes and observed that people working from home reported more negative attitudes to strike than those working in the office. My dissertation thus provides an overview of existing research on strikes from an individual perspective and new insights into strike attitudes. These insights cover differences across countries, between union members and non-members, and differences relating to dispositional and contextual factors. These can only be first steps in gaining a better understanding of strikes from an individual-level perspective. Hence, my dissertation calls for research adopting this perspective to further extend our knowledge of strikes.

INDEX OF PUBLICATIONS

This dissertation follows a publication-oriented approach [1] (German: publikationsorientierte Dissertation) and is based on one publication and five manuscripts currently submitted for publication. All included publications and manuscripts are first-authored by the author of this dissertation. The publications and manuscripts are included in their most recent version (minor changes might occur based on formatting). Following open research practices, all included studies were pre-registered either on the Open Science Framework (osf.io; Study 1) or using aspredicted.org (Study 2 – Study 6).

Study 1: Vesper, D., & König, C. J. (2022). *Strikes and their antecedents, processes, and consequences: A systematic review of the scattered research on a common phenomenon.* Manuscript submitted for publication to *Applied Psychology: An International Review*. – Sub-studies 1 and 2 were part of my master thesis and are thus not considered to be part of this dissertation. They are however included for the sake of completeness.

Study 2: Vesper, D., & König, C.J. (2022). Ever thought about strikes? Development of a scale to assess attitudes and behavioral reactions to strikes. *Journal of Business and Psychology*, *37*(6), 1275–1298. doi: 10.1007/s10869-022-09801-7

Study 3: Vesper, D. & König, C. J. (2022*). Measurement equivalence of the English, German, and French versions of the strike attitude and behavioral reactions scale.* Manuscript submitted for publication to *European Journal of Psychological Assessment*.

[1] This dissertation's layout follows the model of Langer (2018) and Schilling (2019).

Study 4: Vesper, D. & König, C. J. (2022*). Differences in strike attitudes and behavioral reactions among British, German, and French samples.* Manuscript submitted for publication to *Workers of the World*.

Study 5: Vesper, D., König, C.J., & Pöschel, L. (2022). *I find this unfair, das finde ich ungerecht, je trouve cela injuste! Testing the effect of justice sensitivity on strike-related outcomes in Germany and France.* Manuscript submitted for publication to *Journal of Business and Psychology*.

Study 6: Vesper, D., König, C.J., & Zwolinski, M. (2022). *Does temporal or spatial distance influence willingness to strike? Testing the applicability of the construal level theory to an industrial relations phenomenon.* Manuscript submitted for publication to *Economic and Industrial Democracy*.

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CHAPTER I – GENERAL INTRODUCTION

General Introduction

Work and organizational psychology (WOP) has faced the criticism of being too employer-centered (e.g., Bal & Dóci, 2018; Ruggs et al., 2013; cf. Anseel et al., 2018). In an analysis of 811 samples from five top WOP journals only 75 (9%) focused directly on workers. These were defined as being neither executive, managerial, or professional employees and/or being wage earners instead of salaried and/or being low- to medium-skilled personnel (Bergman & Jean, 2016). This could lead to research in WOP failing to address relevant workplace phenomena exclusively experienced among workers (Bergman & Jean, 2016). Examples for these unaddressed workplace phenomena could be conflicts at work or strikes.

Conflicts at work are among the few topics in WOP that can (mostly) be considered employee-centered. Research on conflicts at work covers a broad spectrum, ranging from work-family conflicts (e.g., Chen, 2018), team conflicts (e.g., Ni et al., 2022) as well as workplace bullying (Boudrias et al., 2021). Next to the diversity in conflict topics, the assessed constructs vary widely from predictors for certain conflict management styles (Ayub et al., 2017) to effects of conflicts on well-being (Sonnentag et al., 2013). Regarding conflicts at work, the question arises when employees will speak up that is: when do employees show voice behavior to address or even avoid conflicts? The literature on voice and conflicts at work has often focused on individual-level factors contributing to these behaviors. However, collective conflicts as well as collective forms of voice are also important in the workplace.

One important form of collective voice are strikes. Strikes highlight the existing inequalities between workers and management and are a sign of discontent among workers (Godard, 1992). Furthermore, strikes have a long tradition of being a collective bargaining tool of unions to exert pressure on employers (van der Velden, 2003). Strikes

are also likely to remain on of the most important tool for unions, as can be seen in the fact that at least 44,000 strikes took place around the world between 2010 and 2019 (Gammarano, 2019). However, psychological research on strikes is scarce, with a few exceptions especially from the 1980s (e.g., Kelly & Nicholson, 1980; Nicholson & Kelly, 1980).

Hence, the general aim of my dissertation is to give an overview of strike research from a psychological perspective and to update this line of research by introducing and validating a way of measuring strike attitude, as well as willingness to strike. In order to help achieve this broad goal, the first study of this dissertation is a systematic literature review answering the questions of what is already known about strikes from an individual perspective and offering a framework to help with future research on strike behavior. The first study highlights several lines for future research on strikes. The second study was conducted to develop a means of capturing strike attitudes and behavioral reactions as previous research was lacking such a coherent measure to assess general but also specific attitudes and behavioral intentions regarding strikes. The third study examined the measurement equivalence of the developed scale from Study 2 in English-, German-, and French-speaking samples. Thus, this study demonstrated the applicability of the scale developed in the second study to samples beyond German-speaking populations. We then examined in Study 4 whether the attitudes and behavioral reactions to strikes differed in the samples from the United Kingdom, Germany, and France. The last two studies were used to deepen our understanding of strike attitudes and willingness to strike by assessing potential dispositional predictors – justice sensitivity in Study 5 – and contextual predictors – temporal and spatial distance in Study 6- for the respective constructs.

In the next sections, I will first provide an overview of the criticism that WOP has been too employer-centered and neoliberal. Next, I will present one field of WOP

research that has widely adopted an employee-centered focus: Conflicts at work. Then, I will briefly introduce the concept of voice behavior at work and its different forms – one being collective voice in form of strikes. In the last section of the general theoretical background, I will present four research questions on strikes from a psychological perspective and link these questions to the included studies.

CHAPTER II – GENERAL THEORETICAL BACKGROUND

General Theoretical Background

Work and Organizational Psychology (WOP) and the Question of Employer- or Employee- Centered Research

WOP has been criticized for having incorporated a neoliberal ideology (Bal & Dóci, 2018). Neoliberalism can be understood as a political-economic ideology incorporating the claim that maximizing individual economic freedom in society is crucial to increase the individuals' well-being (Fine & Saad-Filho, 2017; Harvey, 2005). Hence, human well-being is thought to be maximized the more economically independent people are (Bal & Dóci, 2018). Within neoliberalism, individuals are seen as homo economicus that is as rational agents who act strategically and based merely on self-interest with their main focus on being utility maximization (George, 2014; Sedlacek, 2011). Another tenet of neoliberalism is that the government should not intervene in the free market but should withdraw as much as possible from the public sphere (Bal & Dóci, 2018).

Neoliberalism follows three different political logics at the workplace (Bal & Dóci, 2018) - with political logics being defined as a description of an ideology's main norms, rules, and understandings (Glynos, 2008). The first political logic of neoliberalism is that everything becomes instrumental in neoliberalism. The workplace as such is determined by transactional agreements between employees and organizations. The second constitutes that at workplaces within neoliberalism an individualistic focus is adopted (Harvey, 2005). Following this individualistic focus, every worker is understood to be their own mini-capitalist investing in their own future (Bauman, 2000; Žižek, 2014). The third political logic of neoliberalism is competition (Bal & Dóci, 2018). Competition takes place both at the

organizational level with privatization leading to ever more competitive markets as well as at the individual level, with employees becoming competitive on the labor market (Delbridge & Keenoy, 2010).

In addition to political logic, social logic is the concrete expression of the implementation of the political dimensions (Glynos, 2008). Regarding the workplace, this means that the norms of individualization and self-reliance are transferred from the society to the workplace. The power of trade unions has been systematically curtailed in the last forty years (Harvey, 2005; Morgan, 2015). This leads to people needing to negotiate their contractual conditions individually which are often no longer covered by collective agreements (Bal & Dóci, 2018). Thus, this individualization contributes to atomizing the society and obstructs collective resistance at work (Alliger, 2022). However, in neoliberal terms it is coined as freeing employees from rigid bureaucratic burdens of trade unions and collective actions while offering flexible labor and time arrangements instead (Bal & Dóci, 2018).

According to neoliberalism, these developments lead to better outcomes for all involved. However, inequalities regarding income and wealth have increased since the 1980s due to the neoliberal deregulations and liberalization programs (Chancel et al., 2022). The authors of the World Inequality Report 2022 (Chancel et al., 2022) have observed that inequalities within countries have risen significantly with the gap between the average incomes of the bottom 50% and top 10% of individuals almost doubling from 8.5 times to 15 times. The report also finds that the inequality levels in 2020 were comparable to those around 1900-1910 and even worse than those from 1820. Hence, inequality stays very high in absolute terms in 2020 and resembles that level observed around 1900 (Chancel et al., 2022). With

inequality levels that high, one could aspect that research would focus more on how to overcome these inequalities. However, especially research in work and organizational psychology still focuses widely on employer-centered aspects.

This has led Bal and Dóci (2018) to criticize the field of WOP for adopting an employer-centered focus in its research and as such to incorporate a neoliberal ideology (but see Anseel et al., 2018; Guest & Grote, 2018). According to this claim, the starting point for WOP research is often the collective organizational purpose and how to align individual behavior with this collective purpose, not the employees themselves (Weiss & Rupp, 2011). Workers have thus been reduced to abstract concepts such as skills, attitudes, and features to facilitate the purposes of organizations and are often only considered as objects in WOP research (Weiss & Rupp, 2011). Correspondingly, specific groups such as contract workers, low- and medium-skilled personnel, and wage earners are underrepresented in samples from WOP studies, whereas professional, managerial, and executive employees are overrepresented (Bergman & Jean, 2016). Hence, WOP research is assumed to consider employees as a resource that is used to fulfil organizational interests rather than being interested in employees as human beings (Bal & Dóci, 2018). In a similar vein, the employment relationship is considered to be instrumental and transactional (Rousseau & McLean Parks, 1993) which is also incorporated in neoliberalism. Work and organizational psychologists are widely of the opinion that a harmonious working relationship exists between employees and organizations (Bal & Dóci, 2018) and thus fail to recognize the diversity of processes and conflicting interests that influence the workplace and also the role of power relationships.

Neoliberalism can be thus be considered to elicit negative effects on equality and social justice (Chancel et al., 2022; Harvey, 2005). These decreases in justice and equality could lead to worker resistance against the current system. Forms of that resistance could be both individual and collective (Alliger, 2022). As WOP has mainly focused on employer-related aspects such as how to enhance organizational performance, little is known about worker resistance from a psychological perspective, despite it being prevalent since the industrial revolution (Roscigno & Hodson, 2004). Hence, research in WOP also needs to adopt a individual-centric perspective answering questions about the individual at work and not only on organizational effectiveness (Weiss & Rupp, 2011). One field that offers employee-centered perspectives to work is the field of conflicts at work.

Conflicts at Work

The increase in individualism, competition, and inequality could have led to an increased amount of conflicts at work. Conflicts are understood as incompatible activities in which one person's actions interfere with another's action (Deutsch, 1973). Conflicts at work have been considered as a disturbance of the equilibrium in organizations (Pondy, 1967). However, this view changed considerably over time with the same scholars evaluating conflicts not only as functional for organizations, but also as crucial for their very existence 25 years later (Pondy, 1992). Over the years, conflict was assumed to be constructive and beneficial to organizations – at least the right kind of conflict (Mikkelsen & Clegg, 2018). They are also considered to be instrumental to achieve something else (Mikkelsen & Clegg, 2018). This depends however on the type of conflict and how the conflict is handled. If conflicts at work are handled correctly, they can be beneficial in

improving performance, decision-making, and innovation in organizations (Mikkelsen & Clegg, 2018).

The right type of conflict according to research are task conflicts which concern disagreements about work content (Jehn, 1997). In contrast, relationship conflicts which derive from interpersonal incompatibilities regarding personality or values, are considered more detrimental. Additionally, the third type of conflicts are process conflicts concerning the question of how a task should be accomplished regarding the delegation of resources and duties (Jehn, 1997). Research on these conflict types and their effects on organizational outcomes is manifold with the general conclusion that relationship conflict is detrimental for organizational functioning (e.g., De Dreu & Weingart, 2003) whereas task and process conflict can be constructive and benefit organizations (e.g., Olson et al., 2007). However, meta-analyses did not support the notion that task conflicts have positive relations with performance or affective outcomes (De Dreu & Weingart, 2003; DeChurch et al., 2013). Instead, all types of conflicts were observed to have negative effects on all parties involved.

Another important consideration is that conflicts are now seen as an organizational rather than an individual event (Mikkelsen & Clegg, 2018). Hence, various sources of conflicts such as distribution of power and resources, rules, and values within an organizational system should be assessed when trying to understand conflicts at work. While conflict as such can hence be either individual or collective, organizational factors still should be considered when examining conflicts.

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Voice at Work

One way to address – or prevent – conflicts at work is speaking up. This has been labelled as voice behavior in the literature and is defined as sharing of ideas, problems, or suggestions on work-related topics in an informal and discrete way to bring about change or improvement (Morrison, 2023). It is thus a prosocial, constructive, and change-oriented form of workplace behavior (Morrison, 2023). This behaviour is opposite to silence, which implies that employees do not share information about ideas, opinions, or problems regarding work-related aspects (Morrison, 2023).

An important precursor for voice behavior is that employees have relevant information and are willing to share this information – which is also labelled as latent voice opportunity (Morrison, 2023). Other predictors for voice behavior were for example personal initiative that led to felt responsibility for change (Starzyk & Sonnentag, 2019) and organizational support (Loi et al., 2014). Furthermore it has been argued that the experience of prosocial emotions, for example empathic anger, empathic concern, or guilt based on another person's suffering also leads people to show voice behavior (Heaphy et al., 2022). Managers and co-workers' behavior is also important when it comes to work. Employees were found to perceive higher psychological safety and to show more voice behavior when co-workers also engaged in voice and their supervisors supported voice behavior (Subhakaran & Dyaram, 2018). Ng et al. (2021) explained the relation between co-workers' voice and self-shown voice with instrumentality and perceived efficacy. They argue that witnessing voice behavior positively affects the instrumentality and perceived efficacy of voice and thus leads to self-shown voice.

It has consistently been found that voice behavior is shown more often in the context of participative decision-making (Silla et al., 2020), and employee-oriented human resource management practices (Hu & Jiang, 2018). These practices involve that an organization provides trainings and development opportunities for its employees or lets employees participate in decision-making processes. The underlying explanatory mechanism for these findings was trust in the employer or manager.

A typical distinction in literature is the one between prohibitive and promotive voice (Liang et al., 2012). Promotive voice is understood as the communication of suggestions or new ideas to improve the general functioning of the workplace or organization (Liang et al., 2012). As such, it can be understood as challenging the status quo and proposing ways of reaching a future ideal state. Prohibitive voice is conversely defined as expressions of concern about incidents, behavior, or work practices which could cause negative effects on the organization (Liang et al., 2012). Hence, expressing prohibitive voice is aimed at highlighting existing problems and preventing harm to the organization. It is thus sometimes considered to be more impactful than promotive voice in that it reduces or prevents negative effects (Liang et al., 2012). Nonetheless, prohibitive voice had a weaker association with job performance ratings in a meta-analysis compared to promotive voice (Chamberlin et al., 2017). When controlling for task performance, the association between prohibitive voice and job performance even became negative.

More recently, Satterstrom et al. (2021) introduced a process model showing how team members are able to help in following and implementing ideas that were seemingly rejected. Hence, they operationalize voice as a collective and dynamic process instead of a one-time dyadic event. This idea of collective forms

of voice is not new and often found in the field of industrial or employment relations (IR/ER). It has however been largely ignored by organizational behavior (OB) researchers (Morrison, 2023).

Collective Voice

The common foundation of voice research lies in Hirschman's (1970) framework of exit, voice, and loyalty. For Hirschman, voice was a process during which customers expressed their dissatisfaction. In this line of thought, voice has been defined as an approach to change instead of escape from untenable conditions. In subsequent years, this definition was widened beyond customers to employees (Wilkinson et al., 2020; Withey & Cooper, 1989). IR research stayed with this conceptualization and put its focus on voice as means of showing grievances and fighting to improve working conditions (Wilkinson et al., 2020). Thus, this research focuses on collective-level systems and structures with voice through formal mechanisms such as work councils or unions. Furthermore, IR lies its focus on non-managerial, low-skilled employees and their means of communicating their interests and grievances to management (Wilkinson et al., 2020). For this research, voice is interpreted as a means to protect workers and promote workplace democracy instead of improving organizational effectiveness as in OB research.

From an IR perspective, voice is seen as a tool of expressing and protecting the interests of workers which are distinct – and sometimes even opposite – from those of the organization (Barry & Wilkinson, 2016; Kaufman, 2015; Nechanska et al., 2020). According to this perspective, voice consists of mechanisms or opportunities for workers to influence decisions that they are

affected by. This is in contrast to OB's assumption that voice is a direct behavior to address work-related problems (Morrison, 2023). These mechanisms can vary in being formal or informal, direct or indirect, individual or collective, and can include meetings between workers and managers, but also unions, work councils or grievance procedures (Wilkinson et al., 2020). Contrary to OB research, where voice is described as proactive individual-level, behavior (Morrison, 2014; Van Dyne & LePine, 1998), IR scholars therefore assess voice as an expression of workers' interests that differ from those of the organization (Kaufman, 2015). These scholars also feature formal institutions such as trade unions, work councils, or collective bargaining in their research and evaluate them as important for facilitating employee voice (Wilkinson et al., 2020). The assumption of IR researchers is that the employment relationship between employees and employers is by large adversarial with conflicting interests between both parties.

In contrast to this, work and organizational psychologists are often unwilling to acknowledge that conflicts between employees and management exist, which has probably also led them to widely ignore unions in their research (Alliger, 2022; Barling, 1988; Zickar, 2004). OB researchers have also tended to exclude such research as they also tend to focus on informal individual-level voice behaviour at work (Morrison, 2011). Trade unions play nonetheless a crucial role in trying to reduce power asymmetries. However, research on trade unions in WOP only accounts for 1.5 to 2.5% of the total number of published articles (Zickar, 2004). Which can be evaluated as a surprisingly low amount as considering union membership and also union activity would help to increase the understanding of different aspects of organizational behaviour such as job dissatisfaction, productivity, or turnover (Barling, 1988). Kaufman (2015) also criticized the OB

literature for ignoring the mechanisms of employee representation as a potential vehicle for voice.

In line with the general criticism of being too employer-centered, the WOP literature on voice has also been criticized for defining voice to rather reflect interests of management (Barry & Wilkinson, 2016). This resulted in a lack of attention from OB scholars for situations in which employees show voice behavior to express their own legitimate interests – which are sometimes at odds with their organizations' interests (Wilkinson et al., 2020). They also observed that research from the field of IR is not read and not cited by researchers from OB and vice versa despite assessing the same underlying question of how and why employees do speak up at the workplace.

Recently, Wilkinson et al. (2020) called for an interdisciplinary and broader perspective on employee voice to bridge the gap between IR and OB while acknowledging initial attempts (Bashshur & Oc, 2015; Mowbray et al., 2015). Recognizing that voice can be a behavior on a collective level from a WOP perspective seems thus warranted.

One possible attempt to close this gap is to focus on one form of collective action, which can also be considered collective voice: Strikes. Thirty years ago, Godard (1992) already proposed that strikes can be seen as a form of collective voice. He argued that following the collective voice approach, conflict always lies underneath the surface of the labor-management relations due to the asymmetries in employment relations. The likelihood of a strike and its duration can thus be interpreted as a positive function of workers' discontent and also solidarity (Godard, 1992).

Hence, conducting research on strikes from a WOP perspective addresses several issues at once. First, strikes have a long tradition of being worker driven and can thus be considered an employee-centered research area. This would then address the criticism of WOP being too employer-centered (Bal & Dóci, 2018). Second, with inequalities as large as around 1900 (Chancel et al., 2022) due to the increase of neoliberal politics, the willingness of workers and unions to address these inequalities might rise and thus make strikes more likely. This would also align with the assumption from Godard (1992) that more discontent heightens the probability of strike action. Third, strikes are conflicts between workers (unions) and employers. Thus, this extends research on conflict at work with a focus on strikes as special kind of conflict. Fourth and final, strikes can be understood as a collective form of voice (Godard, 1992). As such, research on strikes can help to bridge the gap between OB and IR research on voice (Wilkinson et al., 2020) in assessing how individuals assess a collective form of voice, that is strikes.

Open Research Questions

This dissertation thus intends to answer several open research questions in the field of strikes from a psychological perspective. In answering these questions, I contribute threefold to the literature: First, strikes are an employee-focused topic, as such I follow the call of WOP critics (e.g., Bal & Dóci, 2018) in broadening the scope of WOP to employee-centered research. Second, I extend the research on conflicts at work by examining strikes as a collective form of conflicts at work. Third, I contribute and extend the research on voice behavior by assessing strikes

as a collective form of voice – trying to bridge the gap between OB and IR scholars.

Overall, I will address four questions in this dissertation. First, what is the current state of the research field regarding strikes from an individual perspective? Second, is there a consistent way to measure strike attitudes in a general way, but also regarding specific strikes? Third, do strike attitudes differ across countries and if so, in which ways? Fourth, what may potentially influence strike attitudes of individuals, both dispositional as well as contextually?

Dissertation Outline

In the subsequent chapters, I will outline six studies which were conducted to answer the research questions that were introduced earlier. Study 1 answers the first question about the current state of the research field regarding strikes from a psychological perspective examining the existing literature. I conducted a systematic literature review with corresponding search terms and found 102 studies that addressed at least one of the five posed research questions. In this review, I also assessed the maturity of the research field as a whole, using criteria from Keathley-Herring et al. (2016) and concluded that the research field despite having a long history is still immature.

Study 2 addresses the second question in providing four sub-studies used to develop a scale to assess strike attitudes. The first and second sub-study were part of my master thesis and are hence not considered to be part of this dissertation. They are nevertheless included for the sake of completeness. In the first sub-study of the scale development, I developed an item-pool and obtained a five-factor structure of strike attitudes and behavioral reactions to strikes, with the following

five factors: Negative reactions to strikes, legitimacy of strikes, support of strikers, strike-related social network behavior, and informing oneself about strikes. The psychometric properties of these factors were confirmed in the second sub-study, followed by assessing and finding support for the convergent and divergent validity of the scale in the third sub-study. In the last sub-study, the scale was adapted to a specific strike event and its validity was confirmed in this context as well.

Study 3 also relates to the second question. Here, I assessed the measurement equivalence of the scale developed in Study 2 in an English-, a German-, and a French-speaking sample. I obtained (partial) scalar equivalence comparing the three samples. Hence supporting the applicability of the scale beyond German-speaking samples and allowing for valid mean comparisons across samples.

Study 4 contributes to answering the third question whether strike attitudes differ across countries. I compared the general strike attitudes and behavioral reactions between an English, a German, and a French sample using the dataset from Study 3. As expected, attitudes differed between the three samples. Regarding the direction of differences, we were slightly surprised that German participants reported the most positive attitudes, despite Germany being a low-striking country. We also found this pattern in Study 5, were we compared the attitudes between a German and French sample, again contributing to the third question.

Study 5 focused on addressing the fourth question of this dissertation that is assessing dispositional factors that might influence individual strike attitudes. In this study, we used the construct of justice sensitivity (Schmitt et al., 2005) as a predictor for strike attitudes. We assumed that higher victim and observer justice sensitivity would lead to more positive strike attitudes and a higher willingness to

strike, mediated by anger or empathy respectively. The study was conducted in France and Germany to also allow for answering the third question of this dissertation. The assumed model was however not moderated by country allowing for an overall assessment of the model. We obtained mixed results but were able to conclude that observer justice sensitivity, anger, and empathy were relevant dispositional constructs influencing strike attitudes and willingness to strike, whereas victim justice sensitivity was not that important for strike attitudes.

Finally, Study 6 analyzes the fourth question concerning the effects of contextual factors on strike attitudes and willingness to strike. This study relied on the construal level theory (Trope & Liberman, 2010) and was split into two sub-studies. In the first sub-study, we analyzed the influence of either working from home or in the office, manipulating the spatial distance, on the participants' strike attitudes and willingness to strike. We obtained significant results indicating that those who read the working from home scenario were less willing to participate in a strike and reported more negative strike attitudes than those who read the working in the office scenario. In the second sub-study we manipulated the date of the strike, being either on the next day or in six months and again assessed the willingness to strike and strike attitudes among participants. In this sub-study we did not obtain a significant difference between the two groups, indicating that the time frame of a looming strike might not influence the willingness to strike and strike attitudes of potential strikers contrary to the spatial distance to the employer or organization.

In summary, this dissertation provides a systematic review of the research on strikes from an individual perspective and a new scale to assess strike attitudes in a consistent way that is applicable in German-, English-, and French-speaking

countries. It also provides new results regarding differences in strike attitudes between German, French, and English samples, as well as indicators for dispositional – justice sensitivity – and contextual – working from home – factors that influence strike attitudes and willingness to strike. It hence offers new insights and directions for future research in the field of strikes.

CHAPTER III – A SYSTEMATIC REVIEW ON STRIKES

Strikes and their antecedents, processes, and consequences: A systematic review of the scattered research on a common phenomenon

A submission to ***Applied Psychology: An International Review***

Abstract

Strikes can be a powerful tool for employees to voice grievances and exercise pressure on their employer. Research on individual level aspects of strikes, such as willingness to strike or consequences of strikes on strikers and third parties, has to date been scattered across different research areas. The aim of this systematic literature review was to gain an overview and deeper understanding of the individual-level aspects of strikes. Specifically, we sought to understand why employees decide to strike, how are strikers affected during and after a strike (e.g., regarding their well-being), and how do third parties evaluate strikes. In our systematic literature search we reviewed 102 studies that explored at least one of our research questions. Almost half of the included studies assessed a wide range of predictors for the willingness to strike. Based on the reviewed studies, we developed and introduced the General Framework for Strike Research (GFSR). This review is thus of great importance for academics to resume research on strikes from an individual perspective. For practitioners from unions and management, the review allows an overview of the effects of strikes on employees and other involved parties.

Introduction

Strikes have always been a crucial tool for unions and workers to stand up for better working conditions. Despite the decline in unionisation worldwide (Crouch, 2017; Kaufman, 2008), strikes remain, and will continue to be, a powerful tool during collective bargaining processes. For example, between 2010 and 2019 at least 44,000 work stoppages took place worldwide (Gammarano, 2019). Even in countries considered as low-strike countries, like Germany, strikes take place regularly, such as ground staff of an airline striking in 2017 and 2022 (Deutsche Welle, 2017, 2022). This indicates that all around the world, workers continuously value strikes as a method to fight for fair working conditions.

Strikes can be considered a form of employee voice, indicating the importance of individual aspects of strikes (next to economic and legal aspects). For employers, unions, and also the public, it is crucial to know what happens before, during, and after strikes on an individual level. As well, knowing about effects of strikes on different groups, such as strikers themselves, managers/employers, and affected third parties, is also highly relevant for the respective stakeholders. However, this knowledge is difficult to find: The restricted number of studies that do exist are scattered across several disciplines from psychology to social work, nursing, and industrial relations. To date, there is no systematic and interdisciplinary review of empirical research on strikes that focuses on these individual-level aspects. As such, by conducting a systematic review on strikes we aim to assess following questions: What are individual predictors for strike participation and willingness to strike? How are strikers, their families, managers/employers, and third parties affected during and after a strike? How do third-parties perceive strikes?

With this systematic review we contribute to the literature in several ways. First, we introduce a general framework of strike research (GFSR) that can be used as a starting point for future research. The GFSR is very broad in nature, leaving ample opportunities for researchers to assess possible antecedents, effects during strikes, or consequences of strikes while applying the GFSR. Hence the GFSR offers many avenues for future research that

could help address questions regarding strikes from an individual perspective. Second, we offer a systematic overview of the current research on strikes from an individual perspective. We find that despite striking being permanently present in the working world, surprisingly little research exists on the topic. With this review, we thus enable researchers, unions, and managers to gain an overview of existing literature and learn about the antecedents and consequences of strikes.

Strikes: Terms and Definitions

Strikes can be defined as a temporary work stoppage initiated by employees or a union to express an implicit grievance (Monnot et al., 2011). Trade unions play a crucial role in most countries when it comes to strikes. They either are the only ones allowed to call for strikes (e.g., in Germany; Dribbusch, 2007) or are required to conduct a strike ballot before striking (e.g., in Australia; Tucker, 2013). Furthermore, strikes mostly occur during collective bargaining when employers and unions are not able to achieve a mutual agreement. Hence, strikes are an instrument of power for unions and can be used to show the union's strength during collective bargaining processes (Nicholson & Kelly, 1980). However, strikes are more than just a ritual during collective bargaining, and it is thus necessary for both sides (i.e., the employer and the union) to better understand what leads to strikes and what consequences are present during and after strikes on an individual level.

Antecedents of Strikes

The first question that unions and employers likely have in mind when thinking about strikes is what factors contribute to the willingness to strike and actual strike participation among employees. Knowing about willingness to strike, and other predictors of strike participation is helpful to assess how likely a strike action is to happen and how successful it might be. Furthermore, such knowledge about strike predictors can help to prevent strikes by allowing unions and employers to focus on relevant points of contention and avoid the escalation of

the underlying conflict. This knowledge is also relevant for the media as they try report on the reasons for a strike in their news coverage. Having a better understanding of the reasons for a strike would thus also help the media to better inform the public about the circumstances that led to a specific strike. A cursory peek into the literature shows that researchers have conducted a considerable number of studies on a wide range of potential antecedents of strike participation and willingness to strike, including injustice (Cloutier et al., 2013) and job dissatisfaction (Jansen et al., 2017). These and other factors likely influence the decision of employees to join strikes. Hence, the following research question emerges: *What are individual predictors for strike participation and willingness to strike? (RQ1).*

Effects During Strikes

If a strike occurs, there are also relevant factors that affect strikers, their families, managers/employers, and third parties. Unaffected third-parties or bystanders can also play a crucial role in this phase of the collective bargaining process by supporting either the strikers or the employers in their claims.

Effects of Strikes on Strikers, Strike-Breakers, Their Families, and Employers

A strike can be understood as a severe disruption of everyday life, especially if it goes on for days or weeks. As the employers do not pay striking employees, strikers can face financial hardship, which can only in part be compensated by the strike compensation of the involved union if at all (Dribbusch, 2016; Kaufman, 1992). From a union perspective, it is essential to know about these issues to prevent negative effects as much as possible and to be aware that these effects could undermine the willingness to continue strike action among strikers. Knowing about the effects on strikers during strikes would help unions implement activities or strategies to prevent, mitigate, or cope with the negative effects.

Next to strikers themselves, their families might also suffer due to the changes in routines and financial security. Hence for families of strikers, strikes are also a disrupting event. The exceptional situation and the stress experienced by strikers might also lead to

more conflicts among family members during the strike. Union activities should thus consider the strikers' families as they are directly affected by the strike action, especially due to the loss of income during a strike (Bluen & Barling, 1988).

The strikers' employer and its management team are also affected by strike action. Most managers remain working while their employees are on strike. This implies that they face higher workloads as they must keep the organization working as best they can despite the strike action. One can easily imagine that this has negative effects on managers' working conditions and their well-being. Furthermore, they are considered to be the opposing party from the strikers' perspective. Hence, the perception of "them versus us" (Kelly, 1998) is further intensified, potentially leading to negative effects on the relationship between managers and strikers. Thus, we pose the following research question: *During a strike, how are strikers, their families, and employers affected? (RQ2)*

Effects on Affected Third Parties

Strikes can also affect certain third parties – for example, customers of the company on strike who must wait for their product or commuters whose buses are not driven or patients in a hospital whose staff is on strike. For all these people, strikes can be a stressful experience that might have sustaining effects on their consumption or commuting decisions. Strikes can also negatively affect their attitudes regarding the organization on strike (Amos et al., 1993; Dzendrowskyj et al., 2004). Hence, it is especially important to know for the affected employers which effects exist on affected customers to ensure that no long-lasting effects occur which might be detrimental for the organization. Moreover, unions might be especially interested in the effects on affected third parties as their reactions might lead management to return to the bargaining table sooner to prevent negative publicity or other negative effects for their organizations. Thus, we pose the following research question: *How are affected third parties impacted during a strike? (RQ3)*

Evaluation of Unaffected Third Parties

Furthermore, unaffected third parties are also of great importance during a strike. Unaffected third parties are often needed to legitimize the strike. Thus, both unions and employers try to convince the public via media that they are morally right, and the other party is morally wrong. To achieve this, both parties need to understand how the public forms its opinion towards a specific strike. Some relevant constructs could be the perceived justice of the collective bargaining process (Kelloway et al., 2008). This is also a relevant question for media as they can have a far-reaching influence on public opinion during a strike. Depending on how a strike is framed in the media, unaffected third parties might react differently and either support or oppose strike action. Hence, we pose the following research question: *How do unaffected third parties evaluate strikes? (RQ4)*

Consequences of Strikes

Finally, strikers usually resume working when a strike is over, and as with every other escalated conflict, strikes can have long-lasting consequences for all involved parties – that is strikers, union representatives, strike-breakers, managers, and affected third parties. Thus, it is crucial for unions and employers to be aware of these possible long-lasting effects of strikes on the respective parties. These effects can be wide-reaching and may include the well-being of former strikers or managers (Barling & Milligan, 1987) or work attitudes such as organizational commitment or job satisfaction (Chaulk & Brown, 2008). Furthermore, tensions might exist between former strikers and strike-breakers who are forced to work together again. The “them versus us” feeling might still influence these relationships (Kelly, 1998). The consequences of strikes can thus be manifold. To ensure the well-being and functioning of all involved parties, the unions and employers should prepare measures to mitigate the consequences as best as possible. However, one needs to know which consequences are likely to occur to prepare these measures. Thus, the following research question emerges: *What consequences do strikes have on individuals? (RQ5)*

To sum up, strikes can be both an outcome of perceived issues and conflicts as well as a predictor for long-lasting consequences. For all involved parties (union, employers, media, affected, and unaffected third parties) it is crucial to know more about the effects that occur before, during, and after strikes to better understand them and act accordingly. Hence, numerous predictors and outcomes of strikes are imaginable and would benefit from empirical study. It is necessary to know what happens before, during, and after a strike on an individual level especially for employers and unions – they need to know which phenomena emerge in this time span to react in an appropriate way. We therefore consider these processes in the following comprehensive review on individual-level data regarding strikes to provide a general overview and framework of existing research. In addition to offering future research avenues to deepen our understanding around strikes, we also assess the maturity of the research field based on established criteria (Keathley-Herring et al., 2016).

Method

The current systematic review provides a narrative synthesis of quantitative, qualitative, and mixed-methods research. Given research on this topic has been sparse, this type of review is particularly valuable and useful for systematically collating and reviewing evidence (Petticrew & Roberts, 2006). Furthermore, as the obtained studies are already known to be heterogenous (e.g., different constructs, type of evidence), a statistical summary (i.e., a meta-analysis) was deemed inappropriate. The following sections follow suggestions of a protocol for systematic review called PRISMA-P (Moher et al., 2015; Shamseer et al., 2015). If items of this protocol were not applicable to this planned review, we either mentioned it explicitly in the text or made a remark in the PRISMA-P checklist that we also uploaded to the OSF project where this review has been registered (https://osf.io/xczts/?view_only=d62adfd0250e4f43938a034f16cfe5a3).

Searches

We searched for both qualitative and quantitative articles. We decided to not impose limits on study design or date on the search. The following electronic databases were used for the search (numbers in brackets represent obtained articles): Scopus (*n* = 2601), PsycInfo (*n* = 73), and ProQuest (*n* = 976). To ensure literature saturation, we manually scanned the reference lists of included studies and relevant reviews which were identified through the search. Search terms were restricted to the title, keywords, and abstract. The search terms can be found in the Appendix. We excluded natural science categories (e.g., Geosciences multidisciplinary, geology) from our searches. Another restriction that we put on our searches is that studies had to be published in peer-reviewed journals and written in English.

Eligibility Criteria

Studies were selected according to following inclusion criteria: First, "strikes" should be mentioned at least once. This criterion served to distinguish relevant articles from social psychological research on protests. Secondly, further inclusion criteria were based on the PECO(S) framework analysis (i.e., population, exposure, comparators, outcomes, and study design; Schardt et al., 2007). Population were employees of a company, managers of a company, third-parties who were affected by the strike, or unaffected third-parties. Exposure had to be to a strike or at least the threat of a strike. Typically, comparators are experimental manipulations where one group is assigned to be the experimental group and the other to be the control group. However, we considered different group memberships such as strikers and non-strikers as comparators as the assignment is quasi-experimental and not made by the researcher. Outcomes were a wide range of constructs, for example well-being of strikers or third-parties, justice perceptions, or commitment. Study designs could either be cross-sectional or longitudinal and quantitative as well as qualitative, but studies should be empirical and use individual level data. Theoretical articles were only used to further identify

potentially eligible studies by screening the reference list. Finally, articles with an econometric focus and law papers focusing on legal aspects were excluded from the review.

Data Extraction - Selection and Coding

Data Management and Selection of Studies

Literature search results were downloaded to the reference management software Zotero. After removing duplicates, the results were screened based on the inclusion and exclusion criteria. This screening was first based on the title, keywords, and abstract and was conducted by the corresponding author. For all articles that appeared to meet the inclusion criteria, full reports were obtained. The corresponding author then screened the full text reports and decided whether these met the inclusion criteria. All reasons for excluding articles were recorded.

Data Extraction

Using a standardized form and an instruction manual, the corresponding author extracted data from each eligible study. A student assistant extracted data from ten percent of the included studies to ensure data quality. To make sure of consistency across reviewers, calibration exercises were conducted before starting the review. Data extraction included demographic information (journal, author/authors, and year of publication), methodology, and all reported predictors and outcomes. Disagreements were resolved by discussion.

Data Items

We extracted the time of data collection that is whether data collection was conducted before, during, or after a strike, or whether no actual strike happened during data collection. Furthermore, we extracted whether the participants were strikers or non-strikers, relevant descriptive characteristics (average age, gender ratio, and percentage of union members), whether there were follow-up measures, which independent and dependent variables were measured, and which effects were found.

Outcomes

To answer RQ1 (i.e., what are individual predictors for strike participation and willingness to strike), behavioural antecedents of strike actions and antecedents of willingness to strike were collected. Willingness to strike was also considered as an outcome. We considered different measures of well-being and other constructs as outcomes to answer RQ2 that is the effects on strikers, their families, and employers during strikes. The same applies to the questions what effects are present on third parties during a strike (RQ3) and how are strikers affected after a strike (RQ5). Finally, we considered attitudes to strikes and strikers, support of strikers, or reactions like stress by third parties as outcomes of the evaluation of strikes by unaffected third parties (RQ4).

Quality of Included Studies

To consider methodological study quality (bias), medical researchers have developed standardized quality assessment tools for literature reviews in health sciences (e.g., Guyatt et al., 2011). Since a similar standardized tool does not exist for studies of strikes, we followed the approaches of Fosse et al. (2019) and Tagliabue et al. (2020) and adapted items of different tools which seemed relevant for our review. The items can be found in Table 1. These nine items were rated on a scale from 0 = not reported/unsatisfactory to 4 = excellent. For all included studies, the corresponding author and a student assistant independently assessed the methodological quality. Emerging discrepancies were resolved through discussion. The final interrater-reliability was Cohen's $\kappa = .88$ for the sum scores with a range from.82 (subject and design description) to 1.00 (sample size) for the individual items. Hence, the interrater-reliability can be interpreted as very good as it was for all items and the sum score above .80 (Altman, 1991; Landis & Koch, 1977). Furthermore, we decided to assess the maturity of the research field using dimensions and criteria from Keathley-Herring et al. (2016). The relevant maturity dimensions for this research field were author

characteristics, genesis of the area, publication characteristics, and research design characteristics.

