

An Investigation of Relations between Leadership Behavior and Followers' Satisfaction, Health, and Performance in Paid Work and Volunteer Work Contexts

Inaugural-Dissertation
in der Fakultät Humanwissenschaften
der Otto-Friedrich-Universität Bamberg



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Hannover, den 02. September 2019

Tag der mündlichen Prüfung:	05. Dezember 2019
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URN: urn:nbn:de:bvb:473-irb-470386
DOI: <https://doi.org/10.20378/irb-47038>

ACKNOWLEDGMENTS

I would like to thank my supervisor, Astrid Schütz, for many insightful conversations and her continued support throughout this whole process.

I also want to thank my colleagues at the Department of Personality Psychology and Psychological Assessment in Bamberg for all the fruitful discussions, the free exchange of ideas and a great working environment.

In addition, I would like to thank the examination committee of this dissertation - Astrid Schütz, Jörg Wolstein, Julia Franz, and Stefan Lautenbacher - as well as the anonymous reviewers of the included manuscripts. Also, I would like to thank Iris Katharina Koch, Matthias Stadler, and Nida Bajwa for their constructive feedback on previous versions of the manuscript as well as Lindie van der Westhuizen for proofreading. Special thanks go to my colleague Christina Köppe for inviting me to co-author one of the included articles.

Finally, this work would not have been possible without the support and encouragement of my family and friends. I thank you all!

PREAMBLE

This work is written as a publication-based dissertation consisting of three peer-reviewed and internationally published articles that are embedded in the text. Although the formats of the articles were adapted to fit the format of the dissertation, their content remains unchanged. The articles included are:

- Kammerhoff, J., Lauenstein, O., & Schütz, A. (2019).** Leading toward harmony – Different types of conflict mediate how followers’ perceptions of transformational leadership are related to job satisfaction and performance. *European Management Journal*, 37(2), 210–221. <https://doi.org/10.1016/j.emj.2018.06.003>.....27
- Kammerhoff, J., Lauenstein, O., & Schütz, A. (2019).** Tuning into performance and satisfaction in nonprofit orchestras: One link between transformational leadership and satisfaction is through reduction in conflict. *Nonprofit Management and Leadership*, 30(2), 321–338. <https://doi.org/10.1002/nml.21381>.....61
- Köppe, C., Kammerhoff, J., & Schütz, A. (2018).** Leader-follower crossover: exhaustion predicts somatic complaints via Staffcare behavior. *Journal of Managerial Psychology*, 33(3), 297–310. <https://doi.org/10.1108/JMP-10-2017-0367>.....95

SUMMARY

Twenty-first century work is characterized by change in working conditions and increased job demands. An increase in job demands heightens the need for leadership to serve as a resource to followers in both volunteer and paid work contexts. Focusing on leadership and followers' experience, this dissertation consists of three articles that aim to identify antecedents that are relevant to the well-being and performance of individuals. This is achieved by concentrating on followers' job satisfaction, health, and performance to describe their experience and by focusing on transformational leadership and health-oriented leadership while taking leaders' health into account. The goal of this work is to advance our understanding of how leaders' behavior is related to their followers' experience and to thereby encourage useful leadership behavior. This is likely to improve the experience for leaders' and followers' alike and, consequently, result in leaders serving as a true resource to their followers.

All three articles have been published in international, peer-reviewed journals. The first two articles center on transformational leadership behavior and demonstrate its relations with job satisfaction and performance in the workplace. Although both samples consist of active musicians in orchestras, Article 1 made use of a professional sample, while Article 2 used a volunteer sample. The data were collected via questionnaires. Task and relationship conflicts were included as mediators for both samples. More specifically, in the professional sample, task conflict mediated the relation between transformational leadership and performance, while relationship conflict mediated the relation between transformational leadership and job satisfaction. In contrast, for the volunteer sample, both task and relationship conflict mediated the relation between transformational leadership with job satisfaction, but not between transformational leadership and performance.

The third article is concerned with leader and follower health. Followers' health was operationalized as self-reported somatic complaints, whereas leaders' health was operationalized as self-reported level of exhaustion. The sample included leaders from various paid work contexts (e.g., IT, human resources, sales, administration) and one to two of their followers. Measurement occurred over two waves, with three months between waves. The study revealed a negative relation between health-oriented leadership behavior and followers' somatic complaints. In addition, it also showed the existence of an indirect crossover effect from leaders' level of exhaustion to followers'

health via a reduction in health-oriented leadership behavior when the exhaustion level was high.

Overall, the findings of the three articles demonstrate the importance of both transformational and health-oriented leadership behavior in shaping followers' experience. This underscores the potential value of encouraging such leadership behaviors - in both paid work and volunteer work contexts - in order to improve leader and follower well-being and performance. Importantly, the findings also suggest that leaders' ill health should be addressed not just for their own benefit, but due to the fact that leader exhaustion can negatively impact their followers' health (albeit indirectly) through a crossover process.

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1

INTRODUCTION

Be happy! Be healthy! Be productive!

For the last few years, the pursuit of happiness, health, and productivity have become topics of great interest to the general public. This is reflected in the omnipresence of self-help books, articles, blogs, and websites claiming to have found the best way of being happy, healthy and productive. Easy answers with anecdotal evidence are prevalent, for example, “green vegetables could help you to live longer” (Atherton, 2018). If you do x, you will be an improved version of yourself and you will be satisfied. It is an attractive concept: An if-then relationship that makes life understandable, even controllable. However, life is multi-faceted and can be hectic, ambiguous and complicated. The feeling of having insufficient time to accomplish goals can reduce well-being (Gärling, Gamble, Fors, & Hjerm, 2016), and role ambiguity and difficult social interactions (e.g., interpersonal conflicts) are related to negative emotions (Spector, Chen, & O’Connell, 2000). Recent developments concerning the so-called “digital revolution” (or fourth industrial revolution, Schwab, 2017) have led to shifting requirements on people’s lives - in both paid work and volunteer work contexts - that have resulted in condensed workflows, faster communication and near constant availability, all of which can be demanding (Albers, 2018; Matusiewicz, 2019; Weiß & Wagner, 2017). There are no quick fixes for individuals to simply arrive at being happy, healthy and productive - much is still unknown. The current dissertation, therefore, aims at broadening the understanding of the antecedents of happiness, health and productivity by addressing the question, “what are the factors that influence a person’s physical and psychological well-being as well as their performance?”

Research on the job demands-resources model shows that demands (i.e., “aspects of the job that require sustained physical or mental effort”, Demerouti, Bakker, Nachreiner, & Schaufeli, 2001a, p. 501) are detrimental to mental and physical well-being and performance, whereas resources (i.e., “physical, psychological, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands at the associated physiological and psychological costs; (c) stimulate personal growth and development”, Demerouti et al., 2001a, p. 501) have positive effects on well-being and performance (Bakker & Demerouti, 2017). Studies show job demands can lead to a decline in health, anxiety, reduced job satisfaction, and exhaustion (Bakker, Demerouti, & Verbeke, 2004; Hakanen, Schaufeli, & Ahola, 2008; Spector et al., 2000). Exhaustion diminishes performance and facilitates

burnout, whereas resources induce and increase motivation and engagement, and can even buffer the negative effects of various job demands (Bakker & Demerouti, 2017; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001b; Halbesleben & Wheeler, 2011).

The relationship between a leader and follower is central to an individual's experience of work. It is therefore not surprising that leadership has been shown to play an important role in followers' demands and resources (Breevaart & Bakker, 2018). Leaders can shape the work experience of followers' through the assignment of tasks, their behavior toward their followers (e.g., appreciative, aggressive), and their consideration for their own and their followers' health. They can directly influence some, though not all, demands that put strain on their followers. Leadership behavior can, however, also serve as a resource to their followers, for example, through the provision of support and the creation of development opportunities (Bakker & Demerouti, 2017).

The leader-follower relationship is, however, not unique to the for-pay work environment. It is also an important factor for many unpaid activities (for example, in volunteer settings, in hobby and special interest groups, or in sports) as these also often rely on hierarchical structures (e.g., chairpersons, coaches, instructors).

Given the centrality of leadership to followers' experience, this dissertation aims to add to the literature on leadership behavior and its relation to followers' job satisfaction, health, and performance. Advancing knowledge in this area could, ultimately, inform interventions that can facilitate improvements in individual well-being and performance in both paid work and unpaid settings. However, the question remains: How exactly does leadership behavior relate to positive outcomes for followers and for the organization?

The present work contains three articles that aim to address this question. The first two articles addressed leadership behavior and its relations to job satisfaction and performance in paid work (Article 1) and in volunteer work contexts (Article 2). Both articles considered task conflict and relationship conflict, a common stressor at work. The third article addressed leadership behavior and its relation with followers' somatic complaints. More specifically, it addressed specific leadership behaviors involving care for followers', while also taking leaders' level of exhaustion into account. The three articles aim to advance the literature on the relation between leaders' behavior and followers' experience in order to ultimately improve leaders' and followers' experience through reduced demands and increased resources.

The dissertation is structured as follows: The subsequent section provides an overview of the *General Theoretical Background* for the three included articles. Thereafter, the *Empirical Work* section presents each of the three articles with an accompanying introduction, the original publication, and a short critique. Finally, the *General Discussion* section addresses the theoretical and practical implications as well as limitations and possible directions for future research.

GENERAL THEORETICAL BACKGROUND

The satisfaction people derive from tasks that they do - be it in their free time or at work - is a positive outcome in and of itself. This type of satisfaction is also related to several other desirable outcomes, such as general life satisfaction, organizational affective commitment, performance and health (Eby, Freeman, Rush, & Lance, 1999; Faragher, Cass, & Cooper, 2005; Judge, Thoresen, Bono, & Patton, 2001; Judge & Watanabe, 1993). Good health facilitates improved performance and is an important component of quality of life (Grawitch, Waldrop, Erb, Werth, & Guarino, 2017). Performance, in the sense of goal attainment, has been shown to be related to happiness (McGregor & Little, 1998). Job satisfaction, health, and performance are thus all desirable outcomes. Research on the antecedents of these outcomes is important as they could lead to improved experiences for people in both paid work and volunteer work contexts and also be beneficial to organizations.

The overarching research question of this dissertation is: How do transformational leadership behavior and health-related leadership behavior function as a resource to followers and, more specifically, how do they relate to followers' job satisfaction, health, and performance? These constructs, consequently, require clarification. The following section defines and describes job satisfaction, health and performance in paid work and volunteer work contexts. Thereafter, leadership and its relation to the three aforementioned constructs are discussed. More specifically, the discussion focuses on transformational leadership behavior (i.e. leading by uplifting followers' morale and motivation, Bass, 1999) and health-related leadership behavior (i.e. caring about followers' health, Franke & Felfe, 2011) as antecedents of followers' job satisfaction, health, and performance.

Job Satisfaction

The importance and centrality of job satisfaction in organizational psychology is evident by the plethora of publications on the subject in the last few decades (Locke, 1969; Wright, 2006). In organizational psychology, job satisfaction is generally considered to be an attitude and is commonly defined using Locke's (1969) definition:

"Job satisfaction is the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values. [...] Job satisfaction and dissatisfaction are a function of the perceived relationship between what one wants from one's job and what one perceives it as offering or entailing [emphasis in original]." (Locke, 1969, p. 316).

A state of job satisfaction is thus reached when personal criteria are met or surpassed. People's job needs and expectations (for instance, the need to belong, the need for cognition, the need for security, and the standard of living that one is accustomed to) lead to different criteria. Alternatively stated, different things have different value to different people. Some people value high monetary compensation and are satisfied when this criterion is met, while others value social connections with their colleagues more.

The level of job satisfaction achieved is the outcome of a cognitive process assessing the extent to which personal standards are being fulfilled (Diener, Emmons, Larsen, & Griffin, 1985) and thus differs inter-individually. One person may be more comfortable with routine tasks, whereas another may seek more varied and challenging tasks. If both perform monotone tasks, their individual level of job satisfaction will differ.

This dissertation focuses on job satisfaction due to its inherent value to individuals as well as its relevance to the effective functioning of organizations. Considering the individual, higher job satisfaction influences positive moods outside of the job (Judge & Ilies, 2004) and is related to life satisfaction (Judge & Watanabe, 1993). In addition, higher levels of job satisfaction are desirable to organizations due to the relations with many relevant outcomes such as turnover intentions (Coomber & Louise Barriball, 2007; Tett & Meyer, 1993; Zito et al., 2018), organizational commitment (Top, Akdere, & Tarcan, 2015; Yousef, 2017) and performance (Judge et al., 2001; Whitman, Van Rooy, & Viswesvaran, 2010).

According to the job demands-resources model both job demands and resources influence a person's well-being (Bakker & Demerouti, 2017; Demerouti & Bakker, 2007; Demerouti et al., 2001b). Well-being is a broad concept that considers the individual in their entirety, that is, it includes both physiological well-being and psychological well-being. Job satisfaction is a commonly used measure of well-being in the workplace (Danna & Griffin, 1999) and is related to the characteristics of a job, its' demands, and resources (Judge, Bono, & Locke, 2000; Urien, Osca, & García-Salmónes, 2017; Zito et al., 2018).

Articles 1 and 2 investigate the relations between job satisfaction, conflicts (as an example of a demand), and transformational leadership in paid work and volunteer

work contexts. More specifically, the role of transformational leadership is investigated as a potential means to alleviate conflict (i.e. demands) at work in these two contexts.

Health

The term well-being is used to describe the evaluations people make concerning their bodies and minds, the circumstances of their lives and the events they experience (Diener, 2006). Satisfaction is an important component of well-being (Diener, 1984, 2006) and so is health (Danna & Griffin, 1999). The World Health Organizations defines health as follows:

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 2018, p. 100).

Health is inherently valuable and is associated with important benefits, such as higher quality of life. A representative survey in Germany in 2010 found that health is deemed to be the most important aspect of life (Hinz, Hübscher, Brähler, & Berth, 2010).

Health does not only have inherent personal benefits for the individual; it also impacts organizations through the level of performance of its individual members. While health is a factor than enables performance, health problems are related to decreased performance and productivity (Grawitch et al., 2017; Meerding, IJzelenberg, Koopmanschap, Severens, & Burdorf, 2005; Miraglia & Johns, 2016).

Organizations (as entities) thus have a vested interest in the health of their members as they rely on their members to perform well. Organizations, consequently, plan, implement or change the work environment in a manner that leads to improvements for employees (Burke & Richardsen, 2014; Rongen, 2015; Taris et al., 2003). For example, contextual factors such as health and safety equipment, regulations, and related training, and awareness-campaigns are often provided. Leaders also shape their followers’ work environment through, for example, instruction, training and the provision of resources. They play a crucial role in maintaining and/or improving followers’ well-being.

Within the job demands-resources framework, health is influenced by high job demands, however, a person’s resources can buffer the negative effects thereof. Health can be a resource in itself as well as a buffer (Bakker & Demerouti, 2017; Demerouti & Bakker, 2007; Demerouti et al., 2001b). For instance, a job with a high level of time pressure and parallel tasks can induce stress and facilitate health problems. However,

the support of one's leader can be a resource and can increase resilience to stress and avoid harm toward one's health. Health, as a resource, can, for example, manifest as being physically fit. Physical fitness would be helpful when facing physical demands (e.g. heavy lifting) and will result in higher capabilities to perform the task.

In this dissertation, health was studied in two ways (Article 3): as an outcome and as a resource. With regard to the former, health was operationalized as the extent to which one suffers from somatic complaints. With regard to the latter, health was operationalized as exhaustion - encompassing physical as well as mental components. More specifically, the definition of exhaustion by Demerouti et al. (2001) was used. Demerouti and colleagues described exhaustion as a state that results from intense strain on a physical, affective and cognitive level. Although exhaustion decreases people's capabilities, leadership behavior can act as an important resource to followers to diminish its effects. Consequently, Article 3 investigated leaders' level of exhaustion in relation to their behavior toward their employees' and to employees' level of somatic complaints.

Performance

The term performance is commonly used in day-to-day conversations, in academic, and work contexts.

"There are as many kinds of performance as there are occasions for performance." (Landy, Zedeck, & Cleveland, 2017, p. 1)

In this dissertation Baumgarten's (1977) definition is used. He defines performance as a parameter that describes the extent to which any given individual succeeds in performing their function within the greater scope of the organization.

In the context of this work, performing one's function means engaging in behavior that contributes toward the achievement of an overarching goal that lies within the greater scope of the organization. This goal is set by a person in a leadership position who is legitimized through the organizational structure of the organization. Although the goal is set by the leader and not by the individual, both parties (leader and follower) are part of it.

Performance is in itself a neutral term that needs qualifiers to indicate the direction, for example, high or low levels of performance. High levels of performance could result in the achievement of the goal to its fullest extent or even going above-and-

beyond. A high level of performance toward an organizational goal is desirable for the organization and, if the organizational goal is one that the individual subscribes to, is desirable for the individual as well. The attainments of such goals are related to feelings of happiness (McGregor & Little, 1998).

In the job demands-resources model performance is influenced by a person's well-being and motivation which, in turn, are influenced by job demands and resources (Bakker & Demerouti, 2017).

Article 1 and 2 investigated the relation of performance with transformational leadership in paid work and volunteer work contexts. More specifically, it was investigated whether leadership can act as a resource to followers via leaders' transformational behavior while also considering the potential impact of conflicts (as an example of a job demand).

Drivers of Job Satisfaction, Health, and Performance

Job satisfaction is driven by internal and external factors. For example, core self-evaluations (consisting of self-esteem, self-efficacy, low neuroticism, and locus of control) have been identified as important internal factors, while job characteristics (e.g., job complexity) have been identified as important external factors (Judge et al., 2000; Loher, Noe, Moeller, & Fitzgerald, 1985). By changing certain job characteristics, for example, enriching less varied tasks, leaders can influence job satisfaction indirectly (Millette & Gagné, 2008). However, the impact of leadership on job satisfaction can also be more direct. The support provided by leaders (i.e. supervisor support) plays a role in the extent to which a person is satisfied with their job (Alegre, Mas-Machuca, & Berbegal-Mirabent, 2016).

Health is influenced by individual biological factors (e.g., the aging process, genetic make-up) and environmental factors (e.g., air pollution), as well as the interaction between the two. The act of constantly performing physically strenuous tasks will increase the risk of deterioration of health, although this depends on the strength and general state of health of the individual (Burr, Pohrt, Rugulies, Holtermann, & Hasselhorn, 2017; Parkes, 2006). Similarly, working in stress inducing environments will increase the risks to one's health. Several job demands can be stress-inducing, for instance, continuous background noise (Ising & Kruppa, 2004) or ambiguous roles at work can negatively impact well-being and performance (Jackson & Schuler, 1985).

Leaders can partly influence many aspects of tasks and, consequently, their followers' experience by, for example, removing uncertainty concerning responsibilities and roles.

Individual performance can be impacted through different pathways which can either facilitate or obstruct performance. Some of these pathways are within the individual themselves (e.g., skills, knowledge, and motivation). Other pathways are external to the individual (e.g., the availability of suitable resources). In an organizational context, leaders can act as the linchpin in providing the suitable resources. More specifically, leaders can determine the amount of time that can be spent on a task or provide the training and learning opportunities needed to increase followers' knowledge and skills (Baumgarten, 1977; DiGirolamo & Tkach, 2019). In addition, leaders can influence job demands (e.g., through the assignment of tasks, by adjusting workload, or by adjusting time schedules). By influencing the resources available to followers and the demands placed on them, leaders can significantly impact follower motivation and, ultimately, their job satisfaction, health and performance.

In general, aspects of a job that require continuous effort (i.e. impose demands on the individual), have detrimental effects on job satisfaction, health and performance. In contrast, resources have positive relations with job satisfaction, health and performance and can even buffer the impact of some job demands (Bakker & Demerouti, 2017; Halbesleben & Wheeler, 2011; Spector et al., 2000). Leadership plays an important role in this because leadership behavior itself can be a resource to followers. In addition, the leaders' behavior toward their followers' can also potentially buffer negative effects of demands (Bakker & Demerouti, 2017; Vincent, 2012).

Leadership

Having one or more people assume leadership roles is common in both informal circles (e.g. friendship or hobby groups) and more formal settings (e.g. governments, national or global corporations, small business, or start-ups). Many organizations have formalized differentiations in rank. These ranks allow people higher up in the "corporate ladder" to have more power over people that are lower down in the hierarchy. Leaders have certain levels of authority within organizations. The authority is bound by the interests and the framework of the organization as well as governmental regulations and employee protection regulations.