Table 1

Checklist for Quality Assessment

Items		Reference
Sampling and representativeness		
1	Was the response rate reported? (0-40, 41-60, 61-80, 81-100%)	Effective Public Health Practice Project (1998); Fosse et al. (2019)
2	Were study subjects and the setting described in detail?	Fosse et al. (2019)
3	Are dropout/missing values described, analyzed, and discussed?	Fosse et al. (2019)
Study design		
4	Design used? Cross-sectional, longitudinal	Fosse et al. (2019)
Measurement		
5	How were independent variables measured? - Reliability - Validity	Effective Public Health Practice Project (1998); Tagliabue et al. (2020)
6	How were outcomes measured? - Reliability - Validity - Self-report/multiple informants/archive data	Fosse et al. (2019)
Statistical analyses		
7	Is the sample size adequate for establishing relationships?	Fosse et al. (2019)
8	Is the statistical analysis appropriate to answer the research question?	Effective Public Health Practice Project (1998); Fosse et al. (2019); Tagliabue et al. (2020)
Others		
9	Were study limitations discussed?	Fosse et al. (2019)

Note. 0 = Not reported/Unsatisfactory, 1 = Poor, 2 = Satisfactory, 3 = Good, 4 = Excellent.

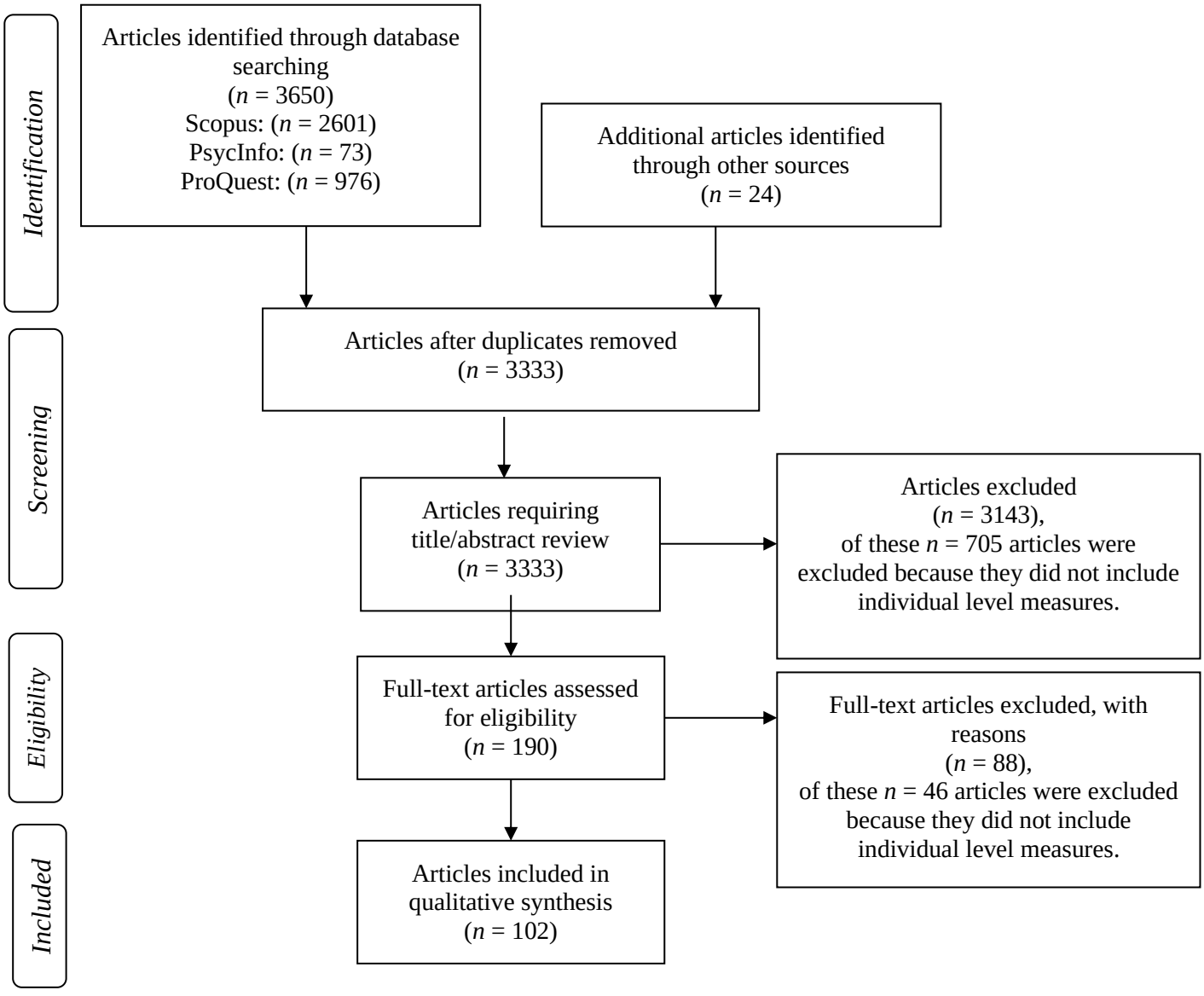
Results

Descriptive Findings

The literature search resulted in 102 studies that could be included in this systematic review (see also Figure 1 for a flow chart). Of these, 84 contributed to answering one RQ, 15 answered two RQs, and three contributed to three or more RQs. Regarding the research questions, 50 articles addressed RQ1, 15 addressed RQ2, 16 contributed to answering RQ3, 21 to answering RQ4, and 22 to answer RQ5. An overview of the included studies can be found in the supplemental materials (Table S1 – S5). The average quality score of included studies was 20.95 (*SD* = 6.19); with sum scores ranging from seven to 32.

Figure 1

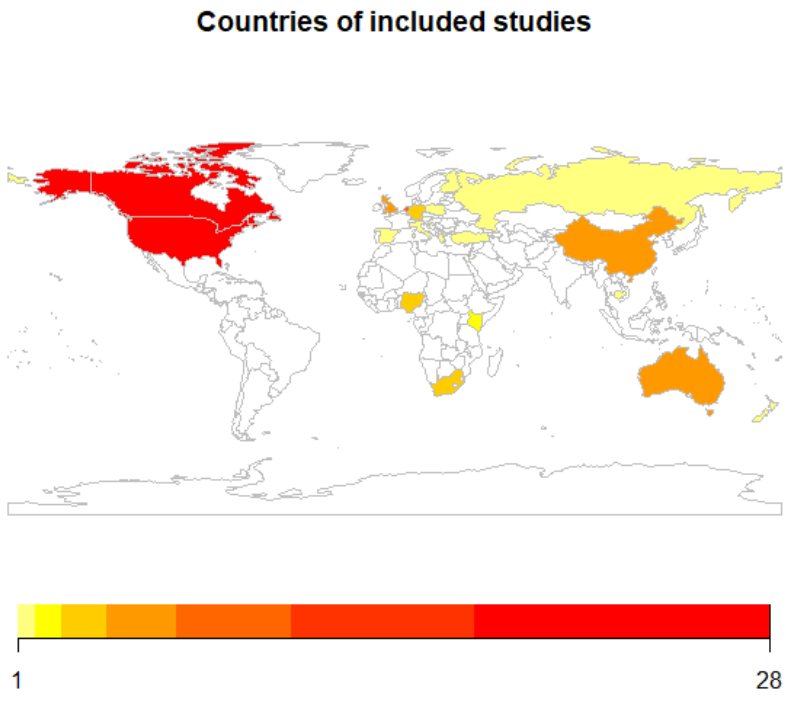
Systematic Review Flow Chart



To assess the overall maturity of the examined research field, we also used dimensions and criteria developed by Keathley-Herring et al. (2016). The first dimension is *author characteristics* which consists of the criteria author quantity, author diversity, and collaboration. In total, 226 different authors contributed to the 102 included studies. These authors stemmed from different disciplines such as economics, industrial relations, nursing, post-communist studies, political sciences, psychology, and sociology. Regarding the collaboration, 29 of the included studies were single authored and 73 were written by more than one author with an average 2.53 authors contributing to a study. Most studies were from the USA (n = 28) and Canada (n = 22). Further, 22 studies collected data in European countries. The distribution of included articles across the world can also be seen in Figure 2. Hence, regarding the author characteristics, not many authors are contributing to this research field more than once – only 18 authors contributing to 2 or more included studies. Hence, this area does not seem to be well developed as a stable set of experts could not be identified. Furthermore, the distribution of authors across the globe is also expandable.

Figure 2

Overview of Included Countries



The second dimension to assess the maturity of the field is the *genesis of the area* (Keathley-Herring et al., 2016). The included studies were published between 1961 and 2022. The distribution of year of publication is pictured in Figure 3. Regarding theoretical backgrounds, the included studies used a wide range of underlying theories and models (Table2). The most common used theory (n = 6) was the social-psychological extension of the resource mobilization theory from Klandermans (1984), followed by Kelly's (1998) mobilization theory (n = 5). Thus, the genesis of this area is inconclusive so far as no common models seems to exist, despite the large number of years that is covered by the included studies.

Figure 3

Frequency of Years of Publication

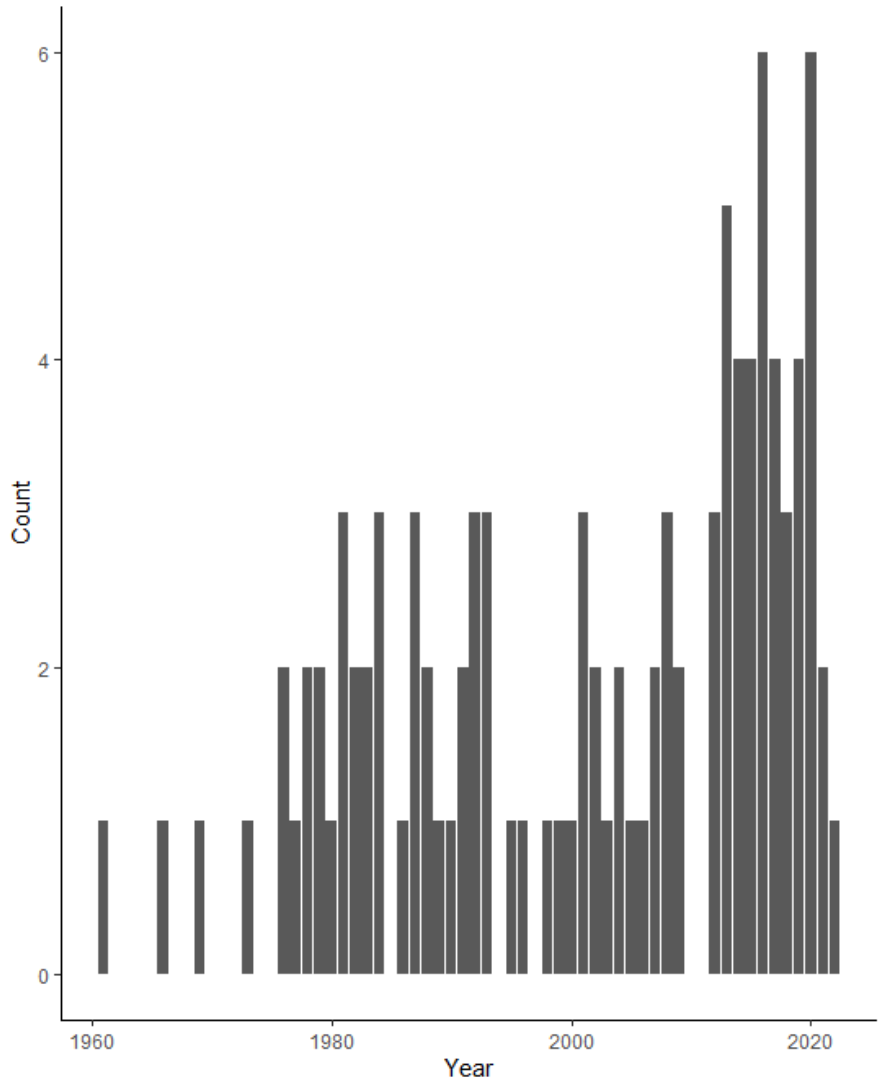


Table 2

Theories Used by Included Studies

Theory	Frequency
Social-psychological expansion of Resource Mobilization Theory (Klandermans, 1984)	6
Mobilization Theory (Kelly, 1998)	5
Organizational Justice (Colquitt, 2001)	4
Equity Theory (Adams, 1965)	4
Social Identity Theory (Tajfel & Turner, 1986)	4
Theory of Reasoned Action (Fishbein & Ajzen, 1975)	4
Transactional Stress Model (Lazarus & Folkman, 1984)	3
Cognitive Theory of Moral Development (Kohlberg, 1976)	2

Note. Only theories that were mentioned in two or more studies are represented in this table.

As third relevant dimension of maturity, we assessed the *publication characteristics* (Keathley-Herring et al., 2016). According to the distribution of publication years, the number of papers per year varied from zero to six with a slight increase in recent years. The included studies were published in 83 different journals with 70 journals having only one relevant study, 7 journals had two studies, and 6 journals had three studies that were included in this review (the latter being *Economic and Industrial Democracy, Employee Relations, Industrial Relations Journal, Journal of Industrial Relations, Journal of Organizational Behavior,* and *Psychological Reports*). Hence, there is a small but steady stream of publications within this field. However, to date, the field does not appear to have a common publication outlet.

The fourth dimension evaluated *research design characteristics* focusing on the deemed relevant criteria of *research methods* and *rigor* (Keathley-Herring et al., 2016). The included studies used 13 different methods, with 62.3% using quantitative methods. The

primary used design in the included studies were cross-sectional questionnaires (59.2%). Of the included studies, 19.4% used more than one method. The sample sizes ranged from a single participant (McBride et al., 2013) to N = 114,108 which used data from the World Values Survey (Ruiu, 2014). We used our quality assessments to assess the rigor of the research design. The average quality rating of the included studies was 20.95 (ranging from seven to 32). Of the included papers, only ten included longitudinal data. Thus, the field would benefit from more studies using longitudinal and experimental research designs.

To summarize, research on strikes on an individual level can be understood as a widely scattered and developing field, as no common journals or theories can be identified that have been used by more than a handful of researchers. Even expected relations as the one between willingness to strike and union attitudes have only been assessed directly by seven of the included studies (Barling et al., 1992; Born et al., 2013; Frangi et al., 2022; Martin, 1986; Martin & Sinclair, 2001; McClendon & Klaas, 1993; Ng, 1991).

Research Question 1

Almost half of all included studies (n = 50) contributed to answering the question of what are the individual predictors for strike participation and willingness to strike (RQ1, see Table S1). Of these, 15 studies assessed actual strike participation. Predictors for actual strike participation stemmed from five categories: Individual attitudes and emotional factors, working conditions, economic reasons, organizational issues, and social aspects (Table S6). Stress (Apicella & Hildebrandt, 2019; La Rose, 2009), militancy (Kelloway et al., 2007), and discontent (Catlin, 2020; Saka, 2019) were examples for positive individual attitudes or emotional predictors for joining strikes. Working conditions ranged from difficulties in providing good care in healthcare (Kravitz et al., 1992; Oleribe et al., 2016) to heavy workloads (Kravitz et al., 1992) and rising insecurity (Berntsen, 2015). Economic predictors are the most obvious ones with the most commonly predictor being wage increases (Berntsen, 2015; Kravitz et al., 1992; Lightman, 1983; Oleribe et al., 2016, 2018; Wang, 2016;

Wigginton et al., 2015). Organizational issues were less frequently studied. They included refusals to enter collective bargaining processes (Wigginton et al., 2015) and whether unions were in place at the respective organizations (Catlin, 2020). Finally, social predictors for joining strikes included support for colleagues (Wang, 2016) and reliance on trade unions (Apicella & Hildebrandt, 2019). A special case was the study by Born et al. (2016). They assessed predictors for similarity in strike behaviour and found that similarity in union membership, trust, and private communication ties predicted same strike behaviour.

Willingness to strike was assessed by 34 of the included studies. However, the measurement of willingness to strike varied considerably, with ten studies using single items to assess willingness to strike and most other studies using self-developed scales. Predictors for willingness to strike can broadly be summarized in seven categories: Individual attitudes and emotions, social aspects, union aspects, work attitudes, justice aspects, economic aspects, and demographics (Table S6). Individual attitudes that predicted willingness to strike entailed for example left-wing political orientation (Cole, 1969; Feldbaum, 1981; Jansen et al., 2017), perceived instrumentality of participation (Kelloway et al., 2007; McClendon & Klaas, 1993), and relative deprivation (Donnenwerth & Cox, 1978). Social aspects were social support which led to an increase in willingness to strike (Jansen et al., 2017; Martin, 1986; McClendon & Klaas, 1993) and group identification (Jost et al., 2012). Union instrumentality (Buttigieg et al., 2008; Ruiu, 2014), union loyalty, and union attitudes (Barling et al., 1992; Born et al., 2013; Frangi et al., 2022; Martin, 1986; Martin & Sinclair, 2001; McClendon & Klaas, 1993; Ng, 1991) were the most frequently studied union aspects positively predicting willingness to strike. Examples for work attitudes that predicted a lower willingness to strike were work or job satisfaction (Arch & Graetz, 1989; Feldbaum, 1981; Feuille & Blandin, 1976; Ineme & Ineme, 2016; Jansen et al., 2017; McClendon & Klaas, 1993; Ng, 1991) and company commitment (Chin & Liu, 2015; Martin & Sinclair, 2001; McClendon & Klaas, 1993; Ruiu, 2014). Procedural injustice (Cloutier et al., 2013; Kelloway et al., 2007) and distributive injustice (Kelloway et al., 2007) also predicted a higher willingness to strike.

Regarding the economic aspects, desire to strike for a wage increase was the most commonly factor studied (Binkowska-Bury et al., 2013; Chang & Cooke, 2018; Feuille & Blandin, 1976; Martin, 1986; Mooney & McCafferty, 2005; Sullivan et al., 1991). Finally, examples for demographics that predicted willingness to strike were age (Bloom et al., 1979; Cole, 1969; Feldbaum, 1981; Jansen et al., 2017; Martin, 1986; Martin & Sinclair, 2001; Shirom, 1977), with younger workers being consistently more willing to strike and family status (Binkowska-Bury et al., 2013; Ng, 1991; Shirom, 1977). We can thus conclude that ample research on willingness to strike and its predictors exists. However, future research should develop a consistent approach to measure willingness to strike to enhance the comparability across studies.

Research Question 2

Most of the studies (*n* = 11 of 15) contributed to answering the question on how strikers, their families, and employers are impacted during strikes (Table S2 and S7). Strikers reported fewer negative attitudes to the strike compared to non-strikers (Vesper & König, 2022), expressed that the strike was a psychological necessity to get recognition of moral frustrations (Linn, 1988). Strikers also evaluated their union more positively and reported a higher militancy towards their employer compared to non-strikers (Stagner & Eflal, 1982). The psychological health of strikers was found to be better when they had higher levels of savings, more social support, more positive union attitudes (Stoner & Arora, 1987), and engaged in union activities (Fowler et al., 2009). Strikers were nonetheless found to report higher levels of depression and higher anxiety compared to non-strikers (Fowler et al., 2009), and compared to after the strike (MacBride et al., 1981).

Regarding effects on managers, studies showed them experiencing the strike as personalized, contentious, and that they were targets of aggressions from strikers (Scales et al., 2014). Furthermore, a strike was perceived as a stressful event, as the managers worked longer hours (Stichler et al., 2019; Waithaka et al., 2020). We did not obtain any study that

assessed the effects of strikes on strikers' families. However, we found one that assessed the effects on union activists (Darlington, 2012). Union activists reported that they identified and formulated grievances, encouraged a sense of identity and provided leadership to mobilization during the strike.

Research Question 3

Of our included studies, 16 were used to explore the effects of a strike on affected third parties (RQ3, Table S3). Within these 16 studies, five broader topics emerged (see Table S7). First, the studies assessed the effects on attitudes of affected third parties. They consistently found a more negative attitude regarding the strike, regardless of whether the affected third parties were university students (Amos et al., 1993), commuters during a bus driver strike (Vesper & König, 2022), relatives of patients during a healthcare staff strike (Dzendrowskyj et al., 2004), or parents during a teacher strike (Rainey et al., 2016).

The second broad topic were emotional effects on third parties. Affected third parties experienced more fatigue (Hibberd & Norris, 1991; Wickens et al., 2019), more stress (Day et al., 2006; Lusa et al., 2002; Wickens et al., 2019), and also higher anger (Albas & Albas, 2000; Dzendrowskyj et al., 2004; Greenglass et al., 2002) and more anxiety (Albas & Albas, 2000; Greenglass et al., 2002).

As most studies either assessed students, nurses, or relatives of patients as affected third parties during a strike, two other topics were also prevalent: effects on learning and effects on services. For students, detrimental effects on learning (Wills, 2020) and worse grades (Amos et al., 1993; Wickens et al., 2019) were observed. Studies assessing strikes in healthcare facilities found that existing barriers and delays in basic and emergency care were increased (Scanlon et al., 2021; Waithaka et al., 2020).

The last topic, affected third parties, was only assessed by two studies (Waithaka et al., 2020; Zimmer & Jacobs, 1981). Both studies found that personnel who remained working during a strike were faced with threats from striking colleagues. Overall, we can conclude

that initial evidence of effects on affected third parties exist. However, specific effects such as on learning or on services remain to be determined.

Research Question 4

Two broad topics emerged for the question of how unaffected third parties evaluated strikes (RQ4, Table S4): Pro-strike attitudes and strike support (see Table S8). In total, 21 studies contributed to answering this research question. Pro-strike attitudes of unaffected third parties could for example be predicted by union attitudes (Vesper & König, 2022), experience with a strike (Nigro & DeMarco, 1980; Vesper & König, 2022), and being a worker or working in the public sector (Western, 1999). Predictors for strike support were among others being politically liberal (Feldbaum, 1981), being younger (Feldbaum, 1981; Flango & Dudley, 1978; Western, 1999), and perceived distributive justice (Kelloway et al., 2008) or grievances based on interactional justice (Leung et al., 1993). Other studies found that unaffected third parties evaluated strikes as undesirable (Lozier & Mortimer, 1976) and that strikes should be a last resort (Dufty, 1961, 1966; Lozier & Mortimer, 1976; Vinogradova et al., 2012). In sum, there is initial research on pro-strike attitudes and strike support among unaffected third parties. However, most predictors that were assessed so far consisted of demographic characteristics. Hence, future research could deepen our understanding of who supports strikes by assessing factors other than demographics and union attitudes.

Research Question 5

Twenty-two studies assessed the consequences of strikes on different groups (RQ5, Table S5). Most of these studies assessed the consequences of strikes on strikers themselves (n = 13). These studies focused mainly on the well-being of strikers (Barling & Milligan, 1987; Edwards & Besseling, 2001; Turner et al., 2020; Wickens, 2007), with some other studies assessing for example that same strike behaviour in dyads lead to an intensification of

work- and private communication after the strike (Thommes & Akkerman, 2018). Further consequences of strikes on strikers were a higher evaluation of a received benefit package (Stagner & Eflal, 1982) and negative impact on organizational outcomes such as job satisfaction and organizational commitment (Chaulk & Brown, 2008). Regarding the consequences of strikes on strikers, there are many avenues for future research to explore. Even the studies on well-being of strikers had different foci such as coping with the stress (Edwards & Besseling, 2001), anger (Wickens, 2007), or mental health compared to people experiencing a lockout (Turner et al., 2020).

Fewer studies assessed the consequences of strikes for affected third parties (n = 5), strikebreakers (n = 1), and managers or employers (n = 3, see also Table S9). For affected third parties, three studies assessed the consequences of strikes on patients in healthcare and found that patients were prematurely discharged (Kravitz et al., 1992) and that patient care was disrupted (Oleribe et al., 2016, 2018). The other studies found that students reported a slight negative impact on their productivity during a faculty strike (Amos et al., 1993) and that customer support influenced the outcome of a strike (Coventry & Morrissey, 1998). The only study assessing strikebreakers found that this group held different union attitudes compared to strikers (Tivendell & Watson, 1995). Regarding managers/employers, one study reported that after the strike, management tried to build up a good relation with the union and to improve communication with the workers (Chang & Cooke, 2018), whereas the managers in the second included study anticipated a more formal post-strike workplace (Scales et al., 2014). Hence, consequences of strikes for groups other than strikers have not yet been comprehensively studied and ample opportunities exist to further develop research questions in this area.

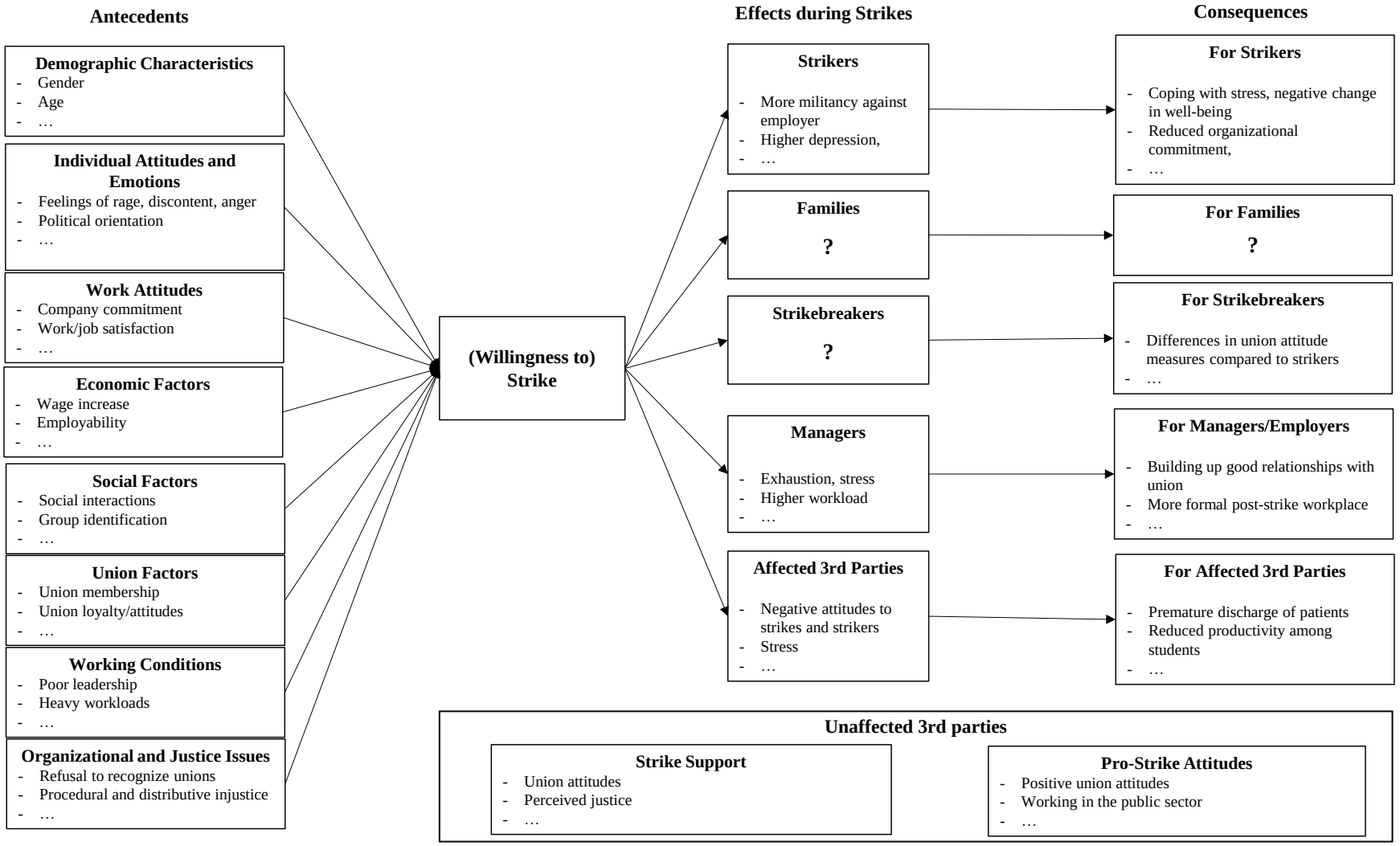
Discussion

The aim of this systematic review was to assess the current state of research on strikes from the perspectives of individuals. We found that this research field has a long history with

the first papers appearing in the 1960s and papers being continuously published to present day. However, according to the maturity criteria (Keathley-Herring et al., 2016) that we examined the field has to be interpreted as still developing. We are aware that other theoretical papers such as the "*The causation of strikes*" (Kelly & Nicholson, 1980), "*The psychology of strikes*" (Nicholson & Kelly, 1980) or Kaufman's (1992) comparison of strike models do exist. However, these were only rarely cited in our obtained studies. The obtained studies were widely lacking a standard model. The most cited theoretical model was Klandermans' (1984) social-psychological extension of the resource mobilization theory followed closely by Kelly's (1998) mobilization theory. Having said that, only eleven papers mentioned one of these theories. Hence, the examined research field is lacking a consistent theoretical basis as well as consistent scales as seen by the variety of willingness to strike scales that were used in the included studies. Thus, the findings are rather limited and sometimes overgeneralized as most findings were only obtained by one to two studies. Hence, as ample research exists in this field, but little is agreed upon in terms of theories, variables, or measures, we introduce the general framework of strike research (GFSR, Figure 4).

Figure 2

General Framework of Strike Research (GFSR) with Examples for Each Factor



Note. Question marks indicate that no studies have assessed constructs for these groups

The GFSR comprises the antecedents of strikes and willingness to strike, effects during strikes, consequences of strikes, and aspects regarding unaffected third parties. The antecedents are divided into eight subgroups: Demographic characteristics, individual attitudes and emotions, work attitudes, economic factors, social factors, union factors, working conditions, and organizational and justice issues. All these predict strike participation and or willingness to strike. Willingness to strike or strike participation then leads to various effects during strikes on strikers, their families, strikebreakers, managers, and affected third parties. These in turn lead to consequences of the strike after the strike has finished for all mentioned parties. Finally, the aspects regarding unaffected third parties are strike support and pro-strike attitudes The GFSR summarizes the answers to our five research questions: what are the predictors of strike participation and willingness to strike (RQ1), how are strikers, their families, employers (RQ2), and affected third parties (RQ3) impacted during the strike, how do unaffected third-parties evaluate strikes (RQ4), and what are the individual consequences after a strike (RQ5). For all research questions we can conclude that initial evidence exists for relevant predictors and outcomes regarding strikes (see Tables S6-S9 for a list of all variables sorted by the factors of the GFSR). However, most research seems to follow a rather piecemeal approach instead of a broad theoretical basis. The GFSR can therefore be a starting point for future research to contribute to maturing the field and tackle relevant future research avenues.

Regarding strike participation and willingness to strike (RQ1), a wide range of predictors has been assessed (see Table S6). What is lacking so far is an overarching theoretical concept of willingness to strike. Although some studies referred to Klandermans (1984) or Kelly (1998), these theories only include some of the categories found in this review, such as sense of injustice, economic reasons, or union-related aspects. However, other categories of predictors are not included in these theories. Hence, the GFSR tries to fill this gap. In being a broad, general framework, the GFSR offers ample opportunities for researcher to assess and extend the knowledge regarding willingness to strike. The width of

the GFSR also reflects that strikes and the decision to strike is complex and hence, many factors might influence employees' willingness to strike.

Our systematic review also showed that little research is available on how strikers, their families, and employers are affected during a strike (Table S7). For strikers, we found that strikes have negative consequences on their well-being (Fowler et al., 2009). These effects can nonetheless be mitigated by engaging in union activities, for example (Fowler et al., 2009). Having said that, we only found eleven studies that assessed the effects on strikers during strikes, three that assessed the managers' perspective and none that assessed the effects on strikers' families. This might be due to the difficulties related to conducting such research (Zickar, 2004), as strikes are often announced on short notice. This implies that researchers need to have prepared all relevant questionnaires in advance and jump at the opening of a research opportunity. For this, established contacts are also important. Hence, although this research question is a relevant one, objective difficulties in data collection dampen our optimism that we can expect many more studies soon.

Almost the same applies to research on effects on third parties during strikes (Table S7). Third parties would also have to be located on short notice and be willing to participate in the research. This might be why previous research mostly focused on students and patients as third parties who are more easily reached than, for example, customers or commuters. However, crucial research questions remain thus unanswered or only partially answered. For example, short-term effects on attitudes have been assessed, but it is not clear who is, for instance, blamed for strikes and on what basis. When are unions or employers perceived to be "the bad guys"? Is this based on the communication used by the stakeholders or based on the sector that is on strike?

Gaining public support can be especially essential for unions during strike to legitimize their action (Kelloway et al., 2008). A few studies have assessed what prompts unaffected third parties to express pro-strike attitudes or strike support (Table S8). Most of these studies have focused on third parties' demographic characteristics. However, other

aspects such as perceived injustices (Kelloway et al., 2008; Leung et al., 1993) were also shown to be relevant to predict strike support. Hence, initial evidence for strike support exits, but other factors that could influence the support of strikes such as system justification (Jost, 2019) or justice sensitivity (Schmitt et al., 1995) still need to be explored. Other aspects that could be studied further involve how communication by the union and media influence the public perception of the strike.

Finally, for the consequences of strikes, initial evidence has been found that strikers experience a negative impact on organizational commitment (Chaulk & Brown, 2008) and sometimes experience difficulties coping with the stress of a strike (Edwards & Besseling, 2001). Nevertheless, as with the research on effects during the strike, the number of studies assessing consequences after the strike has been quite limited (see also Table S9). Further research is needed on how long-lasting negative consequences are and whether these negative consequences can be mitigated by factors such as heightened identification with co-workers.

Strengths and Limitations

This systematic literature review is the first to focus solely on strikes, their predictors, and outcomes on an individual level. Ample research exists on union activities (Chawla et al., 2018), whereas research on strikes has been scattered so far. Hence, one strength of this review is to summarize the existing research regarding strikes in a coherent way and introduce the General Framework for Strike Research. Furthermore, this systematic review highlights avenues for future research (Table 3).

Nonetheless, this review also has some limitations. First, we focused on published studies, hence existing grey literature that could further shed light on strikes was not included in this review. However, our aim was to summarize the existing literature on strikes and so, we decided to only include studies that are available to the broader research community. Additionally, published articles have a greater quality as they undergo peer-review processes, which is a further argument for not including grey literature. Second, we only included

studies based on empirical individual-level data. We are aware that much more research exists on a non-individual level data (e.g., Briskin, 2007; Hodder et al., 2017; Rego et al., 2016). However, those were not the focus of this review and can be assessed by future scholars.

Table 3

Avenues for Future Research

Future Research Topic	Reasoning
Establishing a willingness to strike measure	Previous studies used single items or self-developed scales, complicating direct comparisons of study results
Relation between willingness to strike and other work behaviors	Currently, no study has assessed whether willingness to strike is related to voice behavior or counterproductive work behaviour, to name just two relevant work behaviors.
Assessment of the relation between willingness to strike and actual strike participation	To date, willingness to strike has been used to infer actual strike participation solely based on Martin (1986). However, further studies are needed to test whether willingness to strike is a predictor for strike participation, especially in light of research on the intention-behavior gap (Sheeran & Webb, 2016).
Assessment of effects during strikes on strikers' families	As we were unable to obtain at least a single study that assessed effects on strikers' families, future research has ample options to assess these effects. Possible outcomes could be psychological well-being, financial concerns, and family conflicts.
Assessment of effects during strikes on managers	Literature on this topic is also scarce. Further research is needed to assess how managers cope with the increased workload and the changed relationships with their employees.
Effects during strikes regarding well-being on affected third parties	Few studies assessed how third parties cope with the induced stress by strikes. Especially strikebreakers as third parties are an interesting group of participants that warrant future research.
Effects on strikers during strikes	These have rarely been assessed. Qualitative methods might unveil more about stress, coping, and fears of strikers during a strike
Effect of media on public opinions towards strikes	As the coverage of media increases via social media such as Twitter, research on how the representation of work conflicts

Future Research Topic	Reasoning
	influences public opinion towards strikes is needed. For this, future research could use Twitter data or conduct experiments in which the representation of collective bargaining is manipulated. The results could be helpful for unions, employers, and media in learning how to best address the public.
Predictors of pro-strike attitudes and strike support among unaffected third parties	As the support of unaffected third parties is important for the success of collective bargaining, future research should further address what predictors for these constructs are. This could either be done during actual strikes or using scenario techniques in which the messages of unions or employers are manipulated, for example, regarding the affective content or the justice aspects.
Assessment of the aftermath of strikes	Much research can be done regarding the consequences of strikes. Several groups are relevant: Strikers, affected third parties, strikebreakers, and managers. For strikers, future research should further assess the consequences of strikes on their psychological well-being, but also on their work attitudes such as organizational commitment. For affected third parties, almost no studies exist, leaving ample future research opportunities. A sample question could be whether affected third parties are boycotting certain companies due to negative experiences. Strikebreakers have also received little attention. Future research could explore how strikebreakers are integrated in the team after the strike is over or whether they regret their decision to break the strike. Managers are also understudied regarding the consequences of strikes. Here again, consequences regarding the work with strikers after the strike is over seem to be especially interesting

Implications for Future Research

With our systematic review, we were able to highlight several avenues for future research (see also Table 3). The first one is that future research could develop (or at least establish) a consistent measure for willingness to strike. Of the papers that answered RQ1, ten

used varying single item measures and fourteen used at least partly self-developed scales. Hence, establishing a consistent measure would enable the promising research on willingness to strike to also compare the findings across studies in a meta-analytic way.

Furthermore, our second research question asked for effects on strikers, their families, and employers during strikes. However, we did not find any study that conducted research among family members, and we also obtained only three studies that assessed the managers' perspective (Scales et al., 2014; Stichler et al., 2019; Waithaka et al., 2020). Thus, future research could be conducted on their perspectives and assess whether different effects on these people exist compared to strikers or affected third-parties during a strike.

Research on affected third-parties has also been limited so far. Especially regarding the type of affected third-parties. The included studies mostly focused on either patients during healthcare strikes or students during teacher/faculty strikes. However, strikes are often conducted in the service sector (Bewernitz & Dribbusch, 2014), hence other affected third-parties such as customers or commuters should also be further assessed.

Finally, there is initial evidence on how (unaffected) third-parties evaluate strikes. However, future research could assess how to further strengthen support of strikes among third-parties. It could be especially interesting to assess the communication of unions, employers, and media about the strike and measure what influences the support by third-parties.

Practical Implications

This systematic review has practical implications for all stakeholders involved in strikes that is unions, employers, affected third parties, and the (unaffected) public. For unions, it is both important to enhance the willingness to strike among potential strikers as well as gather public support. To achieve this, this systematic review has opened several potential avenues. For example, willingness to strike can be enhanced by a wide range of factors such as anger (Jost et al., 2012), perceived injustices (Buttigieg et al., 2008; Kelloway

et al., 2007), and also union-related aspects like information (Born et al., 2013) or union loyalty (Barling et al., 1992; Frangi et al., 2022; Martin & Sinclair, 2001). Hence, unions can focus on these factors to ensure that enough employees are willing to participate in collective action. Union-related aspects especially should be considered by the unions and further strengthened among their members.

Regarding the public, this systematic review showed that strike support by unaffected third parties can also be influenced. Hence, unions could use this knowledge to appeal to the public for their support during the collective bargaining processes. However, the same applies to employers. They can use the same knowledge to reduce public support for employees. Hence, a balanced coverage of the labour dispute by the media seems especially critical.

From an employer point of view, this systematic review also sheds light on the factors that enhance or decrease the willingness to take strike action among their employees. For employers it seems especially relevant to have positive labor management relations (Martin & Sinclair, 2001) and keep the trust in management among employees high (Born et al., 2013). Furthermore, knowing about the effects of strikes on strikers during and after the strike also helps employers to communicate with their employees to avoid these negative consequences.