Leadership involves shaping people's behavior, meaning, using communication processes to influence people's behavior in a goal-oriented way (Baumgarten, 1977; Rosenstiel, 2006). People in leadership positions need to set goals and organize their followers in a manner that facilitates the achievement of these goals. Pinnow (2012) describes leadership as enabling followers to achieve tasks together and to adapt to changes through further training and education as well as through the setting of relevant goals, values, and organizational structures. The process of influencing the behavior of others, entails having the authority for decision-making, implementing the decision and controlling the outcome (Baumgarten, 1977).

Leadership plays an important role in the achievement of goals that are worked on by a group or groups of individuals. Effective leadership enables higher levels of performance by their followers and is often defined as effective because of the higher levels of performance. Efficacious is "having the power to produce a desired effect". Therefore, effectiveness can be understood to be the degree to which goals are reached and, in an organizational context, it refers to the degree to which the organizational tasks that lead to the organizational goals are performed (Merriam-Webster Dictionary, 2019a).

Leadership not only involves ensuring followers perform their functions well; it also involves ensuring the right conditions are in place (e.g., by providing information and necessary material, fostering and supporting followers in ways that allow them to perform well).

Different forms of leadership exist. This dissertation focuses on the transformational leadership style and the health-oriented leadership approach. This is due to the fact that several studies have shown that the behaviors associated with these two leadership approaches are positively related to followers' job satisfaction, health and performance. The study of these leadership approaches has the potential to produce information that can be used to promote effective leadership behavior which, in turn, can support followers' well-being.

Articles 1 and 2 in this dissertation address transformational leadership, while Article 3 addresses StaffCare behavior, meaning, the behavioral component of the health-oriented leadership approach.

In the following section, I will first describe transformational leadership and health-oriented leadership. Thereafter, I will present how these leadership behaviors

might influence followers' job satisfaction, health, and performance within the respective introductions of the articles.

Transformational Leadership

The term transformational leadership was first introduced by J. V. Downton in 1973. J. M. Burns uses transforming leadership to describe a leadership relationship between leaders and followers where both interact in such a way that the interaction results in the achievement of higher levels of morality and motivation for both parties (Burns, 1978).

B. M. Bass based his transformational leadership theory on Burns' approach and extended it to our current understanding of transformational leadership behavior. Transformational leadership theory consists of four dimensions: (1) inspirational motivation, (2) idealized influence, (3) intellectual stimulation, and (4) individualized consideration (Avolio, Waldman, & Yammarino, 1991; Bass, 1990, 1999; Bass & Riggio, 2006).

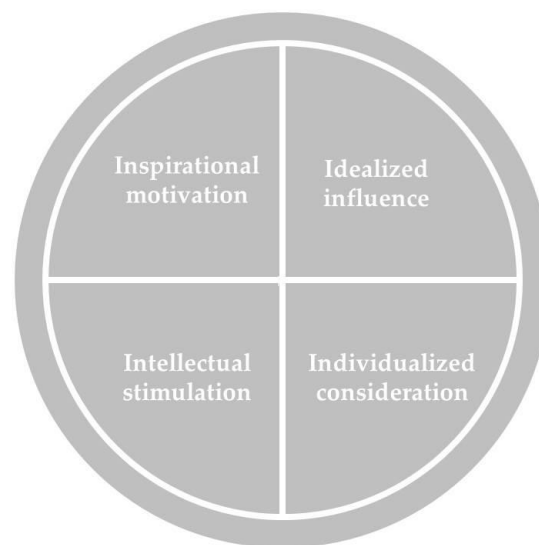


Figure 1. The four „I“s of Transformational Leadership.

(1) Inspirational motivation. The leader develops a vision that is attractive to the followers. This attractive overall goal gives the tasks that are necessary to achieve the vision meaning and purpose. The vision is used to unite the followers and put the group goal into focus, shifting the focus from the individual goals of the followers themselves.

(2) Idealized influence. Modelling desired behavior is an important component within the transformational leadership framework. It involves showing followers what is

expected of them as well as functioning as a reminder of the expected standard. Importantly, the latter implies not only holding the followers' to that standard but also holding the leader to that same standard. This avoids hypocrisy, especially since transformational leadership heavily relies on creating visions with high moral standards and values.

(3) Intellectual stimulation. The goals derived from the leader's vision are ambitious. The leader, using transformational leadership behavior, invites the followers' intellectual engagement with the tasks and supports independent thought.

(4) Individualized consideration. This means being attentive to the follower as an individual and acknowledging their uniqueness. The leader may thus recognize the follower's personal needs. This makes it possible to support the followers' individual development and utilize their distinctive potential.

Transformational leadership has been shown to have positive effects on followers' job satisfaction and performance (Braun, Peus, Weisweiler, & Frey, 2013; Wang, Oh, Courtright, & Colbert, 2011). The following two articles aim to provide insights into the underlying mechanisms through which transformational leadership may lead to higher levels of job satisfaction and higher levels of performance.

Health-oriented leadership

In addition to transformational leadership, I examine the role of health-oriented leadership in followers' experience. Article 3 is primarily concerned with followers' health and its antecedents - in particular, its leadership antecedents. Previous research has shown that health-oriented leadership is particularly relevant for followers' health and well-being (Franke, Felfe, & Pundt, 2014).

In general, leaders play an important role when it comes to the health of their followers. The allotment of task-related resources, providing performance feedback, and being appreciated were found to predict followers' emotional exhaustion, irritability, and somatic complaints (Vincent, 2012). Leaders have direct and indirect effects on followers' health and well-being. Interpersonal behavior can have a direct impact on followers, for example, being considerate and finding time to listen to their followers was found to be directly related to followers feeling less stressed (Rowold & Heinitz, 2008). Indirectly leadership can affect health and well-being for instance via shaping of

working characteristics (role clarity, opportunities for development, etc.) which in turn affect followers' well-being (Nielsen, Randall, Yarker, & Brenner, 2008).

The health-oriented leadership (HoL) approach was developed by F. Franke and J. Felfe (Franke & Felfe, 2011). The approach explicates direct and indirect pathways of how leadership relates to followers' health. Furthermore, in accordance with Bandura's social learning theory (Bandura, 1977); Franke and Felfe propose that leaders influence followers by modelling behavior. The authors also suggest that health impaired leaders may influence their followers' health, for example, via less caring behavior (Franke, Ducki, & Felfe, 2015).

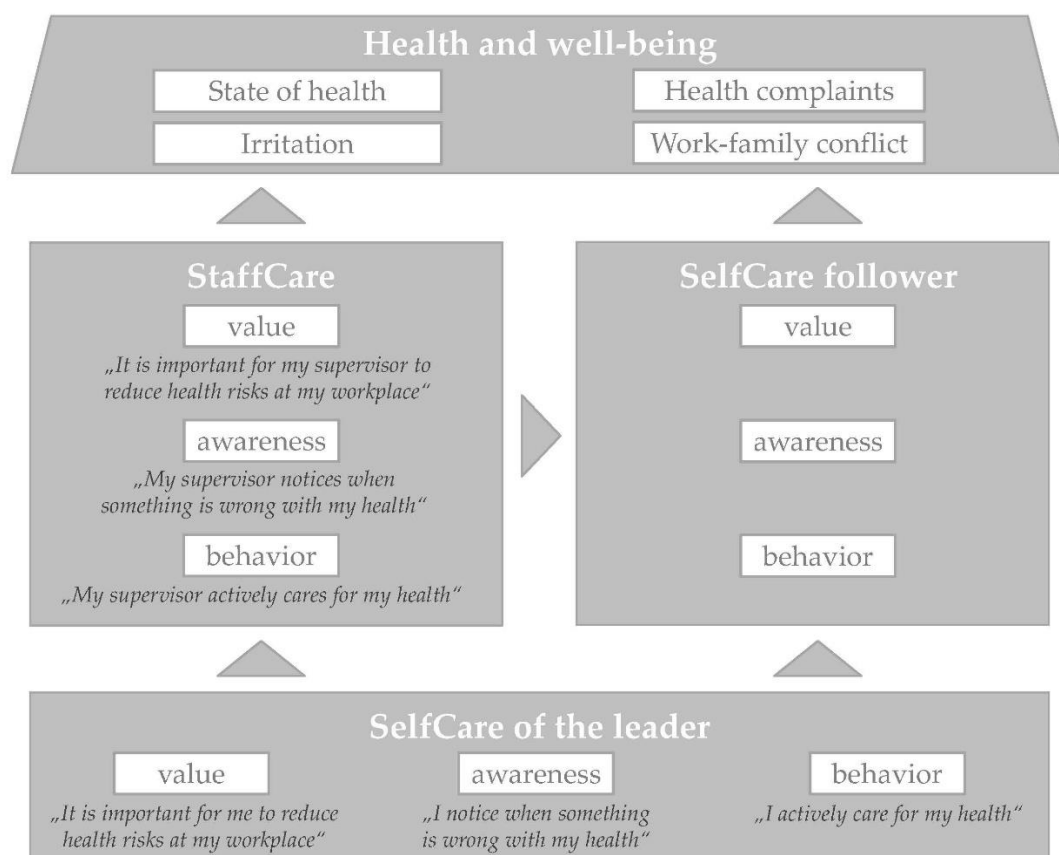


Figure 2. The "house of HoL" (health-oriented leadership).

Adapted from page 142 of Franke, F., Felfe, J., & Pundt, A. (2014). The Impact of Health-Oriented Leadership on Follower Health: Development and Test of a New Instrument Measuring Health-Promoting Leadership. *German Journal of Human Resource Management*, 28(1–2), 139–161. Copyright © 2014 by SAGE publications, Ltd. Reprinted by Permission of SAGE publications, Ltd.

Health-oriented leadership differentiates between values, awareness, and behavior as components of their three “Care” building blocks that keep up the “house of HoL” (Franke et al., 2014, p. 143). Care can be either directed at oneself (i.e., SelfCare) or it can be directed at others (i.e., a leader’s care for their followers or StaffCare).

The health-oriented leadership concept relies on a definition of care that consists of “value”, “awareness” (sometimes alternatively called “mindfulness”) and “behavior”. Value describes the interest one has in health and how important it is to the person. For StaffCare, this can involve feeling concerned and responsible for one’s own followers’ health. Awareness refers to health awareness or, alternatively stated, recognizing the state of health and knowing the conditions that influence it. For StaffCare, this involves recognizing signs of stress and strain in followers and being conscious of the work-related conditions that impact their stress levels. Behavior refers to all health-relevant actions. For StaffCare, this entails educating followers’ about health and safety regulations, providing necessary resources for a safe working environment, and ensuring followers take breaks and do not engage in excessive overtime, etc. (Franke et al., 2014).

StaffCare Behavior is thus the component of the health-oriented leadership approach that describes follower-directed leadership behavior. StaffCare behavior incorporates actively caring about followers’ health. It should, consequently, make the most directly felt difference to followers’ health. Leadership behavior is crucial to followers’ experience - both in paid work and volunteer work contexts. It may influence satisfaction with tasks, the task performance itself and health.

The following articles were designed to further explore leadership as a potential resource to followers. Firstly, the articles explore the relation between the leadership behavior with followers’ experience. Secondly, and more importantly, the articles delve into the conditions and underlying mechanisms of why transformational leadership or StaffCare behavior have these effects on followers’ experience.

EMPIRICAL WORK

This dissertation includes three articles that examine the relationship between leadership (transformational leadership in Article 1 and 2; health-oriented leadership in Article 3) and followers' experiences (job satisfaction and performance in Article 1 and 2; health in Article 3).

The first two articles investigated a possible mechanism underlying the relation between transformational leadership and job satisfaction and performance across different leadership contexts. Both articles examined the role of conflict as a demand at work. Conflict is divided into task and relationship conflict. Both task and relationship conflict were included as mediators in the relation between transformational leadership and the outcomes (i.e. job satisfaction and performance). The first article was set in a professional context¹, whereas the second article used a large sample of non-professional people who volunteer their time and talent. Article 1 demonstrated that, in a paid work context, transformational leadership is directly related to job satisfaction and to performance. Furthermore, the results showed that task conflict mediates the relation between transformational leadership and performance, whereas relationship conflict mediates the relation between transformational leadership and job satisfaction. Similarly, the second article showed that, in a non-professional volunteer context, transformational leadership was also directly related to job satisfaction and to performance. However, conflict did not mediate the relationship between transformational leadership and performance. Nevertheless, both types of conflict were found to mediate a part of the relation between transformational leadership and job satisfaction.

The third article addressed, firstly, the conditions for leaders to show desirable leadership behavior that is attuned toward their followers' health problems that is, leaders' own level of exhaustion. Secondly, it addressed the crossover effects of leaders' exhaustion on followers' somatic state (direct crossover) as well as via their StaffCare behavior (indirect crossover). The results showed an indirect crossover effect from leaders' level of exhaustion via their StaffCare behavior crossing over to followers' experience of somatic complaints. Contrary to the hypothesis that there will also be a direct effect from leaders' exhaustion to followers' somatic complaints, the results showed no such direct effect.

¹ In this dissertation a "professional context" is defined as a work context where individuals receive monetary compensation for their work (Merriam-Webster Dictionary, 2019b).

The next section introduces the first two articles by means of a joint Introduction. This is followed by the presentation of the original articles and, lastly, a brief joint Critique. Thereafter, the third original article will be introduced with a separate Introduction and Critique. The dissertation will conclude with a General Discussion and Conclusion, addressing the findings of all three articles.

Introduction to Articles 1 and 2

Transformational leadership has proved to be an effective style of leadership. Several studies have shown it to be related to different types of satisfaction and performance measures as well as many other desirable outcomes, including followers' self-esteem, innovation, and cooperation (Felfe, 2006; Judge & Piccolo, 2004). However, the specific processes underlying these relationships require further investigation. Interpersonal interactions are complicated and multifaceted. They are usually determined by several mechanisms that are at work and that will ultimately make a specific outcome more likely.

According to the job demands-resources model, both resources and demands influence employee well-being and performance (Bakker & Demerouti, 2017; Bakker et al., 2004; Demerouti et al., 2001b). Within this framework, transformational leadership can be considered a resource as it is characterized by individual attention as well as consideration for and interest in followers. Therefore, transformational leadership should be beneficial to followers' experience. Past research, especially organizational research, has shown transformational leadership to be related to job satisfaction and performance (Braun et al., 2013; Judge & Piccolo, 2004; Podsakoff, MacKenzie, & Bommer, 1996; Wang et al., 2011).

Although the relationship between these constructs have been well-established, a clearer understanding of *how* transformational leadership behavior relates to followers' job satisfaction and performance is required. Only once a clear understanding of the underlying processes is obtained (i.e., the pathways through which leadership behavior relates to followers job satisfaction and performance), can successful interventions be created to improve the leader-follower relationship and ultimately, performance.

Conflict is a construct that presents promise in explaining a part of this underlying mechanism. Conflict can be deemed a demand for those experiencing it. It is

related to mostly negative outcomes, especially feelings of anxiety, frustration and anger (Barki & Hartwick, 2004; Bodtker & Katz Jameson, 2001; Jehn, 1994; Spector et al., 2000).

Conflict between two or more people is known as interpersonal (or social) conflict. Interpersonal conflict takes place when one individual believes themselves to be in conflict with another individual. This occurs when one person feels stifled by another person in what they think, feel, or wish to achieve. It is a perceived incongruency between two or more people in terms of goals (Glasl, 2013), values, norms or opinions (Thomas, 1992; Pondy, 1967). At the same time, however, a relationship of perceived dependence or interdependence needs to exist to allow for the possibility that personal goals or values may be under threat by the other individual.

When people with different or opposing goals meet, there is potential for conflict (Glasl, 2013; Jehn, 1994; Jehn, Chadwick, & Thatcher, 1997). In this dissertation, Thomas' (1992) definition of conflict is used. According to Thomas, conflicts will occur between interdependent parties with incompatible goals. Furthermore, the term conflict relates to the dynamic interaction between two or more parties. The conflict itself is manifest in the behavior of the participants. The behavior can be communication, direct or indirect, that is in relation to the other party (Glasl, 2013).

Differentiating between task related and interpersonal relationship related conflicts can be useful. Task conflicts are conflicts dealing with the contents or order of tasks, how to approach the task in question who is responsible for which parts of the tasks, and the circumstances surrounding the task (e.g. the environment, time constraints and general resources). Relationship conflicts can be about personality clashes, personally held beliefs and worldviews that are important to at least one of the parties involved, or differences in behavioral norms or value systems (Jehn, 1995).

Separating task and relationship conflict is an especially common distinction when analyzing conflicts (Jehn, 1995). Prior studies show a moderate relationship between the two types of conflict, further affirming the need to differentiate between the two (De Dreu & Weingart, 2003; de Wit, Greer, & Jehn, 2012).

Conflict is associated with lower well-being (Spector & Bruk-Lee, 2008). For instance, Spector et al. (2000) report that conflict at work is related to negative feelings, such as frustration and anxiety. When considering the interior state of the people who experience conflict, both relationship and task conflict are associated with lower job satisfaction (De Dreu & Weingart, 2003).

Job satisfaction is not just important for the individual but also for the organization. Lower job satisfaction is related to lower work engagement as well as higher turn-over rates within organizations (Griffeth, Hom, & Gaertner, 2000; LePine, Erez, & Johnson, 2002). Thus, it is not trivial for the individual because they are experiencing negative emotions and the organization can also be negatively impacted by it.

Conflicts are also (mostly) associated with lowered performance levels (De Dreu & Weingart, 2003; de Wit et al., 2012). In particular, there has been ongoing debate in the literature concerning the role of conflict in group performance. That is, whether conflict should be preferred to “keeping the peace,” as the strategy latter implies prioritizing harmony over quality. Overall, in his literature review, De Dreu identifies very specific circumstances when conflicts - only task conflict, not relationship conflict - may be beneficial. This includes, for example, the following conditions: (1) for there to be an option for positive consequences, there needs to be group decision-making involved that has the potential to be harmed by premature consensus (cf. De Dreu, 2008); and (2) conflicting opinions will, at best, lead to a deeper understanding of the task and may lead to higher quality solutions because hasty and half-baked approaches can be avoided (Schulz-Hardt, Brodbeck, Mojzisch, Kerschreiter, & Frey, 2006).

The positive consequences can apply in contexts where innovation and creativity can improve the decision-making process. However, this can only occur if conflicts are of medium intensity and if there is a climate of trust among the group members that allows members to feel safe enough to share different opinions (Bradley, Postlethwaite, Klotz, Hamdani, & Brown, 2012; De Dreu, 2008; Simons & Peterson, 2000). Tasks that fall into this category do not appear in every job. While joint decision-making and flexibility in deciding how to approach tasks are common in some jobs, many others are more straight-forward. The latter does not present the opportunity for positive consequences through task conflicts.

Conflict has negative effects on employees' job satisfaction and performance (De Dreu & Weingart, 2003; de Wit et al., 2012). In contrast, transformational leadership has been shown to have strong positive relations with both job satisfaction and performance (Braun et al., 2013; Judge & Piccolo, 2004; Wang et al., 2011). It has been shown to be negatively related to negative verbal behavior and positively related to more cooperative and solution-focused communication (Bass, Avolio, Jung, & Berson, 2003; Lehmann-

Willenbrock, Meinecke, Rowold, & Kauffeld, 2015). Moreover, transformational leadership is related to the use of effective conflict resolution strategies (Yang, 2012a; X. Zhang, Cao, & Tjosvold, 2011). This supports the assumption that conflicts should occur less frequently if a leader engages in more transformational behavior.

Given incompatible goals heighten the likelihood for conflicts to occur (Thomas, 1992), it should be a preemptive state if interdependent parties focus on common goals. Early social psychological research by Sherif (1958, 1998) using samples of boys in a summer camp environment provides support for this assumption: General enmity and insults between two groups of boys could be observed when they were competing against one another in an earlier phase of the experiment. At a later stage, common goals were introduced that could only be attained together. In these scenarios, researchers observed less negative communication and, to the contrary, they observed the development of friendships across party lines. A core element of transformational leadership is the use of common goals (i.e., inspirational motivation). Consequently, transformational leadership behavior should be helpful in reducing the occurrence of conflicts.

Previous studies have shown transformational leadership to be related to job satisfaction, performance and various other desirable outcomes, such as creativity, cooperation and organizational commitment (Felfe, 2006; Judge & Piccolo, 2004). Interpersonal interactions are, however, influenced by multiple factors and the processes underlying these relationships still require further research.

Factors that are conducive to conflicts contribute to the occurrence, development and escalation of conflicts. Conflicting interests or goals may lead to conflict (Thomas & Kilmann, 1974). Ambiguous roles (i.e. lack of clarity regarding who is responsible for doing what), vague task descriptions, unspecific work assignments, time pressure, and the feelings of being overwhelmed can also lead to conflict. Factors that impede conflicts assist in either preventing the occurrence of conflicts or with their de-escalation. Social support can, for example, reduce the likelihood of conflicts to occur (Bartos & Wehr, 2002; Glasl, 2013).

Role ambiguity and unclear work assignments (i.e. factors that can lead to conflicts) can be directly and indirectly influenced by leaders through negotiation and clear communication concerning followers' responsibilities. Leaders could address other conflict-causing factors, such as followers feeling stressed or overwhelmed, by making

changes to task assignments or by providing followers' with suitable training and development opportunities.

Transformational leadership behavior has positive relations with conflict resolution (Yang, 2012a, 2012b; Zhang et al., 2011). Since transformational leadership puts a strong focus on the development of a common goal, followers share a common vision that facilitates cohesion and motivation (Bass et al., 2003). This reduces the potential for conflict that incompatible individual goals would typically cause in a group. Transformational leadership is also related to less counterproductive communication and supports cooperative communication (Lehmann-Willenbrock et al., 2015). More open communicating, in turn, supports more cooperative conflict resolution (Hempel, Zhang, & Tjosvold, 2009; Yang, 2012a, 2012b). Followers of transformational leaders experience stronger group cohesion. In addition, conflict resolution approaches are more cooperative as followers try to find solutions that benefit all (X. Zhang et al., 2011). Engaging in the individualized consideration component of transformational leadership should enable leaders to identify potential problems concerning their followers' stress levels and to take action to counter this. In sum, transformational leadership can reduce conflict through two mechanisms. First, it can avert conflict by dealing with the common causes of conflict. Second, it can support more cooperative resolution attempts once a conflict has already developed.

The following articles attempt to disentangle the relationship between transformational leadership behavior with followers' job satisfaction, on the one hand, and with performance, on the other hand. If leader's transformational leadership behavior (albeit to varying degrees) is indeed a resource for the followers (as per the job demands-resources model), it should result in the resolution or circumvention of conflicts and, consequently, lead to higher levels of follower job satisfaction and performance.

However, conflict is a complex phenomenon. Distinguishing between the type of conflict (i.e., whether it concerns tasks or relationships) is useful in order to obtain a more thorough understanding of its causes as well as its potential to escalate. This, subsequently, can assist leaders in being more attuned to the specific challenges of leading people where conflicts loom large.

The first article examined the relations with transformational leadership and task and relationship conflicts, on the one hand, and performance and job satisfaction, on the

other hand. In the first article, these relationships were examined in the context of paid work. In the second article, a sample of non-paid volunteers was used. Both articles used a sample of orchestra musicians from German-speaking countries.

Conductors coordinate orchestra musicians to create orchestral music together. Leadership plays an important role in the process of creating music - from the selection of the musical piece to the actual performance. Throughout the performance, the leadership is hands-on, continually guiding the orchestra musicians via non-verbal communication (Tskhay, Xu, & Rule, 2014).

Orchestras present an environment in which people's tasks are strongly interconnected (Boerner & Krause, 2002). Conductors coordinate individual activities with the goal to create great music. To achieve this goal, the conductor needs to consider individual strengths and motivations and inspire the musicians to perform well. They need to create a vision of how the music is intended to sound (Boerner & Krause, 2002; Shaw, 2004).

Transformational leadership is a style used to transform the motivation of individual followers. A central point of this style is to create a shared vision. This shared vision is achieved by setting high standards and considering individuals' specific abilities, needs, and motivations. Leadership in orchestras seems to have inherently transformational properties and, thus, present an opportune environment to study transformational leadership and its relations to relevant outcomes.

As stated earlier, the first article used a sample of professional orchestra musicians, whereas the second article used a sample of volunteer musicians. Professional orchestra musicians are highly trained experts in their specific fields who are paid for their work. In contrast, musicians in lay orchestras volunteer their time for the sake of playing music with a group. Their livelihoods do not depend on this activity and they do not receive monetary compensation. Although the motivation to join and remain in the orchestra will be inherently different for the two types of groups, the interdependencies that are involved in playing music together are the same for both samples. Nevertheless, these differences may lead to differences in the way leadership behavior functions. Behavior is always the result of the interaction with the situation and cannot be viewed in a vacuum, detached from the context.

The first article provides a deeper understanding of the role of conflict within a paid work environment, while the second article shifts the focus to a non-paid volunteer environment.

Article 1: Leading toward harmony: Different types of conflict mediate how followers' perceptions of transformational leadership are related to job satisfaction and performance

Kammerhoff, J., Lauenstein, O., & Schütz, A. (2019). Leading toward harmony – Different types of conflict mediate how followers' perceptions of transformational leadership are related to job satisfaction and performance. *European Management Journal*, 37(2), 210–221. <https://doi.org/10.1016/j.emj.2018.06.003>

Abstract

Conflict has negative effects on employees' job satisfaction and performance. Transformational leadership, on the other hand, has been shown to have strong positive relations with both job satisfaction and performance, but is negatively related to conflicts at the workplace. However, up to now how these different factors influence one another remains unclear. With this study, we take a closer look at the role of conflict and focus on task and relationship conflicts as possible mediators between transformational leadership and job satisfaction on the one hand and performance on the other. Data from professional orchestra musicians in German-speaking countries were used, as transformational leadership is often likened to the method of leadership found in orchestras. Structural equation modeling indicated that task conflict mediated the effect of transformational leadership on performance and relationship conflict mediated the effect of transformational leadership on job satisfaction. Implications and limitations are discussed.

1. Introduction

Leadership in orchestras is frequently used as an example to describe leadership that is person-oriented but also includes a vision that the group strives for (Nierenberg, 2009). More specifically, a music conductor promotes a common goal, that is, to produce high-quality overall musical performances while also focusing on bringing together excellent individual performances to collectively achieve this harmony. Transformational leadership embodies these aspects exactly: motivating followers, stressing shared goals, setting high performance standards, and not only considering the team as a whole but also developing each individual's potential and considering their aspirations and abilities (Bass, 1999). In this study, we aimed to provide insights into the mechanisms that underlie how transformational leadership can improve the work environment by utilizing a sample of highly trained and specialized professionals, namely, orchestra musicians.

Various studies have shown that a transformational leadership style contributes to the well-being of organizations and the individuals who make up the organization (e.g. organizational productivity as well as employees' mental health; Bass, 1999; Chun, Cho, & Sosik, 2016; Montano, Reeske, Franke, & Hüffmeier, 2016; Wang, Oh, Courtright, & Colbert, 2011). We also know that transformational leadership has a positive influence on job satisfaction (Braun, Peus, Weisweiler, & Frey, 2013) as well as performance (Wang et al., 2011). By contrast, conflicts in the workplace usually have harmful consequences (De Dreu, 2008).

Conflicts can be related to work tasks (e.g. how the task should be accomplished) or to relationships (e.g. concerning incompatible values or personalities) (Jehn, 1995). Studies on job satisfaction have indicated that both task and relationship conflict are associated with decreases in job satisfaction (De Dreu & Weingart, 2003; Jehn, 1995). Studies that have shown that task conflict is associated with better performances seem to be limited to specific circumstances and tasks related to decision making on a team level, but overall, task conflict seems to be rather harmful to performance (see De Dreu, 2008, for a review of the literature). Relationship conflict under any circumstances has been shown to have a rather negative influence on performance (de Wit, Greer, & Jehn, 2012).

Still, past research on conflicts at work has concentrated primarily on establishing individual links between the variables but has failed to take the larger picture of interrelationships into account. Many studies on transformational leadership and conflict

have concentrated on the influence of leadership style on styles of conflict resolution (Yang, 2012a, 2012b, 2014; Zhang, Cao, & Tjosvold, 2011) but have not provided information about the actual frequency of conflicts that are associated with various leadership styles. Although the former is a valid and important endeavor, studies have yet to address the underlying mechanism through which conflict itself is connected to the influence of transformational leadership on job satisfaction and performance.

We propose a model in which the effect of followers' perceptions of transformational leadership on their job satisfaction and performance is partially mediated by their perceptions of conflict frequency. A sample of professional orchestra musicians responded to questions concerning leadership, conflict, job satisfaction, and performance. To become an orchestra musician, great expertise in this chosen field is a requirement, and this expertise has to be maintained over the course of employment. Studies with orchestra musicians can advance research on how to lead experts. Such knowledge can be considered of utmost importance in a time when the specialization of the work force is ever increasing (Malone, Laubacher, & Johns, 2011).

2. Theoretical framework and hypotheses

2.1 Leadership in orchestras

Managers are often asked to step into the shoes of conductors for training purposes (e.g. Canzona Music, 2016; Dakkord Trainings e.U., 2016; Schulz, 2016), and business managers are often compared with orchestra conductors in papers on managerial work (e.g. Nierenberg, 2009). The leadership skills necessary to successfully lead an orchestra, such as conveying a strong vision and facilitating followers' performances to the best of one's abilities (Shaw, 2004), are skills that are considered desirable for leaders in work settings. The job description of conductors matches many points deemed to be reflective of good leadership in managing different types of organizations (e.g. coordinating a team effort made up of individual efforts into one coordinated effort while also attending to, acknowledging, and valuing each individual team member's contribution; Karabell, 2015).

Leadership means using communication processes to influence people's behavior in a goal-oriented way (Baumgarten, 1977; Rosenstiel, 2006). This holds true for conductors: The conductor adjusts the orchestra members' behavior (e.g. he/she communicates whether parts should be played with more or less vigor, whether the

tempo should be modified, etc.). The conductor communicates a vision of how the music should sound and feel (Shaw, 2004). Throughout the actual performance, the conductor continues to guide the musicians by communicating through nonverbal cues (Tskhay, Xu, & Rule, 2014).

Leadership in orchestras is usually very present and hands-on, meaning conductors typically choose a piece and work along with the musicians to find the best way to realize the conductor's vision of the piece. Conductors work in an environment in which it is crucial to promote a shared vision and to facilitate precise teamwork through leadership. Work in orchestras is made up of many interrelated tasks that are performed by the musicians (Boerner & Krause, 2002). The level of interdependence in orchestras is extremely high, making them an ideal situation for conflicts to arise.

2.2 Transformational leadership, conflict, job satisfaction, and performance

Good leadership is essential for optimal performance and job satisfaction. Over the past few decades, the search for an optimal leadership style has put many leadership styles under scrutiny. Styles such as the laissez-faire style and the transactional and transformational leadership styles have all been studied over the years. It has been 40 years since Burns (1978) first published his work on leadership, introducing the concept of transformational leadership. Time and time again, transformational leadership seems to be a very effective way to lead across many fields of work. It has been shown to have positive effects on both job satisfaction and performance on both a team level and an individual level (Bass, 1999; Wang et al., 2011).

Typically, transformational leadership is described as a combination of different behaviors. They often get subsumed under the taglines of the “Four I’s”: (1) idealized influence: Leaders applying idealized influence lead by living out the proposed work ideals as role models and having followers emulate them; (2) inspirational motivation: To motivate their followers, leaders applying a transformational style emphasize shared values and shared goals and communicate clearly how these can be attained by working together; (3) intellectual stimulation: Leaders challenge their followers intellectually by stimulating and encouraging creativity and new approaches; (4) individualized consideration: Leaders take care to understand and address followers' needs and personal values. Transformational leadership is a style by which leaders considers each individual's aspirations and abilities as well as those of the team (Bass, 1999; Felfe, 2006).

These behaviors represent an ideal, but real-life leadership varies in how many components of transformational leadership are used and the extents to which they are engaged in. Originally, Bass and Avolio (1995) proposed that transformational leaders generally employ one of the four abovementioned styles. Recently, however, measures to assess the extent of transformational leadership have typically found high correlations between the components and have combined them into one factor (Bass & Riggio, 2006).

Shamir and colleagues (Shamir, Zakay, Breinin, & Popper, 1998) suggested that leaders often engage in behaviors that are not directed toward a single individual but rather toward the group as a whole. However, in the case of transformational leadership, leadership behavior is characterized through an individualized approach and individual interactions (Bass & Riggio, 2006). In this approach, leaders have different interactions with different followers. Thus, we concentrated on followers' perceptions of their leader's behaviors in the present study to account for the personalized relationships between leaders and followers expressed through followers' perceptions of their leader's individualized consideration.

We will review the findings from the literature on transformational leadership and on how transformational leadership and conflict are linked to job satisfaction and performance. The mechanisms behind how different types of conflict are involved in this relation still need some clarification, so we will also discuss this matter. In the present study, we go beyond previous research by focusing on the interrelations between leadership, two types of conflict (relationship and task conflict), job satisfaction, and performance, all measured from the followers' perspective.

2.2.1 Transformational leadership, job satisfaction, and performance

Leaders employing a transformational leadership style take into account their followers' needs and exhibit behavior designed to intellectually stimulate their followers (Bass & Avolio, 1995). They show more consideration than other leaders for their followers' individual strengths and goals (Felfe, 2006). In line with this style, Shaw (2004) described successful orchestra conductors as being able to empower musicians. Shaw further described successful conductors as being able to create a vision of the desired interpretation of the musical piece as well as a view of themselves as coaches or mentors who are truly concerned with the musicians' development. In a work context, all of these behaviors contribute to employee satisfaction. Followers' appraisals of their leader's

transformational style and followers' personal assessment of job satisfaction were also found to be related (Braun et al., 2013; Judge & Piccolo, 2004; Podsakoff, MacKenzie, & Bommer, 1996). We thus expected to find this effect in a sample of orchestra musicians on the individual level as well.

Hypothesis 1: The extent to which orchestra musicians perceive their conductor as exhibiting transformational leadership will be positively associated with musicians' job satisfaction.

After studying orchestras, Boerner and Krause (2002) asserted that creating high-quality music is a central goal of professional orchestra musicians. In an orchestra, individual performance is highly interwoven with the performance of the group since only a few orchestra musicians will perform solo in any given orchestra performance. The assessment of this performance is by definition subjective: Judging the quality of a piece of art – in this case, music – usually goes beyond the mere technicalities of appropriate timing and so forth. Rather, given a basic technical level of quality, it is marked by personal preferences and tastes.

In leading the orchestra, the conductor specifies the level of quality that should be attained (Boerner & Krause, 2002), and transformational leadership emphasizes ambitious goals. Clearly communicating these goals is important in order to avoid distraction from or confusion about team objectives in the group as this would inhibit coordination. Coordinated efforts, by contrast, increase harmony and thus help increase performance (i.e. the quality of the music played by the orchestra). Synchronization is therefore an integral part of achievement in conducting an orchestra (Boerner & Krause, 2002). Such synchronization in a situation of high interdependence necessitates excellent coordination, which means that constant coordination by the conductor is essential for producing high-quality music (Boerner & Krause, 2002).

Transformational leadership is described as a leadership style that encourages and supports followers so that they are able to achieve their potential (Bass & Riggio, 2006) and are motivated to go beyond job requirements and constantly improve their performance (Podsakoff et al., 1996). In a meta-analysis, Wang et al. (2011) showed that transformational leadership can predict job performance at the individual level as well as the team level across a multitude of criteria. We thus hypothesized that orchestra musicians' perceptions of their conductor's transformational leadership would have a

positive relation with how the individual members perceive their performance as a group.

Hypothesis 2: The extent to which orchestra musicians perceive their conductor as exhibiting transformational leadership will be positively associated with musicians' perceptions of their orchestra's performance.

"A happy worker is a productive worker!" is a saying that is mirrored in research on the relation between performance and job satisfaction. Although the two are far from being identical concepts, positive relations between performance and job satisfaction are typical. Whitman, Van Rooy, and Viswesvaran (2010) reported a correlation of $\rho = 0.34$ in their meta-analysis, a finding corroborated by the result of $\rho = 0.30$ in an earlier meta-analysis by Judge and colleagues (Judge, Thoresen, Bono, & Patton, 2001).

Considering that the goal of musicians is to produce high-quality music and that they often put tremendous effort into achieving this goal by practicing for many hours per day, it can reasonably be expected that falling short of the goal would lead to diminished levels of job satisfaction and vice versa.

Hypothesis 3: Musicians' job satisfaction will be positively correlated with their perceptions of their orchestra's performance.

2.2.2 Transformational leadership and conflict

When conflict occurs, effective leadership should provide or support resolution strategies. Many studies have shown a direct relation between transformational leadership strategies and effective conflict resolution (Yang, 2012a, 2012b; Zhang et al., 2011).

Another way for leaders to take action against conflicts is to foresee problems and act before full-fledged conflicts are present, thus averting conflict or diminishing the frequency with which conflicts arise. Creating and communicating a shared vision is part of the transformational leadership concept and should be key to preventing conflicts concerning strategies and goals. When transformational leaders create a shared vision and lead the way, there ought to be less room for divergent opinions among team members as to what a specific task entails and how it should be accomplished. Thus, opportunities for the development of task conflict will be reduced. Creating and maintaining a shared vision for all followers should also leave less room for divergence in aspirations and thus less relationship conflict: Through the effects of successful

transformational leadership, differences in opinions among followers regarding norms and values should be less important than their shared goal.

Hempel and colleagues as well as Yang suggested that better communication during conflict boosts cooperative conflict resolution (Hempel, Zhang, & Tjosvold, 2009; Yang, 2012a, 2012b). Indeed, Lehmann-Willenbrock and colleagues showed that followers of leaders who use a transformational approach engage in less counterproductive communication (e.g. criticizing and complaining in team meetings) and make more solution-focused statements (Lehmann-Willenbrock, Meinecke, Rowold, & Kauffeld, 2015). Furthermore, it has been shown that transformational leadership reduces negative verbal behavior and increases cooperative communication (Bass, Avolio, Jung, & Berson, 2003; Lehmann-Willenbrock et al., 2015). This led us to expect that followers' perceptions of transformational leadership would reduce the frequency of conflicts. This idea is in line with common definitions of the reasons for the occurrence of interpersonal conflicts (e.g. conflicts are likely to arise when at least one of the involved parties perceives that their goals are impeded by another party) (Glasl, 2013). A key element of the transformational leadership style is the creation of shared superordinate goals (Bass, 1999). If followers perceive that group goals and a vision are being installed by a leader and that the leader is also taking into account their individual needs, then this perception of such leadership should improve satisfaction and group climate and should thus help to reduce conflicts in the group. We thus hypothesized that the extent to which musicians perceived that their conductors exhibited transformational leadership would be negatively related to musicians' perceptions of conflicts in the group.

Hypothesis 4a: The extent to which orchestra musicians perceive their conductor as exhibiting transformational leadership will be negatively associated with musicians' perceptions of the frequencies with which task conflicts arise.

Hypothesis 4b: The extent to which orchestra musicians perceive their conductor as exhibiting transformational leadership will be negatively associated with musicians' perceptions of the frequencies with which relationship conflicts arise.

2.2.3 Direct and indirect effects of conflict types on job satisfaction and performance

Conflict at work emerges among interdependent individuals or groups if at least one party perceives that their goals are impeded or their opinions, norms, or values are diminished (Thomas, 1992). Such events are so common that Tjosvold (2008, p. 19) proposed that “to work in an organization is to be in conflict,” and teams who need to collaborate intensely have even more opportunities for conflict due to interdependencies. In an orchestra, work is strongly interrelated (Boerner & Krause, 2002). This high level of interdependence harbors outstanding potential for conflicts.

Types of conflict are often differentiated according to content. A typical division that is found in an organizational setting is the differentiation between task and relationship conflict (Tjosvold, 2008). Task conflict involves differences of opinion with regard to a task to be accomplished (in an orchestra setting, e.g. the volume at which different instrument sections should play during parts of a musical piece). Relationship conflict describes interpersonal tensions that may result from incompatibilities in values, norms, or personality and is more personal in nature (Jehn, 1995).