Conclusion

This systematic literature review offered a first comprehensive overview of the literature on individual strike research and introduced the General Framework for Strike Research. We found that research on predictors of willingness to strike is promising, whereas research on the effects of strikes on strikers, their families, employers, and affected third parties, both during and after strike, is more limited. The same applies to research on the evaluation of strikes by unaffected third parties. Regarding these aspects, future research can tackle different questions such as what effects are there on strikers' families during and after a strike and how can the public be convinced to support a looming strike?

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*were included in the systematic literature review

Appendix

Search terms.

TITLE-ABS-KEY=(strike*) AND TITLE-ABS-KEY =("work stoppage" OR "labour conflict" OR “labor conflict” OR "collective bargaining" OR "trade union" OR "labour union" OR "labor union" OR "industrial relations")

CHAPTER IV – DEVELOPMENT OF A STRIKE ATTITUDE SCALE

Ever thought about strikes?

Development of a scale to assess attitudes and behavioral reactions to strikes

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Abstract

Strikes are a recurrent phenomenon in many countries. However, research on strikes from a psychological perspective has been limited. By developing a sound measure to assess attitudes and behavioral reactions to strikes, we will be in a better position to evaluate these constructs in individuals and compare across studies. Therefore, we developed a scale to assess attitudes and behavioral reactions to strikes following classic scale development guidelines using four samples (total $N = 1369$; $N_1 = 304$, $N_2 = 209$, $N_3 = 443$, $N_4 = 413$). In Study 1, we used exploratory factor analysis to reduce the generated items to a scale and showed that the strike attitude and behavioral reactions scale consists of one affective factor (negative reactions towards strikes), one cognitive factor (legitimacy of strikes), and three behavioral factors (informing oneself about strikes, strike-related social network behavior, and support of strikers). Study 2 confirmed these five factors and showed acceptable psychometric properties. Study 3 supported the construct validity of the developed scale: the five factors were correlated with willingness to strike and attitudes toward unions, among other variables. Study 4 further showed that the scale can also capture attitudes and behavioral reactions towards specific strikes. Overall, these studies indicate that the strike attitude and behavioral reactions scale is a psychometrically sound measure consisting of five factors.

Strikes are a recurrent phenomenon in collective bargaining processes and happen frequently. For example, a general strike, incapacitating almost the whole country for several days, took place in France in December 2019 (Nossiter, 2019). Furthermore, 570,808 working days were lost due to strikes in Germany in 2018 (Bundesagentur für Arbeit, 2019) and 178 days per 1,000 workers were lost due to strikes and lockouts in the United Kingdom in 2017 (International Labour Organization, 2019). The International Labour Organization estimates that since 2010, more than 44,000 strikes have taken place worldwide (Gammarano, 2019). These numbers show that many people can be affected by strikes whether as strikers, managers, or as third-parties having to cope with the consequences of strikes. Hence, strikes are a prevalent phenomenon in everyday life and the general attitudes and behavioral reactions to this phenomenon can be of utmost importance, as well as the attitudes and behavioral reactions to specific strikes. However, this working life phenomenon has received little attention in industrial and organizational psychology (I-OP) in recent years.

Given that strikes continue to be common all over the world, the time seems ripe for a revival of research on strikes from a psychological perspective. Although research on strikes was a fairly common topic in the early years of I-OP (e.g., Kerr et al., 1957; Klandermans, 1986; Shapira & Bass, 1975; Stagner, 1948; Stagner & Rosen, 1965), this line of research has declined considerably over the last couple of decades. Both in the *Journal of Applied Psychology* and *Personnel Psychology*, industrial relations was among the five lowest ranked research areas over a period from 1963 to 2007 (Cascio & Aguinis, 2008). One reason for this decline is likely that the presence of trade unions has diminished in the U.S. over the last few decades (Kollmeyer, 2018). Because the U.S. is still a formative influence for I-OP research (Bajwa & König, 2019), research on strikes might have decreased as a result of the American decline in unions, despite the continuing relevance of strikes in other countries.

A psychometrically sound measure of attitudes and behavioral reactions to strikes could help facilitate a revival of I-OP strike research. Such research is needed because strikes

build on the support and legitimation of the public and thus on positive third-party attitudes (Kelloway et al., 2008). Currently we know little about the attitudes and behavioral reactions of the general public to the phenomenon of strikes. Hence, trade unions and employers can only guess whether their calls for or against strikes are supported by the public, the media or their members/employees or not. The revival of strike research in I-OP is also needed because strikes can be perceived as an affective work event (Weiss & Cropanzano, 1996) that could impact the workers' job commitment, stress, and well-being (Lazarus & Folkman, 1984). An important precondition for the revival of psychological research into strikes is thus the existence of a sound measure to assess attitudes and behavioral reactions to strikes. Therefore, we developed the strike attitude and behavioral reactions scale (SABeRS) following Hinkin's (1995, 1998) scale development recommendations to assess attitudes and behavioral reactions to both the phenomenon of strikes in general and to specific strikes.

Theoretical Background

Strikes can be defined as a joint, time limited work stoppage of union members from a certain company to enforce or resist demands or to express grievances (International Labour Organization, 1993). From an economical perspective, strikes are regarded as a rational instrument to solve conflicts between a company and a union (Johnes, 1985). For unions, strikes function as an instrument of power and can be used to show their strength during collective bargaining processes with employers (Nicholson & Kelly, 1980).

Research about strikes has often been intertwined with research on trade unions. This is likely because only one single strike in the United States was not called by a union in the last 25 years (Bureau of Labor Statistics, U.S. Department of Labor, 2020), although work stoppages in the United States can in theory also be initiated by employees themselves without the involvement of unions (Waas, 2012). Much of the focus of I-OP research still lies in the United States (Bajwa & König, 2019), so the research on strikes is closely linked to

research on different forms of participation in trade unions (e.g., A. Cohen, 1993; Klandermans, 1986). Union participation can be categorized into passive forms of participation, such as taking part in union elections, and active forms of participation, such as striking itself. For example, Mellor (1990) assessed the attitudes of union members toward past and future strike activity (e.g., about causes of previous strikes and about anticipated strike fund income), and A. Cohen (1993) assessed what he called "attitudinal militancy" (e.g., willingness to participate in an illegal strike and to warn of strike-breakers) among union members in Israel. However, unions and union membership are not necessarily needed for strikes in other countries. For example, strike action is an individual right in France and no trade unions are formally needed for strikes there (Poutvaara et al., 2017). In Germany, only trade unions are allowed to call for strikes (and this only during collective bargaining processes), but every employee is allowed to join strikes whether they are union members or not (Dribbusch, 2016). Trade unions are also not involved in most strikes in Russia, where illegal strikes occur regularly (Ashwin & Clarke, 2002; Christensen, 2017). We thus treat strikes as an independent area, somewhat separate from trade unions, as trade unions are not always necessary for strikes.

Several consequences of strikes for the employees have been studied from a psychological perspective. Most employees perceive strikes as a 'necessary evil' (Jarley & Kuruvilla, 1994), a task that employees have to perform that causes harm to other people in order to achieve some perceived greater good or purpose (Molinsky & Margolis, 2005). Regarding strikes, the strike itself is the task that causes harm to the employer in the form of economic losses, but strikes also harm strikers due to reduced or ceased wages, which can lead to a reduced psychological well-being (Barling & Milligan, 1987). In addition to the strikers themselves, their social environments suffer as well (e.g., family members) because they have to cope with a changed daily routine and live with a reduced income due to the low or non-existent strike pay (Gennard, 1982).

Strikes also affect the public, as shown, for instance, by the strikes of garbage collectors (e.g., in Greece, Staff, 2019 and in the U.S., Chesto, 2019), teachers and public transport workers (e.g., in France, Nossiter, 2019), pilots of an airline like Ryanair (across Europe, Topham, 2019), or Amazon warehouse workers (e.g., in Germany, Martin & Ahlswede, 2019). The public has to cope with the consequences: smelling garbage and fearing rats, having to find alternative care options for the children, being stuck in traffic jams, being forced to cancel travel plans, and experiencing delays in packages arriving. These consequences can be stressful depending on how people appraise them (Lazarus & Folkman, 1984). Third-parties who are affected by strikes can perceive the situation as uncontrollable and unpleasant, subsequently experiencing high levels of stress.

At the same time, the public has also an important function regarding strikes. Public approval of a strike and of strikes in general is a powerful weapon for unions, particularly in achieving perceptions of legitimacy. Institutional theory (e.g., DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Oliver, 1991; Zucker, 1977) suggests that the survival of organizations depends, to a considerable extent, on their ability to achieve legitimacy. This perspective can also be applied to strikes: unions and employers are organizations that try to protect themselves from public criticism by conforming to societal norms and thus trying to legitimize their behavior (cf. König et al., 2010). Before and during a strike, both employers and unions try to appeal to the public to explain why their bargaining position is reasonable. Consequently, unions spend a substantial amount of time developing media campaigns to present their line of arguments (Kelloway et al., 2008) and the success of a union can therefore be linked to their ability to gain public support (Perry, 1987). Furthermore, public opinion is able to enhance or impede union political activity, to influence member loyalty, and to affect how employers deal with unions (Bok & Dunlop, 1970). Thus, the attitudes and behavioral reactions to strikes of the public are important determining factors of the

legitimacy and support of strikes. To sum up, attitudes and behavioral reactions to strikes are important for both unions and employers.

According to Judge and Kammeyer-Mueller (2012), the most accepted definition of attitudes stems from Eagly and Chaiken (1993), who define attitudes as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (p.1). Attitudes are often further separated in an affective and a cognitive component (e.g., Eagly & Chaiken, 1993; Judge & Kammeyer-Mueller, 2012; Weiss, 2002). The affective component measures the subjective, individual views and assessments of a particular object; the cognitive component consists of the information and knowledge a person has of that particular object. These two components can be differentiated from behavioral reactions, intentions or actual behavior, regarding the object in question.[2]

Thus, we decided to develop a scale assessing attitudes via an affective and a cognitive component as well as assessing behavioral intentions. This structure allows us to systematically integrate many aspects of attitudes to strikes that have been assessed in the literature so far and to add relevant but not yet considered aspects of general attitudes and behavioral reactions to strikes, resulting in the development of a comprehensive measure of attitudes and behavioral reactions to strike.

The affective component seems to be particularly important for describing attitudes (Fazio, 1989; Huskinson & Haddock, 2006; Verplanken et al., 1998). In particular, the affective component encompasses emotions that strikes might elicit – for example, feelings of strain caused by strikes as measured by Day et al. (2006). However, no measure exists so far to assess these elicited feelings – most studies used self-developed items to assess strain or other feelings. Day et al. (2006) also assessed whether the affected third-parties perceived the

[2] We planned to develop a strike attitude scale based on the tripartite model of attitudes (Katz & Stotland, 1959; Rosenberg et al., 1960). Resulting from the review process, we changed our conceptualization in that we now do not rely on the tripartite model anymore and now refer to attitudes and behavioral reactions based on criticism of the behavioral component of the tripartite model (e.g., Fazio & Olson, 2003).

strike as ethical and justified. This is an assessment of the cognitive component of attitudes, which includes evaluations of the legitimacy and justification of strikes (e.g., also assessed in the study by Gafni-Lachter et al., 2017).

The cognitive component has been assessed more often than the other components of attitude towards strikes. For example, Lozier and Mortimer (1976) examined when strikes are rated as undesirable and Beutell and Biggs (1984) assessed whether nurses strikes are perceived as justified, what they called “pro-strike attitudes”. In the same line, Lightman (1983) studied the perceived professionalism of social workers who participate in strikes. Another measure for this cognitive component was the perceived fairness used by Day et al. (2006). They used four items to assess the perceived fairness of a threatened strike: The participants had to indicate whether this strike was considered ethical, justified, legitimate, and fair. Gafni-Lachter et al. (2017) also used a self-developed item to assess the cognitive component: They asked their participants whether they believed that striking is a legitimate protest method for physicians. However, these measures of the cognitive component were all ad-hoc, and an established measure to assess the cognitive component of strike attitudes is missing.

Finally, the behavioral reactions component encompasses behavioral intentions and reactions, for example to support the union’s position in conversations with one’s friends, like Kelloway et al. (2008) used in their third-party support for strike action scale. For example, Kelloway et al. (2008) asked third-parties whether they were willing to respect a picket line or accept literature from strikers. Hence, our measure extends existing measures in that it is aimed at the entire population and not just trade unions (A. Cohen, 1993; Mellor,1990) and that it also takes emotional and cognitive aspects of attitudes to strikes into account in addition to behavioral support of strikes (Kelloway et al., 2008). To summarize, there seems to be a need for a psychometrically sound measure to assess attitudes and behavioral reactions to strikes, which we introduce in the next section.

Scale Development

General Procedure

A solid scale development process consists of at least three studies , according to scale development recommendations (Hinkin, 1995, 1998). The first study is used for item generation. In this study, a large number of items are developed and reduced to a scale following statistical and content-related considerations. After item generation, all potential items are given to a sample and the results of this sample are used for the first reduction of items. In the second study, the psychometric properties of the generated scale are assessed with a second sample, with particular emphasis on scale reliability. Finally, in the third phase, the scale is evaluated using a third sample to assess the convergent and discriminant validity with other constructs (Hinkin, 1995, 1998). We added a fourth validation study to ensure that it can also be used to assess the attitudes and behavioral reactions towards specific strikes.

The data of all reported studies are available at https://osf.io/3tbx2/?view_only=4cbb3ea8e68e4658b4c11eea43ee2c7a. Ethical approval was not required for these studies in accordance with the local legislation and institutional requirements of Saarland University.

Study 1 – Item Generation and Item Reduction

Method

Item Generation. Items were generated based on a literature review and a theoretical definition of the construct “strikes” (Hinkin, 1998; see, e.g., Langer & König, 2018). We first relied on already existing items. The existing items covered various aspects such as perceived fairness of strikes (Day et al., 2006), strain due to strike (Day et al., 2006), legitimacy of strikes (Gafni-Lachter et al., 2017), justification of a strike (Gafni-Lachter et al., 2017), and strike support (Kelloway et al., 2008). In total, we obtained seven items from previous studies

that could be interpreted as representing the general attitude to strikes or behavioral intentions. We clustered these items into the three components: affective, cognitive, and behavioral reactions. Then, we developed further items for each component. Regarding the affective attitude component, we decided to focus on positive affect, such as admiration, neutral affect such as being indifferent, and negative affect, for example feeling stressed out by strikes. In total, we had eleven items for this attitude component. For the cognitive component, we complemented the already existing items with self-developed items as well. Here, we decided to consider positive and negative cognitive aspects. In total, eleven items were used for the cognitive component (e.g., positive: “Strikes are a legitimate tool”, negative: “Strikes cause too many costs”). The behavioral reactions component was developed by us with items reflecting either support of strikers (e.g., “I would talk to strikers to show them my support”), neutral behavioral reactions (e.g., “I read about strikes”), or support of the employers (e.g., “I inform myself of the employers’ point of view about strikes”) In total, fifteen items for the behavioral reactions’ component were included. We consciously decided that the affective and behavioral reactions component had items representing an indifference-aspect, because strikes are a special attitude object to which some people might have distinctively positive or negative attitudes and behavioral reactions and others might have rather neutral (or indifferent) attitudes and behavioral reactions to strikes (i.e., they might just not care). Hence, the initial model consisted of the three components which were divided in eight factors. After generating a total of 37 items, two subject matter experts (SMEs) read and annotated them. The SMEs slightly changed some item wording and confirmed that the items reflected relevant aspects of attitudes and behavioral reactions to strikes from their opinion. Items can be found in Table 4.

As per Hinkin’s (1998) recommendations, the items developed were short and simple. Moreover, we created a large pool of items. As Hinkin (1998) also recommends five to six items per construct, we aimed for a total of 15 items for the three components. The response

format was a 5-point Likert-type ranging from “Do not agree” to “Agree” (following Lozano et al., 2008). Only the two end options were labelled in the questionnaire.

Sample. Participants were recruited from high pedestrian traffic areas and in a shopping mall in two German cities. They were asked to fill out a survey about their attitudes and behavioral reactions to strikes. In total, 455 persons filled out the questionnaire. Some had to be excluded because they indicated that they did not fill out the questionnaire honestly (n = 23), filled out only parts of it (n = 83), or were strikers at the moment of participation and not third-parties (n = 45). The final sample consisted of N = 304 participants. This sample size corresponds to a person-variable ratio of 8:1 and thus was above the recommendations of a ratio of 5:1 (Reio & Shuck, 2015). The mean age was 40.01 (SD = 17.15), 49.3% were female. 67.4 % were employed, 14.1 % were members of a union, and 41.1 % had already participated in a strike themselves. Of those who had already participated in a strike, only 15.2% reported that this strike had taken place in the last year.

Procedure. After a welcoming page, the 37 items were presented, followed by demographic questions. The items were ordered in the same way for all participants, however the items were not organized based on their content but in a random order.

Statistical Analyses. Statistical analyses in all four studies were conducted using IBM SPSS26, R 3.6.1 (R Core Team, 2019), and several additional R packages: careless (v1.2.1; Yentes & Wilhelm, 2018), psych (v2.1.3; Revelle, 2019), paran (v1.5.2; Dinno, 2018), paramap (v.0.13.0; O’Connor, 2020), MBESS (v4.8.0; Kelley, 2019), lavaan (v.0.6-8; Rosseel, 2012), sem (v3.1-11; Fox et al., 2017), semPlot (v1.1.2; Epskamp, 2019), and semTools (v0.5-4; Jorgensen et al., 2019).

Results

Preliminary Analyses. We first checked whether requirements for running an exploratory factor analysis were met (Fabrigar & Wegener, 2012). The Kaiser-Meyer-Olkin-coefficient (KMO) was .90, which means that sufficient correlations existed between the

items. The sample size was eight times larger than the number of items and the Bartlett-test showed a significant result. Hence, all the requirements for an exploratory factor analysis were met.

Test of Hypotheses. To analyze the factor structure of the items, an exploratory factor analysis with principal axis factoring and Oblimin rotation was conducted (Goretzko et al., 2021). The factor analysis resulted in seven factors following a parallel analysis (Hayton et al., 2004). Factor loadings of the items on the seven factors after the Oblimin rotation can be found in Table 4. In total, the seven factors explained 46% of the variance. Correlations between the factors (absolute values) ranged between $r = |.08|$ and $r = .60|$ (see Table 5).

The first factor was labelled “legitimacy of strikes” because its marker-item was “Strikes are a legitimate tool.” (factor loading = -.64). The second factor was labelled “informing oneself about strikes”; its marker-item was “I read about strikes” (factor loading = .75). The third factor was labelled “negative reactions towards strikes”, and its marker-item was “I feel stressed out by strikes” (factor loading = .77). The fourth factor was labelled “strike-related social network behavior” because its marker-item was “I share posts against strikes on social networks” (factor loading = .77). The fifth factor was labelled “indifference towards strikes”, and its marker-item was “I do not do anything about strikes” (factor loading = .74). The sixth factor was labelled “support of strikers”, and its marker-item was “I would talk to strikers to show them my support” (factor loading = .49). Finally, the seventh factor was labelled “negative cognitions towards strikes”; its marker-item was “Strikers make overdrawn demands” (factor loading = .64).

Table 4

Initial items in German plus English translation, proposed dimensions of these items (first column), and results of the exploratory factor analysis (Study 1, N *= 304)*

Item	Original item in German	English translation	Rotated factor loadings						
			F1	*F2*	*F3*	*F4*	*F5*	*F6*	*F7*
pA1	Streiks geben mir ein positives Gefühl.	Strikes give me a positive feeling.	-.22	.08	-.24	-.11	-.15	.20	-.09
pA2	Es freut mich, wenn Streikende für ihre Forderungen einstehen.	It makes me feel happy when strikers stand up for their claims.	**-.33**	.06	-.25	-.05	-.05	.13	-.03
pA3	Ich bewundere Streikende.	I admire strikers.	-.29	.01	-.04	-.14	-.08	**.45**	-.04
neuA1	Ich bin gleichgültig gegenüber Streiks.	I am indifferent to strikes.	.22	-.12	.09	-.04	.24	-.25	-.04
neuA2	Streiks interessieren mich nicht.	I do not care about strikes.	.18	-.17	.12	-.12	**.32**	-.09	.13
neuA3	Ich fühle mich nicht von Streiks betroffen	I do not feel affected by strikes.	.05	.08	.03	.09	**.32**	-.03	-.02
negA1	Ich fühle mich von Streiks gestört.	I feel disturbed by strikes.	.02	-.00	**.64**	.04	.11	-.21	-.04
negA2	Streiks belasten mich.	Strikes strain myself.	-.08	.05	**.74**	-.02	.03	-.05	-.04
negA3	Durch Streiks fühle ich mich gestresst	I feel stressed out by strikes.	-.01	-.06	**.77**	-.03	-.12	.10	.05
negA4	Wenn ich etwas über Streiks höre, macht mir dies Angst	Hearing something about strikes frightens me.	.22	.06	**.40**	-.12	-.00	.24	.09
negA5	Von Streiks bin ich genervt	I am annoyed by strikes.	.05	-.08	**.58**	.20	.04	.01	-.02

Table 4 (continued)

Item	Original item in German	English translation	Rotated factor loadings						
			F1	*F2*	*F3*	*F4*	*F5*	*F6*	*F7*
pC1	Streiks sind notwendig.	Strikes are necessary.	**-.57**	.07	-.03	.02	-.13	.03	-.06
pC2	Streiks sind ein legitimes Mittel.	Strikes are a legitimate tool. (Day et al., 2006; Gafni-Lachter et al., 2017)	**-.64**	.12	-.00	.02	.06	-.08	-.05
pC3	Streiks sind gerechtfertigt.	Strikes are justified. (Day et al., 2006).	**-.45**	.04	-.07	-.04	.06	.21	-.14
pC4	Streiks sind fair.	Strikes are fair. (Day et al., 2006)	-.28	.08	-.02	-.12	-.03	.03	**-.**29
nC1	Die Menschen in diesem Land wären ohne Streiks genauso gut dran.	People would just be as well off if there were no strikes in this country. (McShane, 1986)	**.45**	.02	-.05	-.06	.13	-.08	.06
nC2	Die Bedeutung von Streiks wird überschätzt.	The importance of strikes is overestimated.	.20	.08	-.09	.03	.09	-.02	**.41**
nC3	Streiks verursachen zu viele Kosten.	Strikes cause too many costs.	.13	.05	.01	.05	-.01	.05	**.50**
nC4	Streiks sind eine Zeitverschwendung.	Strikes are a waste of time.	**.33**	.06	.06	.06	.20	.02	.11
nC5	Streiks treffen die falschen Personen.	Strikes hit the wrong people.	.06	-.11	.08	.06	.08	-.01	**.39**
nC6	Streikende stellen überzogene Forderungen.	Strikers make overdrawn demands.	-.04	-.05	.03	-.01	-.04	-.01	**.64**
nC7	Streiks werden zu schnell beschlossen.	Strikes are decided too fast.	.01	-.04	.07	.03	.06	-.02	**.54**

Table 4 (continued)

Item	Original item in German	English translation	Rotated factor loadings						
			F1	*F2*	*F3*	*F4*	*F5*	*F6*	*F7*
pB1	Ich würde mit Streikenden sprechen, um ihnen meine Unterstützung zu zeigen.	I would talk to strikers to show them my support. (Kelloway et al., 2008)	.11	**.35**	-.11	-.14	-.02	**.49**	-.02
pB2	Ich würde Informationsblätter von Streikenden entgegennehmen.	I would accept leaflets from strikers. (Kelloway et al., 2008)	-.10	**.43**	-.09	.01	.03	**.37**	-.05
pB3	Ich würde die Seite der Streikenden bei Diskussionen einnehmen.	I would support the strikers' position in conversations. (Kelloway et al., 2008)	-.16	.13	.04	-.12	-.09	**.36**	-.17
neuB1	Ich teile Informationen zu Streiks in den sozialen Netzwerken.	I share information about strikes on social media.	.08	.01	.01	**-.68**	-.05	.08	-.01
neuB2	Ich lese Informationen über Streiks.	I read about strikes.	-.02	**.75**	-.00	-.03	-.06	.10	-.06
neuB3	Ich gehe Streiks so gut wie möglich aus dem Weg.	I avoid strikes as much as possible.	-.14	-.06	**.30**	.09	.27	-.04	**.42**
neuB4	Ich kommentiere Beiträge in sozialen Netzwerken zu Streiks.	I comment on posts about strikes on social media.	.01	.02	.01	**-.72**	.00	.02	-.04
neuB5	Ich informiere mich über die Gründe von Streiks.	I inform myself about the causes of strikes.	-.16	**.73**	-.02	.02	-.01	.09	-.11
neuB6	Ich eigne mir selbst Hintergrundwissen zu Streiks an.	I acquire background knowledge about strikes.	-.04	**.71**	-.02	-.03	-.16	-.06	-.07

Table 4 (continued)

Item	Original item in German	English translation	Rotated factor loadings						
			F1	*F2*	*F3*	*F4*	*F5*	*F6*	*F7*
neuB7	Ich mache nichts in Bezug auf Streiks.	I do not do anything about strikes.	-.19	-.12	-.03	.08	**.74**	.05	.08
neuB8	Mit Streiks habe ich nichts zu tun.	I have nothing to do with strikes.	-.05	-.18	-.07	.04	**.73**	.08	-.02
negB1	Ich informiere mich über die Sichtweise des Arbeitgebers bei Streiks.	I inform myself of the employers' point of view about strikes.	.02	**.74**	.02	-.04	.02	-.08	.10
negB2	Ich würde die Seite der Arbeitgeber bei Diskussionen einnehmen.	I would support the employers' position in conversations.	-.04	.17	.03	-.10	.03	-.28	.24
negB3	Ich teile Posts gegen Streiks in sozialen Netzwerken.	I share posts against strikes on social networks.	-.05	-.05	-.01	**.77**	.02	-.10	.00
negB4	Ich beschwere mich über die Auswirkungen von Streiks.	I complain about the consequences of strikes.	-.10	.00	.24	-.05	.01	.02	.23

Note. pA = positive affect, neuA = neutral affect, negA = negative affect, pC= positive cognition, nC = negative cognition, pB = positive behavior, neuB = neutral behavior, and negB = negative behavior.

Numbers in bold = loadings above .30.

Table 5

Correlations Study 1

Factor	F1	F2	F3	F4	F5	F6	F7
F1 Legitimacy of strikes	(.80)						
F2 Informing oneself about strikes	.44***	(.86)					
F3 Negative reactions towards strikes	-.45***	-.27***	(.79)				
F4 Strike-related social network behavior	.17**	.32***	-.09	(.76)			
F5 Indifference towards strikes	-.41***	-.46***	.29***	-.26***	(.66)		
F6 Support of strikers	.59***	.59***	-.40***	.33***	-.50***	(.74)	
F7 Negative cognitions towards strikes	-.60***	-.30***	.54***	-.16**	.41***	-.51***	(.77)
M	4.05	3.37	1.84	1.66	2.59	3.35	2.45
SD	0.71	1.04	0.30	0.79	0.91	0.84	0.75

Note. $N = 304$. Numbers in the diagonal line represent reliabilities (Cronbach's α of the respective factors).

*$p < 0.05$, **$p < 0.01$, *** $p < 0.001$.

As the goal of Study 1 was to generate items and to test which of the items worked best, we conducted an item-reduction following the factor analysis. In particular, 22 items were removed following several considerations (see Table 6 for all reasons). First, six items were excluded because they loaded on several factors to an equal extent (e.g., “Strikes are fair”). Second, six items were excluded because they loaded rather low (i.e., below .40 and not twice as strong on appropriate factor than any other factor, Hinkin, 1995, 1998) on their respective factors (e.g., “Strikes give me a positive feeling”). Third, eight items were excluded due to participant feedback: After filling out the questionnaire, participants were asked whether they had any comments, and they indicated that some of the items were not easy to answer or that they did not easily understand them (e.g., “The importance of strikes is overestimated”). Thus, items for which these remarks were made more frequently were also excluded. Furthermore, one item was excluded because it would have been the only negative worded item on its factor. Finally, we examined the modification indices to assess how the model could be further improved (Bentler, 2010). One item was excluded due to having the highest modification index (see Muncer and Ling (2006) for a similar approach). Among others, all items relating to the indifference towards strikes factor and all but one item from the negative cognitions factor were removed by this reduction process. Due to this reduction process, all positive and neutral affective items were also removed.

Thus, only five of the initial seven factors were retained. The single left item that had loaded on the negative cognitions towards strikes factor was grouped with the legitimacy of strikes factors as it had its second highest loading on this factor. The resulting five-factor structure was: negative reactions towards strikes, legitimacy of strikes, informing oneself about strikes, strike-related social network behavior, and support of strikers.

Table 6

Study 1: Deleted Items and Reasons for Exclusion.

Deleted item	Reasons for Exclusion
Strikes give me a positive feeling.	No loading above .30 on one of the factors
It makes me feel happy when strikers stand up for their claims.	Highest loading on legitimacy of strikes and not the affective factor, low highest factor loading (-.33)
I admire strikers	Highest loading on support of strikers and not the affective factor (.45)
I am indifferent to strikes.	Highest loading on support of strikers and not the affective factor (-.25)
I inform myself of the employers' point of view about strikes.	Loads on factor informing oneself about strikes, but does not fit with the content of the other items on this factor.
I do not care about strikes.	Low highest loading on the factor indifference to strikes (.32)
Hearing something about strikes frightens me.	Lowest loading of the negative affective items (.40) on the negative reactions factor and not twice as high as second highest loading (.24)
Strikes are fair.	Low loading on legitimacy of strikes (-.28)
Strikes hit the wrong people.	Low loading on negative cognition factor (.39)
I avoid strikes as much as possible.	Low loading on negative cognition factor (.42) and not twice as high as second highest loading (.30)
I complain about the consequences of strikes.	Low loading on negative cognition factor (.23) and equally loading on negative reactions factor (.24)
I would support the employers' position in conversations.	Low loading on negative cognition factor (.24) and also loading on support of strikers' factor to an equal extent (-.28)
I do not feel affected by strikes.	Repeated participant feedback that the item is difficult to understand
People would just be as well off if there were no strikes in this country.	Repeated participant feedback that the item is difficult to understand
The importance of strikes is overestimated.	Repeated participant feedback that the item is difficult to understand
Strikes are decided too fast.	Repeated participant feedback that the item is difficult to understand
I do not do anything about strikes.	Repeated participant feedback that the item is difficult to understand
I have nothing to do with strikes.	Repeated participant feedback that the item is difficult to understand
Strikes are a legitimate tool.	Repeated participant feedback that the item is difficult to understand
Strikers make overdrawn demands.	Repeated participant feedback that the item is difficult to understand
I share posts against strikes on social networks.	Supposed to be negative formulated item, reformulating it in a way that it fits with the other social network items would not provide any information gain over "I share information about strikes on social media."
I feel stressed out by strikes.	Exclusion based on modification indices – Item had the highest modification index

Discussion

This study yielded a measure with a five-factor structure after an exploratory factor analysis and item reduction process. The obtained five-factor structure also aligns in several ways with our previously assumed three components: first, the negative reactions towards strikes factor is equal to the affective component of attitudes in the model. Secondly, the legitimacy of strikes factor can be understood as the cognitive component of attitudes, as this factor reflects the knowledge a person has about strikes and how this person judges strikes from a normative perspective. Finally, the other three factors – informing oneself about strikes, strike-related social network behavior, and support of strikes – all consist of behavioral intentions or actual behaviors. Thus, these three factors together represent the behavioral reactions component. We examined the fit of this new five-factor structure with new data in Study 2.

Study 2 – Psychometric Properties

Study 2 had two aims: The first aim was to conduct a confirmatory factor analysis to confirm the five-factor structure from Study 1 with the shortened item set. Second, we wanted to examine the reliability of the scales (i.e., Cronbach's α and McDonald's ω).

Method

Sample. Participants were recruited online via newspaper websites and social networks. In total, 216 persons took part in the study. Of these, $N = 209$ filled out all 16 items and were included in the analyses. The mean age was 30.93 ($SD = 11.63$) and 67.0 % were female. Most (64.1%) were employed, 13.9% were members of a union, and 27.3% had already participated in a strike themselves. Of those who reported to have participated in a strike, 36.8% reported that this strike had taken place less than a year ago.

Procedure. Several items from Study 1 were reworded (see Table 7) to make them more understandable. Furthermore, the item "I look at posts about strikes on social media."

was added to the factor strike-related social network behavior to capture all relevant behaviors on social networks. Again, after a welcoming page with a short definition of strikes, the participants filled out the 16 items of the scale on a 5-point Likert-type scale ranging from "Do not agree" to "Agree" and answered demographic questions.

Results

First, the reliability of the five factors was estimated using Cronbach's α and McDonald's ω. For this, the negative formulated items of the legitimacy of strikes factor were recoded. The internal consistency coefficients, correlations, means, and standard deviations can be found in Table 8. The discriminatory power of the items ranged between $r = .51$ and $r = .82$ (see Table 7). No part-whole correction would have led to a better reliability coefficient.

Next, a confirmatory factor analysis (CFA) using maximum-likelihood estimates was performed to confirm the five-factor structure. To evaluate model fit, we followed recommendations by Hu and Bentler (1999) who consider cut-off values for comparative fit index (CFI) and Tucker-Lewis index (TLI) ≥ .95, standardized root mean square residual (SRMR) ≤ .08, and root mean square error of approximation (RMSEA) ≤ .06 as indicating a good model fit. All results of the CFAs can be found in Table 9. The model fit of the expected factor structure was acceptable: $\chi^2(94) = 229.85 > 2*df = 188$ (Ullman, 2013), $p < .001$, CFI = .91, TLI = .89, RMSEA = .08 [90% CI: .07 - .10], SRMR = .08. When taking a look at the modification indices, factor loadings, and discriminatory power, we found that the item "Strikes cause too many costs" had the highest modification indices and lowest factor loading (-.62) compared to the other items' loadings on the legitimacy of strikes factor. Furthermore, this item also had the lowest discriminatory power of all items. Thus, we conducted another

Table 7

*Study 2 Items (*N *= 209) and Discriminatory Power*

Factor	German item	English translation	Discriminatory power
Negative reactions towards strikes	Ich fühle mich von Streiks gestört.	I feel disturbed by strikes.	.76
	Streiks belasten mich.	Strikes strain myself.	.71
	Von Streiks bin ich genervt.	I am annoyed by strikes.	.82
Legitimacy of strikes	Streiks sind notwendig.	Strikes are necessary.	.71
	Streiks sind gerechtfertigt.	Strikes are justified.	.62
	~~Streiks verursachen zu viele Kosten.~~	~~Strikes cause too many costs.~~	~~.51~~
	Streiks sind eine Zeitverschwendung (reverse-coded).	Strikes are a waste of time. (reverse-coded)	.68
Informing oneself about strikes	Ich lese Nachrichten über Streiks.	I read about strikes.	.55
	Ich interessiere mich für die Gründe von Streiks.	I am interested in the reasons of strikes.	.60
	Ich eigne mir selbst Hintergrundwissen zu Streiks an.	I acquire background knowledge about strikes.	.63
Strike-related social network behavior	Ich teile Informationen zu Streiks in den sozialen Netzwerken.	I share information about strikes on social media.	.67
	Ich kommentiere Beiträge in sozialen Netzwerken zu Streiks.	I comment on posts about strikes on social media.	.69
	Ich schaue mir Beiträge zu Streiks in sozialen Netzwerken an.	I look at posts about strikes on social media.	.53
Support of strikers	Ich würde Streikenden meine Unterstützung zeigen.	I would show my support to strikers.	.68
	Ich würde Flyer von Streikenden entgegennehmen.	I would accept leaflets from strikers.	.62
	Ich würde die Seite der Streikenden bei Diskussionen einnehmen.	I would support the strikers' position in conversations.	.66

Note. The crossed-out item was not included in the final scale. The English version of the scale was translated and back-translated by two individuals, both fluent in German and English following best practices (e.g., Schaffer & Riordan, 2003).The instruction of the scale is: "On a scale from 1 (do not agree) to 5 (agree), please indicate to what extent you agree with these statements."

Table 8

Correlations and Internal Consistencies Study 2

Factor	F1	F2	F2 – 3 items	F3	F4	F5
F1 Negative reactions towards strikes	(.88)					
F2 Legitimacy of strikes	-.67**	(.80)				
F2 Legitimacy of strikes – 3-item version	-.58**	.95**	(.82)			
F3 Informing oneself about strikes	-.20**	.35**	.33**	(.76)		
F4 Strike-related social network behavior	-.32**	.36**	.28**	.46**	(.79)	
F5 Support of strikers	-.56**	.64**	.59**	.48**	.63**	(.80)
M	2.53	3.85	4.03	3.51	2.11	3.16
SD	1.09	0.82	0.82	0.90	1.09	1.02
McDonald's ω	.88 [.85-.92]	.80 [.75-.86]	.83 [.77-.88]	.77 [.71-.82]	79 [.72-.85]	.80 [.75-.85]

Note. $N = 209$. Numbers in the diagonal line represent Cronbach's α of the respective factors. Numbers in square brackets represent the 95% confidence interval.

*$p < 0.01$.

Table 9

Results of the Confirmatory Factor Analyses Comparisons for Studies 2-4

	χ^2	*df*	CFI	TLI	RMSEA [90% CI]	SRMR	AIC	$\Delta\chi^2$
Study 2								
Five-factor model with 16 items	229.85	94	.91	.89	.08 [.07-.10]	.08	8883.74	
Five-factor model with 15 items	176.84	80	.93	.91	.08 [.06-.09]	.07	8319.55	
Three factor model	337.03	87	.82	.79	.12 [.10-.13]	.09	8482.50	134.53
One factor model	625-32	90	.62	.56	.17 [.16-.18]	.13	8798.37	359.24
Study 3								
Five factor model	149.65	80	.97	.96	.04 [.03-.05]	.05	17837.23	
Three factor model	439.99	87	.85	.81	.10 [.09-.10]	.09	18183.55	196.36
One factor model	885.98	90	.65	.59	.14 [.13-.15]	.12	18754.02	466.32
Study 4								
Five factor model	188.53	80	.93	.91	.06 [.05-.07]	.06	16071.49	
Three factor model	514.17	87	.73	.67	.11 [.10-.12]	.10	16507.88	185.36
One factor model	811.34	90	.54	.47	.14 [.13-.15]	.12	16981.40	305.59

Note. CFI = comparative fit index. TLI = Tucker-Lewis index. SRMR = standardized root mean square residual. RMSEA = root mean square error of approximation. AIC = Akaike Information Criterion.

confirmatory factor analysis with maximum-likelihood estimates without that item (Model 2). The fit of Model 2 was also acceptable: $\chi^2(80) = 176.84 > 2*df = 160$ (Ullman, 2013), $p < .001$, CFI = .93, TLI = .91, RMSEA = .08 [90% CI: .06 - .09], SRMR = .07. Furthermore, Model 2 had a smaller Akaike Information Criterion (AIC) with AIC = 8319.55 compared to Model 1 (AIC = 8883.74) and thus, exhibited a better fit to the data (Sakamoto et al., 1986). Because the content of this item was also ambiguous, it was removed from the scale. The reliability of the legitimacy of strikes factor thereafter was Cronbach's α = .82, McDonald's ω = .83 [.77 - .88] (with $M = 4.03$ and $SD = 0.82$).

We also tested whether this five-factor model showed a better model fit than a three-factor model. In the three-factor model, the factors informing oneself about strikes, strike-related social network behavior, and support of strikers were aggregated into a single behavioral intentions factor. The five-factor model showed a significant better fit than the three-factor model, $\Delta\chi^2(7) = 134.53$, $p < .001$. Moreover, Model 2 had a smaller AIC = 8319.55 compared to the model with three factors (AIC = 8482.50) and thus, exhibited a better fit to the data (Sakamoto et al., 1986). We additionally tested whether our proposed five-factor model showed a significantly better fit than a one-factor model. This assumption was also supported, $\Delta\chi^2(10) = 359.24$, $p < .001$. Again, Model 2 had a smaller AIC = 8319.55 compared to the model with one factor (AIC = 8798.37) and thus exhibited a better fit to the data (Sakamoto et al., 1986). As such, the results supported a five-factor structure with three items per factor.