The negative impact of conflict on job satisfaction within work groups is well established (De Dreu & Weingart, 2003). Relationship conflict has generally been shown to have an all-around negative impact on work-related outcomes as well as on the individual. It leads to negative emotions and may thus strain work relationships. An immediate result is a diminished feeling of satisfaction with one's job. A much-cited meta-analysis by De Dreu and Weingart (2003) showed that job satisfaction was usually more strongly correlated with relationship conflict than with task conflict. In 2012, another meta-analysis on the relations between intragroup conflict and group outcomes such as job satisfaction was conducted by de Wit et al. (2012). The results on the interrelations between the types of conflict and job satisfaction mirrored De Dreu and Weingart's (2003) results. In both studies, job satisfaction was more strongly correlated with relationship conflict than with task conflict.

Hypothesis 5a: Orchestra musicians' perceptions of higher frequencies of task conflict will be negatively associated with job satisfaction.

Hypothesis 5b: Orchestra musicians' perceptions of the frequency of relationship conflict will be negatively associated with job satisfaction – and the relation will be stronger than the one with perceived frequency of task conflict.

With respect to performance, the picture is less clear. The idea that conflict, especially task conflict, may have a positive influence on performance has been around

for a long time. After much research, De Dreu's (2008) self-styled "pessimistic" conclusion was that the detrimental effects of conflict in general outweigh its benefits. Some studies have found that when task conflict is of moderate intensity, it is related to innovation (De Dreu, 2006; Xie, Wang, & Luan, 2014), but this has mostly occurred in fields in which discourse and knowledge sharing can improve the quality of decision making or problem solving (Bradley, Anderson, Baur, & Klotz, 2015; Jehn, Northcraft, & Neale, 1999; Todorova, Bear, & Weingart, 2014; Xie et al., 2014). By contrast, in orchestras, as in many production-oriented work environments, a smooth workflow is of utmost importance for success, and task conflict will most likely be a disruptive force. Thus, we did not expect any positive effects of task conflict on perceived performance.

The overall scores in both meta-analyses (De Dreu & Weingart, 2003; de Wit et al., 2012) showed that relationship conflict is negatively correlated with various performance measures. Relationship conflict involves animosity and tension between employees (Jehn, 1995) and can thus decrease collaborative behavior (De Dreu, 2006), which should be especially harmful in teams with intertwined tasks. Such a situation is typical in orchestras where the work of the individual is inseparable from the group task.

De Dreu and Weingart (2003) as well as de Wit et al. (2012) showed that relationship conflict was more strongly related to performance than task conflict was. De Dreu and Weingart (2003) reported the results of the individual studies included in their meta-analysis, and looking at them more closely, the results were much less clear. In De Dreu and Weingart's meta-analysis (2003), the number of studies that reported that performance had a higher relation with task conflict was equal to the number of studies that reported that performance had a higher relation with relationship conflict (nine each; studies with a difference of less than $|\rho_{TC \times Perf}| - |\rho_{RC \times Perf}| < .05$ were excluded from this count). This means that the number of studies that found that the task-conflict-performance relationship was more substantial was equal to the number of studies that found the opposite. Thus, hypotheses proposing the greater impact of either task or relationship conflict on performance seem inadvisable at this stage.

Hypothesis 6a: Orchestra musicians' perceptions of higher frequencies of task conflict will be negatively associated with musicians' perceived orchestra performance.

Hypothesis 6b: Orchestra musicians' perceptions of higher frequencies of relationship conflict will be negatively associated with musicians' perceived orchestra performance.

As already stated, transformational leadership has been found to lead to a lower level of negative verbal behavior and to foster cooperative communication (Bass et al., 2003; Lehmann-Willenbrock et al., 2015), implying less conflict. Because both relationship and task conflict apparently diminish job satisfaction, it follows that the amount of relationship and task conflict should provide an indirect route through which transformational leadership influences job satisfaction. Just as described for the relation between relationship conflict and job satisfaction, we expected that the mediation effect via relationship conflict would be stronger.

Hypothesis 7a: The effect of the extent to which orchestra musicians perceive their conductor as exhibiting transformational leadership on musicians' job satisfaction will be mediated by musicians' perceptions of the frequencies of task conflict.

Hypothesis 7b: The effect of the extent to which orchestra musicians perceive their conductor as exhibiting transformational leadership on musicians' job satisfaction will be mediated by musicians' perceptions of the frequencies of relationship conflict. The mediation effect will be stronger for relationship conflict than for task conflict.

Similarly, for performance, the amounts of relationship and task conflict should form two indirect routes through which transformational leadership can affect performance. Transformational leadership was previously found to be related to higher performance levels (Wang et al., 2011), and thus, we expected the likelihood of relationship and task conflict would be lower if musicians rated their conductor as high on transformational leadership. In turn, this should contribute to higher levels of performance since less of musicians' capacities are bound up in conflict, and team members can concentrate on their tasks.

Hypothesis 8a: The effect of the extent to which orchestra musicians perceive their conductor as exhibiting transformational leadership on their perceptions of the orchestra's performance will be mediated by the frequencies of task conflict reported by the musicians.

Hypothesis 8b: The effect of the extent to which orchestra musicians perceive their conductor as exhibiting transformational leadership on their perceptions of the

orchestra's performance will be mediated by the frequencies of reported relationship conflict.

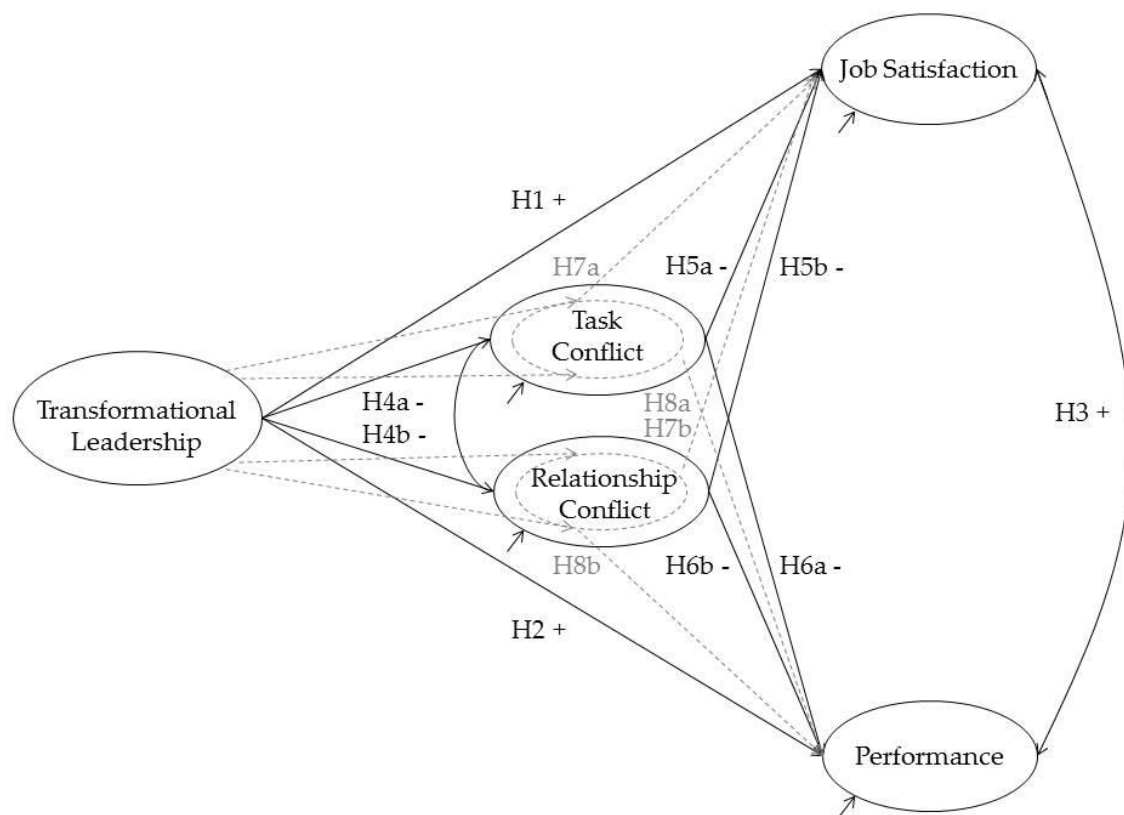


Figure 1. Hypothesized model.

2.3 Summary and mediation model

Figure 1 shows the proposed model of followers' perceptions in which transformational leadership has positive effects on job satisfaction (Hypothesis 1) and performance (Hypothesis 2) as well as negative effects on relationship conflict and task conflict (Hypotheses 4a, 4b). Job satisfaction and performance are modeled as interrelated (Hypothesis 3). Relationship conflict and task conflict are modeled as negatively associated with job satisfaction (Hypotheses 5a, 5b), with relationship conflict being more influential than task conflict (Hypothesis 5b). Relationship and task conflict are modeled as negatively related to performance (Hypotheses 6a, 6b).

The dashed lines in Figure 1 show the expected mediations. In this model based on followers' perceptions, parts of the effects that transformational leadership have on job satisfaction (Hypotheses 7a, 7b) and performance (Hypotheses 8a, 8b) are mediated

by the two types of conflict. The mediation between transformational leadership and job satisfaction via relationship conflict is modeled as stronger than the mediation via task conflict (Hypothesis 7b).

3. Methods

3.1 Participants and procedure

Over the course of five months beginning in July 2014, orchestras were contacted in Germany, Switzerland, Austria, and the German-speaking regions of Belgium. Most often, registries of different types of orchestras were used (e.g. websites of orchestra associations) to identify and contact the orchestras. After establishing contact via e-mail or contact forms, e-mails were sent to an administrative member of the orchestra asking them to forward an invitation to participate in an online survey to the orchestra's musicians; thus, an accurate return rate could not be calculated. A total of 1641 professional and amateur orchestras were contacted. To incentivize participation, we offered a raffle to win prizes such as gift certificates from music publishing companies², yearly subscriptions to a music journal, and other small prizes.

It was our goal to analyze the research questions in a work context; thus, only professional orchestras were included. 430 professional musicians completed at least 25% of the questionnaire, and only musicians who were active members of professional orchestras in German-speaking countries were included in the final sample. Thus, a total of $N = 426$ professional orchestra members comprised the final sample. 82% of these worked in orchestras in Germany, 4% in Austria, and 3% in Switzerland; 10% provided no indication of which orchestra they belonged to. We identified distinct orchestras (to which 382 participants belonged). The average orchestra size was 84 members ($SD = 27.4$), and the number of participants per orchestra ranged from 1 to 21. Only 15 orchestras had a participation rate of more than 10% (see Table 1).

50% of participants were male, and 41% were female. The remaining participants chose not to disclose their gender. Categories were used to anonymously assess participants' ages, starting with "younger than 18," "18-25," and then going up in 10-year steps from 26 to 75, ending with the category "older than 75" (see Table 2). The sample of professionals had a unimodal distribution; its mode was "46-55" (31%). After a

² The incentives were provided by music publishers Breitkopf & Härtel and Schott Musik Verlag.

brief introduction and the assurance that participants' data would be treated with confidentiality, the main questionnaire followed. The questionnaire was filled out online and was hosted by Unipark.

Table 1

Participants per Orchestra

	<i>n</i>	(%)	<i>k</i>
Unidentified	44	(10.3%)	-
1-5	183	(43.0%)	82
6-10	115	(27.0%)	16
> 10	84	(19.7%)	6

Note. *N* = 426, Range = 1-21 (*M* = 8, *SD* = 4.7) of participants per orchestra. *k* = number of orchestras.

Table 2

Age Distribution

	Ages	<i>n</i>	(%)
1	< 18	2	(.5%)
2	18 - 25	14	(3.3%)
3	26 - 35	81	(19.0%)
4	36 - 45	111	(26.3%)
5	46 - 55	132	(31.0%)
6	56 - 65	48	(11.3%)
7	66 - 75	2	(.5%)
8	> 75	1	(.2%)

Notes. 34 missing values (8.0%)

3.2 Measures

3.2.1 Leadership style

Orchestra members' perceptions of their conductor's leadership style were measured with the German version of the Multifactor Leadership Questionnaire (MLQ) by Bass and Avolio (1995) (Felfe, 2006). The MLQ uses 20 items to assess five subscales reflecting transformational leadership behavior, three subscales for transactional leadership, and one scale for the laissez-faire style, with 2 items each. The scale was partly adapted for use in an orchestra sample; i.e. instead of asking about a nonspecific leader, we inserted "your conductor." Since leadership in orchestras is mostly a group experience with one leader in front of several people, the items pertaining to individual experiences with the leader were changed to fit groups. A sample item is "The conductor helps others develop their strengths." Participants reported the frequency of the leader's behavior on a five-point Likert scale, ranging from 1 = "never" to 5 = "very often."

The transformational leadership items are often combined into a single factor because of high intercorrelations (Bass & Riggio, 2006; Felfe, 2015). For the purposes of this study, the extent of the use of transformational leadership styles in general was of particular interest; thus, the subscales for transformational concepts were used as a single factor. Cronbach's alpha was .91.

3.2.2 Conflict

A widely used scale for assessing conflict at work is the intragroup conflict scale by Jehn (1995) (De Dreu & Weingart, 2003). It is split into two subscales, with one subscale concentrating on conflicts of a personal nature and personality-related differences (relationship conflict) and the other dealing with conflicts pertaining to the tasks the group seeks to accomplish (task conflict) (Jehn, 1995).

A German version of Jehn's (1995) intragroup conflict scale by Karstens (2011) was used to assess participants' perceptions of the frequency of conflict in their orchestra. A sample item from the relationship conflict scale is "How much are personality conflicts evident in your orchestra?" For the task conflict scale, a sample item is "How much conflict about the work you do is there in your orchestra?" A seven-point Likert scale was used, ranging from 1 = "rarely" to 7 = "very often."

To ensure the appropriate scale structure of the translated measure, we applied principal axis factoring in which we fixed the number of factors to be extracted to two to account for the well-established subdimensions. Since previous studies (De Dreu & Weingart, 2003; Jehn, 1995; Karstens, 2011) led us to expect that the subdimensions would be correlated, oblique rotation (direct oblimin) was chosen. All items showed high factor loadings on the expected factor. One item from the task conflict scale ("To what extent are there differences in your orchestra?") showed a high loading on the relationship factor. This finding was corroborated by confirmatory factor analyses - the fit indices improved after the deletion of said item, from CFI = .95, RMSEA = 0.13, and SRMR = 0.05 to CFI = 0.99, RMSEA = 0.06, and SRMR = 0.02. Thus, the item was excluded from further analyses. Cronbach's alpha was high for both the relationship conflict scale ($\alpha = 0.95$) and the modified task conflict scale ($\alpha = 0.83$).

3.2.3 Job satisfaction

We used seven job satisfaction items that we had created for this study. We used one item to assess overall job satisfaction ("How satisfied are you with your job in your current orchestra in general?"). As shown in the literature, single-item measures may offer an economical and effective way to assess job satisfaction (Dolbier, Webster, McCalister, Mallon, & Steinhardt, 2005; Wanous, Reichers, & Hudy, 1997). To gain insight into the specific aspects of a job in a way that existing measures could not, we formulated six additional items pertaining to different aspects of the job and the specific

work environment in an orchestra. The questions referred to the conductor, participants' fellow orchestra members, the quality of playing, and participants' further development as a musician, as well as non-musical aspects of the job and compensation for their efforts. A seven-point Likert scale was used, ranging from 1 = "very dissatisfied" to 7 = "very satisfied." The seven items were combined into one scale due to high intercorrelations. Cronbach's alpha was .82.

3.2.4 Performance

A scale by Boerner and Krause (2002) was used to assess each individual member's judgment of his or her orchestra's overall performance. It is a subjective performance measure for the "product" of orchestras (i.e. music). The musicians were asked to rate the quality of the performance of their orchestra using four items from the scale. This scale assesses the quality of music in orchestras as perceived by the individual members and captures the musicians' perceptions of the quality of the performance of the orchestra as a whole. The questions are introduced as follows "How do you personally rate the artistic quality of the orchestra's performance?" Four items are presented to rate the performance: The first item asks the participant to rate the perceived quality of the orchestra "in general," while the other items ask them to rate the quality with regard to their personal standards, their own musical ability, and the orchestra's potential as a whole. Five additional items from that scale were not used as they referred to a third-party perspective, which was not the focus of our research. The seven-point Likert scale for the items ranged from 1 = "very low" to 7 = "very high." Internal consistency was $\alpha = 0.95$, which indicated that the different perceptions relating to different standards of comparison were highly interrelated.

3.2.5 Further measures

Playing an instrument well requires great dedication, and achieving and maintaining a high level of musical professionalism takes a lot of time and effort. It thus seems likely that musicians will be conscientious, particularly professional musicians. Therefore, we used the two conscientiousness items from the German version of Gosling, Rentfrow, and Swann's (2003) Ten-Item Personality Inventory called the TIPI-G (Muck, Hell, & Gosling, 2007) as well as the average number of hours participants spent playing their primary instrument per week and their work experience in years. Participants' age (see Table 2), their gender (coded as 1 = female and 2 = male), and the percentages of the

men and women in each respective orchestra were also included in the correlational analyses. The means, standard deviations, and correlations are presented in Table 3.

3.3 Data analysis

Statistical analyses were conducted using SPSS (Version 23) and R (Version 3.2.3). SEM mediation was preferred to classical mediation methods because it allows for multiple outcome variables and mediators, thus making a differentiation between the different types of conflict possible (Iacobucci, Saldanha, & Deng, 2007). The mediation model was specified using the lavaan package (Rosseel, 2012) in the statistical analysis program R.

The amount of missing data per variable was quite low, ranging from approximately 4%-10%. Little's (1988) test for whether the data were missing "completely at random" was performed and showed no significant results. Thus, the missing values were treated as missing completely at random, meaning that they could safely be disregarded in further calculations (Graham, 2009).

4. Results

Table 3 reports the means, standard deviations, and correlations of the scales used in the study.

4.1 Hypothesis tests

All correlations of the variables in the mediation model were significant, and the directions of the correlations were all in accordance with the proposed hypotheses. The model itself was constructed according to the hypothesized associations (see Figure 1).

Structural equation modeling analyses were applied to the data. To most accurately portray the latent constructs and their interrelations, each item and its contribution to its respective latent construct was carefully analyzed. The factor loading estimates never fell below $\lambda = 0.66$ (0.42 standardized loading).

To account for the multivariate non-normality of the data, robust estimates are presented as well. The Root Mean Square Error of Approximation ($RMSEA_{SB} = 0.06$) and Standardized Root Mean Square Residual ($SRMR = 0.08$) could both be considered acceptable. However, the Comparative Fit Index ($CFI_{SB} = 0.92$) did not meet the cut-off

Table 3
Descriptive Statistics and Correlations (N = 311^a)

Variable	M	(SD)	1	2	3	4	5	6	7	8	9	10
1. Age ^b	4.32	(1.11)										
2. Gender ^c	1.56	(0.50)	.12*									
3. % women in orchestra ^d	40.77	(5.89)	-.09	-.05								
4. Conscientiousness	6.02	(0.94)	-.03	-.07	-.02							
5. Average hours played per week	31.33	(8.45)	.02	.06	-.11*	.07						
6. Experience (years)	23.60	(10.90)	.78**	.13*	-.07	.03	-.01					
7. Transformational leadership ^e	4.25	(1.39)	-.04	-.14*	.05	-.04	.08	-.08				
8. Relationship conflict	4.32	(1.46)	-.05	-.08	-.07	-.08	.07	-.02	-.17**			
9. Task conflict	3.86	(1.40)	-.08	-.03	-.09	-.08	.01	-.03	-.14*	.66**		
10. Job satisfaction	4.63	(1.12)	.10	-.01	.03	.04	-.02	.09	.47**	-.44**	-.38**	
11. Performance	4.88	(1.31)	.21**	-.01	-.01	.002	-.04	.21**	.22**	-.34**	-.31**	.65**

Notes. ^a listwise deletion. ^b age in categories, see Table 1. ^c 1 = female; 2 = male. ^d individual estimate of the number of women in a respondent's orchestra divided by the stated size of the whole orchestra, yielding the estimated distribution between genders in percent. ^e Variable 7 was scaled up to a 7-point Likert scale format for the sake of better comparison. ** $p < .01$, * $p < .05$

for a well-fitting model³. Hu and Bentler (1999) maintain that the RMSEA and SRMR are reliable indices that allow the goodness-of-fit of the proposed model to be aptly judged. Both indices reflected an adequate fit by current standards (Hooper, Coughlan, & Mullen, 2008), and thus, the results could be interpreted further.

Thus, we proceeded to analyze the paths of the proposed mediation. The fit indices are presented in Table 4.

Table 4
Goodness-of-Fit Statistics

Model	N	Maximum Likelihood Estimates						
		χ^2	df	p	CFI	RMSEA	90% CI	SRMR
Mediation model	339	950.151	340	< .01	.910	.073	[.068; .079]	.076
Robust scaled estimates								
		χ^2_{SB}		p_{SB}	CFI _{SB}	RMSEA _{SB}	90% CI _{SB}	
		789.952		< .01	.924	.063	[.058; .068]	

Notes. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual. _{SB} = Satorra-Bentler scaled Chi-Square (Satorra & Bentler, 1994).

Figure 2 shows the proposed paths and their standardized path coefficients and correlations.

The extent to which orchestra musicians perceived that their conductors exhibited transformational leadership was positively related to both the musicians' job satisfaction ($\beta = .37, p < .01$) (H 1) and their ratings of their orchestra's performance ($\beta = 0.24, p < .01$) (H 2) and negatively related to their ratings of the occurrence of conflict in the team ($\beta = -0.25, p < .01$; $\beta = -0.24, p < .01$, for task and relationship conflict, respectively) (H 4). Relationship conflict was negatively related to job satisfaction ($\beta = -.35, p < .01$), whereas the relation between task conflict and satisfaction was low and nonsignificant ($\beta = -0.12, p = .17$) (H 5a and H 5b). Task conflict was negatively related to performance ($\beta = -0.22, p < .05$) and relationship conflict's association was low and nonsignificant

³ The Chi-Square coefficient is an index that is sensitive to violations of the assumption of multivariate normality (McIntosh, 2007) and is highly influenced by sample size, with larger samples leading to highly inflated numbers and yielding significant results even with correctly specified models (Bentler & Bonnet, 1980). Because the CFI is based on the Chi-Square, the same holds true for the CFI.

($\beta = -.13$, $p = .10$) (H 6). Job satisfaction was positively correlated with musicians' ratings of their orchestra's performance ($r = 0.70$, $p < .01$) (H 3). Task and relationship conflict were correlated at $r = 0.71$ ($p < .01$), thus further validating the distinction between the two parts of the conflict scale.

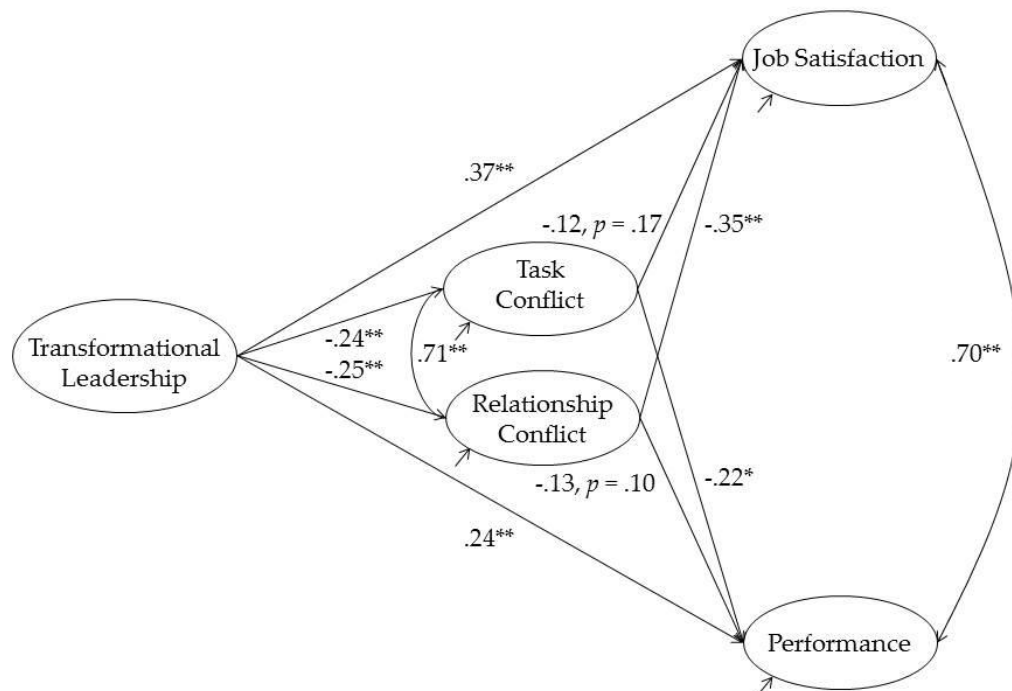


Figure 2. Model estimates. Standardized estimates of regression paths and covariances. $^{**}p < .01$, $^*p < .05$.

As an overview, Table 5 reports the standardized estimates for direct and indirect effects. All direct effects were significant. To judge whether the perceived frequency of conflict had mediating effects, the indirect paths were calculated and tested via bootstrapping with 10,000 samples. The results showed that relationship conflict partially mediated the effect of musicians' perceptions of their conductor's transformational leadership on musicians' job satisfaction (estimate = $.09$, $p < .01$), but task conflict did not (estimate = 0.03 , $p = .20$) (H 7a and H 7b). The effects were reversed for the linkage between transformational leadership and performance; here, task conflict was more influential (estimate = $.05$, $p = .04$) and relationship conflict was less so (estimate = 0.03 , $p = .14$) (H 8).

The hypothesis that relationship and task conflict would mediate the relation between transformational leadership and job satisfaction can be accepted with constraints: Only conflicts that pertained to relationships had a mediating effect on the influence of transformational leadership on job satisfaction. The mediation effect was reversed for the relation between transformational leadership and performance; only task conflict partially mediated the path between transformational leadership and performance. The model's standardized coefficients showed a similar picture such that the influence of task conflict on performance was stronger than its influence on job satisfaction, whereas the effect of relationship conflict on performance yielded a low coefficient ($\beta = -.13$, $p = .10$) but a higher one for its effect on job satisfaction. The interrelations between conflict and job satisfaction as well as performance were negative, findings that were in line with our expectations.

Table 5
Direct, Indirect and Total Effects

		Standardized estimates	S.E.	p-value
<i>Transformational leadership to job satisfaction</i>	(direct effect)	.37	.06	$p < .01$
	via relationship conflict (indirect effect)	.09	.02	$p < .01$
	(total effect)	.45	.06	$p < .01$
	via task conflict (indirect effect)	.03	.02	$p = .20$
	(total effect)	.40	.05	$p < .01$
<i>Transformational leadership to performance</i>	(direct effect)	.24	.05	$p < .01$
	via relationship conflict (indirect effect)	.03	.02	$p = .14$
	(total effect)	.28	.05	$p < .01$
	via task conflict (indirect effect)	.05	.02	$p = .04$
	(total effect)	.30	.05	$p < .01$

4.2 Additional factors

Table 3 shows that the correlations with conscientiousness were very low. Similarly, the average number of hours invested in practicing was unrelated to the constructs of interest in this study. Age and number of years as an active member of an orchestra were closely related, and not surprisingly, both were related to orchestra musicians' perceptions of their orchestra's performance. The gender distribution in an

orchestra showed close to zero correlations with the scales we used, but participant gender was relevant insofar as male participants were a little less likely to perceive their conductor's leadership behavior as transformational.

4.3 Summary

In sum, the extent to which orchestra musicians perceived that their conductors exhibited transformational leadership behavior was negatively related to perceived task and relationship conflict and positively related to self-reported job satisfaction and perceived orchestra performance. Task conflict was negatively related to orchestra performance and partially mediated the influence of musicians' perceptions of their conductor's transformational leadership on musicians' perceptions of their orchestra's performance. Relationship conflict was negatively related to job satisfaction and functioned as a partial mediator of the effect of perceived transformational leadership on job satisfaction.

5. Discussion

The contribution that this study makes to the literature on transformational leadership is that it provides a better understanding of the process through which perceptions of transformational leadership affect job satisfaction and performance. Specifically, we studied the role of perceived task and relationship conflict as mediators of the relations between perceptions of transformational leadership behavior and perceived job satisfaction as well as perceived orchestra performance.

The extent to which transformational leadership was perceived by musicians as exhibited by conductors was found to have a positive effect on musicians' job satisfaction and their perceptions of the performance of their orchestra, measured as the individual musician's assessment of the quality of music in the respective orchestra. Orchestra performance and job satisfaction were correlated. Perceived transformational leadership had negative impacts on both task and relationship conflict. Thus, almost all of the results were significant and supported the hypotheses.

We expected both task and relationship conflict to be related to job satisfaction and to be mediators of the effects that followers' perceptions of their leaders have on followers' job satisfaction. As hypothesized, relationship conflict was more strongly related to job satisfaction than task conflict was, and relationship conflict served as a mediator as well. Task conflict's negative relation with job satisfaction was low and

nonsignificant, and no mediation was identified here. The results were reversed for performance. Task conflict was more strongly related to orchestra performance and was a mediator of the influence of perceptions of conductors' transformational leadership on orchestra performance as reported by the individual musicians, whereas the path from relationship conflict to orchestra performance was nonsignificant.

The specific group of professionals sampled in the current study (i.e. professional orchestra musicians) constitutes an unusual sample. This group provides a great example of experts who are ideally led through inspiration and vision. Moreover, due to frequent face-to-face interactions, the orchestra setting can be considered closer to capturing the day-to-day reality of how followers' perceptions of leadership behavior can impact followers' satisfaction and behavior. By contrast, many other leadership studies have relied on samples with more distal forms of leadership.

The conductor-musician relationship can be regarded as a prototypical example of work in contexts in which employees with high expertise and interconnected responsibilities are being led, for example, in research and development teams or hospital staff. In these situations, leaders are challenged to coordinate and inspire. Our results suggest that leaders who are perceived as implementing transformational leadership may be successful in reducing conflict and in increasing followers' satisfaction and performance.

5.1 Theoretical implications

Prior research on transformational leadership has shown direct links with followers' job satisfaction and performance (Braun et al., 2013; Wang et al., 2011). However, conflict has been shown to be a mostly negative force in the workplace (De Dreu, 2008). Our goal with this study was to better understand how the perceived amounts of different types of conflict fit into the relations between perceived transformational leadership and work outcomes by examining the mediating role of conflict.

The existing research on the two types of conflict, performance, and job satisfaction included in the meta-analyses by De Dreu and Weingart (2003) and de Wit et al. (2012) usually used team-level analyses, whereas we concentrated on individual followers' perceptions of how they are led and how much conflict they experience. The results of our study also add to the existing literature in that the positive impact of

perceived transformational leadership on job satisfaction that we observed replicates previous findings at the individual level, as does the positive impact on performance (Hypotheses 1 and 2).

In past meta-analyses, the correlation between job satisfaction and performance was reported to be lower (Judge et al., 2001, $\rho = 0.30$; Whitman et al., 2010, $\rho = 0.34$) than in the present research, $r = 0.70$. Job satisfaction and performance were found to be more closely linked in the present study (Hypothesis 3), a finding that may be due to the type of performance we measured: Performance was assessed via a self-reported quality assessment, and it is a professional musician's job to produce high-quality music. Furthermore, orchestras are made up of highly motivated musicians who have invested many hours in their profession. It can thus be assumed that falling short of the goal of high quality according to their own standards would affect their job satisfaction.

The opposite effect between performance and satisfaction is plausible as well and is in line with a prominent social psychological school of thought that states that attitudes toward an object impact behaviors toward it (Eagly & Chaiken, 1993). Negative attitudes should lead to avoidance, and positive attitudes should lead to approach (Fazio, 2007). Thus, as shown in recent research (see Schleicher, Smith, Casper, Watt, & Greguras, 2015), positive evaluations of one's job, as expressed through job satisfaction, should lead to higher levels of practice and better performance.

We hypothesized that leaders whose behavior is perceived as transformational to a higher degree would be effective at reducing the occurrence of conflict in their team (Hypotheses 4a, 4b). We found support for this hypothesis in our sample. The results dovetail with previous findings by Bass et al. (2003) and Lehmann-Willenbrock et al. (2015), whose research suggested that transformational leadership increases followers' willingness to cooperate and reduces counterproductive communication, thus generating a more harmonious work environment by reducing triggers for conflict.

In this study, we measured two types of conflict: task conflict and relationship conflict. To our knowledge, the interrelationships of the types of conflict with perceptions of transformational leadership and satisfaction or performance have never before been examined in one integrative model.

Relationship conflict had a significant impact on job satisfaction and was found to be a partial mediator. Contrary to our hypotheses, the amount of task conflict was of little importance for job satisfaction (Hypotheses 5a, 5b, 7a, and 7b). Because there was

considerable variability in the data, it is unlikely that followers simply perceived only small amounts of conflict. Rather, it seems more important to keep in mind the characteristics of this sample. Orchestra musicians are highly motivated to give excellent performances, and although task conflict can negatively affect perceived performance, it might not impede an individual's job satisfaction. In fact, disagreements about the procedure and the task may be perceived as permissible and even necessary in the context of an orchestra where there are various paths to excellence. Thus, such conflicts might not give rise to negative emotions. By contrast, relationship conflict is generally more emotionally charged than task conflict (Jehn & Mannix, 2001) and should thus have a stronger impact on a person's job satisfaction.

The pattern was reversed when the mediations between musicians' perceptions of their conductor's transformational leadership and musicians' perceptions of their orchestra's performance were explored (Hypotheses 6a, 6b, 8a, and 8b). In the present sample, task conflict was significantly and negatively associated with performance. Conflicting opinions and discord over how a piece of music should be interpreted could lead to less compliance with the conductor's vision and thus less coordinated playing. In the end, this would clearly be detrimental to the orchestra's performance.

Leaders who apply transformational leadership to a greater extent should be able to help reduce task conflict by conveying a shared vision and focusing individuals' efforts on the team goal. In turn, this can foster higher levels of coordination and harmony. The mediating effect of task conflict on the influence of transformational leadership on performance underscores this assumption.

On the other hand, relationship conflict has frequently been found to have a negative impact on performance (De Dreu, 2008). In our sample, we found no such impact and no mediation. Relationship conflict had a surprisingly small effect when performance was examined. This finding could be due to the high level of professionalism in the sample. Orchestra musicians are typically highly motivated and dedicated to their craft (Boerner & Krause, 2002), an idea that was supported by the high conscientiousness ratings in the present sample ($M = 6.03$, $SD = 0.94$, on a 7-point scale). Furthermore, members' personal investment in their group's performance was high. In the present sample, participants reported spending a mean of 31 h playing their main instrument during a regular week ($M = 31.3$, $SD = 8.5$). This finding led us to conclude that personal disagreements in this sample were likely disregarded for the sake of a

collective high-quality performance. It looks as though professionals apparently do not let relationship conflicts interfere with the joint task of giving a good performance as a group.

5.2. Practical implications

Conflict can be decreased in two ways: by resolving existing conflicts or by averting future ones. Not only does transformational leadership have a positive influence on conflict resolution (Yang, 2012a, 2012b, 2014; Zhang et al., 2011), our findings imply that such leadership reduces the occurrence of conflict as well. Thus, the influence of transformational leadership is relevant even at an earlier stage in the dynamics of conflict generation than previously shown. The mechanisms shown in the present study for how conflict is tied to the relations of perceived leadership with both job satisfaction and performance provide options for further improving work life.

It is especially important to reduce task conflict in order to improve performance. Task conflict can be rooted in differences in opinion concerning the goal or the path toward this goal, and individuals who disagree with the majority may thus feel that their efforts to achieve their own goals are impeded. In such a situation, a leader who can communicate and emphasize a shared vision is very important. More research will be necessary to ascertain whether this route is a viable method of intervention.

The core of an organization is the people it is comprised of and the extent to which these people are satisfied with their jobs. The positive relation between job satisfaction and followers' health has been shown time and time again in hundreds of studies (e.g. Faragher, Cass, & Cooper, 2005) as have other desirable outcomes of job satisfaction such as organizational citizenship behavior. (LePine, Erez, & Johnson, 2002). To enhance job satisfaction, the amount of perceived relationship conflict should be considered. In addition, leaders who show transformational leadership, possibly via individualized consideration, may be a viable avenue through which organizational goals can be achieved because such leaders are more attuned to individual followers' needs and aspirations.

In order to reduce the amount of conflict and increase job satisfaction and performance quality, leaders should be trained in how to engage in transformational leadership behavior.

6. Limitations and implications for future research

The effects shown in the present study need to be considered with appropriate caution as they are based on a cross-sectional data set. To be able to speak of causal links, the model needs to be replicated with longitudinal or experimental data.

The performance measure for this sample is subjective and measures the individual musicians' perception of their orchestra's performance and thus needs to be interpreted with consideration of the specific context of the assessment; a further examination with objective measures in a different sample is highly advisable.

There are many fields of work in which leadership positions are still filled primarily by men, such as the CEO position of most top-tier companies (Catalyst, 2016; Fortune, 2015). Orchestra conducting is no different. Because about 99% of orchestra conductors are men (Hasselbeck, 2016; Weber, 2016), and this finding was mirrored in the present study, the results and conclusions of this study are presently limited to male leaders. Further research using samples of followers with more female leaders is needed to gain better insights into possible gender differences.

Orchestra musicians are typically highly skilled and motivated (Boerner & Krause, 2002) and are thus similar to individuals in other highly trained occupations (e.g. creative, science, and health care professions). To assuage possible doubts concerning the generalizability of the results, it would be necessary to check the applicability of the model using a sample that covers a broader array of professions. In line with this idea, another limiting factor needs to be considered, namely, the homogeneity of the sample, which typically results in reductions in the calculated effects. In more heterogeneous samples with more variability in the measures, the effects should actually be stronger.

7. Summary/conclusion

Transformational leadership is a leadership style that is focused on inspiring, encouraging, and leading by example while also developing individual followers' potential. In the present study, the extent to which followers perceived their leader as acting in a transformational way was clearly positively related to both followers' job satisfaction and their perceptions of their collective performance. Moreover, transformational leadership is also negatively related to conflict in the workplace. In turn, conflict has negative effects on both satisfaction and performance. In the present study, we sampled a team of highly qualified experts performing closely together (i.e.

orchestra musicians) and used musicians' self-reports to understand the roles of relationship and task conflict as possible mediators of how followers' perceptions of leaders' transformational leadership are related to followers' job satisfaction and collective performance.

Orchestra conductors are often used as the prototypical example of transformational leaders (i.e. they focus on a common goal while also bringing out the best in each individual and facilitating optimal group performance). In this study, we studied transformational leadership in an actual orchestra context by asking musicians about their perceptions and using structural equation modeling to test a proposed mediation model. The results showed that task conflict was a partial mediator of the effect of perceived leadership on performance. Contrary to our expectations, relationship conflict did not have much of an effect on performance, a finding that may be due to the high level of professionalism inherent in this sample. On the other hand, relationship conflict partially mediated the effect of perceived transformational leadership on job satisfaction.

The negative effect of relationship conflict on job satisfaction and the negative effect of task conflict on performance open avenues for change and improvement when considering how leadership affects conflict. Apparently, perceived transformational leadership influences job satisfaction and performance not only directly but also indirectly. Transformational leadership seems to have the potential to reduce the amounts of relationship and task conflict that are present and is thus a means to foster job satisfaction and performance. These findings can aid the understanding of how this style of leadership works in a context with highly skilled professional followers. Professional orchestra musicians are typically highly trained experts who work closely together and share a lot of knowledge. In work contexts with more diversity stemming from more diverse knowledge and skillsets, the effects can be expected to be even more pronounced.

Acknowledgement

The authors would like to thank Jane Zagorski for providing helpful comments and for copyediting.