Discussion

The reliability coefficients of the five factors were satisfactory: Cronbach's α ranged from .76 to .88. The use of modification indices to modify the scale is considered additional exploratory work, rather than confirmatory; therefore, the resulting scale structures need to be validated in another study. The factor means suggest that participants had on average a rather positive attitude to strikes. Participants did not have a strong negative reaction towards strikes

(M = 2.53), saw strikes as legitimate (M = 4.03), and kept themselves informed about strikes (M = 3.50). Furthermore, they indicated that they were rather neutral towards supporting strikers (M = 3.16) and rather seldom used social networks to inform themselves or communicate about strikes (M = 2.10). The acceptable model fit further confirmed the five-factor structure of Study 1.

Study 3 – Validity Study

Theoretical Background

The first aim of this third study (following Hinkin, 1995, 1998) was to confirm the five-factor structure of the strike attitude and behavioral reactions scale (SABeRS) that was constructed in the two previously described studies. Hence, we hypothesize more formally: *The five-factor structure from Studies 1 and 2 will be confirmed in this sample (H1).*

Convergent Validity. The second aim of this study was to examine the convergent validity of the proposed strike attitude and behavioral reactions dimensions. The first construct used to assess the convergent validity was the willingness to strike. Willingness to strike is described as a function of dissatisfaction in many areas, but it can also be a generalization of dissatisfaction from other parts of work (Stagner, 1956). Unions rely on their members' willingness to strike because it is important to plan their sanctions in a collective bargaining process. Willingness to strike is known to be related to union loyalty (Barling et al., 1992). Furthermore, willingness to strike seems to be lower for older employees and among employees with higher perceived employability, whereas employees with left-wing views often show a greater willingness to strike, as well as employees who are more dissatisfied with their jobs (Jansen et al., 2017). Based on the value-attitude-behavior hierarchy (Homer & Kahle, 1988), people with positive attitudes toward strikes and more behavioral reactions should be more willing to perform behaviors that align with their attitudes, one of these behaviors being willingness to strike. Following these arguments and

findings, we hypothesize: *Willingness to strike is negatively correlated with negative reactions towards strikes (H2a), and positively correlated with legitimacy of strikes (H2b), informing oneself about strikes (H2c), strike-related social network behavior (H2d), and support of strikers (H2e).*

To further assess the convergent validity, we used attitudes towards unions. The attitudes towards unions are seen as important determinants of industrial relations outcomes (Jarley & Kuruvilla, 1994). Furthermore, union attitudes have been found to be predictors for support of strike actions (Kelloway et al., 2008) as well as predictors for actual strike behavior (Tivendell & Watson, 1995). Thus, we hypothesize: *Attitudes towards unions are negatively correlated with negative reactions towards strikes (H3a) and positively correlated with legitimacy of strikes (H3b), informing oneself about strikes (H3c), strike-related social network behavior (H3d), and support of strikers (H3e).*

For unions, their members' attitudes to strikes are important during a collective bargaining process. Given the strong link between strikes and unions, belonging to a union may influence an individuals' attitude and behavioral reactions toward strikes. If union members report a higher willingness to strike (Jansen et al., 2017), they might thus also show more positive attitudes to strikes than non-union-members. It has also been shown that people with higher pro-strike attitudes were more willing to join a union (Beutell & Biggs, 1984). Thus, we hypothesize: *Union members have lower negative reactions towards strikes (H4a) and report a higher legitimacy of strikes (H4b) than non-members. Furthermore, union members inform themselves more about strikes (H4c), show more strike-related social network behavior (H4d), and support strikers more than non-members (H4e).*

In conjunction with this, union members who feel more committed to their unions will participate more in union activities (Fullagar & Barling, 1989), and union loyalty – a facet of union commitment – has been shown to predict willingness to strike (Barling et al., 1992). Thus, we hypothesize: *Union loyalty is negatively correlated with negative reactions towards*

strikes (H5a) and positively correlated with legitimacy of strikes (H5b), informing oneself about strikes (H5c), strike-related social network behavior (H5d), and support of strikers (H5e).

Employees who have already participated in a strike have a higher probability of participating in another strike compared to employees who have never taken part in a strike (Campolieti et al., 2005; J. E. Martin & Sinclair, 2001). Hence, having taken part in a strike might influence one's attitudes to strikes and the perception of strikes as a useful means in collective bargaining. Thus, we hypothesize: *Persons who have previously taken part in a strike will report fewer negative reactions towards strikes (H6a), perceive strikes as more legitimate (H6b), inform themselves more about strikes (H6c), show more strike-related social network behavior (H6d), and support strikers more (H6e) than persons who never participated in a strike.*

To further assess the convergent validity of the strike attitude scale, we measured participants' political orientation. As mentioned earlier, employees with left-wing views reported a greater willingness to strike (Jansen et al., 2017). This aligns with other research (Jost et al., 2008, 2017), showing that liberals try to change the status quo and advance social change toward social, economic, and political equality. Thus, we hypothesize: *Political orientation (with higher values corresponding to an increasing conservative orientation) is positively correlated with negative reactions towards strikes (H7a) and negatively correlated with legitimacy of strikes (H7b), informing oneself about strikes (H7c), strike-related social network behavior (H7d), and support of strikers (H7e).*

Discriminant Validity. The third aim of this study was to assess the discriminant validity of the SABeRS. To do so, we chose the personality dimensions Openness to experience, Extraversion, and Conscientiousness as well as generalized self-efficacy. These four constructs can be expected to be rather unrelated to attitudes and behavioral reactions to strikes. In the case of Openness, it should not matter whether a person is prone to gather new

experiences or not (Fatke, 2019) when asked for their attitudes to strikes. Thus, we hypothesize: *Openness to experience is not (or at least to a lower extent in comparison to the convergent validities) correlated with negative reactions towards strikes (H8a), legitimacy of strikes (H8b), informing oneself about strikes (H8c), strike-related social network behavior (H8d), and support of strikers (H8e).*

Regarding Extraversion, people who are rather outgoing could have the same attitude to strikes as persons who prefer to be on their own (McCrae & Costa, 1999). Thus, we hypothesize: *Extraversion is not (or at least to a lower extent in comparison to the convergent validities) correlated with negative reactions towards strikes (H9a), legitimacy of strikes (H9b), informing oneself about strikes (H9c), strike-related social network behavior (H9d), and support of strikers (H9e).*

In the case of Conscientiousness, attitude to strikes should not be influenced by whether people do, for instance, their tasks on time or are rather lazy (McCrae & Costa, 2008). Thus, we hypothesize: *Conscientiousness is not (or at least to a lower extent in comparison to the convergent validities) correlated with negative reactions towards strikes (H10a), legitimacy of strikes (H10b), informing oneself about strikes (H10c), strike-related social network behavior (H10d), and support of strikers (H10e).*

Finally, in the case of generalized self-efficacy, attitude toward strikes should not be influenced by people's perception of their competence to successfully conduct a certain activity (Beierlein et al., 2012). Hence, we hypothesize: *Generalized self-efficacy is not (or at least to a lower extent in comparison to the convergent validities) correlated with negative reactions towards strikes (H11a), legitimacy of strikes (H11b), informing oneself about strikes (H11c), strike-related social network behavior (H11d), and support of strikers (H11e).*

Method

This study was preregistered (available at http://aspredicted.org/blind.php?x=vj7wc4).

Sample. Participants were recruited online via the WiSo Panel (Göritz, 2014), and 528 persons completed the study. At the end of the survey, participants were asked whether they responded honestly and whether their data could be used. Participants who selected "no" were excluded from the analyses (n = 10). Participants who responded to the items at a rate faster than two seconds per item were also excluded from the analyses (n = 28; Huang et al., 2012). Furthermore, long strings (i.e. the number of times a participant chose the same response option consecutively) above fourteen items (which was where the so-called "elbow" appeared in the data, Johnson, 2005) were identified. The analyses reported below were calculated excluding participant data with long strings (n = 47; Johnson, 2005; Niessen et al., 2016). We repeated the analyses *including* these participants and the differences in results were negligible (available upon request from the first author). This exclusion procedure was conducted following the specification in the preregistration of this study. After controlling for swift completion and long strings above 14, N = 443 persons were included in the analyses. The mean age was 54.72 (SD = 14.28) and 48.3% were female. Most (56.2%) were employed, 18.1% were members of a union, and 30.5 % had already participated in a strike themselves. Of those who had already participated in a strike, only 9.6% reported that this strike had taken place within the last year.

Materials. Unless otherwise noted, all scales were rated on a scale from 1 (do not agree) to 5 (agree). First, we used the 15 items from Study 2 to measure *strike attitudes* and behavioral intentions (i.e., three items for each factor). Items can be found in Table 7. For measuring *willingness to strike*, we developed four items following Akkerman et al. (2013), rated on a five-point Likert scale ranging from "Not at all" to "Very likely." A sample item is "I would strike for better working hours."[3] *Attitudes towards unions* were assessed with a

[3] We conducted an additional study to validate this self-developed willingness to strike scale. In this study, 122 employees participated (66 women, 56 men). The mean age was 36.82 (SD = 13.92). Twenty-five participants reported being union members. The willingness to strike scale showed good reliability (Cronbach's α = .81,

scale from Liepmann et al. (1984), consisting of five items. A sample item of this scale is "Trade unions are necessary for the enforcement of employee interests." *Membership in a union* was measured with a single item that asked participants whether they were members of a union. *Union loyalty* was measured with four adapted affective commitment items from Felfe and Franke's (2012) scale. We adapted the items by changing the object of the commitment from the organization to the union, a sample item is "I am proud to be a member of my union." *Participation in strikes* was measured with a single item in which participants were asked whether they had ever taken part in a strike. *Political orientation* was measured with a single item (from Jost et al., 2012) that asked participants to rate their political orientation on a scale from 0 (left) to 11 (right).The personality dimensions Openness to experience (e.g., "I am someone who is original, develops new ideas."), Extraversion (e.g., "I am someone who is talkative, likes to talk"), and Conscientiousness (e.g., "I am someone who does his/her chores thoroughly") were measured with 27 items from the Big Five Inventory (BFI, using the German version of Fell & König, 2016). Finally, *generalized self-efficacy* was measured using the established German brief scale "Kurzskala zur Erfassung allgemeiner Selbstwirksamkeitserwartungen" (Beierlein et al., 2012). This scale consists of three items that are rated on a five-point Likert scale ranging from "Not at all" to "Absolutely." A sample item for this scale is "Most problems I can master well by myself."

Procedure. After a welcoming page that included a short definition of strikes, participants first responded to the 15 items of the strike attitude and behavioral reactions scale. These items were followed by the willingness to strike items, the attitudes towards unions items, and the question on whether participants were members of a union. If

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McDonald's ω = .82 [.75 - .88]) and a satisfactory model fit, $\chi^2(2) = 5.41$, $p = .067$, CFI = .97, TLI = .91, RMSEA = .12 [.00 - .24], SRMR = .04. The inter-item correlations ranged from $r = .48$ to $r = .60$. Finally, the willingness to strike scale was significantly correlated with political orientation ($r = -.22$, $p = .016$); that is, participants who placed themselves on the left end of the continuum in political orientation were more willing to strike than participants who placed themselves on the right end of the continuum of the political orientation. This supports the convergent validity of the scale.

participants were union members, they filled out the union loyalty items next. Otherwise, the participants were re-directed to the political orientation item. This item was followed by conflict style items[4], the personality items, and the self-efficacy items. Finally, the participants completed demographic questions.

Results

Preliminary Analyses. The reliability of the different scales was sufficient (Table 10).

Tests of Hypotheses. First, a confirmatory factor analysis was conducted to confirm the hypothesized factor structure (H1, see Figure 5). The model fit was good: $\chi^2(80) = 149.65$, $p < .001 < 2*df = 160$ (Ullman, 2013), CFI = 0.97, TLI = 0.96, RMSEA = 0.04 [90% CI: .03 - .05], SRMR = 0.05. We tested again whether this five-factor model fit the data better than a three-factor model, as in Study 2. In the three-factor model, the factors informing oneself about strikes, strike-related social network behavior, and support of strikers were aggregated into a single behavioral reactions factor. Model fit indices of this model can be found in Table 9. The five-factor model showed a significantly better fit than the three-factor model, $\Delta\chi^2(7) = 196.36$, $p < .001$. Moreover, the five-factor model had a smaller AIC = 17837.23 compared to the model with three factors (AIC = 18183.55) and thus exhibited a better fit to the data (Sakamoto et al., 1986). We also tested whether our proposed five-factor model fit the data significantly better than a one-factor model. The current five-factor model exhibited a significantly better fit, $\Delta\chi^2(10) = 466.32$, $p < .001$, $AIC_{one\text{-}factor} = 18754.02$. Hence, Hypothesis 1 was supported.

[4] To support open science (Open Science Collaboration, 2015), we preregistered this study. Initially, we assumed that conflict styles would be related to the strike attitude factors but a colleague made us aware of the fact that the scales we used to assess conflict styles focused on “the leader” instead of “the organization”, which makes these measures rather irrelevant for this context. Thus, we followed the advice of the colleague and do not report these analyses here (but they can be made available upon request)

Table 10

Correlations between Study 3 Variables

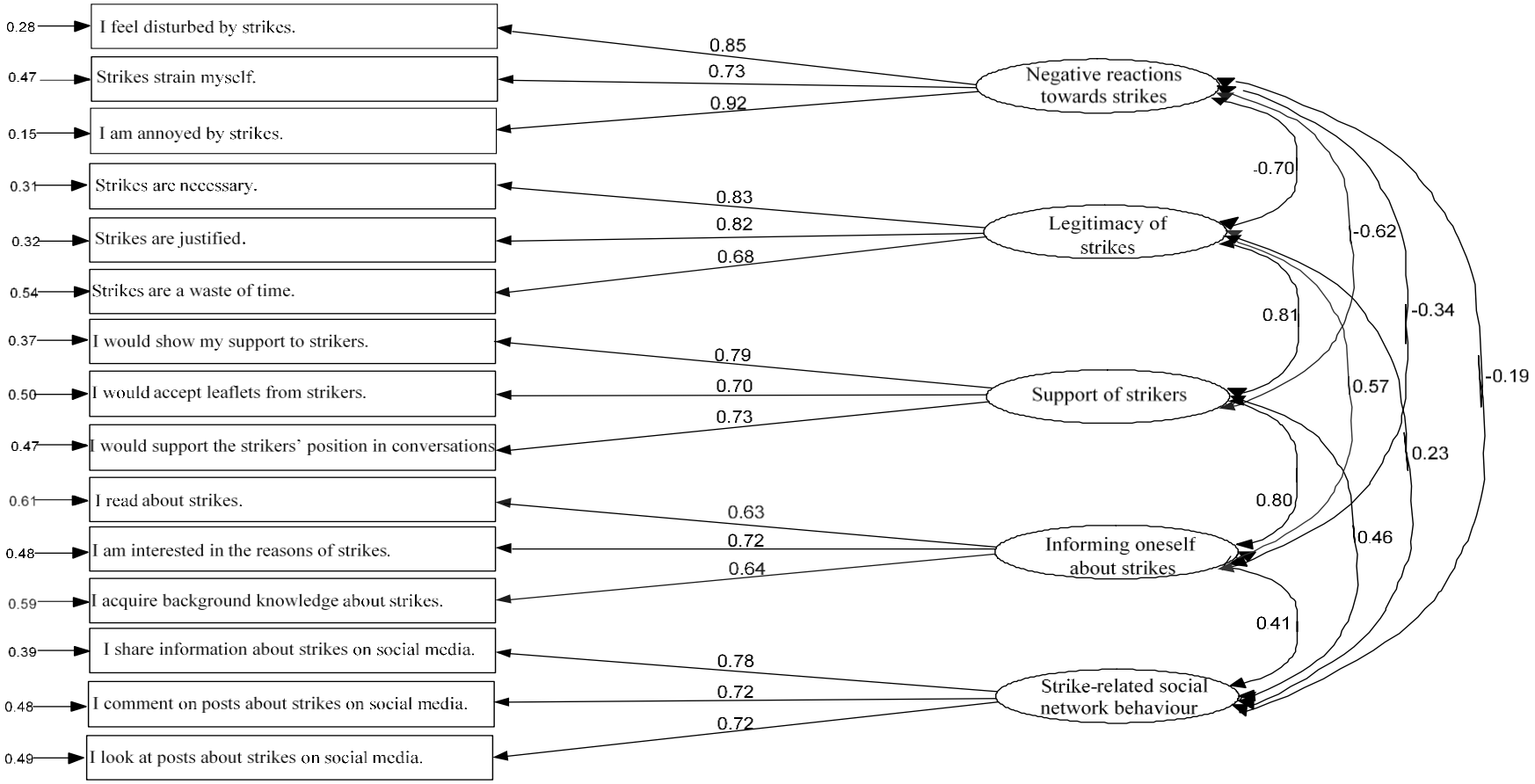
	Scale	*M* (*SD*)	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Negative reactions towards strikes	2.46 (0.18)	.87												
2	Legitimacy of strikes	4.00 (0.10)	-.59**	.81											
3	Informing oneself about strikes	3.61 (0.46)	-.23**	.41**	.71										
4	Strike-related social network behavior	1.70 (0.29)	-.16**	.18**	.33**	.78									
5	Support of strikers	3.24 (0.29)	-.51**	.65**	.58**	.36**	.78								
6	Willingness to strike	3.88 (0.39)	-.36**	.55**	.29**	.27**	.50**	.85							
7	Attitudes towards unions	4.16 (0.37)	-.41**	.62**	.31**	.15**	.57**	.55**	.87						
8	Union loyalty	3.48 (0.26)	-.12	.17	.59**	.38**	.48**	.34**	.32**	.84					
9	Political orientation	5.09 (2.11)	.27**	-.32**	-.31**	-.16**	-.39**	-.20**	-.30**	-.20	-				
10	Openness to new experiences	3.69 (0.39)	-.01	.03	.21**	.14**	.13**	.07	.06	.27*	-.24**	.82			
11	Extraversion	3.36 (0.27)	.07	.04	.15**	.14**	.05	.13**	.00	.29**	-.05	.43**	.87		
12	Conscientiousness	3.94 (0.35)	-.07	-.00	.13*	-.08	.02	.06	.06	.20	.11*	.29**	.31**	.81	
13	Self-efficacy	4.14 (0.06)	.10*	.03	.18**	.02	.07	.02	.08	.28*	-.07	.38**	.40**	.42**	.84

Note. The numbers in the diagonal represent Cronbach's α of the scales. $N = 443$ (with the exception of union loyalty where $n = 80$). Higher values in political orientation refer to a more conservative orientation.

*$p < 0.05$, **$p < 0.01$.

Figure 3

Resulting Model of the Confirmatory Factor Analysis in Study 3.



Note. Numbers represent standardized loadings.

Regarding convergent validity, hypotheses H2a-e, H3a-e and H4 a-e were all supported: results (see Table 10 and 11) showed significant correlations between the strike attitude and behavioral reactions scale and willingness to strike, attitudes towards unions, and significant mean differences between union members and non-members. As hypothesized, willingness to strike was negatively correlated with negative reactions towards strikes and positively correlated with legitimacy of strikes, informing oneself about strikes, strike-related social network behavior, and support of strikers. The same pattern emerged for attitudes towards unions. Union members reported significantly fewer negative reactions to strikes, saw strikes as more legitimate, informed themselves more about strikes, showed more strike-related social network behavior, and showed greater support for strikers compared to non-members.

Hypotheses 5 c-e were also supported: Union loyalty was positively correlated with informing oneself about strikes, strike-related social network behavior, and support of strikers. Hypotheses 5a and 5b were not supported because the correlations between the factors negative reactions to strikes and legitimacy of strikes and union loyalty were not significant (albeit going in the expected direction).

H6a-e and H7a-e were supported: As hypothesized, participants who had already participated in a strike reported fewer negative reactions towards strikes, found strikes more legitimate, informed themselves more about strikes, showed more strike-related social network behavior, and supported strikers more than participants who never took part in a strike. Political orientation correlated positively with negative reactions towards strikes and negatively with legitimacy of strikes, informing oneself about strikes, strike-related social network behavior, and support of strikers.

Regarding discriminant validity, correlations between the three assessed personality dimensions, generalized self-efficacy and the five factors of the SABeRS can be found in Table 10. H8a and b, H9a, b, and e, H10a, b, d, and e, and H11b, d, and e were fully

supported. Hence, these constructs showed no significant correlation to the SABeRS. Openness to experiences was positively correlated with informing oneself about strikes, strike-related social network behavior and support of strikers, but to a lower extent in comparison to convergent validities, thus, only partially confirming H8c-e. Extraversion was positively correlated with informing oneself about strikes and strike-related social network behavior, but to a lower extent in comparison to convergent validities, which only partially confirms H9c and d. Conscientiousness was positively correlated with informing oneself about strikes, but to a lower extent in comparison to convergent criterion-related validities (i.e., only partially confirming H10c). Finally, generalized self-efficacy was positively correlated with negative reactions towards strikes and informing oneself about strikes, but to a lower extent in comparison to convergent validities, which only partially confirms H11a and c.

Table 11

T-test Results (Study 3)

	Union member (n = 80)		Not a union member (n = 355)				Strike participation (n = 135)		No strike participation (n = 300)			
	M	*SD*	*M*	*SD*	*t*(433)	*d*	*M*	*SD*	*M*	*SD*	*t*(433)	*d*
Negative reactions towards strikes	2.14	0.98	2.54	1.16	-3.20**	-0.37	1.90	1.01	2.71	1.11	-7.24***	-0.76
Legitimacy of strikes	4.36	0.69	3.91	0.95	4.88***	0.54	4.40	0.71	3.81	0.95	7.29***	0.70
Informing oneself about strikes	3.91	0.89	3.55	0.88	3.31**	-0.41	3.97	0.82	3.44	0.89	5.85***	0.62
Strike-related social network behavior	2.23	1.14	1.58	0.78	4.83***	0.67	2.07	1.09	1.53	0.73	5.27***	0.58
Support of strikers	3.72	0.93	3.12	1.03	4.79***	0.61	3.80	0.88	2.98	1.01	8.58***	0.87

Note. Bonferroni corrected significance level= 0.05/5 = 0.01. Interpretation of effect sizes following J. Cohen (1988): |d| = 0.2 small, |d| = 0.5 medium, |d|= 0.8 strong.

*p < 0.05, **p < 0.01, ***p < 0.001

Discussion

In sum, Study 3 results provide support for the five-factor structure of the SABeRS and its convergent and discriminant validity. Legitimacy of strikes, informing oneself about strikes, strike-related social network behavior, and support of strikers were found to be positively related to willingness to strike, attitudes towards unions, and a left-oriented political orientation, whereas negative reactions towards strikes were negatively related to all these constructs. Furthermore, union members and persons who already participated in a strike showed significantly more positive attitudes and reactions to strikes than persons who were not members of a union or who had never participated in a strike. Regarding discriminant validity, the negative reaction towards strikes and legitimacy of strikes factors did not show a significant relationship with any of the three personality dimensions. Support of strikers was not related to extraversion or conscientiousness and strike-related social network behavior was not related to conscientiousness. Finally, neither legitimacy of strikes, strike-related social network behavior, nor support of strikers were related to generalized self-efficacy. Only informing oneself about strikes was related to all the measures used to assess discriminant validity, but to a lower extent in comparison to those used to assess convergent validities.

Study 4 – Validity Study with A Specific Strike

Theoretical Background

To further validate the SABeRS, we decided to collect data during and shortly after a one-day warning strike in the German public transport sector at the end of September/start of October 2020. The aim of this fourth study was to ensure that the SABeRS also works for specific strikes and, hence, to enhance its field of application from the general attitude object of strikes to the attitude object of specific strikes and the respective behavioral reactions.

Thus, we formalize the first hypothesis of this study as follows: *The factor structure of the SABeRS can be replicated for a specific strike (H12).*

Next to the confirmation of the factor structure, another goal of this study was to validate the scale by testing additional assumptions about strike attitudes of strikers, strike-affected third-parties, and strike-unaffected third parties. In our context, strikers were the people who directly participated in public transport's warning strike; strike-affected third-parties were the people who were directly affected by the strike, such as passengers of buses and trams, commuters who usually use public transport, or parents of children whose buses were affected. Strike-unaffected third parties were the people who were neither strikers nor in any way affected by the warning strike. Based on our results from Study 3 that union members and people who had already participated in a strike showed more positive attitudes and more behavioral reactions to strikes than non-union members and persons who had never taken part in a strike, we expected that in this study strikers would report more positive attitudes and more behavioral reactions to this warning strike than strike-affected and strike-unaffected third-parties. Strike-unaffected parties are rather in an observer role, as they are neither participants nor affected by the strike, and they thus might report rather neutral attitudes to this warning strike, whereas strike-affected third-parties suffer due to the cancelled public transport and might feel helpless in this situation. Hence, we expected that strike-affected third-parties would report more negative attitudes to this strike. More formally, we hypothesize: *Participants of the warning strike report more positive attitudes and more behavioral reactions to this warning strike than strike-unaffected third-parties, who report more positive attitudes and more behavioral reactions to this warning strike than strike-affected third-parties (H13).*

Method

This study was preregistered (available at https://aspredicted.org/blind.php?x=gs6nm4).

Sample. Participants were recruited online via social networks and via ver.di's (i.e., the union's) e-mail distribution lists across Germany during and after a warning strike in the public transport and later on the same day. The questionnaire was completed by 541 people. At the last page of the questionnaire, participants were asked whether they responded honestly and whether their data could be used for scientific purposes (Meade & Craig, 2012). Participants who selected "no" were excluded from further analyses (n = 128). No participants responded to the items at a rate faster than two seconds per items, thus no participants were excluded due to this criterion (Huang et al., 2012). This exclusion procedure was conducted following the specification in the preregistration of this study. Thus, 413 participants were included in the analyses, of which 64 were strikers, 124 were strike-affected third-parties, and 225 were strike-unaffected third-parties. The mean age was 47.43 years (SD = 13.11) and 61.3% were male. Almost all participants (94.9%) were members of a union. Of the non-strikers, 80.8% had already participated in a strike themselves.

Materials and Procedure. First, to assess the *attitudes and behavioral reactions to this specific strike*, we adapted the fifteen-item scale from Study 3 so that they referred to "this warning strike" instead of strikes in general (e.g., "This warning strike is justified"). Participants should indicate "On a scale from 1 (do not agree) to 5 (agree), please indicate to what extent you agree with these statements.", as in Studies 1 to 3. Next, strikers were asked to indicate reasons for their participation in the strike in an open textbox.[5]. Then, *membership in a union* was measured with a single item, as in Study 3.. At the end, participants had to fill out socio-demographics such as gender, age, highest level of education, and whether they had personally participated in a strike before. Then, they were thanked for their participation,

[5] We initially planned to assess two aims with Study 4: First, to further establish the construct validity of the scale and second to learn more about differences in union attitudes (as in Study 3) and commitment (using an adapted measure of Felfe and Franke's [2012] commitment scale) in the light of a specific strike. As this second aim reduced the clarity of the manuscript, we decided to remove the respective hypotheses and analyses.

could leave some comments and indicated whether their data could be used for scientific purposes.

Results

Preliminary Analyses. The reliability of the different scales was satisfactory. The reliabilities and the correlations can be found in Table 12.

Test of Hypotheses. To answer Hypothesis 12 – whether the factor structure of the SABeRS can be confirmed regarding a specific strike – we conducted a confirmatory factor analysis. The model fit was satisfactory: $\chi^2(80) = 188.53 > 2*df = 160$ (Ullman, 2013), $p < .001$, CFI = 0.93, TLI = 0.91, RMSEA = 0.06 [90% CI: .05 - .07], SRMR = 0.06. In this study, we also tested whether this five-factor model showed a better fit to the data than a three-factor model in which the three behavioral factors were aggregated (model fit indices of the respective models can be found in Table 9). The five-factor model fit the data significantly better, $\Delta\chi^2(7) = 185.36$, $p < .001$. Furthermore, the five-factor model fit the data significantly better than a single factor model, $\Delta\chi^2(10) = 305.59$, $p < .001$. Hence, Hypothesis 12 was supported. We also conducted a confirmatory factor analysis without participants who were on strike. As the results were very similar, we decided to report the results with all participants.

Table 12

Correlations and Internal Consistencies Study 4

Factor	1	2	3	4	5	6	7	8	9	10	11
1 Negative reactions towards strikes[a]	(.79)										
2 Legitimacy of strikes[a]	-.39**	(.74)									
3 Informing oneself about strikes[a]	-.23**	.38**	(.67)								
4 Strike-related social network behavior[a]	-.13**	.20**	.40**	(.86)							
5 Support of strikers[a]	-.33**	.60**	.56**	.41**	(.78)						
6 Attitudes towards unions[a]	-.26**	.56**	.32**	.13*	.45**	(.72)					
7 Union commitment – union loyalty[b]	-.30**	.32**	.32**	.30**	.41**	.38**	(.84)				
8 Organisational commitment[c]	-.12	.17	.03	.33**	.23	.11	.32**	(.78)			
9 Positive subjective well-being[a]	-.16**	.07	.08	.06	.12*	.08	.22**	.49**	(.95)		
10 Negative subjective well-being[a]	.09	.02	-.06	.03	.02	.01	-.15**	-.16	-.69**	(.95)	
11 Willingness to strike[d]	-.20**	.37**	.29**	.29**	.47**	.45**	.35**		.10	.04	(.76)
M	1.54	4.72	4.39	2.90	4.34	4.81	4.26	4.00	4.99	2.91	4.64
SD	0.90	0.66	0.74	1.40	0.97	0.37	0.85	0.90	1.26	1.32	0.59
McDonald's ω	.80	.76	.67	.86	.79	.71	.85	.82	.95	. 95	.77
	[.75-.86]	[.66-.86]	[.60-.75]	[.83-.88]	[.73-.84]	[.55-.86]	[.82-.88]	[.74-.89]	[.94-.96]	[.94-.96]	[.69-.86]

Note. Numbers in the diagonal line represent Cronbach's α of the respective factors. Numbers in square brackets represent the 95% confidence interval. Positive and negative subjective well-being were rated on a scale from 1 to 7. All other constructs were rated on scales from 1 to 5.

[a]$N = 413$. [b]$N = 392$. [c]$N = 64$. [d]$N = 349$.

**$p < 0.01$.

Regarding Hypothesis 13, we conducted a multivariate analysis of variance (MANOVA) with the five subscales of the SABeRS as the dependent variables and the group membership as independent variable. We expected that strikers would report more positive attitudes and more behavioral reactions to this strike than strike-unaffected third-parties, and that these strike-unaffected third-parties would report more positive attitudes and more behavioral reactions to this strike than strike-affected third-parties. The three groups differed significantly in their attitudes and behavioral reactions to this strike, Wilks-λ = .69, $F(10, 812) = 16.84$, $p < .001$, $\eta_p^2 = .17$. Specifically, strikers ($M = 1.29$, $SD = 0.55$) and strike-unaffected third-parties ($M = 1.31$, $SD = 0.61$) reported fewer negative reactions towards this strike than strike-affected third-parties ($M = 2.09$, $SD = 1.20$), $F(2, 410) = 38.66$, $p < .001$, $\eta_p^2 = .16$. The three groups did not differ significantly in their assessment of the legitimacy of the warning strike, $F(2, 410) = 0.45$, $p = .632$, $\eta_p^2 = .002$. Furthermore, strikers ($M = 4.80$, SD = 0.49) reported that they informed themselves more than strike-affected third-parties ($M = 4.42$, $SD = 0.74$), and these informed themselves more than strike-unaffected third-parties ($M = 4.27$, $SD = 0.76$), $F(2, 410) = 10.10$, $p < .001$, $\eta_p^2 = .05$. The same pattern emerged for the strike-related social network behavior: that is, strikers ($M = 4.08$, $SD = 1.00$) reported more of this behavior than strike-affected third-parties ($M = 2.91$, $SD = 1.41$), and these reported more than strike-unaffected third-parties ($M = 2.55$, $SD = 1.30$), $F(2, 410) = 34.64$, $p < .001$, $\eta_p^2 = .15$. Finally, strikers reported the highest support for strikers ($M = 4.73$, $SD = 0.67$), followed by strike-affected third-parties ($M = 4.34$, $SD = 1.03$), and strike-unaffected third-parties ($M = 4.24$, $SD = 0.98$), $F(2, 410) = 6.71$, $p = .001$, $\eta_p^2 = .03$. Thus, Hypothesis 13 was mostly supported, especially that strikers will report the most positive strike attitudes and behavioral reactions. However, some results were not as hypothesized and warrant further research.

Discussion

In Study 4, we were able to show that the SABeRS can also be used for specific strikes by demonstrating that the five-factor structure was supported in this study as well. The

five-factor structure was again confirmed (with and without strikers in the sample). Furthermore, we showed that strikers reported more positive attitudes and more behavioral reactions to this warning strike than strike-affected and strike-unaffected third-parties (Hypothesis 13). Specifically, strikers showed the lowest negative reactions towards this warning strike, reported the highest legitimacy of this warning strike, informed themselves the most about the warning strike, showed the most strike-related social network behavior, and also reported the most support for strikers compared to strike-affected and strike-unaffected third-parties. These effects for negative reactions towards this warning strike and the strike-related social network behavior can be considered large effects (J. Cohen, 1988). The legitimacy of the warning strike factor was the only factor of the general strike attitude scale for which we could find no significant difference between the three groups.

General Discussion

The current paper introduces the strike attitude and behavioral reactions scale (SABeRS) as a measure to assess general attitudes and behavioral reactions to strikes as well as attitudes and behavioral reactions to specific strikes. We followed Hinkin's (1995, 1998) guidelines for scale development and showed with four studies that the SABeRS is a reliable and valid measure of attitudes and behavioral reactions to strikes both in general and for specific strikes. The scale consists of five factors, a structure that consistently appeared in all four studies (negative reactions towards strikes, legitimacy of strikes, informing oneself about strikes, strike-related social network behavior and support of strikers). The differentiation of these five factors helps to enhance our understanding of the strike attitude and behavioral reactions concept: For example, people can have negative reactions towards strikes but evaluate them as legitimate at the same time. Additionally, people might not participate in a strike, but express intentions to support strikers if they meet them face to face or inform themselves about the circumstances of strikes.

Across the four studies, we showed evidence for the psychometric qualities of the new scale. In Study 1, we used exploratory factor analysis to reduce the generated item-pool to 16 items. Study 2 confirmed the obtained five-factor structure from Study 1 with a confirmatory factor analysis in a second sample. Following this confirmatory factor analysis, one additional item was excluded from the scale. The resulting fifteen-item scale had sufficient reliability (Cronbach's α above .76 for all factors). Studies 3 and 4 supported the five-factor structure again in a third and fourth sample. Thus, the scale demonstrated a consistent internal structure as the five-factor structure was consistently found in four different studies across four different samples delivering support for its construct validity. The correlations between the five factors were fairly substantial, indicating that they measure the same attitude object, but in most cases low enough to ensure a unique contribution of every factor to the scale. The convergent and validity of the SABeRS was supported in Study 3 by demonstrating that the five factors were significantly correlated with related constructs. For example, willingness to strike was positively correlated with legitimacy of strikes, informing oneself about strikes, strike-related social network behavior, and support of strikers, while it was negatively correlated with negative reactions towards strikes. The same pattern was found for attitudes towards unions and union loyalty (for union members only) and left-wing political orientation. Regarding discriminant validity, the correlations of the five factors with extraversion, openness to new experiences, and self-efficacy were not significant or at least lower than the convergent validities, thus, also confirming the discriminant validity of the five factors. With Study 4, we could show that the scale can also be used for specific strikes. In this study, we were able to show differences between strikers, strike-affected third-parties, and strike-unaffected third-parties in their strike attitudes and behavioral reactions, as expected.

For the revival and further evolution of strike research from a psychological perspective, we need a psychometrically sound measure of attitudes and behavioral reactions

to strikes, and the new SABeRS could be such a valuable tool. Strikes are a largely unexplored working life phenomenon that warrants further attention from I-OP researchers, especially from those who believe that I-OP should pay more attention to employees and their working experiences and less to managers (Bergman & Jean, 2016; Ruggs et al., 2013). For example, the consequences of strikes on workplace relationships before, during, and after a strike can be serious for strikers and managers. Strikers might suffer from reduced job satisfaction (Chaulk & Brown, 2008), decreased organizational commitment (Chaulk & Brown, 2008), or reduced psychological well-being (Barling & Milligan, 1987). At the same time, managers might experience pressure from business owners or top management and fear less informal workplace relationships after the end of a strike (Scales et al., 2014). Furthermore, strikes can also influence the identities of employees. An "us-against-them" feeling might emerge in the employees during a strike: Strikers might report increased ingroup-identification due to the shared experience, whereas the identification with the company would decrease (cf. Tajfel & Turner, 1986). Finally, although public support for strikes is crucial for unions (Kelloway et al., 2008), the question of when a strike is seen as legitimate by the public has yet to be addressed.

The consequences of strikes on third-parties have not been sufficiently studied either. This is especially interesting because more than three quarters of strike days take place in the service sector (Bewernitz & Dribbusch, 2014), thus regularly affecting third-parties. The consequences for both the strikers themselves and the affected public can be severe and stressful. According to the transactional stress model (Lazarus & Folkman, 1984), one possibility to change stress is the appraisal of the stressful event and hence, attitudes to strikes and behavioral reactions might play a crucial role in the perception of strikes as daily hassles and necessary evils. Furthermore, public perception of the legitimacy of strikes as well as other attitudinal factors are important to the unions and their success in the collective bargaining process (Kelloway et al., 2008). Institutional theory suggests that the survival of

unions depends to some extent on the public approval of strikes (DiMaggio & Powell, 1983; Meyer & Rowan, 1977).

This scale could also be used by unions to gauge public support for a specific strike. As has been shown by Study 4, the SABeRS can be applied to specific strikes as well. This could be helpful for unions because it enables them to assess the attitudes and behavioral reactions of relevant third-parties (e.g., passengers of public transport, patients in hospitals) to a specific strike beforehand. With this information, they could ensure that they have the support of these relevant third-parties before conducting the strike. As unions rely heavily on public support of their strike to place pressure on employers during the collective bargaining process, union actions would then be better informed about the support they have from the population and possible negative public reactions to mitigate. For instance, they could prepare their media strategy to increase the behavioral support of the public and at the same time minimize the negative reactions to the pending strike.

One aspect that warrants further discussion is the exclusion of all positive affective items in Study 1. It might be rightly assumed that people should also report positive next to negative feelings towards both strikes and striking people. In our initial item pool, we had three items assessing positive affect, one referred to strikes (“Strikes give me a positive feeling) and the other two referred to strikers (“It makes me feel happy when strikers stand up for their claims”; “I admire strikers”). This slight change in referent, compared to most of the other items in which strikes are the referent, might have been one reason why these items did not exhibit satisfying psychometric properties: Feeling happy about a strike might be different from feeling happy about people striking. Furthermore, other positive affect such as feeling proud of people participating in strikes or feeling inspired by strikes were not included in our item pool. Nonetheless, our scale is likely able to assess relevant aspects of positive attitudes towards strike (i.e., the legitimacy assessment is positively framed and the items regarding the negative reactions towards strike can be negated by respondents). In combination, these

subscales allow for interpretation whether people are rather positively attuned to strikes (low negative reactions and high legitimacy) or neutral attuned to strikes (neither low nor high negative reactions and legitimacy evaluations). Future research could, however, assess whether other positive affect that were not included in these studies lead to a better result and whether the slight change in referent influence response pattern.

Limitations

At least two limitations warrant mentioning. First, the informing oneself about strikes factor was correlated with all measures of personality and self-efficacy in Study 3; hence, the discriminant validity of that factor was not completely supported. The correlations of this factor with the personality and self-efficacy measures ranged from $r = .13$ with conscientiousness to $r = .21$ with openness to new experiences. However, the discriminant validities were all lower than the convergent validities of that factor. Thus, although the evidence could have been stronger, the overall construct validity can be presumed. Second, the scale was developed with German samples. This might reduce the generalizability of the scale. The general attitudes and behavioral reactions to strikes could vary across countries due to factors such as strike history or legal aspects. For instance, a comparison of striker attitudes and behavioral reactions between Germany and France could be of interest, as these two neighboring countries display very different strike behaviors, quantitatively as well as qualitatively (Dribbusch, 2016; International Labour Organization, 2019). Hence, the scale needs to be further tested and validated in other countries with different legal situations as well.

Future Research on the New Scale

There are several avenues future research could tackle. In particular, the SABeRS is constructed in a way that allows it to be used to assess the attitudes and behavioral reactions

to strikes in general or regarding a specific strike. Strikes can differ in several aspects, for example the venue could be either an industrial plant or a hospital. Other than venue, the relevance of these strikes could also be different for individuals – a strike at the industrial plant could go almost unnoticed, whereas a hospital strike would directly affect more people. Hence, taking a further look at specific strikes is also important. Some differences between general and specific strike attitudes and behavioral reactions might occur due to aspects like empathy with the specific strikers or more knowledge about that specific strike and its circumstances. In Study 4, we tested the specific strike attitudes and behavioral reactions among strikers, strike-affected third-parties, and strike-unaffected third-parties. However, one might rightly argue that union members who have been on strike some time in the past might not be third-parties in the sense that they might not have negative attitudes or less behavioral reactions towards a specific strike. Hence, future research should also test our hypotheses from Study 4 with non-union members as third-parties. Further, the SABeRS was constructed in a way that allows for easy translation to English and French (e.g., by employing rather simple language and no idioms), so that it could be used in other countries than Germany.

Moreover, as strikes can be understood as an event that takes places in working life, affective events theory (Weiss & Cropanzano, 1996) would posit that this work event produces emotions, for example anger or fear, and that these emotions elicit behavioral reactions that potentially change attitudes related to work and to strikes. Future research could assess how these changes are reflected in attitudes towards work, towards the union, but also in relevant variables such as performance or commitment. In addition, following affective events theory, strikes can also be the output of negative work events that elicited negative affective reactions. Further research is needed in order to understand which work events might be antecedents of willingness to strike or positive attitudes to strikes and more behavioral reactions.

Finally, another aspect of strikes as a work life event is that they can produce stress. Following Lazarus and Folkman (1984) and their transactional stress model, the appraisal of such events can especially influence perceptions of stress. Previous studies showed that strikers report a reduced well-being after the strike (Barling & Milligan, 1987). Strike-affected third-parties might also suffer from a reduced subjective well-being, because the strike interferes with their daily routine and leads to some hassles. Furthermore, Day et al. (2006) have shown that the threat of a strike can lead to strain reactions among third-parties. Hence, longitudinal research about attitudes and behavioral reactions to strikes (e.g., how these attitudes and behavioral reactions change due to strike participation or to experiences with strikes as a third-party) could be of great value to further understand the impacts of strikes.

Conclusion

The aim of this study was to develop a psychometrically sound scale to assess attitudes and behavioral reactions to strikes. The new scale provides many opportunities for further research in the employee-centered area of strikes and is hopefully a first step in the revival of psychological strike research.

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CHAPTER V – MEASUREMENT EQUIVALENCE OF SABeRS

Measurement equivalence of the English, German, and French versions of the strike attitude and behavioral reactions scale

Submission to *European Journal of Psychological Assessment*

Abstract

Strikes are an important phenomenon in the working world. Nevertheless, cross-cultural psychological research on strikes has been limited as appropriate scales were missing. Recently, a measure to assess third-party attitudes and behavioral reactions was introduced: The strike attitude and behavioral reactions scale (SABeRS) by Vesper and König (2022). The applicability of this scale is currently however limited to a German context, as it was developed in German. We thus decided to extend the applicability to other languages, that is, English and French. To test the measurement equivalence of the SABeRS, we used a British (n = 444), a German (n = 454), and a French sample (n =463) and ran multigroup confirmatory factor analyses. Scalar measurement equivalence was found, except for one item. The five-factor structure was consistently confirmed in all samples. Overall, this study indicates that the SABeRS is psychometrically solid and that it is measurement-equivalent in English, German, and French samples.

Strikes from university lecturers, air traffic controllers, and hospital staff are three examples of strikes that could happen in many countries. These strikes also affect the public worldwide in their everyday life, with the public being an important stakeholder for strikes, especially for unions that call for strikes, because they build on the legitimacy approval of the public for conducting and continuing strikes and hence, on positive attitudes of third-parties to strikes (Kelloway et al., 2008). In such cases, knowing about the attitudes of the public to strikes would be helpful in the decision-making process for unions in all these countries – but also for employers, on the other side of the bargaining table.

Given the importance of public attitudes to strikes for employers and unions and thus also for everybody interested in understanding strikes and their consequences, it also becomes important to measure these attitudes. So far, only the SABeRS (Vesper & König, 2022) has been proposed as a (German) scale to measure these beliefs and behavioral reactions. The scale consists of the five factors negative reactions to strikes, legitimacy of strikes, informing oneself about strikes, behavior in social networks to strikes and support of strikers. In their scale development paper, Vesper and König (2022) conducted four studies in Germany. Study 1 was used to reduce the initial item pool, and Study 2 showed the reliability of the scale consisting of five factors with a new sample. In Study 3, Vesper and König (2022) assessed the convergent and discriminant validity of the scale. They found that the five factors were significantly associated with attitudes towards unions and willingness to strike and were not or to a smaller extent related to openness to new experiences, extraversion, and general self-efficacy. In Study 4, they applied their scale to a specific strike showing that the scale also works for specific and not only for general attitudes and reactions to strikes.

This scale could also be a useful tool for examining differences in the attitudes towards strikes across countries - differences due to the different frequency, length, or sectors affected by strikes in different countries. However, a comparison of third-party attitudes and reactions towards strikes across countries is currently not possible because only a German

version of the SABeRS exists and such a comparison between countries is only valid if the scale is measurement equivalent between the countries. Measurement equivalence ensures that the differences between countries are due to differences in the construct being measured and not due to different understanding of items by different groups of participants or improper translation (Byrne & Van de Vijver, 2010).

Research differentiates between configural, metric, and scalar measurement equivalence (Vandenberg & Lance, 2000). Configural equivalence assesses whether the examined respondent groups used the same conceptual frame of reference for the construct. If configural equivalence is established, the responses of each group can be divided into the same number of factors and the same items are assigned to the respective factors (Meredith, 1993). If configural equivalence is ensured, metric equivalence can be examined. Metric equivalence exists when the data from the groups studied demonstrate conceptual consistency in terms of the number and type of underlying constructs, as well as the items associated with each construct (Bollen, 1989). If metric equivalence is found, scalar equivalence can be tested. Scalar equivalence tests for invariance of the vector of item intercepts, with item intercepts defined as the values of each item correspondent to the zero value of the underlying construct (Meredith, 1993). Scalar or strong factorial equivalence is a prerequisite for comparing latent means because it requires that the measurement scales in all groups have operationally defined in the same way (Cheung & Rensvold, 2002). Thus, measurement equivalence is achieved when subjects from different groups with identical latent construct values have the same expected manifest scores (Drasgow & Kanfer, 1985). Hence, we hypothesize more formally: *The SABeRS will be measurement equivalent in the samples from the United Kingdom, Germany, and France.*

Methods

Sample

Data were collected through an online panel provider that operates online panels in seven different countries, including the United Kingdom, Germany, and France. The dataset is uploaded at https://osf.io/46bdr/?view_only=f0f58b6c57154b93b534f80e550ae51f. Participants received 0.50 € as an incentive for their participation. In total, 1652 participants completed the study. To ensure data quality (Meade & Craig, 2012), we followed several steps. First, only those participants who were currently employed filled out the questionnaire; all other participants were screened out (n = 92). Second, participants who selected "No" when asked whether we could analyze their data for scientific purposes (Meade & Craig, 2012) were excluded from analyses (n = 33). Third, to take care of swift completion, we excluded all participants (n = 78) who responded to the items faster than the rate of two seconds per item (Huang et al., 2012). Finally, we examined long strings, which are defined as the number of times participants consecutively selected the same response option. Johnson (2005) recommend checking the data for a so-called "elbow". In our data, the elbow appeared at six items, hence long strings above six items were identified (n = 88). The analyses below were conducted without participant data with long strings (Johnson, 2005; Niessen et al., 2016). With this exclusion procedure we followed the information provided in the preregistration for this study (https://aspredicted.org/blind.php?x=tx4q7x)[6]. After controlling for these aspects, N = 1361 people were included in the analyses.

For the overall sample, participants were on average 46.33 (SD = 10.03) years old, 66.9% were female, and 33.1% were male. In total, 17.4% were union members, and 28.7 %

[6] The preregistration includes additional hypotheses that go beyond the measurement equivalence analyses that are the focus of this paper.

had already participated in a strike. For the UK sample (n = 444), participants were on average 46.82 (SD = 10.68) years old. Of the British participants 65.8 % were female and 34.2% were male. In the United Kingdom sample, 22.5 % were union members, and 18.2 % had previously participated in a strike. For the sample from Germany (n = 454), the mean age was 44.80 (SD = 10.64), 65.4 % were female, and 34.6% were male. In the German sample, 13.7% were union members, and 21.8 % had participated in a strike themselves. French participants (n = 463) were on average 47.36 (SD = 8.53) years old. More than two thirds (69.3%) reported being female and 30.7% reported being male. In the French sample, 16.2 % were union members, and 45.4 % had participated in a strike.

Translation Process

Following recommendations (e.g., Schaffer & Riordan, 2003), we translated the SABeRS and the items on willingness to strike from German (Vesper & König, 2022) into English and French through a back-translation process. This process was carried out by two individuals per language who fluently speak German and English or German and French. Occurring differences between translated versions were discussed between the translators, who then decided which was the appropriate translation.

Materials

We used the 15 item SABeRS (i.e., three items for each factor). Items were rated on a five-point Likert scale ranging from 1 = “Do not agree” to 5 = “Agree.”

Statistical Analyses

Statistical analyses were conducted using R 3.6.1 (R Core Team, 2019) and several R packages: careless (Yentes & Wilhelm, 2018), dmacs (Dueber, 2019), lavaan (Rosseel, 2012), MBESS (Kelley, 2019), sem (Fox et al., 2017), and semTools (Jorgensen et al., 2019). The

Comparative Fit Index (CFI), the Tucker-Lewis-Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR) were used to assess fit in confirmatory factor analyses (CFAs). To assess model fit, we relied on the following recommendations of Hu and Bentler (1999) who see CFI and TLI ≥ .95, SRMR ≥ .08, and RMSEA ≥ .06 as indicating values for good model fit..

For assessing measurement equivalence, we followed a three-step process using multigroup CFAs (Hirschfeld & Von Brachel, 2014; Sass, 2011; Vandenberg & Lance, 2000). Before the first step of this three-step process was conducted, two preliminary analyses had to be done: separate CFAs for each sample and the definition of a baseline model for the multigroup CFA, with the latter consisting of similar loading patterns for all groups, whereas the magnitude of loadings, intercepts, variances, factor covariances, construct means, and residual variances are allowed to vary. This baseline model is then used to assess the configural equivalence as the first step of the multigroup CFA. Hence, to evaluate configural equivalence the same number of latent variables and the same loading patterns of the latent variables on the indicators across the examined groups is specified. Second, metric equivalence aims at ensuring similar magnitudes of factor loadings and of regression weights (from the factors to items) across groups. This model therefore constrains the factor loadings of the corresponding items to be equal across groups. Finally, scalar invariance is tested. The scalar equivalent model tests for invariance of the vector of the item intercepts – if this is established, the latent variables' means can be compared meaningfully across the examined groups (Chen, 2008). Changes in CFI of .01 (or less) when comparing a model to a less constrained model indicate that the equivalence hypothesis should not be rejected (Cheung & Rensvold, 2002).

Results

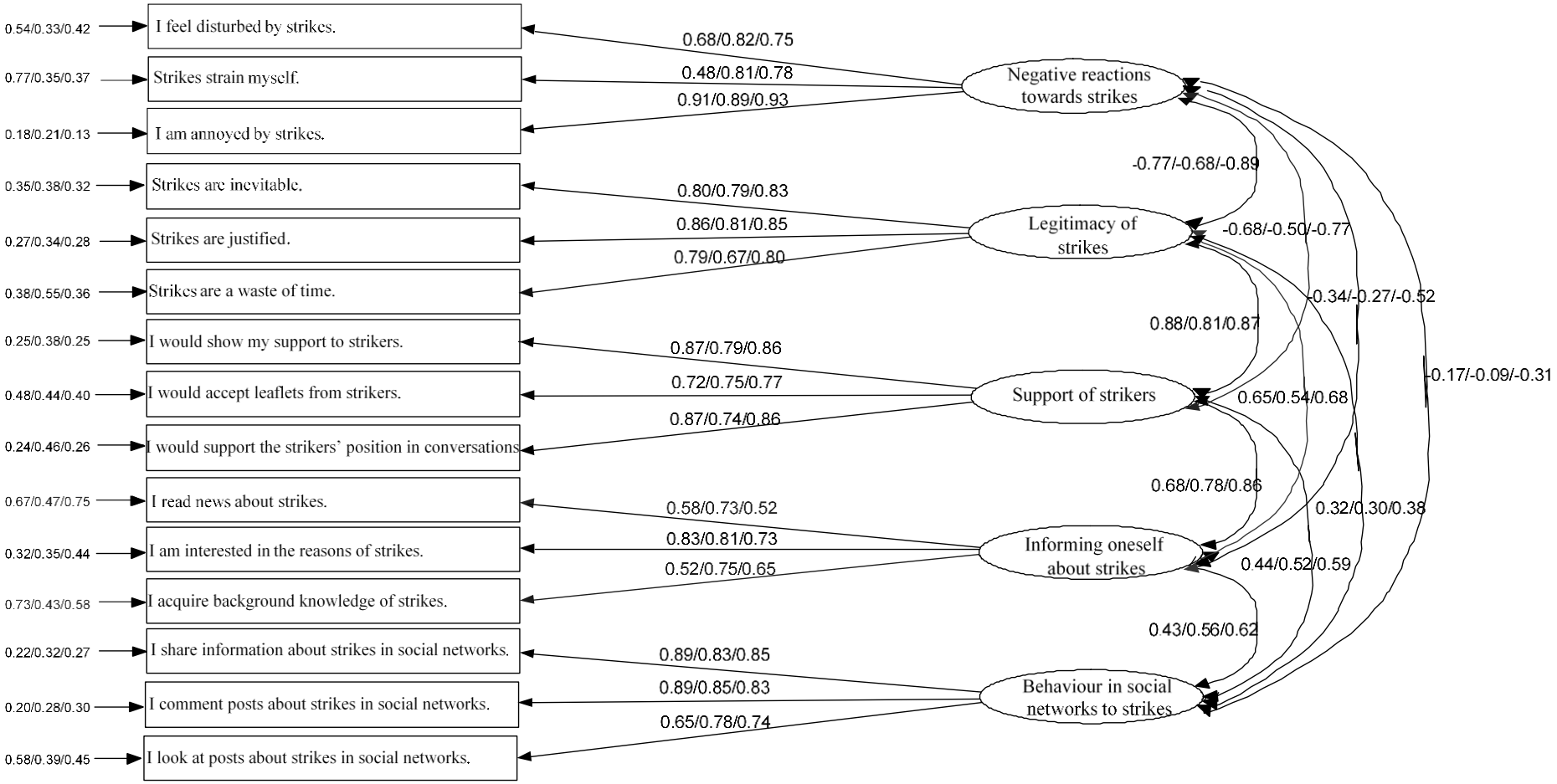
Preliminary Analyses

We first conducted separate CFAs for each sample to test the fit of the proposed five-factor model in each sample before conducting the multigroup CFA. This procedure has been suggested by Sass (2011). The CFA for the sample from the United Kingdom showed satisfactorily model fit of the five-factor model, $\chi^2(80) = 279.31$, $p < .001$, CFI =.93, TLI = .91, RMSEA = .08, 90% CI [.07 - .08], SRMR = .08. The five-factor model fitted the data significantly better than a one-factor model, $\Delta\chi^2(10) = 617.76$, $p < .001$. For the German sample, the fit of the five-factor model was also good, $\chi^2(80) = 223.66$, $p < .001$, CFI = .95, TLI = .93, RMSEA = .06, 90% CI [.05 - .07], SRMR = .05. The assumed five-factor model fitted the data significantly better than a one-factor model, $\Delta\chi^2(10) = 863.84$, $p < .001$. Finally, the five-factor model showed a good model fit in the French sample as well, $\chi^2(80) = 267.66$, $p < .001$, CFI = .95, TLI = .93, RMSEA = .07, 90% CI [.06 - .08], SRMR = .06. In this sample the five-factor model fitted the data again significantly better than a one-factor model, $\Delta\chi^2(10) = 641.74$, $p < .001$. Figure 6 gives an overview of the three CFAs.

Furthermore, we specified a baseline model, which showed good fit, $\chi^2(80) = 634.98$, $p < .001$, CFI = .939, TLI = .92, RMSEA = .07, 90% CI [.07 - .08], SRMR = .06. This shows that the groups display similar loading patterns, while the magnitude of loadings, intercepts, variances, factor covariances, construct means, and residual variances are allowed to vary.

Figure 4

Results of the Confirmatory Factor Analyses of the Three Samples



Note. Numbers represent standardized loadings. The order of the results is British/German/French.

Test of Hypothesis

To test for measurement equivalence of the SABeRS, we followed three analytic steps (see also above). As a first step, we tested configural equivalence, and results showed good model fit, $\chi^2(240) = 854.10$, $p < .001$, CFI = .947, TLI = .93, RMSEA = .08, 90% CI [.07 - .08], SRMR = .06. Thus, configural equivalence was found.

In a second step, we assessed the metric equivalence, and results also showed good fit, $\chi^2(260) = 949.83$, $p < .001$, CFI = .940, TLI = .93, RMSEA = .08, 90% CI [.07 - .08], SRMR = .07. Compared with the configural model, the change in CFI was ΔCFI = .007, which is below the threshold of ΔCFI = .01 (Cheung & Rensvold, 2002). Thus, metric equivalence was established.

In the third and final step, we assessed the scalar equivalence. Results exhibited satisfactory but not good fit, $\chi^2(280) = 1177.71$, $p < .001$, CFI = .922, TLI = .91, RMSEA = .08, 90% CI [.07 - .09], SRMR = .08. In comparison with the metric model, the change in CFI was ΔCFI = .018 and hence, slightly above the threshold of ΔCFI = .01 (Cheung & Rensvold, 2002). To further examine scalar equivalence, we decided to take a closer look at the modification indices and to test for partial scalar equivalence by sequentially removing the constraints on item intercept and retesting the model (Putnick & Bornstein, 2016). The item "Strikes are a waste of time" showed the highest modification indices. Therefore, we loosened the constraints on this item and tested for scalar equivalence with the adapted model. The adapted model had a significant better fit compared to the scalar equivalence model (ΔCFI = .010). Following recommendations from Steenkamp and Baumgartner (1998) and Vandenberg and Lance (2000) we assumed that the factor was partially equivalent as the majority of items on the factor was equivalent. Hence, partial scalar equivalence for the five-factor model was found, offering partial support for our Hypothesis.

Since we found only partial scalar equivalence, we calculated d_{MACS} as a non-equivalence effect size for the scales (Nye & Drasgow, 2011). These d_{MACS} are defined as the proportion that differential item functioning (DIF) has on the expected score differences for each item. The effect sizes are defined as follows: 0.40 is a small, 0.60 a medium, and 0.80 a large effect (Nye et al., 2018). In our case, we chose the German sample as referent group due to the fact that the original version of the scale was developed in German, but we also calculated d_{MACS} with the British sample as referent group to compare the British and French samples. On the item-level, the magnitude of effects of non-equivalence ranged from 0.04 ("I take a look at posts about strikes in social networks" in the German-French comparison) to 0.56 ("Strikes are a waste of time" in the German-French comparison; Table 13).

The quantity of observed difference that was attributable to DIF on the scale level (Δ*mean*) ranged from d = -0.01 for the comparison of the strike-related social network behaviour in the British and the French samples to d = -0.61 for the comparison of the support of striker factor among the British and French samples (Table 14). Hence, the British sample would be expected to have a mean that was 0.01 (0.61) points lower than the French sample due to DIF in these factors. The percentage of the observed mean difference attributable to DIF ranged from 4% (factor legitimacy of strikes in the British-French comparison) to 293% (factor support of strikers in the German-French comparison), with percentages larger than 100% indicating that the DIF effects are larger than the observed mean differences. This was the case in five comparisons, but in four of these, Δ*mean* was negative and the observed mean difference was positive, implying that the DIF effects reduced the reference groups higher observed mean by increasing the mean of the focal group. Thus, the observed differences were smaller than the true differences. Overall, the effects of non-equivalence where rather small, indicating that the scale can be used for further comparisons. Nevertheless, the respective items should be considered for further improvements.

Table 13

Effect Sizes (d_{MACS}*) of the Measurement Non-Equivalence of the SABeRS*

Item	d_{MACS} United Kingdom[a]	d_{MACS} France[a]	d_{MACS} France[b]
I feel disturbed by strikes. [c]	-	-	-
Strikes strain myself.	**0.47**	0.10	**0.52**
I am annoyed by strikes.	0.30	0.17	0.38
Strikes are necessary.	0.31	0.11	0.21
Strikes are justified. [c]	-	-	-
Strikes are a waste of time. (reverse-coded)	0.38	**0.56**	0.23
I read news about strikes. [c]	-	-	-
I am interested in the reasons for strikes.	0.35	0.21	0.16
I acquire background knowledge about strikes myself.	0.35	0.18	0.30
I share information about strikes in social media.	0.06	0.19	0.14
I comment post about strikes in the social media. [c]	-	-	-
I take a look at posts about strikes in social networks.	0.13	0.04	0.14
I would show my support to strikers.	0.13	**0.48**	**0.43**
I would accept flyers from strikers. [c]	-	-	-
I would support the strikers' position in conversations.	0.26	0.36	0.32

Note. d_{MACS} (with MACS = mean and covariance structure) = effect size for measurement non-equivalence on the item level.

[a] Referent group was Germany. [b] Referent group was the United Kingdom. [c] Referent item.

Numbers in bold represent small effects (> .40).

Table 14

Effects of Non-Equivalence on Scale-Level Properties

Scale	Δ*mean*	Observed mean difference	% of observed mean difference	d_{MACS}
Negative reactions to strikes				
DE[a]-UK	0.19	-0.79	24 %	**0.47**, 0.30
DE[a]-FR	0.10	-1.03	10 %	0.10, 0.17
UK[a]-FR	-0.09	-0.25	36 %	**0.52**, 0.38
Legitimacy of strikes				
DE[a]-UK	-0.51	0.90	57%	0.31, 0.38
DE[a]-FR	-0.53	0.41	129 %	0.11, **0.56**
UK[a]-FR	-0.02	-0.49	4 %	0.21, 0.23
Informing oneself about strikes				
DE[a]-UK	-0.12	-0.24	50 %	0.35, 0.38
DE[a]-FR	-0.26	-0.15	173 %	0.21, 0.18
UK[a]-FR	-0.15	0.09	167 %	0.16, 0.30
Strike-related social network behavior				
DE[a]-UK	0.05	-0.23	22 %	0.06, 0.13
DE[a]-FR	0.04	-0.32	13 %	0.19, 0.04
UK[a]-FR	-0.01	-0.09	11 %	0.14, 0.14
Support of strikers				
DE[a]-UK	0.20	-0.46	43 %	0.13, 0.26
DE[a]-FR	-0.41	0.14	293 %	**0.48**, 0.36
UK[a]-FR	-0.61	0.61	100 %	**0.43**, 0.32

Note. d_{MACS} (with MACS = mean and covariance structure) = effect size for measurement non-equivalence on the item level. Negative values in Δ*mean* indicate that DIF results in higher means for the focal group compared to the referent group. UK = United Kingdom, DE = Germany, FR = France. Numbers in bold represent small effects (> .40).

[a] Referent group.

Discussion

This study assessed the measurement equivalence of the SABeRS (Vesper & König, 2022) for a British, a German, and a French sample. We followed guidelines for measurement equivalence assessment proposed by Vandenberg and Lance (2000) with some newer additions (Nye et al., 2018; Nye & Drasgow, 2011) and showed that the SABeRS was partially scalar equivalent in the three samples. The factor structure of the SABeRS could also be confirmed in all three samples. Furthermore, the model of the five-factor structure showed also good fit in all three samples and the effect sizes of non-equivalence were of rather small sizes. We can thus conclude that the scale is sufficiently measurement-equivalent in English-, German-, and French-speaking countries. The SABeRS consists of the five factors negative reactions towards strikes, legitimacy of strikes, informing oneself about strikes, strike-related social network behavior, and support of strikers. The differentiation of these five factors can help improve our perception of the concept of strike attitudes and behavioral reactions: For example, people may have negative reactions to strikes but at the same time support strikers. In addition, people may have negative reactions to strikes but still value strikes as legitimate.

Although the SABeRS showed only partially scalar equivalence, this partial scalar equivalence pertains only the item “Strikes are a waste of time.” Without it, full scalar equivalence was found, so that a version without it can also be used for research and practical uses. Another option would be to reformulate this item, so that it is also positively formulated (e.g., “The time for strikes is used wisely”). Moreover, partial scalar measurement equivalence could also be sufficient for the further use of the scale: Byrne et al. (1989) argued that latent means can be compared under partial intercept or scalar equivalence as the non-equivalent item should not affect the latent means comparison to a great extent. Moreover, Schmitt and Ali (2014) argue that next to the statistical implications, one should also consider the practical implications of research findings. They show that even in instances in which there were relatively great lacks of measurement equivalence, the practical impact of these

lacks was minor. Hence, as full configural equivalence, full metric equivalence, and partial scalar invariance have been established, we assume that the scale is sufficiently measurement-equivalent in the tested countries.

The main limitation of this study is that the samples might not be fully representative for their respective country, as they were acquired via an online-panel provider and participants received a small monetary reward for their taking part. Moreover, as these people are used to fill out different questionnaires, they might have not filled out the survey as conscientiously as possible. However, by taking care of swift completion with the use of long-strings and seconds used per item rates, we tried to minimize at least this possibility. Nevertheless, it could be useful to validate the scale further in a representative sample for each country.

Conclusion

The objective of this study was to examine the measurement equivalence of the SABeRS in English, German, and French. Our results indicate that the five factors negative reactions towards strikes, legitimacy of strikes, informing oneself about strikes, strike-related social network behavior, and support of strikers can be found consistently in all three countries. The support of the measurement equivalence in these three countries can be seen as an important step to allow for psychology-inspired cross-cultural strike research and thus to enriching the literature on strikes.

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Open Science

We report all data exclusions, all data exclusion criteria (as established prior to data analysis in the preregistration at https://aspredicted.org/blind.php?x=tx4q7x), and all analyses, including all tested models.

Open data: The dataset has been uploaded at https://osf.io/46bdr/?view_only=f0f58b6c57154b93b534f80e550ae51f. We confirm that there is sufficient information for an independent researcher to reproduce all reported results, including a codebook and the code.

Open materials: We confirm that there is sufficient information for an independent researcher to reproduce all the reported methodology.

Preregistration of study and analysis plans: This study was preregistered at https://aspredicted.org/blind.php?x=tx4q7x.

CHAPTER VI – STRIKE ATTITUDE DIFFERENCES

Differences in strike attitudes and behavioural reactions among British, German, and French samples

Submission to *Workers of the World*

Abstract

Strikes are an important work phenomenon. However, research on third-party strike attitudes has been limited. In this study, we assessed strike attitudes and behavioural reactions and their relations to willingness to strike, union membership, and previous strike participation in samples from the United Kingdom (n=444), Germany (n=454), and France (n=463). We found significant differences between the British, German, and French sample in their strike attitudes and willingness to strike. Finally, we found support for the assumptions that union members and people with a strike history evaluate strikes more positively than people who are not union members and without strike history.

Strikes are a long-known phenomenon of industrial relations. Examples for strikes are strikes among train and aircraft workers in the United Kingdom (Jasper & Harris, 2022), from Lufthansa staff in Germany (Deutsche Welle, 2022), and from rail workers in France (RFI, 2022). There can also be concerted strike actions across countries affecting multinational companies (e.g., Geary, 2022). However, these strikes likely differ from country to country due to legal or cultural differences in the industrial relations system of the respective countries. Nonetheless, what all these strikes have in common is that they affect the public in their daily lives. From the union's perspective, the public is however an important stakeholder for strikes, as the unions build on the public approval of strikes. This approval can also consist of the positive third-party evaluation of strikes (Kelloway et al., 2008). Thus, having knowledge about public attitudes to strikes can be considered helpful during the decision-making process among union members in all countries. Furthermore, it is also important for employers to know about the public attitudes to strikes, as they are sitting on the other side of the bargaining table and can also use negative public attitudes to strikes in their negotiation strategy.

To assess these public attitudes, Author A and Author B (2022) introduced the strike attitudes and behavioural reactions scale (SABeRS). They found that their measure consists of five factors: Negative reactions to strikes, legitimacy of strikes, informing oneself about strikes, strike-related social network behaviour, and support of strikers. Furthermore, they found in two studies that union members and people with a strike history evaluated strikes more positively than non-union members and people without a strike history (Author A & Author B, 2022). What is missing so far is the comparison of these strike attitudes between samples from different countries. This comparison is necessary to further develop robust explanations for similarities and differences between countries.

In this article, we compare the strike attitudes between a British, a German, and a French sample. Furthermore, we assess in all three samples the relationship between the

SABeRS and willingness to strike, union membership, and previous strike participation. With our article, we contribute to the literature in several ways: First, we show that strike attitudes do differ between different countries. Second, we show that the relationships between strike attitudes and other variables such as willingness to strike or union membership are similar across the three samples. These similarities indicate that although the samples do overall differ in their strike attitudes, some processes that form strike attitudes are likely comparable between the three countries, such as attitude formation through experiencing a strike.

Theoretical Background

To understand cross-country similarities and differences in strikes and the attitudes to strikes, it is necessary to consider the industrial relations system of the specific countries, especially as the differences have further increased (Hyman, 2001, 2018). In the UK, for example, the industrial relations system can be described as a "liberal pluralism regime" (Larsson, 2014, p.10). This means that the state abstains from intervening in industrial relations, implies a focus of free collective bargaining, and solving labour disputes is mostly left to unions and employers (Allern & Bale, 2017; Visser, 2019). Furthermore, the UK has a relatively low coverage of collective agreements, contrary to Germany, where the bargaining coverage is rather high. However, in both countries, the bargaining coverage has considerably decreased from 1980 to 2014 (Hyman, 2018), in contrast to France, where still more than 90% of workers are covered by national or company agreements (Hyman, 2018; Visser, 2019). The collective bargaining in the UK is also more decentralized with the bargaining taking mostly place at the company-level, again contrary to France and Germany, where bargaining is mostly conducted at the sector or industry level (Visser, 2019).

The German industrial relations systems is often described as a social-partnership regime in which a tripartite relation between the state, trade unions, and employers exists (Allern & Bale, 2017; Dribbusch, 2016). Employee representation takes place in a dual

system with sectorial bargaining and local work councils, and this ensures that the level of conflict is rather low in Germany compared with France, where protest is much more likely to include strikes (Larsson, 2014).

The French regime of industrial relations is much polarized and can be described as consisting of a fragmented trade union movement and high hostility from employer organizations (Larsson, 2014; Visser, 2019). In France, working life is also a relationship with the state and not only with the employer (Visser, 2019). Hence, trade unions are also more concerned with shaping the public provision of social benefits than with the negotiation of collective bargaining agreements (Hyman, 2001). French law allows any of the five main unions to appoint a workplace representative in any firm with at least 50 employees (Bryson et al., 2011). This representative is allowed to negotiate certain terms and conditions once a year, such as pay, working hours, or pensions.

The three countries also differ in their prevalent employee workplace representation (Addison & Teixeira, 2019). In Germany, employees can only be represented by works councils at the workplace – this is the case for 47% (Addison & Teixeira, 2019) These work councils have strongly anchored legal rights contrary to French work councils which have a much weaker position (Visser, 2019). In the UK and France, it is however possible to be represented by a union only, a works council only, or both. In the UK, the most prevalent form of representation is the works council only (16%) followed by both works council and union (13%; Addison & Teixeira, 2019). In France, employees are mostly represented by both (45%; Addison & Teixeira, 2019). Furthermore, the countries also differ in their union density rate: In the UK, 23.5% are members of a union, whereas in Germany only 17.0% are union members, and in France only 7.9% (International Labour Organization (ILO), 2019). The traditional union density rate also differs, with France having a traditionally low membership rate, whereas those from UK and Germany can be interpreted as middle membership rates (Allern & Bale, 2017; Uba & Jansson, 2021). What all three have nonetheless in common is

that unions experienced a decline in membership from the 1980s to today (Crouch, 2017). France has also a traditionally conflict ridden and politicized pluralistic organization of workers in unions (Visser, 2019). These union density differences might lead to the belief that there are less strikes in France than in the other two countries. However, the opposite is the case: In France, the level of strike participation based on the ratio of employees involved in strikes per 1000 dependent employees was 10.6%, compared to 4.8% in the UK and 0,7% to Germany (Checchi & Visser, 2005). Despite all differences, France and Germany have been found to have similarities in their process of interest representation in that employee representatives' effectiveness is based on their handling of daily issues on the shop floor and on their integration with the outside trade union (Hege & Dufour, 1995). Hence, it is important to move from the concrete to the abstract that is to the process and relationships within that process, to establish a better basis for comparisons (Hege & Dufour, 1995; Hyman, 2001).

There are also differences in the right to strike among the three countries (Büttgen & Clauwaert, 2021; Guedes & Balanescu, 2021; Inversi & Clauwaert, 2021). Whereas in the UK no fundamental right to strike exists and organizers and participants can be held liable for damages (Inversi & Clauwaert, 2021), strikes are considered an individual right guaranteed by the constitution in France (Guedes & Balanescu, 2021). Furthermore, industrial action can be interpreted as a breach of the employment contract in the UK and hence, the employer can dismiss the worker after the period of statutory protection of twelve weeks is over (Inversi & Clauwaert, 2021). This is not the case in France or Germany. As strikes are an individual right in France and not a trade union right, so called wildcat strikes (i.e., strikes of unionized workers without the authorization of the union leadership) are not possible in France. The only exception in France is the public service for which the right to strike is regulated by law (Guedes & Balanescu, 2021). In Germany, the freedom to strike derives from the constitutional freedom of association (Büttgen & Clauwaert, 2021). The German right to

strike is almost entirely based on case law and only some regulations, such as a linkage to a collective agreement and initiation of a strike by a union, exist (Büttgen & Clauwaert, 2021). Furthermore, a peace obligation exists only in Germany. A peace obligation prohibits strikes and other forms of collective action during the time of the collective agreement (Visser, 2019). German unions have also to follow the ultima ratio principle, which implies that industrial action may only be used as a last resort, and to follow rules of fair play when calling for a strike (Waas, 2014).

The strikes in the three countries also differ in their duration and participation (Piazza, 2005): In the UK, strikes are typically of medium duration and medium participation rate compared to other countries, whereas typical strikes in Germany are short and have few participants and strikes in France are often brief but with mass participation. Some French strikes are rather a protest against the state than protest against employers (Larsson, 2014). Furthermore, the recourse to the strike threat during the annual collective bargaining is considered rather natural by both sides in France (Besancenot & Vranceanu, 1999). What all three countries have in common is that the rate of strikes after 1980 was significantly (i.e., at least 30%) lower than that prior to 1980 (International Labour Organization, 2020; Piazza, 2005). However, at least in France, strikes have become more dispersed, spontaneous, and shorter, and there has also been an increase in individual conflict manifestations (Pilati & Perra, 2019).

Previous research on strikes has frequently been linked to trade unions. Nonetheless, unions and union membership do not constitute a necessary condition for strikes around the globe (Author A & Author B, 2022). For instance, if UK trade unions call for strikes during collective bargaining, any worker may participate in strikes whether or not they are a trade union member (Government Digital Service, 2020). The same applies to Germany (Dribbusch, 2016) – the only difference between German union members and non-members is that union members receive strike pay from the union during the strike. In France, strikes are

an individual right, so strikes can be conducted without the involvement of trade unions (Poutvaara et al., 2017). Since unions are not a necessary condition for strikes in all countries, strikes should be considered as a separate issue from trade unions.

Not only can strikes affect strikers, unions, and employers, but very often also the public. Examples for strikes with considerable impact on third parties are the strikes of university lecturers in the UK (Weale & Al-Khalaf, 2020), healthcare workers in Germany (The Local, 2019), and employees in public transport in France (Nossiter, 2019). The public must cope with the consequences of having no lectures, adjusting to the emergency plan in hospitals, being forced to adjust travel plans, and being stuck in traffic jams. All of these consequences can be perceived as burdensome depending on how they are assessed by those affected (Lazarus & Folkman, 1984). In the event of strikes, affected third parties may find the situation uncontrollable and unpleasant and hence, experience a rather high level of stress.

The beliefs and behavioural actions of third parties to strikes also have an important function in indicating public consent to strikes. This public approval is a powerful tool for unions, especially when it comes to creating the impression of legitimacy. The ability to achieve legitimacy is a crucial factor according to institutional theory for the survival of organizations (e.g., Díez-Martín et al., 2013; DiMaggio & Powell, 1983; Meyer & Rowan, 1977). This argument from institutional theory is also relevant to the area of strikes: Organizations such as unions and employers follow societal norms to avoid public criticism. Hence, they legitimize their behaviour. Both in advance of strikes and during strikes, unions and employers try to present their position to the public as rational and comprehensible (e.g., with press releases and television interviews). For this purpose, trade unions use media campaigns in which they invest much time to sell their positions to the public (Hansen & Hau, 2022; Kelloway et al., 2008). Obtaining this support can significantly influence the success of the union (Hennebert & Faulkner, 2017), because public support has the ability to influence the political activities of unions, to affect the loyalty of members, and to shape employers'

dealings with trade unions (Chang & Cooke, 2018). Hence, public opinions and behavioural intentions to strikes determine, at least in part, the support and legitimacy of strikes.

To assess the public opinion to strikes, Author A and Author B (2022) introduced the strike attitude and behavioural reactions scale (SABeRS). This scale consists of five factors, which map behavioural reactions to strikes (support of strikers, strike-related social media behaviour, and informing oneself about strikes), cognitive aspects (legitimacy of strikes), and affective aspects (negative reactions to strikes). However, this scale has, up to now, only been used in Germany, and differences between the three countries (France, Germany, and UK) in regard of strike attitudes, behavioural reactions to strikes, and willingness to strike have not been studied. As the number of days not worked due to strikes varies considerably from 209,435 in Germany to 1,738,537 in France in 2016 (International Labour Organization, 2020), strike attitudes and reactions of third-parties should differ between the three countries. Especially in France, strikes are almost considered as a cultural good and many French citizens consider it the most influential way to achieve their goal (Ancelovici, 2008). Hence, the strike attitudes and reactions of French respondents might be more positive than the ones of British and German respondents. Furthermore, as Germany is widely considered a low-strike country, whereas the UK has mixed numbers and France is usually described as a high-strike country (Vandaele, 2016), the willingness to strike should differ accordingly across the three countries. Hence, we investigated the following two research questions: *Do the strike attitudes and behavioural reactions differ between the three countries (RQ1)* and *does the willingness to strike differ between the three countries (RQ2)*?