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Article 2: Tuning into performance and satisfaction in nonprofit orchestras: One link between transformational leadership and satisfaction is through reduction in conflict

Kammerhoff, J., Lauenstein, O., & Schütz, A. (2019). Tuning into performance and satisfaction in nonprofit orchestras: One link between transformational leadership and satisfaction is through reduction in conflict. *Nonprofit Management and Leadership*, 30(2), 321-338. <https://doi.org/10.1002/nml.21381>

Abstract

In this study, we tested hypotheses concerning volunteers' not-for-profit work, specifically the relations of transformational leadership with performance and satisfaction as well as the question of how task and relationship conflict fit into these relations. We argue that conflicts are detrimental to satisfaction and performance and that the frequency of conflict can be reduced through transformational leadership. We analyzed data from a large sample of lay orchestra musicians ($N = 1,535$) and found that musicians' perceptions of their conductors' transformational leadership style were positively related to both the performance and satisfaction of the musicians. Furthermore, we found that conflict mediated the relation between transformational leadership and satisfaction to some extent. The mediation occurred via the frequencies of both task and relationship conflicts even though the frequency of conflict was quite low in this sample in general.

1. Introduction

Many people use their free time to engage in interactive activities they enjoy and deem useful. In doing so, they often form groups to collectively perform certain tasks. When different people work on a collective task, coordinated effort is usually needed to ensure success. Leadership is an important part of most organized group activities because leaders are useful to coordinate members' efforts. Thus, many volunteer groups such as sports clubs, music ensembles, or charities have leaders who coordinate the various processes necessary to achieve the group's aims.

In these contexts, leaders do not use salary or bonuses as leadership tools, but instead, their expertise and vision are essential. Whereas monetary compensation is an important motivator in paid work, it does not motivate people to engage in volunteer activities. Instead, the most relevant motives for putting effort into an unpaid activity are contributing to a worthwhile cause, doing something meaningful, belonging to a social group, being socially connected, or experiencing personal growth (Bang & Ross, 2009; Baumeister & Leary, 1995; Deci & Ryan, 1985; Jamison, 2003; Prouteau & Wolff, 2008).

Transformational leadership is characterized by behavior that focuses on individual needs and the creation of shared objectives and thus inspires followers through a vision that goes beyond individual goals (Bass & Riggio, 2006). Transformational leadership has been shown to be related to the satisfaction and engagement of volunteers (Dwyer, Bono, Snyder, Nov, & Berson, 2013; Mayr, 2017).

Studying transformational leadership in combination with volunteer performance and individual satisfaction is important because a better understanding of the factors that motivate people to engage in such activities and give a good performance may help to increase civic engagement.

To get a clearer picture of why transformational leadership is effective, it is important to investigate the mechanisms through which transformational leadership works in volunteer contexts. A factor that often harms performance and satisfaction is conflict (De Dreu, 2008). Interpersonal conflict is related to many undesirable personal outcomes, such as heightened anxiety, frustration, or somatic complaints (Spector, Chen, & O'Connell, 2000).

Conflict is a likely occurrence in any group activity, especially when interdependent tasks are concerned (Tjosvold, 2008), and because volunteers can more easily withdraw their participation than paid employees can, it is important to explore

the role of leadership in supporting performance and satisfaction in volunteers and analyze the role of conflicts in this relation. There is evidence from paid labor, that conflict can be reduced through appropriate leader behavior, such as transformational leadership (Zhang, Cao, & Tjosvold, 2011). It is not yet clear, however, whether similar effects exist in volunteer groups.

In the present article, we studied nonprofessional orchestra members ($N = 1,535$). Lay musicians are often well-trained and willing to perform publicly. In this, they differ from some volunteer groups but resemble others who perform as a group in soccer, acting, singing, and so forth. In such groups, the task is often highly interdependent, and the members typically practice and perform under the direct supervision and coordination of a leader—in our case, a music conductor. We assessed orchestra members' perception of their conductors' transformational leadership behavior, satisfaction with their engagement, perceived performance, as well as the amounts of task-related and personal conflict. On this basis, we aimed to better understand how transformational leadership is related to outcomes in volunteer organizations and what role conflicts play in this relation.

2. Theoretical Background

We first discuss motives for volunteering. We then introduce the concept of transformational leadership and the kinds of conflicts that might arise between volunteers. On this basis, we derive hypotheses for our study.

2.1 Reasons for volunteering

There are many reasons for why people volunteer in nonprofit organizations. They may want to feel needed or to contribute to causes they care about; some might like to showcase their talents or express themselves to the outside world; others might like a group experience and aim to satisfy their need to belong (Baumeister & Leary, 1995; Deci & Ryan, 1985; Prouteau & Wolff, 2008). People may join an orchestra for these and other reasons that, in sum, lead people to perceive an active membership in an orchestra as a valid pastime that will add to their lives.

Still, this does not mean that people who volunteer in nonprofit organizations will stick with the group only if there are no struggles or difficulties. People are willing to endure hardships for their passion, for example, exercising despite feeling sore; spending hours on arts and crafts projects; hiking up mountains to see the summit;

caring for people who need assistance, which can be both emotionally draining and satisfying; or enduring interpersonal conflict for the sake of achieving something that can be attained only when people work together.

2.2 Transformational leadership

Simply put, leadership can be described as using communication as a means for shaping people's behavior in a goal-directed manner (Baumgarten, 1977; von Rosenstiel, 2006). Pinnow (2012) favored the description of leadership as enabling people to achieve tasks together and adapt to changes. Various approaches have been discussed as effective for leading volunteers, for instance, servant leadership (Parris & Peachey, 2012), autonomy-supportive leadership (Oostlander, Güntert, van Schie, & Wehner, 2014), or transformational leadership (Dwyer et al., 2013; Mayr, 2017). In an orchestra, because the major issue is to fit individual talents together and direct them toward a common goal, the concept of transformational leadership seems especially suited to this context. In transformational leadership, the focus is on motivating people to achieve specified goals by creating a shared vision, setting high performance standards, and acknowledging individual uniqueness while also considering the group as a whole (Bass, 1999).

Four dimensions are commonly used to describe transformational leadership behavior, usually referred to as the four "I" abilities (Bass, 1999; Felfe, 2006). One component is (a) *idealized influence*, which means that a leader lives by the principles he or she preaches and thus inspires the desired behaviors in followers (meaning that the leader acts as a role model). This includes respecting and following the same standards that are expected from followers (e.g., working hard to improve one's skills).

(b) *Inspirational motivation* refers to the leader's ability to motivate and inspire, often by appealing to higher values and focusing on the achievement of group goals. In an orchestra, such a goal can be to create great music together.

While the group and the common goal are emphasized, at the same time, a transformational leader shows (c) *individualized consideration*, which means that the leader acknowledges the personal needs and wishes of group members and thus makes followers feel valued and heard. Such individual consideration may boost the members' motivation and help them use their own time to improve their skills and strive to live up to their potential (Bass & Riggio, 2006). This should be especially effective for volunteers

who work for no pay, that is, in a setting where enjoyment and personal growth (Deci & Ryan, 1985; Jamison, 2003) are crucial.

The fourth component is (d) *intellectual stimulation*. Transformational leadership involves setting high standards and constantly challenging followers to think beyond present boundaries and achieve outstanding goals. Whereas specific standards may vary, the general goal of orchestra conductors is presumably to help bring about a high level of performance. Conductors may encourage their members to develop individual opinions and explore different ways to play the specific parts of a musical piece.

2.3 Conflicts between volunteers

A long line of research in mostly paid workplace contexts has proposed time and again that when people work together, conflict seems inevitable (Glasl, 2011; Tjosvold, 2008). In any given group setting where different people work together, there is room for misgivings and different opinions on a personal level or about the group's actions. Individual interests, likes, dislikes, values, and experiences can lead people to develop individual objectives and ideas about how to successfully implement group tasks.

Because an essential part of conflict is an occurrence in which Person A perceives that Person B's actions are impeding Person A's own goal pursuits (Thomas, 1976), interrelated activities are especially prone to conflict. When people must work together on interdependent tasks, rely on each other, and combine their efforts to achieve an objective, conflicts are likely. Orchestras are a prototypical example of an environment in which individuals' tasks are highly interrelated (Boerner & Krause, 2002). Even though there may be few opportunities for someone to actively impede another person's goal, orchestra members may experience conflict due to the strong interrelatedness of their activities, such that some people may have to wait for others who have not practiced and consequently have trouble playing a certain part of a piece.

Often a distinction is made between relationship and task-related conflicts (Tjosvold, 2008). Relationship conflicts describe interpersonal tensions that may result from incompatibilities in values, norms, or personality. They may manifest as conflicts about worldviews or about political, religious, or personal preferences. Task conflicts on the other hand describe conflicts regarding differences of opinion with regard to a task that needs to be accomplished. Examples are conflicts about procedures, the allocation of resources, the optimal way to achieve a task, or the object of the task itself (Jehn, 1995).

In the field of paid labor, conflict has often been described as a destructive force (De Dreu, 2008). Even though there are circumstances in which task conflict can have positive effects on performance, such as in nonroutine tasks when diverging ideas and solutions are warranted (De Dreu, 2008; Jehn, 1995), overall, their effect seems detrimental. The negative impacts seem to outweigh the potential benefits, and various studies have shown that conflicts can lead to a multitude of outcomes, such as feelings of frustration and other negative emotions or depressive symptoms (Dormann & Zapf, 2002; Spector et al., 2000). Moreover, when left unattended, conflicts typically escalate over time (Glasl, 2011). De Dreu (2008) concluded that, overall, task conflict has been found to be harmful to performance.

2.4 Hypotheses

Past research on the relation between transformational leadership and performance in the volunteer sector is still rare. Rowold, Borgmann, & Bormann, 2014 found only small and sometimes near-zero correlations. In their study, multiple samples from very different fields (e.g., firefighters, church office administrators, orchestra members) were assessed with the same self-rated performance measure, and the results were pooled across the samples. Thus, it is possible that the measures were not specific enough, thereby obfuscating the result. Tuckey, Bakker, and Dollard (2012) showed that the related construct of *empowering leadership* was positively correlated with work engagement in a volunteer sample.

Transformational leadership is a style used to transform the motivation of individual followers and bring people together to achieve a common goal. Moreover, each follower's specific needs and abilities are taken into account (Bass, 1999). These behaviors are important in orchestras because the conductor aims to motivate the musicians to play high-quality music together, an activity that is fundamentally a joint effort. In order to successfully lead an orchestra, a conductor also needs to consider each member's abilities and motivations, and on the basis of these considerations, place them in positions in which the group is most likely to achieve an optimal collective performance. This is especially important since lay musicians tend to differ considerably in their skill levels. A conductor's behavior can thus have a strong impact on the orchestra's performance.

Hypothesis 1: Transformational leadership will be positively related to performance in lay orchestras.

Dwyer et al. (2013) showed that volunteers' satisfaction with their work across diverse nonprofit sectors was predicted by transformational leadership. Recently, Rowold et al. (2014) corroborated these findings by showing that transformational leadership was strongly correlated with commitment and satisfaction in several nonprofit samples.

Transformational leadership is positively related to volunteers' positive affect (do Nascimento, Porto, & Kwantes, 2018). Volunteers in nonprofit orchestras are typically unpaid lay musicians who have chosen to participate in their leisure time. It can be assumed that the people involved in the orchestra enjoy this activity. Good leadership can add to such positive feelings by considering the individuals' aspirations and abilities and providing personalized support. Volunteers value their leaders' support and recognition of their work, reflected by the lower turnover intentions of volunteers with higher job satisfaction (Fallon & Rice, 2015; Pearce, 1983; Rice & Fallon, 2011). Indeed, transformational leadership in nonprofit orchestras was found to be related to the musicians' positive emotions (Rowold & Rohmann, 2009).

Hypothesis 2: Transformational leadership will be positively related to satisfaction in lay orchestras.

Empirical research on conflict and transformational leadership in volunteer work environments is still very rare. However, there is initial evidence that transformational leadership may be able to reduce negative communication such as criticizing one's colleagues or complaining, and by contrast, it can increase solution-focused and cooperative communication (Lehmann-Willenbrock, Meinecke, Rowold, & Kauffeld, 2015). Transformational leadership also relies on creating shared goals among followers via inspirational motivation, and it improves the fit between followers' competencies and the demands of the respective job via individual consideration (Bass, 1999; Felfe, 2006). Thus, we also expected to find less task conflict in groups with transformational leaders.

The individualized consideration typically shown by transformational leaders should also result in the leader being more in tune with followers' individual personalities. Thus, the leader should be better able to address people's individual needs

and at the same time create group coherence by advancing common goals and reducing friction and relationship conflicts.

Hypothesis 3: Transformational leadership will be negatively related to how often (a) task conflicts and (b) relationship conflicts occur in lay orchestras.

In the present study, we also aimed to gain better insight into the processes through which transformational leadership might result in positive outcomes. As stated above, we expected a reduction in the frequency of task and relationship conflicts through this leadership style. In turn, we expected performance to be impeded through conflict.

Task and relationship conflicts are problematic when people work in a group. Disagreement about the task can impede collective action, and conflicting ideas about how to approach a shared goal should reduce people's effectiveness in collaborating as they work toward the goal. Especially in interdependent tasks (e.g., collective musical performance), quality should suffer (Tjosvold, 2008).

Similarly, relationship conflict should impede performance: From their meta-analyses, both De Dreu and Weingart (2003) and de Wit, Greer, and Jehn (2012) concluded that relationship conflict is negatively related to a multitude of performance measures. Divergent views may lead to less coordinated effort, which should subsequently reduce performance quality. This should be especially true in groups where a high level of synchronicity is required (e.g., orchestras).

Along these lines, we tested whether there would be an indirect path from transformational leadership to performance via task as well as relationship conflict. Mayr's (2017) results did not speak directly to this relation but rather supported this assumption by showing that transformational leadership with volunteers increased follower engagement by strengthening group identification.

Hypothesis 4: The occurrence of (a) task conflicts and (b) relationship conflicts will mediate the effect of transformational leadership on performance in lay orchestras.

Conflicts should also reduce satisfaction. Conflicts at work are related to negative emotions, including anxiety and feelings of frustration as well as reduced job satisfaction (Spector et al., 2000). As indicated by two meta-analyses in for-profit organizations (De Dreu & Weingart, 2003; de Wit et al., 2012), satisfaction with one's occupation was usually lower when task conflicts existed. Similar preliminary evidence was found in the

nonprofit sector (Hamm-Kerwin & Doherty, 2010). Likewise, relationship conflicts should reduce satisfaction because animosity between team members typically leads to less comfort in interactions.

Yıldız and Şimşek (2016) showed transformational leadership's positive relation with satisfaction in a nonprofit sample and identified trust and self-efficacy as mediators. Dwyer et al. (2013) showed a relation between transformational leadership and the job satisfaction of volunteers and identified the quality of the team relationships as a mediator. If trust and team relationships are important, conflicts should be detrimental. Thus, we aimed to test for mediating effects of both types of conflict on the relation between transformational leadership and satisfaction.

Hypothesis 5: The occurrence of (a) task conflicts and (b) relationship conflicts will mediate the effect of transformational leadership on satisfaction in lay orchestras.

To accurately represent the data to reflect findings from previous studies, we allowed for a possible correlation between performance and satisfaction in the model as well as between the two types of conflict (Figure 1).

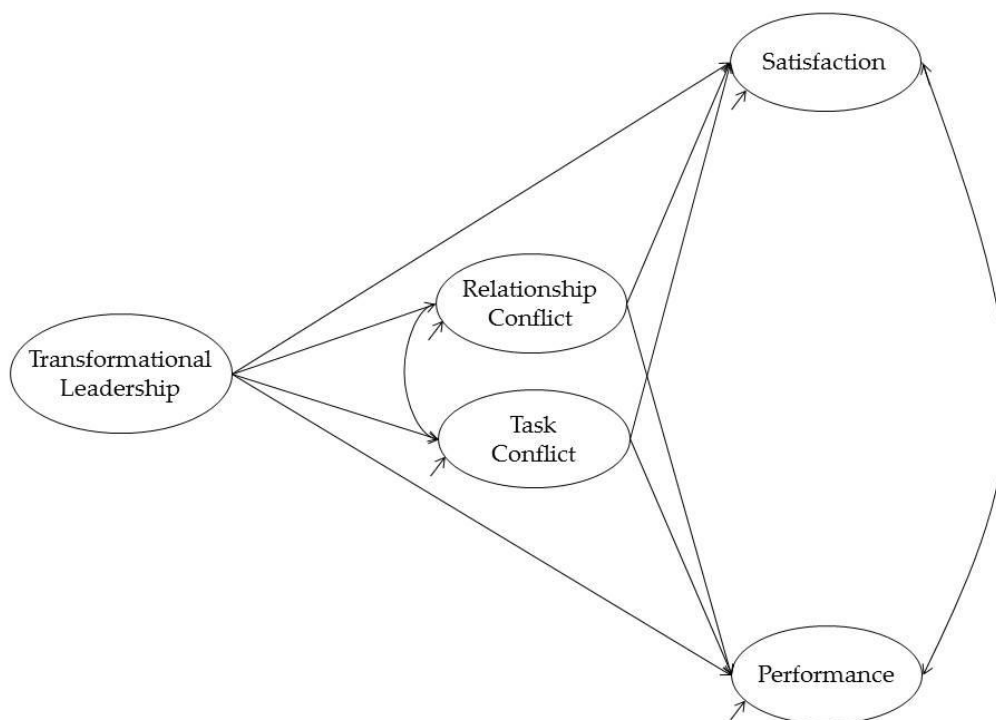


Figure 1. Hypothesized model.

3. Method

3.1 Sample description and procedure

Beginning in July 2014, we contacted 1,641 orchestras over the course of 5 months in Germany (93.2%), Austria (5.1%), and countries with German-speaking regions (1.7%; meaning, Belgium, Switzerland, Luxembourg, and Lichtenstein).

We used registries, such as online representations of different orchestra associations, to retrieve names and information about the orchestras and to contact them. We established contact through emails or contact forms. The emails were addressed to the administrative staff of the orchestras, requesting them to forward an invitation to participate in the survey to the orchestra members. Data were gathered from one source only. Participants took part in an online questionnaire to assess their perceptions of their situation. Because the study was on leadership, we contacted only orchestras that work with conductors. Participants were not included if they described their orchestra as a quartet, quintet, and so on, or as a jazz group for which leadership through a conductor did not apply. As an incentive, participants could sign up for a raffle with the chance to win prizes, all of which were sponsored by two music publishing companies (see funding). The prizes were gift certificates from these publishers, yearly subscriptions to a music journal, and other small prizes. To help achieve higher participation rates within the orchestras, we held an additional raffle in which people could choose to participate in the raffle if at least 25% of all musicians in their orchestra participated. There were eight prizes of 25 Euros each.

Participants were not included if they failed to complete more than just the questions pertaining to the independent variable. A total of 1,535 musicians were included: 93.3% were located in Germany, 1.8% were in Austria, Belgium, Switzerland, Luxembourg, or Lichtenstein, and 0.4% were in other countries (France, Denmark, and so on.); 5.0% did not indicate the name of their specific orchestra. We identified 462 orchestras, and in 6.3% of the cases, more than 25% of the members participated. The average orchestra size was 56 members ($SD = 18.9$), and the number of participants per orchestra ranged from 1 to 39 (see Table 1).

A total of 58.6% of the participants were female, and 40.9% were male. To ensure anonymity, the age of the participants was assessed in categories ranging from below 18 to above 75 (see Table 2). On average, the participants had 5.8 years ($SD = 10.0$)

experience playing in orchestras and practiced their main instrument for 6.6 hr ($SD = 5.8$) per week.

Table 1
Participants per Orchestra

	<i>n</i>	(%)	<i>k</i>
Unidentified	77	(5.0%)	-
1-5	620	(40.4%)	388
6-10	344	(22.4%)	41
> 10	494	(32.2%)	33

Note. $N = 1,535$, Range = 1-39 of participants per orchestra. k = number of orchestras.

Table 2
Age Distribution

	Ages	<i>n</i>	(%)
1	< 18	14	(.9%)
2	18 - 25	360	(23.5%)
3	26 -35	271	(17.7%)
4	36 - 45	278	(18.1%)
5	46 - 55	290	(18.9%)
6	56 - 65	151	(9.8%)
7	66 - 75	103	(6.7%)
8	> 75	30	(2.0%)

Note. 38 were missing (2.5%).
 $N = 1,535$.