Next to direct differences in attitudes, the countries could also exhibit differences in the relationships between their attitudes and other variables. In this study, we hence assess the relationships of the SABeRS with willingness to strike, union membership, and strike participation across the three countries to test whether similar or different relations are found across the countries. Willingness to strike is especially important for unions, as they rely on

the willingness to strike of their members to plan their procedure during collective bargaining (Martin, 1986). Furthermore, as strikes can cause harm to all parties involved, knowing about the willingness to strike of the employees is important for unions, employers and organizers of strikes in order to plan further activities (Barling et al., 1992). Willingness to strike is enhanced when unfairness in work relationships is perceived from employees and when these employees have a high collectivistic orientation towards work (Buttigieg et al., 2008). It decreases when employees judge the societal system as justified (Jost et al., 2012). Willingness to strike was also associated with loyalty to one's union (Barling et al., 1992) and appears to be increased for workers with lower perceived employability (Jansen et al., 2017). Author A and Author B (2022) showed that the five factors of the SABeRS were related to willingness to strike in three different German samples. Thus, we test whether these relationships are also found cross-culturally. We hypothesize more formally: *Willingness to strike is expected to be negatively related to negative reactions towards strikes in the United Kingdom, Germany, and France (H1), and positively associated with legitimacy of strikes in the United Kingdom, Germany, and France (H2), informing oneself about strikes in the United Kingdom, Germany, and France (H3), strike-related social network behaviour in the United Kingdom, Germany, and France (H4), and support of strikers in the United Kingdom, Germany, and France (H5).*

For unions, next to the public attitudes to strikes, the attitude of their members towards strikes during a collective bargaining process is also important. Union members tended to be more willing to strike (Jansen et al., 2017), and reported to support strikers more, to report more strike-related social-network behaviour, to inform themselves more about strikes, , a higher legitimacy of strikes , and fewer negative reactions to strikes than participants who were not members of a union (Author A & Author B, 2022). We thus hypothesize: *Union members show fewer negative reactions towards strikes in the United Kingdom, Germany, and France (H6) and report a higher legitimacy of strikes in the United Kingdom, Germany,*

and France (H7) than non-members. Additionally, union members inform themselves more about strikes in the United Kingdom, Germany, and France (H8), show more strike-related social network behaviour in the United Kingdom, Germany, and France (H9), and support strikers more than non-members in the United Kingdom, Germany, and France (H10).

To have already participated in a strike seems to enhance the probability to participate in another strike (Campolieti et al., 2005; Martin & Sinclair, 2001). Thus, past participation in a strike could affect behavioural reactions toward strikes and strike attitudes, as well as perceptions of the usefulness of strikes during collective bargaining. People, with a strike history reported more positive attitudes to strikes than people who had no strike history (Author A & Author B, 2022). We hypothesize more formally: *People with a strike history will report fewer negative reactions towards strikes in the United Kingdom, Germany, and France (H11), perceive strikes as more legitimate in the three countries (H12), inform themselves more about strikes in the three countries (H13), show more strike-related social network behaviour in the three countries (H14), and support strikers more in the three countries (H15) than people without strike history.*

Methods

Sample

We collected our data using an online panel provider that operates panels in seven countries, among these are the United Kingdom, Germany, and France. All data is uploaded to an OSF project (https://osf.io/46bdr/?view_only=f0f58b6c57154b93b534f80e550ae51f). All participants received a small compensation for their participation (0.50 €). A total of 1652 people participated in the study. The only inclusion criteria was that participants needed to be employed. Following our preregistration (https://aspredicted.org/blind.php?x=tx4q7x), we adhered to several steps to ensure data quality. These steps are based on recommendations

from Meade and Craig (2012). As a first step, participants who were unemployed were screened out (n = 92). This step was conducted to ensure that participants could go on strike. Secondly, we excluded participants who chose the option "No" when asked whether their responses could be used for scientific analyses (n = 33). In our third step, we took care of swift completion and excluded all participants (n = 78) who answered the items faster than two seconds per item on average (Huang et al., 2012). Our last step was to excluded participants who consecutively selected the same response option for more than six items (n = 88; Johnson, 2005). Hence, our final sample included N = 1361 participants.

Overall, the mean age of the participants was 46.33 (SD = 10.03). In the total sample, 33.1% reported being male and 66.9% reported being female. Furthermore, 82.6% were not union members and 71.3% had never participated in a strike. The British participants (n = 444) had a mean age of 46.82 (SD= 10.68). In the British sample, 34.2% indicated that they belong to the male sex and 65.8% reported to belong to the female sex. Of the British participants, 77.5% were not union members and 81.8% had never participated in a strike. The mean age in the German sample (n = 454) was 44.80 (SD = 10.64), 34.6% were male and 65.4% were female. Of the German participants, 86.3% were not union members and 78.2% had not participated in a strike. The French participants (n = 463) had a mean age of 47.36 (SD = 8.53). A third of the French participants were male (30.7%) and 69.3% were female. In the French sample, 83.8% were not union members and 54.6% had no strike history

Materials

To assess the strike attitudes and behavioural reactions, we used the 15 item SABeRS (i.e., three items for each factor, Table 15). Items were answered on a five-point Likert scale ranging from 1 = "Do not agree" to 5 = "Agree." To measure *willingness to strike*, we used four items based on Akkerman et al. (2013). An example item is "I would strike for more money." All items were rated on a five-point Likert scale ranging from "Not at all" to "Very

likely" and can be found in Table 15. The SABeRS and the willingness to strike scale were translated from German to English and French using a back-translation process (e.g., Schaffer & Riordan, 2003) with two individuals who were fluent in German and either English or French independently translating the items. Issues that arose were solved through discussion. *Membership in a union* was assessed with one item asking participants whether they were a union member (as in the European Social Survey Round 9, 2019). *Strike history* was measured with a single item asking participants if they had ever participated in a strike (as in the World Values Survey Round 6, 2014). The reliability scores of the different scales and measures for the three samples were calculated to ensure that the items worked sufficiently, using Cronbach's α and McDonald's ω (Dunn et al., 2014; McDonald, 1999; see Table 16).

Procedure

First, participants had to choose their preferred language. On the welcoming page, the purpose of the study was explained, and participants read a definition of strikes. Then participants answered demographic items. Those who were currently unemployed were screened out. All employed participants continued to the next page, where they had to fill out the SABeRS, the willingness to strike items, the general system justification scale (Kay & Jost, 2003), one item assessing the political orientation, the item about union membership, and the item about strike history. The results regarding the general system justification and the political orientation can be found in a different article (Vesper et al., 2022).

Table 15

Items in English, German, and French

Factor	English	German	French
Negative reactions to strikes	I feel disturbed by strikes.	Ich fühle mich von Streiks gestört.	Les grèves me dérangent.
Negative reactions to strikes	Strikes strain myself.	Streiks belasten mich.	Les grèves m'accablent.
Negative reactions to strikes	I am annoyed by strikes.	Von Streiks bin ich genervt.	Les grèves m'énervent.
Legitimacy of strikes	Strikes are necessary.	Streiks sind notwendig.	Les grèves sont nécessaires.
Legitimacy of strikes	Strikes are justified.	Streiks sind gerechtfertigt.	Les grèves sont justifiées.
Legitimacy of strikes	Strikes are a waste of time. (reverse-coded)	Streiks sind eine Zeitverschwendung.	Les grèves sont une perte de temps.
Informing oneself about strikes	I read news about strikes.	Ich lese Nachrichten über Streiks.	Je consulte les informations au sujet des grèves.
Informing oneself about strikes	I am interested in the reasons of strikes.	Ich interessiere mich für die Gründe von Streiks.	Je suis intéressé(e) par les raisons des grèves.
Informing oneself about strikes	I acquire background knowledge about strikes.	Ich eigne mir selbst Hintergrundwissen zu Streiks an.	J'acquiers moi-même des connaissances de fond sur les grèves.
Strike-related social network behaviour	I share information about strikes on social media.	Ich teile Informationen zu Streiks in den sozialen Netzwerken.	Je partage des informations sur les grèves dans les réseaux sociaux.
Strike-related social network behaviour	I comment on posts about strikes on the social media.	Ich kommentiere Beiträge in sozialen Netzwerken zu Streiks.	Je commente les publications concernant les grèves sur les réseaux sociaux.
Strike-related social network behaviour	I look at posts about strikes on social media.	Ich schaue mir Beiträge zu Streiks in sozialen Netzwerken an.	Je regarde les posts concernant les grèves sur les réseaux sociaux.
Support of strikers	I would show my support to strikers.	Ich würde Streikenden meine Unterstützung zeigen.	Je voudrais montrer mon soutien aux grévistes.
Support of strikers	I would accept flyers from strikers.	Ich würde Flyer von Streikenden entgegennehmen.	J'accepterais des tracts de grévistes.
Support of strikers	I would support the strikers' position in conversations.	Ich würde die Seite der Streikenden bei Diskussionen einnehmen.	Je prendrais le parti des grévistes dans une discussion.
Willingness to strikes	I would strike for more money.	Ich würde für mehr Geld streiken.	Je ferais la grève pour une meilleure rémunération.
Willingness to strikes	I would strike for better working hours.	Ich würde für bessere Arbeitszeiten streiken.	Je ferais la grève pour de meilleurs horaires de travail.
Willingness to strikes	I would strike for better working conditions.	Ich würde für bessere Arbeitsbedingungen streiken.	Je ferais la grève pour de meilleurs conditions de travail.
Willingness to strikes	I would strike for more days off.	Ich würde für mehr freie Tage streiken.	Je ferais la grève pour plus de jours de congé.

Table 16

Internal Consistencies of the Five Factors of the Strike Attitude and Behavioural Reactions Scale (SABeRS) and Willingness to Strike for the Three Samples (N_{UK} *= 444,* N_{DE} *= 454,* N_{FR} *= 463)*

Sample	Factor	Cronbach's α	McDonald's ω	*M*	*SD*
UK	Negative reactions towards strikes	.75	.76 [.72-.81]	2.75	0.95
UK	Legitimacy of strikes	.86	.86 [.83-.89]	3.41	0.96
UK	Informing oneself about strikes	.69	.69 [.64-.74]	3.40	0.89
UK	Strike-related social network behaviour	.84	.85 [.82-.88]	1.89	0.98
UK	Support of strikers	.85	.85 [.83-.88]	3.20	1.03
UK	Willingness to strike	.91	.91 [.89-.93]	3.54	1.18
DE	Negative reactions towards strikes	.88	.88 [.85-.90]	2.41	1.05
DE	Legitimacy of strikes	.79	.80 [.76-.84]	3.76	0.85
DE	Informing oneself about strikes	.81	.81 [.78-.84]	3.30	0.97
DE	Strike-related social network behaviour	.86	.86 [.83-.89]	1.79	0.98
DE	Support of strikers	.80	.80 [.76-.83]	3.01	0.98
DE	Willingness to strike	.90	.90 [.87-.92]	3.93	1.09
FR	Negative reactions towards strikes	.87	.87 [.85-.90]	2.85	1.28
FR	Legitimacy of strikes	.86	.86 [.84-.89]	3.59	1.11
FR	Informing oneself about strikes	.68	.69 [.64-.74]	3.36	0.98
FR	Strike-related social network behaviour	.85	.85 [.82-.88]	1.91	1.12
FR	Support of strikers	.87	.88 [.85-.90]	2.95	1.31
FR	Willingness to strike	.87	.87 [.84-.89]	3.38	1.21

Note. UK = United Kingdom, DE = Germany, FR = France. Numbers in brackets represent the 95% confidence interval.

Results

Preliminary Analyses

We assessed the measurement equivalence of the SABeRS between the three samples and obtained partial scalar equivalence. This implies that no systematic response biases exist between the three groups (Chen, 2008). Hence, mean comparisons between the three samples are valid and meaningful. The analyses are reported in another article, currently under review (Vesper & König, under review). Furthermore, we assessed the measurement equivalence of the willingness to strike scale. Although we found no partial scalar equivalence for the willingness to strike scale in its current form, excluding the item "I would strike for better working hours" (based on modification indices) resulted in partial scalar equivalence when the restrictions for item 2 ("I would strike for better working hours") were relaxed. Hence, we can compare the means between the three samples.

Test of Hypotheses

To assess whether there are differences between the three countries in the SABeRS (RQ1), a MANCOVA with the independent variable country affiliation and the control variables age, gender, and education was conducted (see Table 17).[7] We found statistically significant effects of country affiliation after controlling for the effect of age, gender, and education on negative reactions, $F(2, 1355) = 14.37$, $p < .001$, $\eta_p^2 = .02$, legitimacy, $F(2, 1355) = 12.57$, $p < .001$, $\eta_p^2 = .02$, and support of strikers, $F(2, 1355) = 5.84$, $p = .003$, $\eta_p^2 = .01$. There were no significant differences in informing oneself about strikes and strike-related social network behaviour. German participants reported significantly fewer negative reactions

[7] We also conducted all analyses without control variables as their usage is controversially discussed in social sciences (see Bernerth & Aguinis, 2016; Wysocki et al., 2022). The results differed only slightly and can be found in the supplemental materials.

towards strikes compared to British and French participants. British and French participants did not differ in their negative reactions. Furthermore, German participants reported a significantly higher legitimacy of strikes than British participants and a descriptively higher legitimacy of strikes compared to French participants. British participants reported significantly less legitimacy of strikes compared to French participants.

Table 17

Results of the MANCOVA with the Independent Variable Country Affiliation

	British participants		German participants		French participants	
	M	*SD*	*M*	*SD*	*M*	*SD*
Negative reactions towards strikes	2.75	1.10	2.44	1.11	2.82	1.12
Legitimacy of strikes	3.41	0.99	3.74	1.00	3.61	0.99
Informing oneself about strikes	3.40	0.93	3.34	0.94	3.32	0.95
Strike-related social network behaviour	1.89	1.03	1.78	1.04	1.93	1.05
Support of strikers	3.20	1.12	3.00	1.13	2.96	1.14
Multivariate results						
F	15.16					
df_1	10					
df_2	2702					
p	< .001					
Wilk's Λ	.90					
η_p^2	.05					

Note. N_{UK} = 444, N_{DE} = 454, and N_{FR} = 463. UK = United Kingdom, DE = Germany, FR = France. Control variables: Age, gender, education. The covariates age, $F(5, 1351) = 13.56$, $p < .001$, $\eta_p^2 = .05$, gender, $F(5, 1351) = 3.35$, $p = .005$, $\eta_p^2 = .01$, and education, $F(5, 1351) = 12.83$, $p < .001$, $\eta_p^2 = .05$, were significantly related to the SABeRS,

Regarding the support of strikers, British participants reported significantly more support of strikers than French and German participants. Thus, we can answer Research Question 1 with yes, there are significant differences between the three countries in three of five subscales of the SABeRS.

To answer Research Question 2 (i.e., whether the willingness to strike differs among the three countries, we conducted an analysis of covariance with the factor country affiliation, the covariates age, gender, and education, and the dependent variable willingness to strike. The covariates age ($F(1, 1355) = 21.68$, $p < .001$, $\eta_p^2 = .02$) and gender ($F(1, 1355) = 4.25$, $p = .039$, $\eta_p^2 = .003$) were significantly related to the willingness to strike. Education did not exhibit a significant effect on willingness to strike ($F(1, 1355) = 3.37$, $p = .067$, $\eta_p^2 = .002$). There was also a significant effect between the three groups in their willingness to strike, $F(2, 1355) = 26.16$, $p < .001$, $\eta_p^2 = .03$. To determine which group means differed significantly, we computed Bonferroni-corrected planned contrasts. The means of the German and the British sample ($p < .001$), as well as the means of the German and the French sample ($p < .001$) differed significantly from each other. The means from the British and the French sample did not differ significantly from each other ($p = .277$). Germans reported the highest willingness to strike ($M = 3.89$, $SD = 1.17$), followed by the British sample ($M = 3.54$, $SD = 1.16$) and the French sample ($M = 3.41$, $SD = 1.16$). These results answer Research Question 2: Differences in the willingness to strike do exist between the three samples.

To answer hypotheses H1 to H5 (i.e., the relations between the five factors of the SABeRS to willingness to strike), correlations between the willingness to strike and the five factors were calculated for each sample (Table 18). In the British sample, negative reactions to strikes were significantly negatively correlated to willingness to strike. Furthermore, the other four factors (support of strikers, informing oneself about strikes, strike-related social network behaviour, and legitimacy of strikes) were all significantly positively correlated to

willingness to strike in the British sample. For the German and the French sample, the same correlation patterns were found. Thus, hypotheses H1 to H5 were supported.

Hypotheses 6 to 10 concerned the differences between union members and non-members on the SABeRS factors. To answer these hypotheses, one MANCOVA for each sample was calculated with the independent variable union membership, the covariates age, gender, and education, and the five subscales of the SABeRS (i.e., negative reactions to strikes, legitimacy of strikes, informing oneself about strikes, strike-related social network behaviour, and support of strikers, Author A & Author B, 2022) as dependent variables (see Table 19). Significant differences were found between union members and non-members for the British sample, $F(10, 868) = 4.27$, $p < .001$, Wilk's $\Lambda = .91$, $\eta_p^2 = .05$, the German sample, $F(10, 888) = 2.59$, $p = .004$, Wilk's $\Lambda = .94$, $\eta_p^2 = .03$, and the French sample, $F(10, 906) = 4.58$, $p < .001$, Wilk's $\Lambda = .91$, $\eta_p^2 = .05$, with union members evaluating strikes more positively compared to non-members for each subscale (i.e., they reported fewer negative reactions towards strikes and a higher legitimacy of strikes, sought more information about strikes, reported more strike-related social network behaviour, and supported strikers more than non-members, only in the German sample did union members and non-members not significantly differ in their strike-related social network behaviour.). Thus, Hypotheses 6 to 10 were supported.

Table 18

Correlations of the Five Factors of Strike Attitudes and Behavioural Reactions Scale and Willingness to Strike for the Three Samples

		1	2	3	4	5	6	7	8	9
		UK/DE/FR	UK/DE/FR	UK/DE/FR	UK/DE/FR	UK/DE/FR	UK/DE/FR	UK/DE/FR	UK/DE/FR	UK/DE/FR
1	Negative reactions towards strikes	-								
2	Legitimacy of strikes	**-.58**/**-.58**/**-.76**	-							
3	Informing oneself about strikes	-.11*/**-.20**/**-.33**	**.43**/**.43**/**.47**	-						
4	Strike-related social network behaviour	-.08/-.08/**-.26**	**.31**/**.25**/**.33**	**.45**/**.49**/**.51**	-					
5	Support of strikers	**-.48**/**-.40**/**-.66**	**.74**/**.65**/**.76**	**.50**/**.63**/**.63**	**.42**/**.44**/**.51**	-				
6	Willingness to strike	**-.41**/**-.32**/**-.43**	**.67**/**.53**/**.53**	**.32**/**.33**/**.41**	**.32**/**.21**/**.34**	**.57**/**.48**/**.53**	-			
7	Age	-.04/.03/-.00	-.07/-.01/-.06	.00/.10*/.09	-.16**/-.09/-.08	-.04/.10*/.01	**-.20**/-.09/-.05			
8	Gender	-.02/-.01/.05	-.00/.07/-.09*	.12**/**.16**/.01	.06/.02/-.03	.00/.11*/-.05	.03/.08/.03	.10*/-.02/**.18**		
9	Education	.07/.13**/.14**	.00/-.05/-.07	**.18**/.12*/.06	.12*/-.01/-.05	-.00/.01/-.08	-.00/.01/-.09	**-.19**/**-.24**/-.14**	-.00/.06/-.06	
	M	2.75/2.41/2.85	3.41/3.76/3.59	3.40/3.30/3.36	1.89/1.79/1.91	3.20/3.01/2.95	3.54/3.93/3.38	46.82/44.80/47-36	1.34/1.35/1.31	4.06/3.73/4.64
	SD	0.95/1.05/1.28	0.96/0.85/1.11	0.89/0.97/0.98	0.98/0.98/1.12	1.03/0.98/1.31	1.18/1.09/1.21	10.68/10.64/8.53	0.48/0.48/0.46	1.96/1.85/1.54

Note. N_{UK} = 444, N_{DE} = 454, N_{FR} = 463. UK = United Kingdom, DE = Germany, FR = France. Values in bold are significant with $p < .001$. Gender was coded with 1 = female, 2 = male. Education was coded from 1 = primary education to 8 = doctoral degrees.* $p < .05$, ** $p < .01$.

Table 19

Results of the MANCOVA with the Independent Variable Union Membership for All Three Samples

	British sample				German sample				French sample			
	$M_{union\ members}$	$SD_{union\ members}$	$M_{non-members}$	$SD_{non-members}$	$M_{union\ members}$	$SD_{union\ members}$	$M_{non-members}$	$SD_{non-members}$	$M_{union\ members}$	$SD_{union\ members}$	$M_{non-members}$	$SD_{non-members}$
Negative reactions towards strikes	2.47	0.95	2.83	0.94	2.00	1.03	2.48	1.02	2.26	1.24	2.96	1.23
Legitimacy of strikes	3.88	0.94	3.27	0.94	4.11	0.83	3.70	0.83	4.11	1.09	3.49	1.09
Informing oneself about strikes	3.59	0.87	3.34	0.86	3.59	0.94	3.26	0.95	3.80	0.96	3.28	0.96
Strike-related social network behaviour	2.15	0.96	1.80	0.96	1.88	0.98	1.78	0.97	2.50	1.09	1.79	1.09
Support of strikers	3.66	1.00	3.05	0.99	3.45	0.96	2.93	0.97	3.57	1.28	2.83	1.27
					Multivariate results							
F	4.27				2.59				4.58			
df_1	10				10				10			
df_2	868				888				906			
p	< .001				.004				< .001			
Wilk's Λ	.91				.94				.91			
η_p^2	.05				.03				.05			

Note. $n_{British\ union\ members}$ = 100, $n_{British\ non-members}$ = 338, $n_{German\ union\ members}$ = 62, $n_{German\ non-members}$ = 388, $n_{French\ union\ members}$ = 75, $n_{French\ non-members}$ = 382; the sample sizes are different to the overall sample sizes as some participants chose the option "not specified" for union membership and were excluded from these analyses. Covariates were age, gender, and education.

Hypotheses 11 to 15 concerned the differences between people with vs. without a strike history. To answer these hypotheses, one MANCOVA for each sample was calculated (see Table 20). This time, strike participation was used as the independent variable, covariates were age, gender, and education, and the five subscales of the SABeRS as dependent variables. There was a statistically significant difference in the five SABeRS subscales based on prior strike participation in the British sample, $F(10, 868) = 7.95$, $p < .001$, Wilk's $\Lambda = .84$, $\eta_p^2 = .08$, the German sample, $F(10, 888) = 6.96$, $p < .001$, Wilk's $\Lambda = .86$, $\eta_p^2 = .07$, and the French sample, $F(10, 906) = 11.99$, $p < .001$, Wilk's $\Lambda = .78$, $\eta_p^2 = .12$. In all three samples, people who had a strike history assessed strikes as more legitimate, reported fewer negative reactions towards strikes, reported more strike-related behaviour in social networks to strikes informed themselves more about strikes, and supported strikers more than people who had no strike history. Hence, Hypotheses 11 to 15 were supported.

Table 20

Results of the MANCOVA with the Independent Variable Strike Participation for All Three Samples

	British sample				German sample				French sample			
	$M_{strike\ participatiion}$	$SD_{strike\ participation}$	$M_{no\ strike\ participation}$	$SD_{no\ strike\ participation}$	$M_{strike\ participatiion}$	$SD_{strike\ participation}$	$M_{no\ strike\ participation}$	$SD_{no\ strike\ participation}$	$M_{strike\ participatiion}$	$SD_{strike\ participation}$	$M_{no\ strike\ participation}$	$SD_{no\ strike\ participation}$
Negative reactions towards strikes	2.11	0.93	2.89	0.91	2.00	1.02	2.53	1.01	2.37	1.19	3.28	1.18
Legitimacy of strikes	4.03	0.95	3.28	0.93	4.18	0.82	3.64	0.82	4.07	1.03	3.17	1.02
Informing oneself about strikes	3.71	0.87	3.33	0.85	3.78	0.91	3.18	0.92	3.75	0.91	3.03	0.91
Strike-related social network behaviour	2.35	0.96	1.78	0.95	2.22	0.96	1.68	0.95	2.15	1.10	1.69	1.10
Support of strikers	3.89	0.99	3.04	0.99	3.59	0.93	2.84	0.94	3.55	1.19	2.44	1.20
	Multivariate results											
F	7.95				6.96				11.99			
df_1	10				10				10			
df_2	868				888				906			
P	< .001				< .001				< .001			
Wilk's Λ	.84				.86				.78			
η_p^2	.08				.07				.12			

Note. $n_{British\ strike\ participation}$ = 81, $n_{British\ no\ strike\ participation}$ = 360, $n_{German\ strike\ participation}$ = 99, $n_{German\ no\ strike\ participation}$ = 350, $n_{French\ strike\ participation}$ = 210, $n_{French\ no\ strike\ participation}$ = 248; the sample sizes are different to the otherwise reported sample sizes as some participants chose the option "not specified" for strike participation and were excluded from these analyses. Covariates were age, gender, and education.

Discussion

This study assessed differences between a British, a German, and a French sample in their strike attitudes and behavioural reactions, as well as in their willingness to strike. We found significant differences between the three samples in three of five factors of the SABeRS and in their willingness to strike. The second objective of this study was to assess whether the SABeRS shows similar relationships with willingness to strike, union membership, and previous strike participation in all three countries. These hypotheses were also supported. The factors strike-related social media behaviour, informing oneself about strikes, support of strikers, and legitimacy of strikes, were positively associated with willingness to strike in all three samples, whereas negative reactions to strikes were negatively related to willingness to strike. In addition, union members in all three samples reported fewer negative reactions, a higher legitimacy, more strike-related social network behaviour, informing themselves more about strikes, and more support of strikers than non-union members. The same pattern was also obtained for participants who already participated in a strike compared to those who had no strike history.

Regarding the differences between the three countries in their strike attitudes and behavioural reactions, one could have assumed that the French sample might report the most positive attitudes as they consider strikes almost a cultural good (Ancelovici, 2008), but in these analyses the French sample reported the highest negative reactions to strikes and the lowest support of strikers compared to the British and the German sample. This might be due to the ongoing general strike in France during the time of the data collection which might have taken its toll on the nerves of the French public. The French sample still reported a rather high legitimacy of strikes and reported informing themselves as much about strikes as the British sample and more than the German sample. In the strike-related social network behaviour, all three samples reported rather low levels. Thus, there are differences in the three

countries regarding their strike attitudes and reactions, but further research is needed to look for causes of these differences.

Additional differences were found in regard of the willingness to strike. We assumed that the French sample might show the highest willingness followed by the British sample and then the German sample, based on the differing frequency of strikes in the three countries (Vandaele, 2016). Our results draw a different picture: The German sample reported the highest willingness to strike despite living in the country with the lowest strike frequency. The British and French sample did not differ significantly from each other in their willingness to strike. Hence, strike frequency in a country might not picture the willingness to strike of the public but influences of regulations and laws that inhibit or foster the tendency to strike. These relations could be assessed in further studies. Another reason for this unexpected result might be that the ongoing general strike in France also influenced the willingness to strike among French participants in a negative way as they might already have participated themselves in this general strike. This also aligns with the fact that in the French sample almost half of the participants reported to have participated in a strike before, compared to only around 20% in the other samples. Future research could further assess other reasons for this result, for example one other reason could also be that our German participants have a greater intention-behaviour gap (Sheeran & Webb, 2016) than our French participants. Hence, they might report a higher willingness, but when it comes to strike, they might shy away from their initial intention and not participate.

Furthermore, we showed that the relationship of the strike attitudes with the variables willingness to strike, union membership and strike history was similar across the three samples: Negative reactions were negative related to willingness to strike, all other factors of the SABeRS were positively related with willingness to strike across all countries. Additionally, union members and participants with a strike history reported in all three samples more legitimacy, informing themselves more about strikes, more support for strikes,

more strike-related social network behaviour, and fewer negative reactions to strikes than non-union members and participants without strike history. This indicates that some processes that might influence attitudes, such as experiencing a strike as a striker, work in the same way across the three countries. Furthermore, this aligns with previous research showing that a collective identity can develop during strikes (López-Andreu, 2020) which might have long-lasting influences on strike attitudes.

Hence, although the samples differ overall in their strike attitudes, some similarities regarding the relationships with other variables were also found. Reactions to strikes could thus differ depending on where these strikes take place due to cultural, legal, or other differences. This study gave a first indication of differences between the three countries examined, but further studies are needed to look at these differences in more detail. This includes also the question as to when a strike is considered legitimate, which is especially important for unions building on public support for strikes during collective bargaining (Kelloway et al., 2008). In accordance with institutional theory (DiMaggio & Powell, 1983; Meyer & Rowan, 1977), trade unions' survival hinges on public support of strikes to some extent.

Limitations and Future Research

This study also has its limitations. Two of these seem particularly noteworthy. First, the legitimacy of strikes and support of strikers' factors correlated rather highly with each other. This correlation could be caused by the subjunctive formulation of the support of strikers-items: People who evaluated strikes as legitimate reported that they would rather support strikers. However, it should be waited whether this correlation remains high if the scale is used for a specific strike, as a specific strike allows for the reformulation of the items measuring the support of strikers' factor, so that they display real behaviour and not only behavioural intentions. Second, this study followed a cross-sectional design with a single

questionnaire containing all scales. Hence, common-method bias might be an issue in our study (Podsakoff et al., 2003). Future research could try to assess the strike attitudes and other variables at different time points. Furthermore, other measures such as actual strike participation and not the mere willingness might also be considered in future research. The most important aspect that future research could tackle is to assess what might be reasons for the found differences between British, German, and French participants in their strike attitudes.

Conclusion

The aim of this study was to assess the differences in strike attitudes between British, German, and French samples. We found that the three samples did differ in both attitudes to strikes and their willingness to strike. Surprisingly, Germans reported the most positive attitudes to strikes and the highest willingness to strike. We also found that the strike attitudes and behavioural reactions were significantly related to willingness to strike and differed between union members and non-members in all three samples. Future research can assess reasons for the found differences in strike attitudes.

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CHAPTER VII - JUSTICE SENSITIVITY AND STRIKES

I find this unfair, das finde ich ungerecht, je trouve cela injuste! Testing the effect of justice sensitivity on strike-related outcomes in Germany and France

Submission to *Journal of Business and Psychology*

Abstract

Injustices are often described as causes for strikes. With this study, we aimed at testing whether trait justice sensitivity (victim and observer sensitivity) was related to strike attitudes, willingness to strike, and non-normative strike behavior and whether these relations were mediated by the traits anger or empathy. Additionally, we compared samples from two countries (Germany and France) in the respective measures. We collected data from 424 participants (231 were German, 193 French). We observed that the effect of victim justice sensitivity on the dependent variables was mediated by anger. Furthermore, empathy mediated the effect of observer justice sensitivity on legitimacy of strikes and support of strikers. Both models were not moderated by country, implying that national differences in their industrial relations systems did not influence the models. Results also indicated (unexpectedly) that French participants reported significantly lower willingness to strike, significantly more negative reactions towards strikes, less legitimacy of strikes, and less support of strikers compared to the German sample – differences that warrant further research assessing potential reasons.

For a long time, strikes have been an important bargaining tool, and they still attract much media attention. To name just two recent examples, there were the “yellow vests” conducting general strikes in France (Nossiter, 2019) and a big strike of ground staff from a major airline in Germany (Deutsche Welle, 2022). The number of strikes in some countries has even increased over the last years (Poydock et al., 2022; Wall, 2022), indicating a higher frequency of collective action among workers. In other countries it at least remained stable despite the pandemic (Vandaele, 2022).

Although psychological research on strikes or unions has been rather scarce (Cascio & Aguinis, 2008), a common topic that was addressed in previous studies was the question of justice perceptions when it comes to strikes or collective action in general. In fact, perceived injustice is considered to be a crucial aspect that leads people to participate in collective action (e.g., van Zomeren et al., 2008). For instance, Kelloway et al. (2007) determined that perceived distributive injustice significantly predicted intent to participate in collective action. However, the assessed injustices were always situation-specific. Whether people perceive such injustices as more or less severe could however depend on their dispositional justice sensitivity (Schmitt et al., 2005).

Hence, what is missing so far is an answer to the question whether trait differences in being prone to perceive injustices (i.e., justice sensitivity) also influence strike-related outcomes such as willingness to strike, strike attitudes, and non-normative strike behavior. Knowing more about predictors of willingness to strike can be crucial for unions as well as employers to assess the likelihood of strike participation among their members. Hence, this study had the aim to test whether justice sensitivity (divided into two subdimensions, victim and observer justice sensitivity) predicts strike-related outcomes and whether this relation is mediated by either anger (for victim justice sensitivity) or empathy (for observer justice sensitivity), which were both also measured as trait variables. To heighten the generalizability of these assumed models, we tested

them in two samples originating from two countries with considerable differences in their strike statistics and work regulations: Germany and France.

This paper thus contributes to the literature and practice in several ways. First, we attempt to broaden our understanding of what leads people to strike. We contribute to the literature on strikes and protests from a psychological perspective and highlight possible predictors as well as further avenues for future research. In particular, we establish the notion that next to situation-specific injustice and anger (van Zomeren et al., 2008), traits of justice sensitivity, anger, and empathy also play a role when it comes to strikes. Second, in showing that the assumed models do not differ across both samples, we are able to highlight that despite differences in strike statistics and regulations, German and French workers have similar cognitive approaches to willingness to strike and other strike-related outcomes. Finally, our results help unions and employers to further understand when workers are willing to take collective action and how they might need to be addressed to prevent them from (not) taking part in these actions.

Theoretical Background

People differ in their reactions to perceived injustices (Major & Deaux, 1982), and they also differ dispositionally in their perception of the severity of perceived injustices (Schmitt et al., 2005). This trait is called justice sensitivity, which can be understood as a personality characteristic as it assesses stable and consistent differences in the perception of and reaction to perceived injustice (Schmitt, 1996). People who are more sensitive to injustices experience stronger emotional and behavioral reactions towards these injustices. Justice sensitivity can be further differentiated into sensitivity for self-experienced injustice (victim justice sensitivity) and

observed injustice (observer justice sensitivity, Schmitt et al., 2005)[8]. These dimensions differ in their relations with prosocial and selfish dispositions (Schmitt et al., 2005).

Victim Justice Sensitivity, Anger, and Strike-Related Outcomes

Victim justice sensitivity was found to be related to distrust and a tendency to take revenge (Schmitt et al., 2005). Hence, people with a high victim justice sensitivity are afraid of being disadvantaged and tend to focus on injustices related to themselves. Those high in victim justice sensitivity also fear being exploited and thus react more strongly to injustices (Gollwitzer et al., 2009). Furthermore, these people are less likely to act for the benefit of others (Gollwitzer & Rothmund, 2011).

Being prone to perceive self-experienced injustices also leads people to react with more anger towards an unfair distribution (Gollwitzer et al., 2005). Anger, a negative emotional reaction that contains physiological arousal (Buss & Perry, 1992), was empirically found to be a predominant emotional reaction to perceived injustice (Mikula et al., 1998; Miller, 2001; Törestad, 1990). Furthermore, in a study about a protest against a German public construction project, Rothmund et al. (2014) observed that victim justice sensitivity was positively correlated to anger about the political decision process. Anger also plays an important role in the social identity model of collective action (SIMCA, van Zomeren et al., 2008), where perceived injustice is assumed to lead to anger.

If trait differences in justice sensitivity lead to more anger, it should also influence strike-related outcomes such as willingness to strike, strike attitudes, and non-normative strike

[8] A third dimension of justice sensitivity is self-induced injustice (i.e., whether people see themselves as treating others unfairly; Schmitt et al., 2005). This study focuses, however, on victim and observer justice sensitivity as self-induced injustice does not seem to be relevant when it comes to strikes.

behavior. Willingness to strike is the intent to participate in a collective action among participants and is a valid predictor for actual participation in strikes (Martin, 1986). Strike attitudes consists of cognitive aspects (e.g., legitimacy of strikes), emotional aspects (e.g., emotional reactions to strikes), and behavioral aspects (e.g., support for strikers as behavioral reaction, Vesper & König, 2022). Non-normative strike behavior comprises illegal strike actions and potentially violent behavior that violate the norms and rules of a social system (Wright et al., 1990). If people experience anger, they are more like to participate in protests – this is not only a prediction of the SIMCA (van Zomeren et al., 2008) but has also empirically been found for other kinds of protest than strikes (e.g., Frijda, 1986; Jost et al., 2012; Rothmund et al., 2014). Furthermore, anger was reported to predict normative (Shuman et al., 2016; Tausch et al., 2011) and non-normative collective action behavior (Owuamalam et al., 2016).

In the SIMCA (van Zomeren et al., 2008), an emotion-focused path leads from perceived injustice via anger to participation in collective action. Hence, anger should act as a mediator for the relation between perceived injustices and collective action. However, research based on the SIMCA tends to assess perceived injustices and anger to specific topics or situations rather than as traits of involved parties. In contrast, we examine how the traits of victim justice sensitivity and anger are related to different strike-related outcomes. Taken together, we propose that victim justice sensitivity is related to anger and via anger to strike-related outcomes (see Figure 7). More formally, we hypothesize[9]:

Hypothesis 1: Victim justice sensitivity is positively correlated with anger.

[9] Please note that the preregistration of this study (https://aspredicted.org/blind.php?x=8he2jt) uses a slightly differing numbering of the hypotheses (because a better flow of arguments was achieved with the new numbering during the write-up).

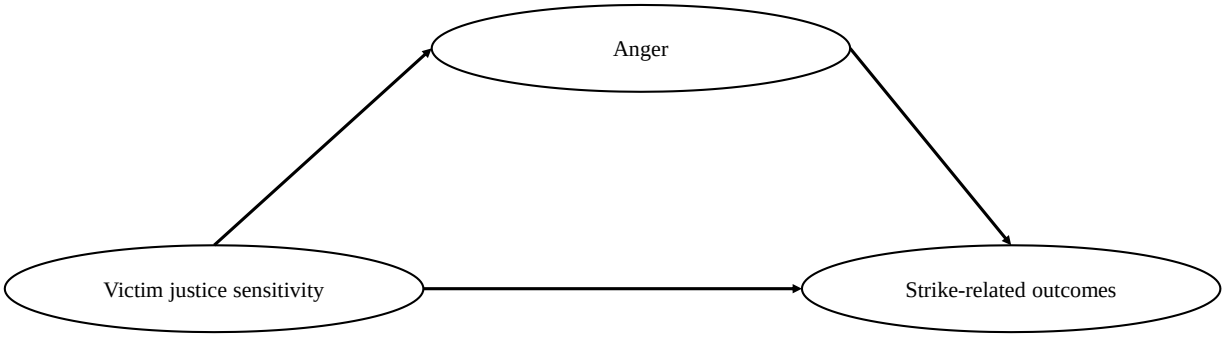
Hypothesis 2: Victim justice sensitivity is positively correlated with positive strike attitudes, willingness to strike, and non-normative collective action behavior.

Hypothesis 3: Anger is positively correlated with positive strike attitudes, willingness to strike, and non-normative collective action behavior.

Hypothesis 4: Anger mediates the relation between victim justice sensitivity and the dependent variables strike attitudes, willingness to strike, and non-normative collective action behavior.

Figure 5

Theoretical Model of Victim Justice Sensitivity, Anger, and Strike-Related Outcomes



Observer Justice Sensitivity, Empathy, and Strike-Related Outcomes

The second dimension of justice sensitivity is observer justice sensitivity, which is associated with prosocial dispositions such as perspective-taking and social responsibility (Schmitt et al., 2005). Thus, individuals with high observer justice sensitivity are concerned with justice for others and about the well-being of others (Gollwitzer et al., 2009). Furthermore, those high in observer justice sensitivity were also more empathetic, with empathy being defined as the ability to comprehend the thoughts and feelings of others (Decety & Lamm, 2006).

According to the SIMCA, an important predictor for collective action is perceived group-identification (van Zomeren et al., 2008). People who are more empathetic are also more able to identify with different groups (Miyazono & Inarimori, 2021). However, previous research on

strikes and protest has scarcely considered empathy despite empathy appearing to be a crucial antecedent for third-party support of strikes. An initial study that assessed the intention to act collectively on behalf of Black Lives Matter (Selvanathan et al., 2018) observed that positive contact with Black Americans led to more empathy and anger about the injustice experienced by the Black American community by White Americans. In their study, empathy was positively related to willingness to act collectively and support the Black Lives Matter movement (Selvanathan et al., 2018). Hence, this can be interpreted as first evidence that empathy is related to willingness to act collectively, attitudes to collective actions, and probably also non-normative strike behavior.

People with a dispositional higher observer justice sensitivity were also more willing to participate in political protests when the political decision processes were perceived to be unfair (Rothmund et al., 2014). Additionally, they were more willing to sacrifice their own resources to restore justice (Lotz et al., 2011). In their study, Lotz et al. (2011) showed that people who were more sensitive to observed injustices punished those who divided their property unfairly in causing them financial harm. Hence, it might be possible that people high in observer justice sensitivity also support strikes more to punish employers who treated their employees unfairly.

When perceiving injustices, observers were found to react with empathy depending on their justice sensitivity (Baumert & Schmitt, 2009). Empathy also led to prosocial behavior (Gollwitzer et al., 2009), as did observer justice sensitivity (Schmitt et al., 2005). Thus, as people high in observer justice sensitivity were more empathetic and more willing to agree to strike-related outcomes, and empathy is also assumed to be related to strike-related outcomes, we propose that empathy might mediate the effect of observer justice sensitivity on strike-related outcomes (see Figure 8). Put more formally:

Hypothesis 5: Observer justice sensitivity is positively correlated with empathy.

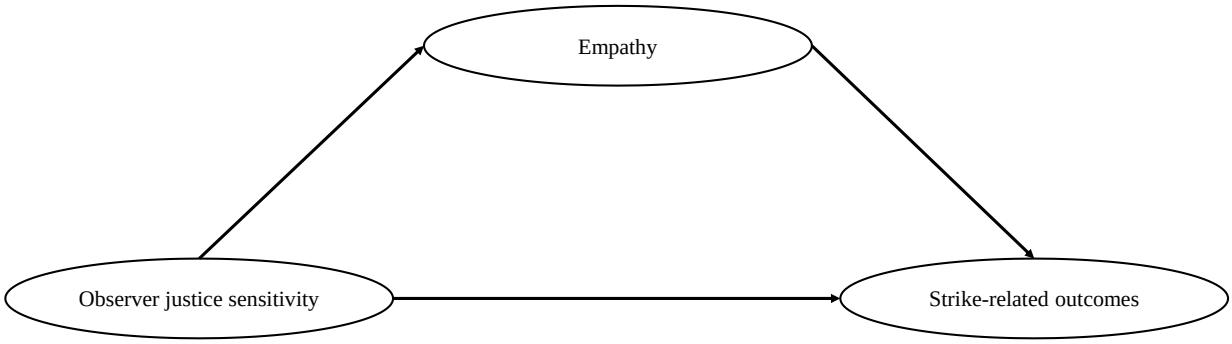
Hypothesis 6: Observer justice sensitivity is positively correlated with positive strike attitudes, willingness to strike, and non-normative collective action behavior.

Hypothesis 7: Empathy is positively correlated with positive strike attitudes, willingness to strike, and non-normative strike behavior.

Hypothesis 8: Empathy mediates the relation between observer justice sensitivity and the dependent variables strike attitudes, willingness to strike, and non-normative strike behavior.

Figure 6

Theoretical Model of Observer Justice Sensitivity, Empathy, and Strike-Related Outcomes



Differences and Similarities between France and Germany

We introduced the respective models of victim justice sensitivity via anger and observer justice sensitivity via empathy on strike-related outcomes. To not only test these models, but also to assess whether they are generalizable in different countries, we decided to collect data in two countries: Germany and France. Although these two countries differ considerably in their strike statistics and regulations, the models should operate similarly in both samples as the underlying psychological mechanisms should be the same in both countries. However, some similarities and differences in the industrial relations system of both countries warrant mentioning (summarized in Table 21). In Germany, employees are represented in a dual system with sectorial bargaining by unions and local work councils (Larsson, 2014), which likely explains the low level of

conflict (and strikes) in Germany. This stands in stark contrast to France, where strikes are also seen as important means to influence the state to take action (Larsson, 2014). Hence, strikes are often signs of political protest in France. Trade unions in France are also traditionally conflict-ridden and politicized (Le Queux & Sainsaulieu, 2010). Strikes are considered a cultural good in France that represent the most influential way to achieve unions' goals (Ancelovici, 2008). These industrial relations systems differences make it likely that French people report higher values in their willingness to strike, strike attitudes, and non-normative strike behavior, but preliminary evidence from the only study so far points to higher values among Germans (Vesper & König, under review). Given this inconsistency, we pose the following research questions:

Research Question 1: Do French and German participants differ in their willingness to strike?

Research Question 2: Are there differences in strike attitudes between French and German participants?

Research Question 3: Do French and German participants differ in their agreement to non-normative strike behavior?

Finally, our study allows to explore whether German and French participants differ in their levels of anger, empathy, observer justice sensitivity and victim justice sensitivity. Given the lack of theoretical arguments for German-French differences and the dearth of empirical studies that compared these variables in the two countries (the two exceptions being Chopik et al., 2017, and Marx, 2020), we decided to only pose research questions regarding the differences between the two countries.

Research Question 4: Do French and German participants differ in their levels of anger?

Research Question 5: Are there differences in empathy between French and German participants?

Research Question 6: Do French and German participants differ in their observer and victim justice sensitivity?

Table 21

Similarities and Differences in the Industrial Relations Systems of France and Germany

System Characteristics	France	Germany
Bargaining coverage (Bryson et al., 2011)	High	High
Level of bargaining (Besancenot & Vranceanu, 1999; Checchi & Visser, 2005; Sano & Williamson, 2008)	Sector or industry	Sector or industry
Hostility of the industrial relations system	Polarized/state-centered industrial relations system – fragmented trade unions and high hostility from employers/organizations (Larsson, 2014)	Social-partnership with corporatist relation between employers, trade unions, and the state (Dribbusch, 2016)
Union density (International Labour Organization (ILO), 2019a)	7.9%	17.0%
Number of days lost due to strikes	Worldwide number one (Frindert et al., 2021) 1,738,537 in 2016 (ILO, 2019b)	Low strike country (Vandaele, 2016) 209,435 in 2016 (ILO, 2019b)
Strike regulations (Warneck, 2007)	Individual right guaranteed by the constitution	Based on case law and certain regulations such as linkage to a collective agreement and initiation of a strike by a union. Unions follow the ultima ratio principle – strikes as a last resort
Peace obligation (prohibits strikes and other forms of collective action during the time of collective agreement; Warneck, 2007)	No	Yes

Methods

Sample

Data were collected through an (online) survey among French and German employees, who were approached via social media, trade unions, or in front of their companies between August 2020 and March 2021. In total, 581 participants completed the study in the region where France and Germany share a border. After data collection, several steps were conducted to ensure data quality and to exclude careless responders (Meade & Craig, 2012). First, six participants chose the option "No" when asked whether their entries could be used for scientific analyses (Meade & Craig, 2012); hence, they were not included in the analyses. Second, to take care of swift completion, we assessed whether any participant filled out the items quicker than the rate of two seconds per item (Huang et al., 2012), which was the case for eight participants who were also excluded from further analyses. Third, long strings (i.e., how often a participant chose the same response option in sequence) greater ten items (where the "elbow" appeared in the data, see Johnson, 2005) were determined (n = 10). The analyses in this study were performed without these participants (Johnson, 2005; Niessen et al., 2016). Fourth, only participants who were currently employed were included in the analyses, leading to the exclusion of 62 participants. Finally, we excluded participants who were cross-border workers (living in one country but working in another, n = 71). This procedure was based on the specifications in the study's preregistration (available at https://aspredicted.org/blind.php?x=8he2jt). After these steps, N = 424 participants were included in the analyses. Of these, 50.0 % were female, 49.8 % were male, and 0.2 % non-binary. This final sample consisted of 231 German and 193 French participants, with an overall mean age of 41.21 years (SD = 11.56). In the German sample, the mean age was 40.02 years (SD = 11.87), and in the French sample 42.62 years (SD = 11.04).

Materials

To assess *justice sensitivity*, we used five items per sub-scale of the German justice sensitivity scale from Schmitt et al. (2005), which also exist in a French translation (Faccenda et al., 2008). The items are answered on a scale from 0 = *totally disagree* to 5 = *totally agree*. A sample item for victim justice sensitivity is "It annoys me when I am treated worse than others," and a sample item for observer justice sensitivity is "I am outraged when someone is undeservedly worse off than others." The reliability of the scales was good, Cronbach's $\alpha_{\text{victim justice sensitivity}} = .82$ and $\alpha_{\text{observer justice sensitivity}} = .87$ (all reliabilities per sample can be found in the Supplement Material).

Anger was measured with six items from Buss and Perry (1992). A sample item of this measure is "I get upset quickly, but my anger also evaporates quickly." We used the German translation from Herzberg (2003) and the French version from Bouchard (2007). The items were answered on a scale from 1 = *totally inaccurate* to 5 = *totally accurate*. The reliability of the scale can be considered satisfactory, Cronbach's $\alpha = .80$.

To assess *empathy*, we used four items from the subscale "empathic concern" from the Interpersonal Reactivity Index (Davis, 1983). For the French sample, we used the items from Braun et al. (2015) and Gilet et al. (2013) and for the German sample the version from Paulus (2009). The items are answered on a scale from 1 = *totally inaccurate* to 5 = *totally accurate*. A sample item is "I have warm feelings for people less fortunate than me." The scale exhibited satisfactory reliability in both samples, Cronbach's $\alpha = .78$.

We used the factors *negative reactions to strikes*, *legitimacy of strikes*, and *support of strikers* from the Strike Attitudes and Behavioral Reactions Scale (with three items for each factor, Vesper & König, 2022) to assess *strike attitudes*. Items were rated on a five-point Likert scale ranging from 1 = *do not agree* to 5 = *agree*. We used the translated French version and the original German version, translated for Vesper and König (under review). The

three scales showed good reliabilities in the two samples, Cronbach's $\alpha_{legitimacy}$ = .81, $\alpha_{negative\ reactions}$ = .88, and $\alpha_{support}$ = .84.

To measure *willingness to strike*, we used four items from Vesper and König (2022) following Akkerman et al. (2013), answered on a five-point Likert scale ranging from 1 = *not at all* to 5 = *very likely*. As with the strike attitude scale, we used the translated French version and original German version from Vesper and König (under review). An example item is "I would strike for more money." The reliability of the scale was good, Cronbach's α = .89.

Non-normative strike behavior was measured with five items from Adam-Troian et al. (2020). These French items were translated into German via an backtranslation process (Schaffer & Riordan, 2003). The items were answered on a scale from 1 = *totally disagree* to 7 = *totally agree*. A sample item was "I would occupy public facilities as a sign of protest." All items can be found in Table S1. The scale exhibited a satisfactory reliability, Cronbach's α = .84.

Procedure

Participants had to choose their preferred language first; this was followed by a short welcome page explaining the purpose of the study. Then, participants had to agree to the data privacy statement and give demographic information on their gender, age, current employment status, job experience in years, country of living, country they worked in, union membership, and previous strike participation. These were followed by the scales assessing justice sensitivity, anger, empathy, strike attitude, willingness to strike, and non-normative strike behavior. At the end of the questionnaire, participants had the opportunity to give comments, indicated whether their data could be used for scientific purposes, and could participate in a lottery to win one of four gift cards.

Statistical Analyses

All analyses were conducted using R Studio (R Core Team, 2019) and the R packages dplyr v. 1.0.8 (Wickham et al., 2021), ggplot2 (Wickham, 2016), lavaan (Rosseel, 2012), MBESS v 4.9.1 (Kelley, 2022), psych v 2.2.5 (Revelle, 2019), sirt v 3.11-21 (Robitzsch, 2021). Data and code are available at https://osf.io/9jtnd/?view_only=aa804d5c8e8844d8b9d46309548282d5.

Results

Preliminary Analyses

We conducted separate confirmatory factor analyses for each scale and each sample to test the fit of the proposed model before conducting the mediation and path analyses. This procedure is suggested by Sass (2011). All results regarding these CFAs and the measurement equivalence testing for the assessed scales between the two samples can be found in the supplemental online material. All CFAs exhibited good model fit in both samples and (partial) scalar measurement equivalence was established for all scales. Means, standard deviations, and zero order correlations can be found in Table 22.

Table 22

Means, Standard Deviations, and Correlations with Confidence Intervals

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Observer Justice Sensitivity	4.76	0.95								
2. Victim Justice Sensitivity	3.94	1.13	.22** [.13, .31]							
3. Anger	2.66	0.80	.17** [.07, .26]	.27** [.18, .36]						
4. Empathy	3.88	0.67	.43** [.35, .51]	.10* [.00, .19]	.09 [-.00, .19]					
5. Negative Reactions to Strikes	2.08	1.04	-.10* [-.20, -.01]	.10* [.00, .19]	-.07 [-.16, .03]	-.12* [-.21, -.03]				
6. Legitimacy of Strikes	3.99	0.84	.15** [.06, .25]	-.03 [-.12, .07]	.11* [.01, .20]	.21** [.12, .30]	-.64** [-.69, -.58]			
7. Support of Strikers	3.69	0.98	.22** [.13, .31]	-.06 [-.16, .03]	.10 [-.00, .19]	.25** [.16, .34]	-.62** [-.68, -.56]	.65** [.60, .71]		
8. Willingness to Strike	3.78	1.10	.21** [.11, .30]	.01 [-.08, .11]	.16** [.06, .25]	.16** [.07, .25]	-.54** [-.61, -.47]	.60** [.54, .66]	.62** [.56, .67]	
9. Non-Normative Strike Behavior	3.31	1.63	.27** [.18, .36]	.04 [-.06, .13]	.19** [.09, .28]	.16** [.07, .25]	-.46** [-.53, -.38]	.53** [.46, .60]	.59** [.52, .65]	.56** [.50, .63]

Note. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014).

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

Test of Hypotheses

To answer the hypothesis whether victim justice sensitivity and anger were positively related, we calculated the correlation between the two variables (H1, see Table 22). Victim justice sensitivity was significantly positive correlated with anger, offering support for H1. Regarding the hypothesis that victim justice sensitivity should be correlated with willingness to strike, strike attitudes and non-normative strike behavior (H2), we also calculated the respective correlations. The only significant correlation was with negative reactions to strikes (r = .10), lending no support for H2 as only one correlation was significant and this correlation was unexpectedly positive, indicating that people with higher victim justice sensitivity report more negative reactions to strikes

Anger was significantly positively related to willingness to strike, legitimacy of strikes, and non-normative strike behavior. This partly supports H3, as three out of five assumed correlations were significant and in the expected direction. To test whether anger mediates the relation between victim justice sensitivity and the dependent variables (H4), we calculated the indirect effects of victim justice sensitivity on the dependent variables via anger (following guidelines from MacKinnon et al. 2012). The 95% CI of the bootstrapped indirect effects excluded zero for all outcomes (Table 23). These results indicated a significant indirect effect on the dependent variables as mediated by anger, lending support to H5, see also Figure 9.

Table 23

Indirect Effects for Victim Justice Sensitivity via Anger

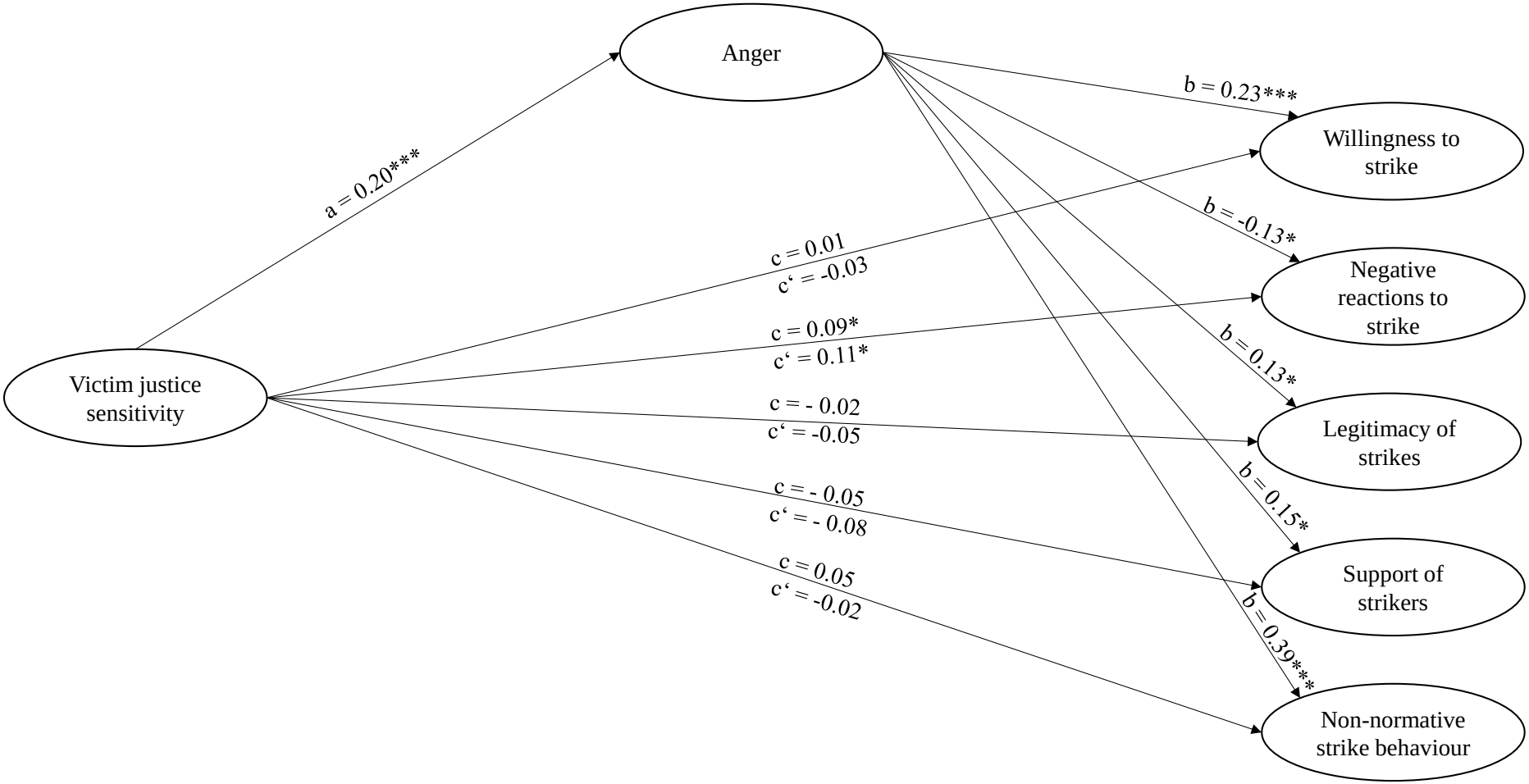
			95% CI	
	Estimate	*SE*	Lower	Upper
Willingness to strike	.05**	.02	.02	.08
Negative reactions to strike	-.03*	.01	-.06	-.01
Legitimacy of strikes	.03*	.01	.004	.05
Support of strikers	.03*	.01	.01	.06
Non-normative strike behavior	.08**	.02	.04	.13

Note. The 95% CI represents the 95% confidence interval for the bootstrapped indirect effects.

*$p < .05$, **$p < .01$, ***$p < .001$

Figure 7

Mediation Model of Victim Justice Sensitivity and Anger



Note. Values are standardized loadings. c represents the total effect of victim justice sensitivity on the outcomes; c‘ represents the direct effect of victim justice sensitivity on the outcomes.

** p < .05, **p < .01, ***p < .001.*

For observer justice sensitivity, we obtained significant correlations in the expected directions with empathy and all dependent variables, supporting H5 and H6. Empathy was also significantly related to all dependent variables, supporting H7. To answer the question whether empathy mediates the relation between observer justice sensitivity and the dependent variables (H8), we also conducted a mediation analysis. The 95% CI of the bootstrapped indirect effects included zero for willingness to strike, negative reactions to strike, and non-normative behavior, but not for legitimacy of strike and support of strikers (Table 24). Hence, the assumption that empathy mediates the effect of observer justice sensitivity on the dependent variables was only supported for legitimacy of strikes and support of strikers (see Figure 10).

Table 24

Indirect Effects for Observer Justice Sensitivity via Empathy

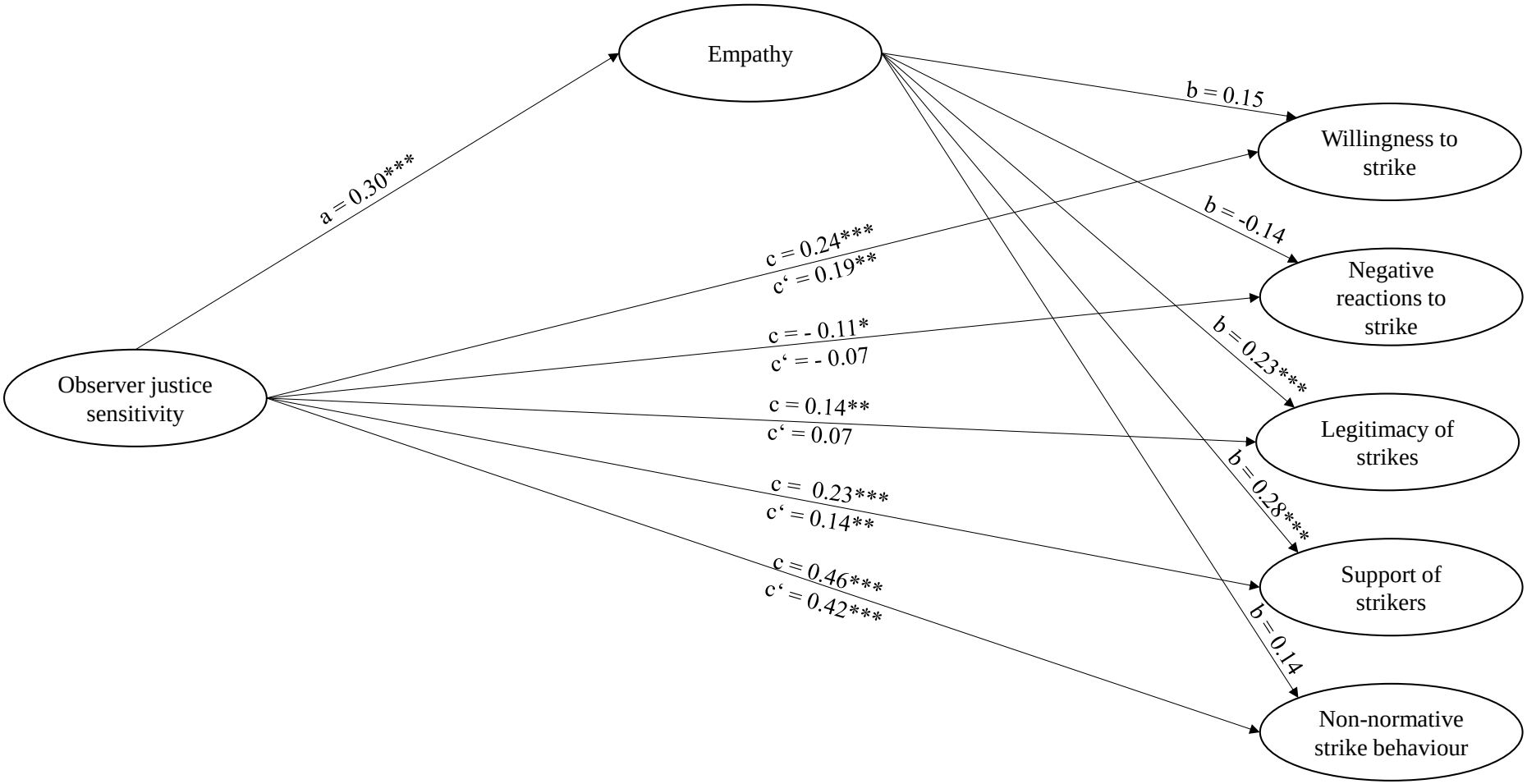
			95% CI	
	Estimate	*SE*	Lower	Upper
Willingness to strike	.05	.03	-.01	.11
Negative reactions to strike	-.04	.02	-.09	.01
Legitimacy of strikes	.07**	.03	.02	.12
Support of strikers	.09**	.03	.04	.14
Non-normative strike behavior	.04	.04	-.04	.12

Note. The 95% CI represents the 95% confidence interval for the bootstrapped indirect effects.

*$p < .05$, **$p < .01$, ***$p < .001$

Figure 8

Mediation Model of Observer Justice Sensitivity and Empathy



Note. Values are standardized loadings. c represents the total effect of observer justice sensitivity on the outcomes c‘ represents the direct effect of observer justice sensitivity on the outcomes.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Finally, we assessed whether country moderated these mediation models. To do this, we ran multi-group path analyses simultaneously comparing all paths across groups and tested for overall group differences using Wald-tests (Choate, 2019). For the model with victim justice sensitivity, country was no significant moderator of the mediation model, $Wald(3) = 2.07$, $p = .558$. Regarding the observer justice sensitivity model, the mediation models did not differ significantly between the two countries, $Wald(3) = 0.31$, $p = .958$. Hence, the mediation models can be assumed to be similar across both samples.

Test of Research Questions

As the scales were (partial) scalar equivalent between the two samples, we also conducted a multivariate analysis of variance for all assessed variables with country as the factor. We obtained overall significant differences, $F(9, 414) = 13.11$, $p < .001$, Pillai-Spur = 0.22. Post-hoc tests revealed that the two samples differed significantly in their observer justice sensitivity, $F(1, 422) = 9.25$, $p = .002$, willingness to strike, $F(1, 422) = 47.75$, $p < .001$, negative reactions to strikes, $F(1, 422) = 28.29$, $p < .001$, legitimacy of strikes, $F(1, 422) = 67.76$, $p < .001$, support of strikers, $F(1, 422) = 14.04$, $p < .001$, and non-normative strike behavior, $F(1, 422) = 8.86$, $p = .003$. French participants reported a higher observer justice sensitivity, lower willingness to strike, more negative reactions to strikes, lower legitimacy of strikes, lower support of strikers, and less non-normative strike behavior than German participants, which indicates that differences between both samples regarding all strike-related outcomes (RQ1-3) and observer justice sensitivity (RQ6) exist, but no differences exist regarding the traits of anger, empathy, and victim justice sensitivity (RQ4-6). All means can be found in Tables S2 and S3.

Discussion

The aim of this study was to show that trait variables such as justice sensitivity, anger, and empathy are also important predictors for strike-related outcomes next to different perceptions of specific situations. Although perceptions of injustice were found to be important predictors for participation and support of strikes (Kelloway et al., 2007; Leung et al., 1993; van Zomeren et al., 2008), our study extends these results by showing that trait differences in justice sensitivity, anger, and empathy are also significantly associated with strike-related outcomes. Particularly observer justice sensitivity was an important antecedent of willingness to strike, strike attitudes, and non-normative strike behavior – whereas victim justice sensitivity was only related to negative reactions to strikes but indirectly affected strike-related outcomes via anger. Indirect effects for observer justice sensitivity via empathy were only significant for legitimacy of strikes and support of strikers, despite empathy being associated with all strike-related outcomes. It can thus be assumed that the dispositions to perceive injustices, experience anger, and empathy influence how people approach strike-related outcomes in a significant way. Being more sensitive to observed injustices leads people to be more willing to engage in strikes and non-normative strike behavior themselves, experience fewer negative reactions to strikes, report more legitimacy of strikes, and being more willing to support strikers. The last two aspects are (partly) explained via being more empathetic with other people. Hence, those who are more sensitive to observed injustices experience more empathy with other people and this leads them to legitimize and support their behavior. Current models of collective action (e.g., SIMCA, van Zomeren et al., 2008) should thus consider adopting dispositional aspects to their frameworks.

Regarding victim justice sensitivity, strikes can be considered a strategy to protect one's rights in the workplace. Our results indicate that the link between victim justice sensitivity and strike-related outcomes runs indirect via anger. People with higher victim justice sensitivity were more likely to report higher trait anger, confirming previous research

(Gollwitzer et al., 2005; Rothmund et al., 2014). This aligns with the notion that people high in victim justice sensitivity fear being exploited and treated unfairly compared to others (Gollwitzer et al., 2009). People who are more likely to experience anger were also more willing to participate in strikes. Furthermore and nicely fitting to previous studies (Owuamalam et al., 2016; Shuman et al., 2016; Tausch et al., 2011), anger was positively related to non-normative strike behavior, supporting the assumption that those who are angrier tend to show more non-normative behavior. The indirect effects of victim justice sensitivity via anger on the strike-related outcomes were also significant. However, this result must be assessed with caution as victim justice sensitivity was not significantly related to any outcome other than negative reactions to strikes, and anger was only significantly related to willingness to strike, legitimacy of strikes, and non-normative strike behavior. Anger has previously been found to mediate the effect of injustice on willingness to participate in collective actions (van Zomeren et al., 2008). Hence, future research should further assess whether the indirect effects that we obtained can be replicated.

As people high in victim justice sensitivity are more prone to show self-centered, self-protective behavior and are afraid of being disadvantaged (Gollwitzer et al., 2009), it is comprehensible that victim justice sensitivity was positively related to negative reactions to strikes. Strikes could affect their daily lives and hence lead to negative effects, such as having to change travel plans. Thus, people who are more prone to perceive self-experienced injustice might view strikes in general more as something that affects them negatively. Furthermore, it is possible to assume that people who are prone to perceive injustices that affect themselves are also more likely to experience stress, strain, and anger by strikes. Hence, they might more easily evaluate themselves as victims of a strike, leading to more negative reactions via experiencing anger. This is in line with findings that people high in victim justice sensitivity were more willing to protest perceived injustices (Schmitt, 1996) and that people with a higher victim justice sensitivity showed a stronger emotional reactance against

political reforms that contained personal or group-based disadvantage (Traut-Mattausch et al., 2011).

Observer justice sensitivity was also significantly related to all strike-related outcomes in the expected directions. Thus, people with a higher observer justice sensitivity expressed more willingness to strike, fewer negative reactions to strikes, more legitimacy of strikes, more support of strikers, and a higher intention to engage in non-normative strike behavior. This fits with previous research that observer justice sensitivity goes along with more prosocial behavior and willingness to punish those who are made responsible for the injustices (Lotz et al., 2011; Rothmund et al., 2014). Support of strikers and legitimacy of strikers can be assumed to be prosocial behavior, thus leading people with higher observer justice sensitivity to report more of those behaviors. Furthermore, non-normative strike behavior could be assumed to be a punishment for those responsible for the observed injustices. In addition, we confirmed previous research (Gollwitzer et al., 2009; Schmitt et al., 2005) in finding that participants with a higher observer justice sensitivity reported being generally more empathetic. Empathy was also significantly related to all strike-related outcomes in the expected direction. This indicates that people with higher empathy are also willing to exhibit prosocial behaviors such as supporting strikers or legitimizing strikes, as well as are willing to participate in (non-normative) collective action. Together with the research from Selvanathan et al. (2018), our study is a first step in showing that empathy might be a relevant construct in strike and collective action research. It thus supports and extends the idea of Heaphy et al. (2022) that prosocial emotions such as empathetic concern influence employee voice, in our case collective voice. This is further supported by the two significant indirect effects of observer justice sensitivity via empathy on legitimacy of strikes and support of strikers. People who perceive more observed injustices are hence more empathetic and this leads them to perceive strikes as more legitimate and strikers as deserving their support.

However, we did not find significant indirect effects of observer justice sensitivity via empathy on willingness to strike, negative reactions to strikes, and non-normative strike behavior. This warrants further research as both observer justice sensitivity and empathy were significantly related to these outcomes. One reason might be that we assessed empathy as a trait. It could be possible that the specific empathy with potential strikers mediates the relation between observer justice sensitivity and the strike-related outcomes.

We were able to show that the proposed models were similar in both samples, indicating that despite their clear differences in industrial relations systems and strike statistics, the assumed models operated similarly in Germany and France. Nonetheless, we did obtain significant mean differences between both countries in observer justice sensitivity, willingness to strike, negative reactions to strike, legitimacy of strikes, support of strikers, and non-normative strike behavior. French participants reported being more observer justice sensitive than German participants. As no previous study directly assessed differences between these two countries in their justice sensitivity, we can only invite future research to assess whether this difference can be replicated and what underlying reasons might be.

Regarding the differences in the strike-related outcomes, these were contrary to the expectations that French participants would report more positive attitudes to strikes based on the higher frequency of strikes. However, they replicate previous findings from Vesper and König (under review) who also observed that German participants reported the highest willingness to strike and most positive strike attitudes compared to French and British participants. Reasons for this might be that French employees have more experience with strikes and view strikes not as positive as German participants. This also warrants future research to assess causes for these differences.

Limitations, Future Research, and Implications

As all studies, this study is not without limitations, the most important one being that our data is cross-sectional, thus making causal claims impossible. Nonetheless, the reverse direction from behaviors (willingness to strike, non-normative strike behavior, support of strikers) and attitudes (negative reactions to strikes, legitimacy of strikes) to victim and observer justice sensitivity as personality traits seems unlikely. Furthermore, as we found the same results in two samples for which we established measurement equivalence, we are cautiously optimistic that our model is generalizable and valid. Future research is nonetheless encouraged to conduct longitudinal studies to enhance the probability of claiming causal directions.

Future research could additionally assess whether victim justice sensitivity is related to the strike-related outcomes when it comes to a real strike. We can assume that being struck by a strike as affected third party might influence the relation of victim justice sensitivity to the strike-related outcomes. Furthermore, future research should also test the traits justice sensitivity, empathy, and anger as additions to the SIMCA (van Zomeren et al., 2008). As the aim of our study was not to test the SIMCA, we did not assess perceived injustices, group-based anger, or group-based efficacy, but a future study could be designed as a SIMCA test while implementing the trait variables that we assessed. Our study indicates that trait differences might already be able to explain to some extent why certain people participate in strikes and why others do not. Additionally, further cross-cultural replications are warranted to ensure that the underlying psychological logic of our model functions similarly despite differences in industrial relations systems. Finally, the results of Fortin et al. (2020) imply that a variety of justice rules exist. Incorporating these together with justice sensitivity into research on strikes and collective action seems promising to enhance our understanding of why employees participate in strikes.

From a practical perspective, willingness to strike is important for unions to assess how successful a potential call for strike would be. Hence, knowing about the willingness to strike can be crucial for the planning of bargaining procedures (Barling et al., 1992). This also applies to employers who need to plan further activities. Previous research on willingness to strike has found that it was higher among those who perceived a high instrumentality of participation (Kelloway et al., 2007), had social support from their colleagues (Jansen et al., 2017), were loyal to their union (Barling et al., 1992; Born et al., 2013), and experienced injustices (Cloutier et al., 2013; Kelloway et al., 2007). Our study added to these results in showing that observer justice sensitivity and anger are also important predictors for willingness to strike, opening further avenues for unions and employers to deal with willingness to strike.

Conclusion

This study aimed at assessing whether the traits victim and justice sensitivity were related to willingness to strike, strike attitudes, and non-normative strike behavior and whether these relations were mitigated via the traits anger and empathy. Observer justice sensitivity and empathy were significantly related to all outcomes, whereas victim justice sensitivity was just related to negative reactions to strikes and anger was only related to willingness to strike, legitimacy of strikes, and non-normative strike behavior. We were also able to show that the assumed models were similar in samples from Germany and France. Future research can further assess these relations for example via integrating these traits in the social identity model of collective action (van Zomeren et al., 2008) and thus extend the research from perceptual differences in individual situations to trait differences. For unions and employers, our study shows that it is important to consider how people perceive injustices and how empathetic they are when it comes to strikes. Finally, further cross-cultural

replications are needed as industrial relations systems vary widely, but the underlying processes might be similar across cultures.

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CHAPTER VIII - CONSTRUAL LEVEL AND WILLINGNESS TO STRIKE

Does temporal or spatial distance influence willingness to strike? Testing the applicability of the construal level theory to an industrial relations phenomenon

A submission to *Economic and Industrial Democracy*

Abstract

Employee's willingness to strike is a crucial aspect of strike preparation. However, research on how to enhance willingness to strike has been sparse. We conducted two experiments testing whether the spatial and temporal distance of a strike influenced the willingness to strike. The first experiment (N = 266) tested whether willingness to strike would decrease with heightened spatial distance; the second experiment (N = 259) whether willingness to strike would increase with an increase in temporal distance. We only found support for the spatial distance hypothesis. Future research should assess whether these effects can also be found in the field.

Despite the decline in unionization over the last years (Crouch, 2017), strikes have remained a powerful weapon during collective bargaining. In the last 10 years, at least 44,000 work stoppages have taken place worldwide (Gammarano, 2019). Hence, strikes can be a useful tool, especially for unions, to show their strengths and claim improvements at work. However, unions must consider new factors that might influence employees' willingness to strike due to approaching changes in workplaces. These changes include the heightened willingness of employees to work from home as indicated by a recent poll by McKinsey and Company (Alexander et al., 2021). Thus, the growing spatial distance between employees due to hybrid virtual working models might be one factor that influences the willingness to participate in strikes. Furthermore, with the ability to work from virtually everywhere, unions might also need to inform their members earlier about upcoming collective actions to allow them to prepare for these. Hence, next to spatial distance, temporal distance might as well be a crucial factor affecting the willingness to strike among employees.

A theory that uses different kinds of distances to predict behavioural intentions and behaviours is construal level theory (Trope & Liberman, 2003, 2010). This theory has been applied to diverse fields of research such as consumer behaviour (Eyal et al., 2009) or procrastination (McCrea et al., 2008). So far, it has not been applied to research on strikes, but it should provide valuable insights into cognitive processes that make it more likely that employees will agree to participate in a strike. That is why the following two experiment aim at understanding whether the manipulation of distance has an influence on the willingness to strike. For this, spatial distance was manipulated in the first experiment with participants imagining working either in their office or from home. In the second experiment, temporal distance was manipulated with a scenario either stating that a strike would take place on the next day or in six months. In both experiment, willingness to strike as well as the attitudes to these specific strikes were assessed.

The two experiments contribute to the literature in two important ways: First, we test the applicability of construal level theory on a collective voice phenomenon that is strikes and

the intention to participate in strikes. Second, we show that spatial and temporal distance can exhibit different effects on the same outcome (willingness to strike).

Theory

Research on Strikes

A strike can be defined as a temporary work stoppage that is initiated by a union or by employees (Monnot et al., 2011). The aim of a strike is mostly to express implicit grievances such as inadequate working conditions, working hours that are too long or wages that are too low. In most countries, unions have a crucial role when it comes to strikes as they can be the only ones allowed to call for strikes (e.g., in Germany, Dribbusch, 2007). Hence, strikes are a powerful instrument for unions to exhibit their strength during collective bargaining (Nicholson & Kelly, 1980).

From a psychological perspective, understanding strikes can help to gain a deeper understanding of organisation structures and their members. Some previous research has nevertheless examined what antecedents of strikes, effects during strikes, and consequences of strikes are. During and after a strike, strikers often suffer from psychological stressors such as financial worries or fear for one's job, uncertainty about the outcome, and new group conflicts (e.g., Fowler et al., 2009). For example, Barling and Milligan (1987) surveyed union members shortly after an unsuccessful strike, two months, and six month after the end of the strike. Participation in this strike was correlated positively with relationship problems, psychosomatic symptoms, and reduced well-being, even six months after the strike had ended. In a more recent study, Turner et al. (2020) were able to show that strikers reported significantly better mental health than workers who were locked-out. The authors explained this finding with the idea that actively participating in a strike can be interpreted as a coping strategy. This notion was also supported by research from Fowler et al. (2009), who reported that the level of depression and anxiety was lower among those strikers who were more

involved in strike activities. Thus, strikes can have long lasting effects on strikers and their environment.