3.2 Measures

3.2.1 Leadership behavior

The *Multifactor Leadership Questionnaire 5 × short* (MLQ 5 × Short) is an established measure originally developed by Bass and Avolio (1995). We used the German version by Felfe (2006) to assess leadership behavior. The MLQ 5 × Short assesses different styles of leadership behavior, namely the laissez-faire, transactional, and transformational styles. Because our main focus was on transformational leadership behavior, we used only the items that represent this style. These 10 items can be divided into five subscales that represent the four “I”s of transformational leadership (Inspirational Motivation, Intellectual Stimulation and Individualized Consideration, Idealized Influence [attributed] and Idealized Influence [behavior]) (Felfe, 2006). The subscales are highly correlated and thus often used as a single measure (Bass & Riggio, 2006; Felfe, 2015), and we followed that tradition. In our study, we modified the wording slightly so that the items were appropriate for the orchestra context (that is., instead of asking about a nonspecific leader, we wrote “the conductor”; for instance, “The conductor helps others develop their strengths”). The participating musicians reported their perceptions of the conductor's behavior on a 5-point scale ranging from 1 (*never*) to 5 (*very often*). Internal consistency was $\alpha = .88$.

3.2.2 Performance

We used a scale developed by Boerner and Krause (2002) to assess perceived performance. The scale specifically assesses the quality of music in orchestras as perceived by its members. We administered four questions that were related to the orchestra musicians' perception of the quality. A sample item is "How do you personally assess the artistic quality of the orchestra's performance in general?" We used a 7-point scale ranging from 1 (*very low*) to 7 (*very high*). Internal consistency was $\alpha = .92$.

3.2.3 Satisfaction

As no existing measure was available for this specific context, we formulated questions that were aimed at the context of orchestra musicians. We used seven self-constructed items to assess satisfaction in the orchestra. Six of the items referred to fellow orchestra members, the quality of the play, compensation, nonmusical aspects of the job, the individual's personal development as a musician, as well as the individual's satisfaction with the conductor. One item was a general assessment of subjective satisfaction with participating in the orchestra. All seven items were highly correlated and thus combined into a single scale. A sample item is "How satisfied are you with your situation in your current orchestra in general?" We used a 7-point scale ranging from 1 (*very dissatisfied*) to 7 (*very satisfied*). Internal consistency was $\alpha = .83$.

3.2.4 Amount of conflict

We used the intragroup conflict scale by Jehn (1995) to assess participants' perception of the frequency of conflict within their orchestra. The measure is comprised of two subscales that each assess one type of conflict. One subscale focuses on task-related issues and the other focuses on the relationship between the participant and the person's respective coworkers. The scale is widely used (De Dreu & Weingart, 2003). We used a German version of the scale (Karstens, 2011) and adapted it to the orchestra context. To review the scale structure, we used principal axis factor analysis, and we fixed the number of factors to be extracted to two in accordance with the previously established structure. Oblique rotation was used to take the correlational association between the subdimensions into account as has previously been shown (De Dreu & Weingart, 2003; Jehn, 1995; Karstens, 2011). All items but one showed high factor loadings on the expected factor. One item that was supposed to belong to the task conflict scale had a high loading on the relationship factor in our sample ("To what

extent are there differences in your orchestra?“). As the meaning in our context was apparently not understood as originally intended, the item was excluded. Confirmatory factor analyses with robust estimates to account for the nonnormality of the data showed an improved fit after this item was deleted (from $\chi^2(19) = 401.36$, $p < .01$, comparative fit index [CFI] = .94, root mean square error of approximation [RMSEA] = .12, standardized root mean square residual [SRMR] = .05 to $\chi^2(13) = 112.12$, $p < .01$, CFI = .98, RMSEA = .07, SRMR = .04).

We used a 7-point scale ranging from 1 (*rarely*) to 7 (*very often*). Internal consistency was $\alpha = .94$ for the reduced task conflict subscale. A sample item is “How much conflict about the work you do is there in your orchestra?”. A sample item for the relationship conflict subscale is “How much emotional conflict is there among the members of your orchestra?” Internal consistency was $\alpha = .85$.

3.2.5 Control variables

The demographic variables age and gender as well the self-reported number of hours spent practicing music were used as control variables. Additional control variables were conscientiousness assessed with the respective items from the German version of the Ten-Item Personality Inventory (TIPI-G; Muck, Hell, & Gosling, 2007), the length of time participants had been a member of an orchestra, orchestra size, and the gender distribution in the orchestra.

3.3 Data analysis

The calculations were done in SPSS (Version 23) and R (Version 3.3.3). To allow for multiple outcome and mediation variables, structural equation modeling (SEM) of mediation was used (Iacobucci, Saldanha, & Deng, 2007) and specified with the lavaan package (Rosseel, 2012) in R.

The amount of missing data per variable was below 5% for all variables except one; an item concerning the participants' satisfaction with their compensation had 12% missing data, probably because there was often no compensation. Little's (1988) test for data that were missing completely at random was performed and had no significant results, indicating that there was no systematic bias introduced by missing items. We used the R package mice (Buuren & Groothuis-Oudshoorn, 2011) for the multiple imputation of the missing data.

The data were collected via self-report questionnaires. Thus, common method bias is possible. To test the hypothesis that a single factor can account for most of the variance in the data, which could indicate that the variables covary because of how they were measured rather than because the underlying constructs themselves covary, we computed a confirmatory factor analysis in which all variables loaded on one factor (see Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). This “single factor procedure” did not result in a good fit, which spoke against common method variance as the sole cause of the relation, $\chi^2(350) = 13,983.11$, $p < .01$, CFI = .44, RMSEA = .16, SRMR = .14.

4. Results

First, we calculated Pearson correlations and then applied structural equation modeling to test the research hypotheses. The means, standard deviations, and correlations are reported in Table 3, which shows that the independent, mediation, and dependent variables were significantly correlated, and the directions of the correlations were as hypothesized.

Fit indices are presented in Table 4. According to Hu and Bentler (1999), the RMSEA and the SRMR are reliable indices for assessing the goodness of fit of structural equation models. The values we obtained of RMSEA = .06 and SRMR = .06 can be considered acceptable (Hooper, Coughlan, & Mullen, 2008), and thus, the results could be interpreted further. CFI (.92) did not meet the cut-off size for a well-fitting model. This index is based on the chi-square, which is highly susceptible to the influence of large sample sizes, which can inflate the value and yield significant results even with correctly specified models (Bentler & Bonnet, 1980).

As expected, transformational leadership was positively related to performance ($\beta = .45$, $p < .01$) and satisfaction ($\beta = .48$, $p < .01$) and negatively related to the frequency of both task conflict ($\beta = -.20$, $p < .01$) and relationship conflict ($\beta = -.27$, $p < .01$). Both task and relationship conflict were negatively related to satisfaction ($\beta = -.15$, $p < .01$ and $\beta = -.18$, $p < .01$) but not to performance ($\beta = -.02$, $p = .52$ and $\beta = -.05$, $p = .23$). Figure 2 shows the standardized path coefficients. The results supported Hypotheses 1–3 and 5.

Table 3
Means, Standard Deviations, and Intercorrelations of the Measured Variables (N = 1,535^a)

Variable	N	M	(SD)	1	2	3	4	5	6	7	8	9	10	11
1. Age ^b	1,497	3.99	(1.66)											
2. Gender ^c	1,491	1.42	(0.50)	.113**										
3. Practice time (hours)	1,510	6.59	(5.73)	.033	-.047									
4. Conscientiousness	1,491	5.83	(1.08)	.224**	.073**	-.033								
5. Experience (years)	1,535	10.04	(14.77)	.299**	.036	-.049	.075**							
6. Orchestra size	1,514	52.49	(22.99)	-.142**	.020	.157**	-.060*	-.121**						
7. % women in orchestra ^d	1,093	59.30	(12.22)	.067*	.001	-.057	.030	-.128**	-.100**					
8. Transformational leadership ^e	1,530	5.14	(1.09)	.050	.016	.031	.102**	.002	.002	.054				
9. Relationship conflict	1,503	2.60	(1.28)	-.150**	.008	.003	-.158**	-.035	.083**	-.225**	-.241**			
10. Task conflict	1,501	2.73	(1.29)	-.203**	-.030	.029	-.160**	-.043	.120**	-.161**	-.171**	.618**		
11. Satisfaction	1,497	5.37	(1.00)	.077**	-.012	.006	.149**	.048	-.006	.071*	.486**	-.380**	-.355**	
12. Performance	1,531	5.15	(1.17)	-.013	.013	.025	.074**	.028	.102**	.015	.426**	-.174**	-.139**	.481**

Note. The sample size ranged from 1,468 to 1,531 except for the correlations with "% women in orchestra" (N range: 1,076-1,093).

^a Pairwise deletion. ^b Age in categories, see Table 1. ^c 1 = female; 2 = male. ^d Individual estimate of the number of women in a respondent's orchestra divided by the stated size of the whole orchestra, yielding the estimated distribution between genders in percent. ^e Variable 8 was scaled up to a 7-point-scale format for the sake of better comparison.

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

Table 4
Goodness-of-Fit Statistics

Model	N	Maximum likelihood estimates					
		χ^2	df	p	CFI	RMSEA	90% CI
Measurement Model	1,535	2504.52	340	< .01	.913	.064	[.062, .067]
Mediation model	1,535	2359.86	340	< .01	.919	.062	[.060, .065]

Note. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.

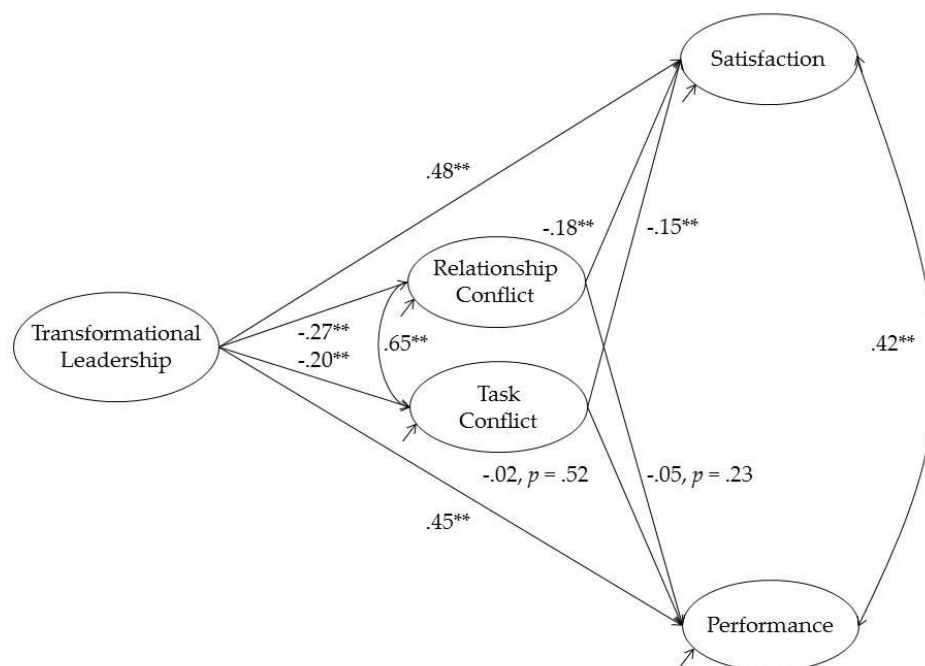


Figure 2. Model estimates. Standardized estimates of regression paths and covariances. * $p < .05$. ** $p < .01$.

The same pattern was repeated in the mediation analyses (see Table 5). The indirect effects of transformational leadership on satisfaction via task and relationship conflict were significant, whereas they were not significant with respect to performance. All direct effects were significant. Table 5 reports the standardized estimates for the indirect and direct effects. Thus, Hypotheses 5a and 5b were supported, but Hypotheses 4a and 4b was not.

Table 5
Indirect and Direct Effects

		Standardized estimates	S.E.	p-value
<i>Transformational leadership to job satisfaction</i>	(Direct effect)	.48	.02	$p < .01$
	via relationship conflict	(Indirect effect)	.04	$p < .01$
	via task conflict	(Indirect effect)	.02	$p < .01$
<i>Transformational leadership to performance</i>	(Direct effect)	.45	.03	$p < .01$
	via relationship conflict	(Indirect effect)	.01	$p = .23$
	via task conflict	(Indirect effect)	.004	$p = .52$

All additional variables from Table 3 with significant correlations with the mediation or dependent variables were included as controls in a separate SEM analysis. The model fit changed: the CFI got worse, the RMSEA was similar, and the SRMR improved slightly (CFI = .91, RMSEA = .06, SRMR = .05). The standardized regression estimates between the independent variable, mediators, and dependent variables were similar; the differences between the absolute values had a mean of .01 ($SD = .01$). The more parsimonious model without the control variables will be discussed since the inclusion of the control variables did not change the relations between dependent, mediator and independent variables.

5. Discussion

The structural equation modeling results showed that conductors' transformational leadership behavior in lay orchestras was positively linked to the performance (H1) and satisfaction (H2) of the volunteer musicians. Transformational leadership also had negative relations with both task conflict (H3a) and relationship conflict (H3b). The mediation analysis showed that there were small mediation effects of both task conflict (H5a) and relationship conflict (H5b) between transformational leadership and satisfaction. Unexpectedly, neither type of conflict was related to performance, and the mediation analysis showed that there was no mediation between transformational leadership and performance (H4a, b) (see Figure 2).

Taken together, the results help provide a clearer picture of the possible effects of leadership in volunteer settings. This is important because leadership in these settings is

still underresearched, which is specifically true for the relation between transformational leadership and performance. The hypotheses we tested in the present study were partly derived from studies pertaining to paid work because of the lack of applicable previous research concerning volunteers in nonprofit organizations. In the present study, we were able to show that the positive relations of transformational leadership with performance and satisfaction hold in a volunteer environment as well.

Still, the process seems to differ somewhat from what has been found in the leadership literature in paid work contexts: Our results indicate that conflicts in the volunteer context seem to be less strongly related to performance than is the case in paid work contexts (De Dreu & Weingart, 2003)—possibly because performance is not the only and maybe not even a major goal in volunteer contexts. Instead issues such as concentrating on building friendly relationships and belonging to a group and feeling committed to the group may be relevant (Baumeister & Leary, 1995; Brimhall, 2019; Prouteau & Wolff, 2008). In line with this finding, the results of this study show that conflict mediates how transformational leadership is related to satisfaction but not how it is related to performance. Again, this finding may be due to the fact that performance is less crucial in an unpaid setting than in paid work. Specific reasons for this finding in the orchestra context may also be that a musician's performance in the orchestra could be more strongly influenced by personal factors such as talent and motivation and thus less connected to situational factors.

The results suggest that good leadership is important in volunteer contexts when oversight and coordination is necessary, as is the case for many volunteer associations, registered societies, and sports clubs. Both performance and satisfaction can apparently be increased through transformational leadership. And even though the indirect effects from transformational leadership to satisfaction via conflict are relatively small, the evidence suggests that conductors may use transformational leadership to reduce conflict and thus enhance performance and satisfaction.

Transformational leadership is about motivating individuals (Bass, 1999). Motivation is a factor that is especially important in nonprofit organizations with volunteer members because team members are not paid, and it is important to create motivation on other bases. This idea is in line with the findings that lack of motivation reduces commitment (Bang, Ross, & Reio, 2012) and volunteers who are not committed are more tempted to leave the group (Cuskelly & Boag, 2001). Furthermore, an

important aspect of managing people pertains to managing or preventing conflicts (Glasl, 2013). Our results imply that in doing so, leaders can contribute to making collaborating a satisfying experience.

Communicating a collective vision that brings the followers' agendas together is a core aspect of transformational leadership (Bass, 1999), and such communication may unify people and thus reduce conflicts about how to perform common tasks. Moreover, on a personal level, this style of leadership addresses individual members' hopes, values, and needs (Bass, 1999). In doing so, transformational leadership fosters collaborative behavior as has been shown in for-profit contexts (c.f., Lehmann-Willenbrock et al., 2015). Our results also imply that transformational leadership may help to reduce personal conflicts and thus lead to more harmonic, successful, and satisfying collective activities.

In this sample, the distributions of both types of conflict were heavily skewed toward the lower ends of the scales (see Table 3) with most people experiencing low to medium frequencies of conflict in their respective orchestra. Bearing in mind that the sample is one of the largest German-speaking samples of lay orchestra musicians, spanning multiple orchestras, the state of affairs seems to be that conflict in general is a relatively rare occurrence in these nonprofit orchestras made up of lay musicians even though the task of making music is a highly interconnected one. Even though there may be many opportunities for opposing goals and preferences to arise on a theoretical level, in practice, there may be relatively few situations in which the goals of individual orchestra members are actually incompatible. Typically, conflict flourishes in highly interdependent tasks when people have the impression that others are preventing them from accomplishing their goals. In the case of nonprofit orchestras, however, there may be strong goal alignment because there is no personal advantage to getting ahead, other than the personal improvement of one's own skill. Even more important, the common goal of having a good orchestra can be achieved only when people work together. Finally, people who experience a large amount of conflict, who do not feel that they fit the group, or who are dissatisfied may eventually leave the group.

5.1 Limitations and directions for future research

Even though this is one of the largest orchestra samples ever collected, the survey was far from all-encompassing. Participants decided on a voluntary basis whether they

wanted to take part in this study. Although an actual response rate could not be calculated with the distribution method we used, we assume that only a minority of potential participants actually took part. It is thus possible that the nonparticipants differed from the participants, potentially leading to a selection bias.

On the other hand, common method bias may result in an increase in the relations between the observed responses. We conducted a “single factor test” that did not result in a model with good fit. Still, there is no guarantee that the data were collected without any method bias. Another possible cause of common variance is participants' implicit theories, which may influence their ratings concerning leadership behavior as well as their ratings of other constructs (c.f., Podsakoff et al., 2003). It can be debated, however, whether such an influence would be an example of bias or evidence of a “true association” as seen by participants—a problem that is inevitable when self-report measures are used.

To circumvent common method bias and provide additional support for our interpretation of the results, further multimethod research will be necessary, including objective performance measures, especially since due to the self-report nature of our data, there could be a positivity bias (i.e., participants may have reported fewer instances of conflict, higher satisfaction, and better performance than they actually perceive) because the players may have a strong sense of loyalty to their orchestra. For the time being, our results need to be interpreted with this in mind.

The cross-sectional nature of this data set is another limiting factor with respect to the assumed direction of causality. To correctly depict real-life processes, it would be useful to reassess data from successive points in time and thus to be able to actually draw causal conclusions.

In this study, we used a sample of unpaid nonprofit orchestra musicians. This sample shares meaningful attributes with other organizations with unpaid members in that its members are highly motivated—a factor that is necessary to join and sustain a membership in any given organization with little or no compensation other than one's own enjoyment and personal development. Although this may be true in numerous organizations with volunteers, it is possible that certain characteristics of this type of group do not apply to other types.

Orchestra conductors, like fire chiefs and sports coaches, will typically lead their teams on the basis of their position or expert power. This may be different in other

volunteer organizations. For instance, some social charities elect their leaders from a peer group in which roles and duties have to be negotiated and are less rigid and defined than in an orchestra. Whether similar effects can be observed in such groups remains to be tested. Also, whereas lay orchestra musicians, like many other volunteers, typically provide a service to the public, the specific type of service and the required traits may differ across different volunteer activities. For example, in many parts of Germany, firefighting is a volunteer service (Deutscher Feuerwehrverband, 2016) that arguably provides a more essential public service than playing music, and self-enjoyment might not be as much of a priority for volunteer firefighters as it is for lay orchestra musicians. Thus, volunteers in orchestras may differ from volunteers in other groups, and we suggest that interested researchers should try to replicate our findings in other volunteer organizations.

6. Conclusion

In this study, we concentrated on both the direct and indirect paths from transformational leadership to outcomes such as performance and satisfaction in nonprofit orchestras. We also looked at the frequencies of task and relationship conflict and how these might mediate the relations between transformational leadership and the outcomes.

In conclusion, this article contributes to clarifying the conditions and processes that lead to better performance and higher satisfaction in organizations with unpaid members. Our data show that transformational leadership (i.e., leading in an inspiring way that uses vision and individual consideration) is related to both satisfaction and perceived performance. Moreover, the relation between transformational leadership and satisfaction is mediated via the frequency of task and relationship conflict, which helps us better understand how transformational leaders achieve positive outcomes.

The data suggest that in nonprofit orchestras, transformational leadership can be recommended for better outcomes. Moreover, it seems important for conductors to prevent and reduce conflicts in order to maintain a high level of satisfaction among the musicians in the orchestra.

Acknowledgements

The authors thank the reviewers for their helpful insights and recommendations. This study was funded by Breitkopf & Härtel and Schott Musik Verlag (sponsors of incentives for participants).