Regarding antecedents of strikes, willingness to strike has been found to be the best predictor of actual strike participation (Martin & Sinclair, 2001). Other antecedents of strikes were perceived injustice (Cloutier et al., 2013), low trust in management (Born et al., 2013), or job flexibility (Jansen et al., 2017). Research on willingness to strike can be useful to minimize harmful intra- and interpersonal effects of strikes It can also be used to predict future strike participation of employees.

From a union perspective, it is crucial to further understand the decision of employees to join strikes to ensure its success. From the employer's perspective, it is also crucial to understand why employees join strikes. According to Chawla et al. (2018) employers should interpret participation in union activities positively as this indicates that the employees are willing to resolve the problems through collective voice rather than leave the organization. A possible influence on employee's willingness to strike could be the perceived distance of the strike. A theory that uses different types of distances to explain behaviours is construal level theory (Trope & Liberman, 2010).

Construal Level Theory

Construal level theory posits that every reflection about the future and future decisions can be understood as a mental construct, in which distant objects are represented (Trope & Liberman, 2010). Objects or decisions are then distant if they have to be mentally constructed first and do not take place in the here and now as a part of the immediate physical experience (Liberman et al., 2007). Hence, these distances must be overcome to take a decision or plan an action. For example, when asked about the willingness to participate in a strike, an employee must first create a mental representation of the future and where the strike will take place to answer the question. According to the theory, this in turn is influenced by the psychological distance that lies between the employee and the event. These distances are

more than just physical distances: They are subjective experiences with an egocentric referent point (Trope & Liberman, 2010).

The key message of construal level theory is that with growing distance, the mental representation of actions and objects changes. These representations become more abstract as the distance grows. With growing abstractness of a representation, more minor details are left out and the representations become more prototypical, simpler, and more schematic (Trope & Liberman, 2010). Hence, actions in the future are planned in a rather abstract manner instead of a concrete manner to react in a more flexible way on changes, whereas actions with a low psychological distance have concrete representations which focus on the feasibility and the "how" (Trope & Liberman, 2010). A classic example is that we see the forest from a distant perspective but the trees from a proximal perspective (Liberman et al., 2002). Construal level theory can also be applied to diverse research fields. It has, for instance, been used for research on procrastination (McCrea et al., 2008), reward allocation (Stillman et al., 2018), risk avoidance (Polman, 2012), and prediction of consumer behaviour (Wiesenfeld et al., 2017).

Construal level theory seems particularly useful when it is applied to the prediction of goal-directed behaviour. This is precisely what is at stake when considering the willingness to strike and the question of when and under what circumstances people decide to participate in a strike. The theory distinguishes spatial, temporal, social, and hypothetical distances which have a common underlying meaning that is psychological distance (Trope & Liberman, 2010). All these distances might, to different extents, influence employees' attitudes and willingness to strike. However, of the four distances proposed by the construal level theory, the spatial and the temporal could be especially important in influencing employees' decisions to participate in a strike.

Spatial Distance

The effect of spatial distance on actions and decisions has been examined in several studies. For example, Henderson et al. (2006) found that participants structured behavior in

fewer units when the behavior was spatially distant than near. They also showed that participants attributed behavior more to enduring dispositions when the behavior was spatially distant rather than near. Hence, increasing spatial distance led the participants to represent information in a more general, prototypical way. In another study, Henderson et al. (2006) examined whether spatial distance had an effect on the probability rating of scenarios which differed in their typicality. They found that typical events were reported to be more likely and atypical events to be less likely when these were more spatially distant. The authors argued that people might find it easier to imagine and plan atypical events if they take place in a spatially close setting than in a spatially distant setting. This aligns with the argument that distant actions are represented with stable and enduring mental representations. In a study that used Twitter data, van Lent et al. (2017) found that expressions of fear regarding Ebola and also public attention to the disease mostly responded to psychologically close than far events. The authors related epidemiological data of Ebola infections to tweet volumes with expressions of fear for oneself or for others and psychological distance of the outbreak to the tweet source. They found that the public attention and fear for oneself was the highest when Ebola was spatially closer (van Lent et al., 2017).

Strikes can be understood as a rather atypical event in an employee's working life. Employees who are spatially distant from their employer due to working from home, could perceive a strike call as more abstract. Furthermore, personal, as opposed to virtual, presence at the workplace has a positive influence on cooperation and collaboration (Kiesler & Cummings, 2002; Raghuram et al., 2019). Hence, we could assume that a spatially distant setting, such as working from home, would lead employees to think in a more abstract way about the workplace and perceive the grievances also as more distant. This could in turn reduce employee's willingness to strike and their support of strikers compared to employees who are working in their office. This could be caused by the perception of other team members and their concerns as being subjectively more distant, even if a comparable amount of information on the current situation is available.

Thus, we hypothesize*: A spatially distant setting (i.e., working from home) will decrease the willingness to strike compared to a spatially close setting (i.e., working in the office; H1).*

Temporal Distance

Besides spatial distance, temporal distance could also be important when it comes to strikes. Especially for unions, the question when to call for a strike can be crucial for their mobilization potential and hence the success of a strike. So far, there has been extensive research on temporal distance within construal level theory research (Trope & Liberman, 2003). A typical operationalization is that participants are asked to imagine a temporally close or distant point in the future. Sánchez et al. (2021)used this operationalization in a large-scale replication study. Participants were asked to imagine either a time in the future on the next day or in one year. They found a significant effect of temporal distance: Participants who imagined a time in one year described activities more abstract compared to participants who imagined a time on the next day.

Furthermore, temporal distance has been shown to influence the salience of pro and con arguments. Trope and Liberman (2010) asked their participants to create arguments for and against a change of the exam regulations. The participants were either told that the changes should take place in the near or in the distant future. They found that participants reported more arguments for the change when the temporal distance was greater. They argued that this can be explained with pro-arguments becoming more salient than con-arguments with growing temporal distance

Next to generating pros and cons or rating different types of behaviour, behavioral intentions can also be affected by differing temporal distances. Following construal level theory, an abstract representation of a behaviour pronounces the “why” while a concrete representation rather emphasizes the “how” (Trope & Liberman, 2010). For example, Eyal et al. (2004) found that participants reported stronger behavioral intentions for the distant future compared to the close future. Trope et al. (2007) also reported that participant’s general

attitudes were better predictors of their behavioral intentions for distant future opportunities than for near future opportunities. These patterns were also found in a study assessing the willingness to quit smoking among Norwegian students (Kovač & Rise, 2011). The students responded either to the intention to quit smoking in one month or in six months. The correlations between the predictors for quitting smoking (moral norms, group identity, and volition) and the intention to quit smoking were larger in the six months condition compared to the one-month condition, thus supporting the predictions of construal level theory. Another study showed that the intention to donate blood was higher when the temporal distance was greater (one year) versus when it was smaller (one week or three months; Choi et al., 2011).

Thus, reasons for and against participating in a strike should be weighted differently depending on the temporal distance to the strike. This should apply if the pro-arguments refer to desirable features of participating in a strike, such as the promised consequences, while aspects of feasibility, such as having time to strike the next day, tend to form the contra-arguments. As a strike with growing temporal distance is not that easily represented in a concrete form, moral norms, values, and beliefs are more important than questions of feasibility and contra-arguments. Hence, as pro-arguments become more salient with growing temporal distance and behavioral intentions are also higher for temporally distant settings, these aspects should also influence the willingness to strike.

Put more formally, we hypothesize: *A temporally distant setting (i.e., strike in six months) will increase the willingness to strike compared to a temporally close setting (i.e., strike tomorrow; H2).*

Construal Level Theory and Strike Attitudes

Research on moral and political attitudes has also used construal level theory (Alper, 2020). These studies found on the one hand that moral and political attitudes were sharpened and polarized with increasing distance as the ideological core values become more salient with growing distance. On the other hand, some studies found the opposite: Higher

abstractness led to a reduced negative evaluation of moral transgression and also a reduced positive evaluation of moral behaviours (Gong & Medin, 2012). Alper (2020) explains this with the interpersonal variation in core values, confounding effects of utilitarian thinking styles, and different effects of different abstractness' manipulations. Hence, the effects of construal level on attitudes are not unequivocal. That is why we decided to assess the effect of spatial and temporal level on strike attitudes from a rather explorative stance. It is possible that for participants in the working from home condition the social environment that fosters positive attitudes to this strike is missing and hence, they evaluate this strike based on their core values. This aligns with assumptions from the social identity model of collective action (SIMCA; van Zomeren et al., 2008), which states that collective action becomes more probable with growing identification with the respective social group. Employees who are working from home have fewer opportunities to communicate and identify with their colleagues and exchange their thoughts about a potential strike. Thus, when these personal interactions in the working life are reduced, the construal level of the looming strike might increase and with it the abstractness of the mental representations (Wiesenfeld et al., 2017). Furthermore, as the group identification might be reduced, the subjective commitment to take part in a collective action could also decrease. This would lead to the assumption that next to the willingness to strike, the attitudes to this strike are also decreased when people are spatially distant. However, a contrary result seems also plausible. Following Alpers' (2020) line of arguments, people whose core values include showing solidarity with disadvantaged groups might also report more positive attitudes to a specific strike. Hence, the more concrete that is spatially/temporarily closer setting would result in more positive attitudes to a specific strike.

Thus, we pose following research questions, which we will test in the two following experiments: *Do the effects of spatial and temporal distance on willingness to strike transmit to strike attitudes? Does spatial distance influence the attitudes to a specific strike (RQ1)? Does temporal distance influence the attitudes to a specific strike (RQ2)?*

Method

The data of both experiments is available at https://osf.io/cpmv8/?view_only=a2904bd2d1bd4509a4b50835221b3f29.

Study 1

This experiment was preregistered. The preregistration can be found here: https://aspredicted.org/blind.php?x=7d9za6.

Sample

Participants were recruited online via social networks. In total, 336 people participated in Study 1. Of these, 63 had to be excluded because they did not consent to the use of their data for scientific purposes (Meade & Craig, 2012). Furthermore, seven participants were excluded because they produced outliers that were larger than ±2 standard deviations (Aguinis et al., 2013). Thus, the final sample consisted of 266 participants (154 in the office scenario). In the final sample, 42.9 % were female, 56.8 % were male, and the mean age was 44.57 (*SD* = 12.48).

Design and Procedure

After a welcome page, participants had to indicate whether they had currently the opportunity to work from home. Participants who chose the option “No” were directed to the office scenario to ensure that the scenario was realistic for them. Those who indicated that they had the opportunity to work from home were randomly assigned to the office or the work from home scenario. The scenarios stated that the participants either worked from their office or from home and that the responsible union thought that their employer did not appreciate the Covid-19 circumstances enough. Hence, they called for a warning strike on the next day in front of the city hall. The scenarios can be found in the appendix. The “next” button on the page with the scenario appeared after 10 seconds to ensure that the participants read the scenario. After the scenario, participants had to answer the willingness to strike

items, the strike attitude items and some demographics. This was followed by the question whether their data could be used for scientific purposes. Then participants were thanked for their participation and told who they could contact if they had any further questions.

Measures

Willingness to strike was measured with five items. The first item measured the general willingness to strike based on the call of the union and read "How likely would it be that you would follow such a call to strike?" The other four items assessed the reasons the participants would strike for. A sample item is "How likely are you to participate in this strike to strike for better working hours?" All items had to be answered on a five-point scale from 1 = "Very unlikely" to 5 = "Very likely." The reliability of the scale was satisfactory, Cronbach's $\alpha = .87$.

Attitudes to strikes were measured using twelve items (i.e., three items per factor) from the Strike Attitudes and Behavioural Reactions Scale (SABeRS, Vesper & König, 2022). Participants were asked to rate "On a scale from 1 (do not agree) to 5 (agree), please indicate to what extent you agree with these statements." Items can be found in Table 25. The factors were "negative reactions to strikes," "legitimacy of strikes," "informing oneself about strikes," and "strike-related social network behaviour." The reliabilities of the four factors were satisfactory, ranging between Cronbach's $\alpha = .67$ and $\alpha = .85$.

Table 25

Items of the Strike Attitude and Behavioral Reactions Scale (Vesper & König, 2022)

Factor	Item
Negative reactions to strikes	I feel disturbed by this strike.
	This strike strains myself.
	I am annoyed by this strike.
Legitimacy of strikes	This strike is necessary.
	This strike is justified.
	This strike is a waste of time.
Informing oneself about strikes	I read about this strike in the news.
	I am interested in the reasons behind this strike.
	I acquire background knowledge about this strike myself.
Strike-related social network behaviour	I share information about strikes on the social media.
	I comment on posts about strikes on the social media.
	I take a look at posts about strikes on social media.

Note. Items were rated on a scale from 1 = do not agree to 5 = agree.

Statistical Analyses

To answer H1 (i.e., willingness to strike is higher for the office-group compared to the work from home-group), an independent t-test was calculated with the dependent variable willingness to strike and the factor group (office vs work from home). Regarding the research question that the attitudes to strike could be influenced by the spatial distance, a MANOVA

was calculated with the four factors of the strike attitude scale as dependent variables and group as independent variable.

Study 2

This experiment was also preregistered. The preregistration of this experiment can be found here: https://aspredicted.org/blind.php?x=r9vc9r.

Sample

Participants were also recruited online via social networks. Overall, 373 people participated in Study 2. Thereof, 114 had to be excluded due to their missing consent to the use of their data for scientific purposes (Meade & Craig, 2012). Thus, the final sample consisted of 259 participants (124 in the six-months scenario). The mean age was 39.46 (*SD* = 13.10) and 61.4 % were female, and 38.2% were male.

Measures

Willingness to strike and *attitudes to strike* were measured with the same items as in Study 1.

Design and Procedure

After a welcome page, participants were randomly assigned to the tomorrow or the six-months scenario. The scenarios stated that the participants worked from their office and that the responsible union thought that their employer did not appreciate the Covid-19 circumstances enough. Hence, they called for a warning strike either on the next day or in six-month in front of the city hall. We chose these time frames based on previous studies (Fujita et al., 2006; Kovač & Rise, 2011; Liberman et al., 2002). The scenarios can be found in the appendix. To ensure that the participants read the scenario the “next” button on the page with the scenario appeared after 10 seconds as in Study 1. The scenario was followed by the willingness to strike items, the strike attitude items and some demographics. Then participants had to answer whether their data could be used for scientific purposes. In the end, participants

were thanked for their participation and told who they could contact if they had any further questions.

Statistical Analyses

To answer H2 (i.e., willingness to strike is higher for the six-months-group compared to the tomorrow-group), an independent t-test was calculated with the dependent variable willingness to strike and the factor group (six-months vs tomorrow). Regarding the research question that the attitudes to strike could be influenced by the temporal distance, a MANOVA was calculated with the four factors of the strike attitude scale as dependent variables and group as independent variable.

Results

Tests of Hypotheses

Study 1

To test H1 that is whether people who read a scenario that they work from their office report a higher willingness to strike compared to people who read a work from home scenario, an independent t-test was calculated. The results of the t-test supported H1, $t(223.07) = -2.48$, $p = .012$, Bootstrap-CI [-.63, -.07], Cohen's $d = -0.31$. Participants in the office scenario reported a significantly higher willingness to strike compared to participants in the work from home scenario. Means and standard deviations can be found in Table 26.

To answer RQ1 that is whether strike attitudes are influenced by spatial distance, a MANOVA with the four strike attitude factors as dependent variable was conducted. A significant difference was found, Pillai-Spur = 0.065, $F(4, 261) = 4.53$, $p = .001$, $\eta_p^2 = .065$. Post-hoc tests revealed that participants in the office scenario reported significantly fewer negative reactions to strikes than participants in the work from home scenario, $F(1, 264) = 4.08$, $p = .007$, $\eta_p^2 = .027$. Furthermore, participants in the office scenario evaluated the

legitimacy of the strike significantly higher as participants in the work from home scenario, $F(1, 264) = 17.45$, $p < .001$, $\eta_p^2 = .062$. Participants in the office scenario also indicated that they would inform themselves more about the strike as participants in the work from home scenario, $F(1, 264) = 4.03$, $p = .014$, $\eta_p^2 = .022$. There was no significant difference between the two groups in the strike-related social network behaviour. Thus, RQ1 can be answered with yes, spatial distance can have a significant influence on strike attitudes.

Study 2

To test whether participants in the six-months scenario reported a higher willingness to strike compared to participants in the tomorrow-scenario (H2), a t-test was calculated. There was no significant difference among the two groups, $t(257) = -0.190$, $p = .850$, Bootstrap-CI [-0.24, 0.29], Cohen's $d = -0.02$. Hence, H2 was not supported. Means and standard deviations can be found in Table 26.

To test whether the temporal distance influenced the strike attitudes (RQ2), a MANOVA with the four strike attitude factors as dependent variables was calculated. There was no significant difference in the strike attitudes between the groups, Pillai-Spur = 0.012, $F(4, 254) = 0.80$, $p = .528$, $\eta_p^2 = .012$. Thus, RQ2 can be answered with no, we could not find an influence of temporal distance on strike attitudes in this experiment.

Table 26

Means and Standard Deviations

	Willingness to strike		Negative reactions to strikes		Legitimacy of strikes		Informing oneself about strike		Strike-related social network behavior	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Study 1										
Office group	4.01	1.04	1.41	0.67	4.59	0.59	4.36	0.68	2.86	1.31
Work from home group	3.67	1.17	1.66	0.84	4.19	0.96	4.11	0.97	2.71	1.31
Study 2										
Tomorrow group	3.64	1.09	2.00	0.96	3.83	1.01	3.78	1.04	2.59	1.19
Six months group	3.66	1.10	1.88	0.94	4.01	0.92	3.96	0.91	2.78	1.18

Discussion

The aim of these two experiments was to assess whether the predictions of construal level theory can be applied to the field of strikes. This is important as unions are facing considerable changes. Unionization has been declining for some time (Bryson et al., 2019) and hence, unions need to ensure that they are still be seen. One tool to show their existence and power they can use during collective bargaining are strikes. These two experiments investigated the influence of spatial and temporal distance on willingness to strike and attitudes to this specific strike. The hypotheses of our experiments were based on research results on construal level theory. According to these, an increasing psychological distance should lead to more abstract mental representations of the respective action. Hence, more distant events should be represented in a more general, de-contextualized form (Trope & Liberman, 2003). Our results partly support these assumptions. In Study 1, we assessed whether working from home or working in the office influenced the willingness to strike and the attitudes to this strike of the participants. We confirmed that a spatially distant setting led participants to report a reduced willingness to strike and to report more negative attitudes to this strike compared to participants with a spatially closer setting. Study 1 supports the assumption that the behavioral readiness decreases with an increasing degree of spatial distance and increases with stronger contextualization and less spatial distance. Participants, who imagined working from their office, seemed to perceive the strike as more concrete and tangible, as they were able to connect this strike with their office environment and colleagues.

In Study 2, we examined whether a greater temporal distance would increase the willingness to strike and lead to more positive attitudes to strikes among the participants compared to a smaller temporal distance. However, contrary to our assumptions, we were not able to find an effect of temporal distance on either willingness to strike or attitudes to this strike. Hence, our second experiment did not support the assumptions of construal level theory, as we were not able to find a significant effect of temporal distance on willingness to

strike or attitudes to this specific strike. One explanation for this could be that the influence of temporal distance might have been not strong enough and other factors might have dominated the decisions of the participants. For example, one must consider what is understood as a small, a medium, or a large distance. Is the spatial distance between working from home as opposed to working in the office comparable to the temporal distance of a strike tomorrow versus in six months? Construal level theory does not make any specifications in this regard. Hence, it remains to be seen whether a larger time distance than six months might lead to a different result.

Construal level theory posits that temporal, spatial, and social distance lead to comparable mental representations with the psychological distance as underlying construct (Trope & Liberman, 2010). Hence, growing distance is always assumed to go along with an increasing abstractness. However, we were not able to find this regarding the temporal distance. This could either be understood as a problem of the theory or as a problem of the used methodology. It could be possible that the manipulation of temporal distance was not strong enough in our experiment to induce the process of different construal levels. However, a recent pre-print (Maier et al., 2022) assessed the credibility of the construal level theory using a publication bias correction technique and found strong evidence for publication bias. Hence, further research, especially replications are needed to assess the viability of the construal level theory.

Nonetheless, the results of our experiments highlight the importance of considering different distances while preparing strikes. In particular, spatial distance seems to be important as organizations are increasingly implementing hybrid virtual-working models. For unions, this is a relevant finding as the prevalence of people working from home is growing (especially due to the Covid-19 pandemic). With this change, questions about work equipment and safety in the home office are being raised anew across the board. This fundamentally expands the scope of trade unions. However, a reduced willingness to strike

among the workforce deprives the unions of their strongest form of industrial action. Hence, unions need to find ways to also motivate people working remotely to participate in strikes. If they are not able to bridge the spatial distance, they could try to reduce other distances such as social distance via digital meetings with employees. Maybe they also need to consider other forms of collective action that are adapted to these new forms of work. Examples for such new forms could be a digital work stoppage. Another interesting point is that temporal distance does not seem to have an influence on willingness to strike. This hints at willingness to strike being stable over time (but maybe not across space).

Limitations and Future Research

At least three limitations deserve being mentioned. First, we used scenarios and asked participants to imagine a specific situation. It could thus be possible that some participants were better at imagining such a situation than others. Furthermore, the scenarios were merely hypothetical and therefore, results could differ in real situations. Second, the scenarios were kept quite short due to economic aspects. However, calls for strikes are often more contextualized and detailed. These details could then influence the feasibility and attractivity perception of the strike action. This is an interesting point that could be used for future research working with more realistic call for strikes instead of very short scenarios. Third, we did not conduct a manipulation check to ensure that the manipulation of distance was effective. With this, we followed the classic approach of studies on construal level theory which rarely conduct manipulation checks. However, future research should ensure that the intended manipulation was achieved (e.g., following suggestions put forward by Benschop et al., 2021).

Future research should also examine further what are causes behind the effect of spatial distance on willingness to strike. Is it really the missing social interaction with colleagues or their social pressure? Or are other factors such as a greater effort to go to the

strike from home instead from the workplace more important? Furthermore, future research could also focus on temporal distance and its applicability to real-life phenomena. Ample research has been conducted on the effects of temporal distance(e.g., Choi et al., 2011; Eyal et al., 2004; Liberman et al., 2002), but applications to real life phenomena is still warranting.

Conclusion

The aim of these two experiments was to investigate whether spatial (working from home or on-site) or temporal distance (strike tomorrow or in six months) influenced willingness to strike and attitudes to this strike. We found that an increased spatial, but not temporal distance, reduced the willingness to strike and the attitudes to this strike. As working remotely is becoming more prevalent, trade unions and employers should consider the effects that this can have on strike participation and likely other aspects of collective bargaining.

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CHAPTER IX – GENERAL DISCUSSION

General Discussion

The goal of my dissertation was to assess and extend the current state of psychological research on strikes and draw the existing research in different fields closer as a first attempt to bridge the gap between IR and OB as well as the one between employee- and employer-centered research. In summary, my dissertation (a) provided an overview of the state of the research field regarding strikes from an individual perspective, (b) introduced a new scale to assess strike attitudes and behavioral reactions, (c) demonstrated that this scale is applicable not only to German- but also to English- and French-speaking samples, (d) indicated that German, English, and French participants differ in their strike attitudes as well as willingness to strike, (e) implied that dispositional traits such as justice sensitivity, anger, and empathy can be relevant in assessing strike attitudes and willingness to strikes, and (f) showed that contextual circumstances such as working from home compared to in the office, negatively affect strike attitudes and willingness to strike.

I outlined four questions in the general theoretical background that I planned to address with my dissertation. The first question addressed the current state of the research field regarding strikes from a psychological perspective. In the first study, I conducted a systematic literature review posing five research questions to gain an overview of the field and uncover directions for future research. Based on the included studies, I assessed the maturity of the field using criteria from Keathley-Herring et al. (2016) and developed the *General Framework for Strike Research*. Research on strikes was found to have a long tradition – with the first included studies dating around 1960 (Dufty, 1961). As in other areas of WOP research (Bajwa & König, 2019), the studies were mostly based on US or Canadian samples, limiting the applicability of the research. However, the field as such appeared to be scattered across disciplines as no common journals or theories could be identified.

The number of publications per year never exceeded six, leading to the field being seemingly still in its infancy. Hence, only delivering initial insights to strikes from an individual perspective.

In line with the notion that WOP research has tended to focus on research benefitting the employer (Bal & Dóci, 2018), the systematic literature review showed that only eight of the 102 included studies were published in a journal mainly dedicated to WOP research (i.e., three in *Journal of Applied Psychology*, three in *Journal of Organizational Behavior*, one in *Journal of Occupational Health Psychology*, and one in *Journal of Business and Psychology*). Hence, strikes as a phenomenon with workers at its focus were widely neglected in WOP research. This also aligns with the findings from Cascio and Aguinis (2008) that on average less than two percent of the published articles in *Personnel Psychology* and *Journal of Applied Psychology* from 1963 to 2007 dealt with union or industrial relations issues. Based on these findings, it is evident to conclude that ample research opportunities within the field of strikes exist and need to be addressed.

The second question I posed was whether there existed a consistent way to measure strike attitudes in general, but also regarding a specific strike. The second study introduced the SABeRS as a new psychometric measure to assess attitudes and behavioral reactions to strikes, both in general as well as specific to a concrete strike. In Studies 3 to 6, the SABeRS was demonstrated to be a consistent tool for measuring strike attitudes. Study 3 evaluated the measurement equivalence of the scale across three countries to expand the applicability of the scale beyond German samples. The scale was consistently found to be measurement equivalent, which was also supported by Study 5 for the comparison of German and French participants.

In Studies 4 to 6, the included subscales showed significant relations to other strike-related outcomes, thus providing further support for the validity of the SABeRS. For example, negative reactions to strikes were consistently negatively associated with willingness to strike, whereas legitimacy of strikes and support of strikers were positively associated with willingness to strike in all these studies. These correlative findings could of course be based on common-method variance (Podsakoff et al., 2003) as participants reported their strike attitudes and willingness to strike by filling out questionnaires. However, strike attitudes were sensitive to theory-based hypotheses such as that union members would report more positive strike attitudes and to the experimental comparison of different contextual settings as in Study 6. Furthermore, in Studies 2 and 4, participants with a strike history also reported more positive strike attitudes than those without strike history. Strike attitudes and behavioral reactions were also significantly related to attitudes to unions and political orientation. This advances research on strike attitudes, showing that these attitudes are related to relevant constructs both in the workplace and in private life. It could thus be interesting to further assess how strike attitudes are formed and if, for example, a certain political orientation influences the development of these attitudes or whether it is rather the actual strike experiences that have a lasting impact on attitudes.

The third question I asked was related to differences across countries in the strike attitudes and behavioral reactions. In Study 4 – after assuring the measurement equivalence of the scale in Study 3 – samples from the United Kingdom, Germany, and France were compared. German participants were found to report the most positive attitudes and a higher willingness to strike than the other two samples, which did not differ significantly from each other. These differences – at least for Germany and France – were replicated in Study 5, again showing that

German participants reported more positive attitudes to strikes, a higher willingness to strike, and a higher willingness to show non-normative strike behavior. Thus, these two studies can be understood as a first indication of existing differences between countries in strike-related outcomes. Reasons for these differences have so far not been investigated. Hence, it would be desirable for future research to address what might lie underneath these attitude differences.

The third question can for now be answered with yes, there are differences, but some questions regarding country differences remain: First, British participants from Study 4 reported the highest support of strikers, whereas German and French participants did not differ in their support of strikers. By contrast, Study 5 found a significant difference in support of strikers between German and French participants with German participants reporting a higher support. This warrants further research to examine whether there are differences, or under which circumstances these differences emerge. Second, the studies assessing country differences only focused on European countries so far. Whereas the differences in industrial relations systems between these European countries are already considerable, other countries such as the United States or China differ even more from the European examples (Pedersini, 2007; Visser & Kaminska, 2009). Hence, it would be well advised to also conduct research in countries outside of Europe in order to deepen our understanding of cross-country differences in strike attitudes.

The fourth and final question that I outlined in the general theoretical background focused on dispositional and contextual influences on strike attitudes. Study 5 addresses the dispositional aspect with justice sensitivity, trait anger, and trait empathy as predictors for strike-related outcomes. In this study, observer justice sensitivity, anger, and empathy were positively related to strike attitudes indicating that dispositional factors influence these attitudes. Hence, beyond actual

strike experiences, these dispositional factors contribute to forming attitudes regarding strikes. This study was however only a first step in assessing the influence of dispositional aspects on strike attitudes. Justice sensitivity was deemed to be a good starting point as previous research on strikes already assessed the relevance of perceived injustice (Kelloway et al., 2007; Leung et al., 1993). Furthermore, research on collective action other than strikes – for example the Social Identity Model of Collective Action (van Zomeren et al., 2008) – also incorporates perceived injustices as a precursor for collective action. Thus, extending this research with the notion that justice sensitivity is also important when it comes to collective action seems legitimate. However, other dispositional aspects could also influence strike attitudes, for example the tendency to justify the current status quo (i.e., system justification motivation, Jost & Banaji, 1994) or value orientations (Frangi et al., 2022).

The influence of contextual factors on strike attitudes was addressed in Study 6. Based on the construal level theory (Trope & Liberman, 2010), two experiments were conducted in which either the spatial distance or the temporal distance of strike were manipulated. The results indicated that participants who read a scenario were working from home while a strike was called for the next day, reported a lower overall willingness to strike as well as more negative attitudes to strikes compared to those reading a scenario indicating that they were working in the office. Thus, one contextual factor that influences strike attitudes could be the spatial distance, both to the strike location as well as to the colleagues. Further research is however needed to assess what causes these reductions. Initial ideas are that working from home reduces the social identification with colleagues and thus leads people to be less willing to participate in strikes. Other reasons could be that

people are grateful for being allowed to work from home and are thus inclined to not participate in collective action that harms their employer.

Manipulating the timing of the strike however had no effect on strike attitudes and willingness to strike. This indicates that these attitudes and behavioral intentions could be time-independent. Thus, there might be differences between people in their strike attitudes and willingness to strike, but within a person these aspects seem to be rather stable. However, this claim must be assessed in future research using longitudinal data to ensure that time is not a relevant aspect for strike-related outcomes. Furthermore, other contextual aspects should be assessed, such as social support from family, friends, and colleagues, financial aspects, and how the participants are affected by the strikes that is whether they are strikers themselves, affected third-parties, or unaffected third-parties.

One point that runs through all studies of this dissertation is the question of whether and if yes, how these strike attitudes are translated into actual behavior. In the studies of this dissertation, mostly behavioral intentions were assessed. However, for practical relevance it is also important to examine what follows from positive strike attitudes. Unions are widely campaigning for public support when it comes to strike, hence positive strike attitudes could be a first indicator for this support. These attitudes should ideally translate into active behavior such as signing petitions, sharing information on strikes, or visiting a picket line to show real support. Other options could be donating to strike funds or showing support in writing letters to media outlets such as newspapers or posting on social media. These are all behaviors that third parties might engage in because of positive attitudes to strikes. The attitudes of potential strikers are also relevant when it comes to strike. Strike research is still missing confirmation that people with positive strike attitudes will actually strike when their union calls for it. Hence, this

calls for future research assessing actual behavior as well as attitudes to ensure that attitudes are also of practical relevance.

Limitations

Adding to the limitations of each study (i.e., mostly cross-sectional, only behavioral intentions, no representative samples), three overarching limitations regarding this dissertation exist. First, all studies, except the systematic review, rely mainly on self-report measures. Hence, these results have to be interpreted cautiously as common method variance could increase the correlations between the variables due to participants trying to answer items relating to similar constructs in a consistent way (Podsakoff et al., 2003). Attitude measures are however mostly self-report scales as participants must indicate their opinion on certain beliefs and values. Hence, other, more objective, ways to measure attitudes are difficult to imagine. However, future research could optimize the data acquisition process in that they either implement a time lag between measuring strike attitudes and other attitudes such as union attitudes or willingness to strike or in that they create a psychological separation by using a cover story (Podsakoff et al., 2003). Another option could be to assess actual behavior next to attitudes to have a more objective measure.

Second, all studies are based on a psychological perspective, focusing especially on individual-level data. Thus, the ideas, terminology, most of the theoretical background, and used measures stem largely from psychology even though strikes are a widely researched topic in IR. As this dissertation aims to be a first step in bridging the gap between IR and WOP (Wilkinson et al., 2020), this is not necessarily negative. However, IR scholars could be unfamiliar with psychological terms and approaches. This could lead to misunderstandings and lack

of understanding why existing theories and models from IR were hardly considered. Hence, it seems advisable that future research should try to incorporate both IR and WOP research to work more closely and interdisciplinary on the topic of strikes. For example, this could involve collecting data on organizational- or sectoral-level next to individual-level and analyze it in a multilevel-way. Furthermore, theoretical approaches from both fields could be integrated to gain a deeper understanding of strikes considering various levels. This would also help to develop implications in a way that is more comprehensible for both IR and WOP scholars, thus addressing a broader audience.

Third, the studies of this dissertation focused mainly on strike attitudes and behavioral reactions. However, when it comes to strikes, other aspects are also relevant, for example willingness to strike, normative and non-normative strike behaviour, or behavioral support from third-parties. These aspects have been addressed in some studies of this dissertation, but future research is still necessary. In particular, the relation between strike attitudes and actual behavior, both from strikers themselves and third-parties, has yet to be examined. There are two questions that frequently arise: First, whether positive strike attitudes really lead to actual strike participation and second, whether third-parties expressing positive strike attitudes show behavioral support when it comes to strikes. Another aspect that was not addressed in this dissertation is the influence of media in forming strike attitudes. Future research could focus on newspapers, television, but also on social media such as Twitter which are often used to gather public support. Beyond that, research could also assess how strike attitudes relate to other work-related behaviors and attitudes, such as voice behavior, organizational commitment, or occupational well-being.

Future Research and Directions

Future psychological studies on strikes could address several broader areas that may help enhance our understanding of this work phenomenon. To start, future research should link strike attitudes and willingness to strike to other work-related constructs. For example, employees who are very committed to their organization expressed being less willing to strike (Martin & Sinclair, 2001; McClendon & Klaas, 1993). Hence, they could also report more negative strike attitudes as they feel to be more attached to their organization. A lower organizational commitment could be explained by perceived breaches of the psychological contract (Rigotti, 2009). Thus, linking research on strikes with research on psychological contracts could be a promising approach for future research. Furthermore, work engagement could also be relevant in explaining why employees express positive strike attitudes and willingness to strike. Work engagement is defined as a state of fulfillment related to work and hence as an antipode of burnout (Schaufeli et al., 2006). Employees who are more engaged in their work were more committed to their organization and experienced more positive emotions (Schaufeli, 2012). Accordingly, work engagement could be a buffer for employees to experiencing negative emotions and injustices and as such, those who are more engaged could be less willing to strike and express fewer positive strike attitudes.

Furthermore, future research should address the question of how research on strikes and voice behaviour are related to each other. The notion that strikes are a form of collective voice is not new (Godard, 1992), however research testing this assumption and the relation to individual voice behavior is still lacking. In her review on voice behavior, Morrison (2023) outlines several open research questions that could also easily be linked to strikes: a) When do employees engage in collective forms of voice, and b) how is voice related to social and economic

conditions? Regarding the first question, this can be interpreted as a call for research on when employees engage in strikes as a form of collective voice. Here, it is also imaginable to assess whether antecedents of voice behavior function also as antecedents for (willingness to) strike. The second question can also be used to link voice and strike research. Future studies could test which conditions rather lead to voice behavior, which to strikes, and whether there are conditions that reduce both types of behavior.

In addition, future research on strikes should also consider the changing world of work. In Study 6, working from home reduced the willingness to strike and participants reported less positive strike attitudes. Remote work is increasing around the world – intensified by the pandemic - and likely to remain a part of future work practices (Ladders, 2021; Robinson, 2022). Hence, future research should be aware of this change in the workplace and assess how it impacts strike-related outcomes. Morrison (2023) also calls for research to assess how voice is affected by remote work. Thus, future research should address whether and how voice behaviour and strikes are affected by remote work and if the effects differ between the forms of voice.

A further change in the world of work is the increase in gig work or the so-called gig-economy. In the gig economy, companies follow a business model that relies on contracting out jobs or tasks via using platforms that connect labor demand and supply (Cini et al., 2021). Examples for such companies are Uber, Deliveroo, or Clickworker. The gig workers themselves often face precarity as they experience atomization and monitoring and have few employment rights (Tassinari & Maccarrone, 2020). However, the attempts of gig workers to organize have increased across the globe over the last years, for example in Germany (Krantz, 2021), Spain (Moares & Betancor Nuez, 2022), Italy, and the UK (Cini et al.,

2021). Future research could address how these gig workers use strikes and other forms of collective action to exert pressure on the platforms. It would be especially interesting to study, how an overarching identity among the gig workers is formed and how they connect with each other to organize actions. Another important aspect that needs to be addressed further is that of solidarity at work (Morgan & Pulignano, 2020). Following the arguments of Morgan and Pulignano (2020), neoliberalism has weakened the solidarity among workers due to changing material conditions and increasing the diversity of the workforce. Hence, future research could address the question how solidarity is built and which role it plays for strike attitudes and strike action. This would also further help to address the criticism of WOP being too employer-centered (Bal & Dóci, 2018) as these research questions have workers at its focus.

Another line for future research on strikes is to address differences between business sectors and countries in psychological strike processes. For example, nurses form a special group of workers as their participation in strikes entails damage not only to the employer but also to patients. Hence, nurses face a moral dilemma when considering whether to strike or not. Conducting research on the underlying process of how nurses are deciding whether to take collective action or not could thus be helpful. One factor that could influence their decision is that they chose their job based on a felt occupational calling and not out of economic or other reasons. Occupational calling is defined as the notion that the work activity has a meaning in itself, irrespective of the results obtained from the exercise of the activity (Wilson & Britt, 2021). Thus, an occupational calling often involves trying to better oneself or the society or having a passion for what one does as a job. Nurses who perceive their profession as being their calling could thus be less willing to take collective action as this would contradict their values.

Next to assessing strike-related research among different professions, future research should also consider differences between countries. In Study 1, most studies were conducted in the USA or Canada. Hence, the generalizability of these research findings is restricted to countries also being considered WEIRD (i.e., Western, Educated, Industrialized, Rich, and Democratic, Henrich et al., 2010). Broadening the scope of strike research to other countries such as Russia or China would lead to a deeper understanding of how workers decide to strike, which circumstances prevent them from striking, and how strikes affect those striking in the respective countries.

Finally, future studies could extend existing research on strikes by using new methodological approaches. These could for example include analyzing Twitter data. Trade unions are widely using Twitter as an outlet to inform their members about ongoing collective bargaining processes as well as to reach out for public support. Hence, analyzing how they frame their messages and what reactions they receive could improve the knowledge of mobilization and help unions to communicate more effectively. Furthermore, it is possible to analyze not only tweets but also certain hashtags. Hence, in adopting a more qualitative approach, future research could analyze the content of tweets using a certain hashtag to assess how communication formed around a certain topic. Future research could also examine how newspaper and other media outlets shape public attitudes about strike. Media can have a key role in getting or loosing public support for strikes due to their framing of the strikes. If and how the public attitudes to a strike are influenced by the media – and by which kind of media – remains thus an interesting line for future research.

General Conclusion

This dissertation is an initial attempt to regain – or receive for the first time – attention from WO psychologists to the work phenomenon of strikes. Although research on strikes in other areas such as IR has never ceased, psychologists can add important insights to this area. To stay up to date with developments regarding strikes, psychologists should also intensify their relations with trade unions as they often have a significant role in strikes and other forms of worker resistance. By acknowledging the relevance of such work phenomena, WOP will be able to enhance the understanding of strikes for all involved parties.

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