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Critique

The articles revealed that conflict plays an important role within paid work and volunteer work environments. In particular, it appears that the frequency of conflict is a factor in the relation between transformational leadership behavior and job satisfaction and between transformational leadership behavior and performance.

Article 1 (using a sample of professional, paid musicians) showed that task and relationship conflict both mediate the relation between transformational leadership and job satisfaction as well as the relation between transformational leadership and performance. The extent to which leaders use a transformational style was positively related to both job satisfaction and performance in a direct way. An indirect effect was found between transformational leadership behavior and job satisfaction via relationship conflict. In addition, an indirect effect was found between transformational leadership and orchestral performance via task conflict.

The results of the second article (using a sample of non-paid, volunteer musicians) also showed direct, positive relations from transformational leadership behavior to job satisfaction as well as to performance. However, in this case, two mediation effects were found between transformational leadership and job satisfaction via both task and relationship conflict.

While there are parallels between these two samples of professional and non-professional musicians (i.e. both consist of musicians playing in orchestras), there are also important differences to bear in mind. Importantly, the motivation to join, remain, and show high levels of performance may differ between the two groups. While monetary compensation is an important motivator in paid work, it cannot serve as a reason to engage in unpaid work. Instead, symbolic compensation, such as enjoying the common activity, engaging in social activities, building friendly relationships (Prouteau & Wolff, 2008), or experiencing personal growth (Jamison, 2003) are typical reasons for engaging in volunteer work.

A part of leadership is trying to motivate others. Leadership defined as communication to influence people's behavior in a goal-oriented way (Baumgarten, 1977), that is, motivating followers to perform well. The motivational processes for the members of these two groups are likely to be quite different. Thus, on a theoretical level, research on paid work cannot readily be generalized to volunteer work.

The two articles paint somewhat different pictures concerning the mechanism underlying the two types of conflict and their respective relations to leadership behavior and follower outcomes. The models tested in both articles were identical. The results sections showed that both models fit their respective data well. Despite this, direct comparisons between the two models cannot be made without first establishing measurement invariance (cf. Byrne, Shavelson, & Muthén, 1989; Cheung & Rensvold, 2002; Meredith, 1993; van de Schoot, Lugtig, & Hox, 2012). To draw the conclusion that the underlying mechanism is, in fact, different, it was necessary to investigate whether the difference is due to (1) an actual difference in mediation processes or (2) due to measurement errors (e.g., differences in the way the latent concepts were understood). The latter would render a comparison inconclusive.

Using the statistical program R with packages “semTools” (Jorgensen, Pornprasertmanit, Schoemann, & Rosseel, 2018) and “lavaan” (Rosseel, 2012), invariance tests revealed the following (see Table 1 in the Appendix): First, the measurement models (on which the mediation model was based) was fitted separately for each sample as well as simultaneously (i.e. pooled) and all the models fit the data well. This is known as the test of congrual invariance. Configural invariance tests whether the same factor structure can be imposed on both groups and result in a good fit. The test of configural invariance was then followed by consecutively more restrictive models (see Models 2 to 5), each testing a more stringent type of invariance. A change in the CFI index (across models) is typically used as a criterion to evaluate the level of invariance. More specifically, a $\Delta\text{CFI} < -.02$ between the more and less restrictive model indicates that the invariance hypothesis should be rejected (Cheung & Rensvold, 2002; Vandenberg & Lance, 2000).

The results from the measurement invariance tests indicated that, the musicians in the two samples did not differ in the way the latent concepts of the dependent, mediator, and independent variables were understood. The conclusion that the mediation processes differ between the professional and volunteer sample could thus be upheld.

Thus, even though the models in both articles are identical, the samples are not. This is reflected in the differing results, especially in the results related to the mediation pathways. Together, these articles advance the current understanding of leadership in two contexts: leadership of paid professionals as well as leadership of unpaid volunteers.

That said, some aspects should be highlighted to ensure the correct interpretation and use of the findings. Firstly, the mediation effects in both articles are quite small. Strong mediation effects cannot be derived from the results and they should not be interpreted as such. It is, therefore, possible that conflicts do not play a major role in the mechanics underlying transformational leadership. Transformational leadership does, nevertheless, impact job satisfaction and performance positively - as shown here and in other previous studies (Braun et al., 2013; Judge & Piccolo, 2004; Wang et al., 2011). However, the mechanisms that are involved in and drive the relations between transformational leadership behavior and the examined outcomes may largely be determined by processes that are not included in these two studies. Conflict seems to play a role in explaining why transformational leadership positively influences the examined outcomes, but the role should not be overstated.

Furthermore, there are other limitations concerning the measurements, samples and analyses that should be taken into consideration. All the constructs included in the two studies were measured via self-report questionnaires. Both articles address the shortcomings of using self-report questionnaires for the measurement of these constructs. Especially when considering performance, objective measures are often considered preferable to avoid self-enhancing tendencies. However, objective measures are not always an option. A common truism is “there is no accounting for taste”. The tastes concerning music are vastly different, spanning from classical concertos to the popular music of the day. Even among classical orchestra aficionados, there can be differences concerning the preferences for composers, the pieces, and the music. This makes objective performance measures in the arts, including musical performances, a challenge. Different avenues exist to address this issue. For example, to aptly judge individual performance there might be an option to utilize the expertise of recognized subject matter experts. Alternatively stated, the averaged opinions of seasoned orchestra musicians or hobbyists can be used to get a value nearing a form of objectivity.

In addition to the above, both samples are quite specific in nature which can limit the generalizability of the findings. Further studies with more diverse samples are highly advisable, as discussed in both articles, to examine the generalizability of the findings to other paid work and volunteer work contexts. Conducting further research could also open the possibility to using environments where more hard data are available, particularly, performance measures.

Both studies are cross-sectional in nature, thereby both limiting the generalizability of the conclusions that can be drawn from the results. The results cannot be viewed causally and should only be interpreted as indicators for an assumed causal relationship.

Despite these limitations, the two articles show that transformational leadership is directly and negatively related to both types of conflicts, and positively related to job satisfaction and to performance. This implies, firstly, that transformational leadership can act as a resource to increase followers' well-being and performance. Secondly, it indicates that transformational leadership behavior can also buffer the demands (as per the job demands-resources model) of conflict.

Introduction to Article 3

This dissertation is concerned with the antecedents of followers' experiences. While the two previous articles addressed job satisfaction and performance, the third article focused on followers' health in relation with leadership behavior and with leaders' health. Health is fundamental to people's well-being as well as their ability to perform well at work (Grawitch et al., 2017; Meerding et al., 2005; Miraglia & Johns, 2016). Leadership is a highly influential factor in followers' experience at work, in particular, their health and well-being (Nielsen, Yarker, Randall, & Munir, 2009).

The health-oriented leadership approach - an approach mainly concerned with followers' health - lends itself well to the examination of followers' experience at work and how that relates to leadership behavior. Moreover, this approach discusses the value leaders place on their health and their followers' health. It also includes leaders being aware and mindful about their own health and the health of their followers. These two aspects (i.e. value and awareness), in combination with actual health-related behavior, reflect the three components of which both SelfCare and StaffCare are comprised (Franke et al., 2014).

Both SelfCare and StaffCare can be expected to have an effect on the followers, which is also proposed in the model. Directly observable by the followers is the behavior component. Leaders that practice healthy or unhealthy SelfCare behavior may function as a role model. The behavior they display implies which behaviors they deem necessary, "normal", or reasonable. Followers may, consequently, draw conclusions based on their leader's SelfCare behavior and may mimic such behavior as they believe it is expected of them. For example, they may work through official break times or taking required breaks to recuperate.

StaffCare behavior can manifest in various ways. For example, it can involve trying to structure followers' work in a manner that allows them to keep their break times or trying to reduce the need for overtime. StaffCare behavior are behaviors that try to improve followers' working conditions, enable followers to work undisturbed, keep followers informed about health and safety regulations, and foster a working environment with positive social interactions among the team.

These behaviors can serve as a resource to the followers. The health-oriented leadership approach proposes that StaffCare behaviors influence followers' somatic state

(Franke et al., 2015, 2014). The proposals have, however, not been examined in an empirical way in detail yet. The job demands-resources model would, nevertheless, corroborate these assumptions because these types of behavior should facilitate a reduction or buffering of demands and, consequently, positively impact followers' health (Bakker & Demerouti, 2007; Schaufeli & Taris, 2014).

When considering the influence of leadership behavior on followers' experience, knowing and understanding the conditions that impact leader behavior is crucial in order to devise interventions that can improve followers' experience.

Leaders experience high job demands. For instance, often they are confronted with multiple responsibilities, heavy workloads, and time pressure. According to the job demands-resources model, these demands can impact a person inasmuch they are able to cope with the demands in general (Hambrick, Finkelstein, & Mooney, 2005; Y. Zhang, 2013). Subsequently, leaders often experience feelings of burnout and exhaustion (Bakker et al., 2004; Hakanen et al., 2008).

Exhaustion is an important indicator of leaders' health and is likely connected to the health of their followers. Leaders' exhaustion may be transferred to their employees and negatively impact them (i. e. a crossover effect may take place). A possible way for a direct crossover from leaders' exhaustion to followers' health to occur, may be via a direct empathetic process (i.e. emotional contagion, Westman, 2001). Studies imply that when leaders and followers interact frequently - as is often the case - that their emotions become more and more alike (Johnson, 2008; Sy, Côté, & Saavedra, 2005). Concerning health indicators, Skakon, Nielsen, Borg, and Guzman (2010) show, that leaders' stress and well-being are directly connected with followers' stress and well-being.

Exhaustion also suggests that leaders may have diminished capacity to show positive leadership behaviors and to shape their followers' work environment in the desired fashion. This is in line with the job demands-resources model which proposes that job demands negatively influence health, including exhaustion, and, in turn, increased exhaustion is likely to result in decreased performance (Bakker & Demerouti, 2017), in this case the performance of their leadership duties. Thus, the leader's state should have an effect that crosses over onto the followers' experience via the leaders' leadership behavior.

Followers' experience at work is intertwined with their leaders' behavior. As such, it is advisable to take leaders' exhaustion level into account when considering

leadership behavior and its impact on followers. The following article describes the relations between leaders' exhaustion, their follower-directed StaffCare behavior, and followers' somatic complaints. More specifically, the article examined the direct crossover effect from leaders' exhaustion level to followers' somatic state as well as the indirect crossover effect via leaders' follower-related health care behavior. These crossover effects in the article are first theoretically derived and then tested.

The sample consisted of a diverse set of leaders from various fields of work who reported their own level of exhaustion. Each leader nominated one or two followers to complete a separate questionnaire in which followers reported their own somatic complaints as well as their leaders' observable StaffCare behavior.

To alleviate somatic complaints, it is necessary to research its causes as well as the conditions that play an important role its development, status quo or resolution. Pinpointing the most relevant factors would assist in the development of interventions that could alleviate and/or reduce somatic complaints.

Article 3: Leader-follower crossover: Exhaustion predicts somatic complaints via StaffCare behavior

Köppe, C., **Kammerhoff, J.**, & Schütz, A. (2018). Leader-follower crossover: Exhaustion predicts somatic complaints via StaffCare behavior. *Journal of Managerial Psychology*, 33(3), 297–310. doi:10.1108/JMP-10-2017-0367

Note: Changes were made to the format (e.g. the original citation style was Harvard Business style and to comply with the general style of this dissertation the style was changed to APA style). The word “Introduction” was added at the beginning of the article and the headings are now numbered for better readability. The content remains entirely unchanged.

Abstract

Purpose - The purpose of this study was to examine the direct and indirect crossover effects of leaders' exhaustion on followers' somatic complaints by testing leaders' health-oriented behavior toward employees as a possible underlying mechanism.

Design/methodology/approach - A two-wave online study using data from different sources was conducted. In a sample of $N = 41$ leaders and $N = 65$ followers, leaders were paired with one or two followers. Leaders rated their level of exhaustion at time 1, and followers rated their leaders' health-oriented leadership behavior (i.e., StaffCare behavior) and their own level of somatic complaints three months later (time 2).

Findings - Results provided evidence of an indirect crossover effect from leaders' exhaustion to followers' somatic complaints through StaffCare behavior. There was no direct crossover effect.

Practical implications - Findings suggest that organizations should attend to leaders' health as a means to allow for StaffCare behavior and thus protect employee health.

Originality/value - StaffCare behavior represents a new concept that focuses on health-related aspects of leadership. This is the first study to take an in-depth look at the question of how this leadership behavior is tied to crossover from leader exhaustion to follower health.

Paper type Research paper

1. Introduction

Employees' health and well-being play important roles in an organization's effectiveness. In line with the happy-worker-productive-worker hypothesis, employees who experience large amounts of happiness and well-being have been found to perform better than others (Wright & Cropanzano, 2000, 2007).

Leaders can have a large impact on how employees feel at work (Nielsen et al., 2017). The link between leadership and employee health and well-being has been shown multiple times (Harms, Credé, Tynan, Leon, & Jeung, 2017; Kuoppala, Lamminpää, Liira, & Vainio, 2008; Skakon, Nielsen, Borg, & Guzman, 2010; Wegge, Shemla, & Haslam, 2014) usually by focusing on broad leadership constructs (e.g., transformational leadership). Recently, however, researchers have argued that the study of general leadership behavior may easily lead to inappropriate conclusions regarding specific outcomes (e.g., employee health or well-being; Barling, Loughlin, & Kelloway, 2002; Gurt, Schwennen, & Elke, 2011). Consequently, researchers developed domain-specific leadership concepts aimed at capturing specific leadership behaviors and practices that protect and promote employee health. The health-oriented leadership (HoL) approach represents such a concept (Franke, Felfe, & Pundt, 2014). It includes a behavioral leadership component that is specifically aimed at leaders' ability to attend to or care for employees' health.

Leaders are themselves confronted with heavy job demands that may impair their own health and well-being (Hambrick, Finkelstein, & Mooney, 2005). They usually have high workloads, deal with challenging tasks, and have to fulfill a variety of different obligations (Zhang, 2013). If leaders' health and well-being are impaired, this can in turn have a negative impact on the health and well-being of their employees (for a review, see Skakon et al., 2010). The "inter-individual transmission of stress and strain" (Westman, 2001, p. 718) is called crossover. Initially, crossover processes were usually investigated as a reciprocal process between spouses (Bakker, Westman, & van Emmerik, 2009). However, there is evidence of crossover processes in the workplace, too—mainly focusing on crossover from one employee to another or to the whole team (Bakker et al., 2009; Westman, 2001). By contrast, the crossover from leaders to followers has thus far received little attention in research (for exceptions, see Huang, Wang, Wu, & You, 2016; Li, Wang, Yang, & Liu, 2016; ten Brummelhuis, Haar, & Roche, 2014).

The literature suggests that both direct and indirect processes can explain the crossover of strain (i.e., exhaustion) between leaders and followers (Westman, 2001). Direct transfer can occur through emotional contagion (Hatfield, 1994; Johnson, 2008) and indirect transfer can occur via leaders' follower-directed leadership behavior (e.g., Huang et al., 2016; Li et al., 2016; ten Brummelhuis et al., 2014).

In line with the job demands-resources model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Taris, 2014) leaders who feel exhausted and stressed have been found to have trouble performing high-quality leadership behaviors (for a review, see Barling & Cloutier, 2016). In turn, employees who are not adequately cared for are more likely to experience strain (Skakon et al., 2010).

The present study was designed to contribute to the existing literature in the following ways: First, studies concentrating on the crossover of strain from leaders to employees are still rare (Skakon et al., 2010). This study fills this gap by investigating crossover from leaders' exhaustion to employees' somatic complaints. Second, focusing on leaders' StaffCare behavior, the study also examined a mechanism that could help explain the effect from leaders' exhaustion to followers' somatic complaints. Third, by integrating a domain-specific rather than a general leadership concept that was assumed to mediate the expected relationship, the results allow for concrete conclusions regarding the improvement of employee work-related health. Fourth, StaffCare behavior represents a rather new research concept, and thus, this research contributes to a better understanding of its relevance in the workplace.

2. Theoretical Framework

2.1 Effects of Leaders' Exhaustion on Followers' Somatic Complaints

This study concentrated on leaders' exhaustion as a major indicator of strain that has also received much attention in crossover research (Westman, 2001). Exhaustion is considered the core component of burnout and can be characterized by feelings of depletion and fatigue (Maslach, Schaufeli, & Leiter, 2001). According to Maslach et al. (2001), prolonged socio-emotional stress is a major reason for burnout.

As leaders are exposed to a wide range of stressors (Hambrick et al., 2005), they are clearly at risk of exhaustion. For example, Lee and Ashforth (1993) found that role stress and time spent with their employees were positively related to leaders' feelings of

exhaustion. Moreover, especially interpersonal stressors (e.g., social conflicts) frequently occur in the workplace (Ohly & Schmitt, 2015). For example, leaders have to deal with conflicts between team members, may feel like they are sandwiched between their superiors and their employees, and may experience conflicts with employees, colleagues, superiors, or customers. However, social conflicts are associated with strong negative affective reactions (e.g., Ilies, Johnson, Judge, & Keeney, 2011). Thus, the emotional demands of social conflicts at work can increase leaders' feelings of exhaustion. For example, studies have shown that conflicts are positively related to both overall burnout (de Dreu, van Dierendonck, & Dijkstra, 2004) and exhaustion (e.g., Shaukat, Yousaf, & Sanders, 2017).

As leadership implies frequent social interactions between leaders and their employees (Graen & Uhl-Bien, 1995), strain, and thus exhaustion, could be transferred between the two individuals. In line with this reasoning, Skakon et al. (2010) found that leaders' impaired health and well-being was associated with employees' health-related issues.

One way for crossover to occur between leaders and followers is via emotional contagion, a direct empathetic process (Westman, 2001). Research in paid work contexts has suggested that when leaders and their followers interact frequently, their emotions become more similar (Johnson, 2008; Sy, Côté, & Saavedra, 2005). Westman (2001) stated that empathetic crossover effects are most likely to occur between individuals who are closely related. Leaders and followers develop unique relationships that are ideally characterized by high levels of interaction, influence, and support (leader-member exchange (LMX) theory; Graen & Uhl-Bien, 1995). Given the often close relationships between leaders and employees, we expected that leaders' feelings of exhaustion would negatively impact their followers.

The negative influence of leaders' impaired well-being in this study was operationalized with a relatively "hard" indicator: employees' somatic complaints. Somatic complaints comprise different health-related symptoms (e.g., headache or heat-sensitivity) and can be reported more concretely than overall mood, psychological well-being, satisfaction, etc. According to the allostatic load model (Ganster & Rosen, 2013), health outcomes in response to work stress can be classified as follows: psychological (e.g., fear, tension), physiological (e.g., cortisol), or psychosomatic (e.g., headache). Somatic complaints thus

represent one possible form of indicators of “manifest signs” (Franke, Felfe, et al., 2014, p. 151) of employee strain. Besides, Nixon, Mazzola, Bauer, Krueger, and Spector (2011) showed that somatic symptoms (e.g., headache, appetite loss) are related to various work stressors, thus underscoring the importance of studying somatic symptoms as health outcomes. Somatic complaints should also be attended to as they may result in “disease endpoints” (Ganster & Rosen, 2013, p. 1091) such as cardiovascular disease or diabetes. Thus, the following was hypothesized:

Hypothesis 1: Leaders’ exhaustion is positively related to followers’ somatic complaints.

2.2 Effects of Leaders’ Exhaustion on their StaffCare Behavior

Westman (2001) emphasized that, in addition to direct crossover, indirect crossover effects should also be expected. This study focused on leaders’ health-oriented leadership behavior (i.e., StaffCare behavior) as a mediator of the crossover of strain from leaders to followers.

Recent research has indicated that leaders’ impaired health and well-being affect their leadership behavior (for an overview, see Barling & Cloutier, 2016; Harms et al., 2017). For example, Byrne et al. (2014) found that “depleted leaders” (p. 5) who showed symptoms of depression, anxiety, and alcohol consumption in the workplace had trouble engaging in transformational leadership and thus were not considered “fit to lead” (Saboe, 2012). Similarly, Harms et al. (2017) found that leaders’ exhaustion was negatively related to their transformational leadership behavior.

The job demands-resources model offers a theoretical framework for explaining why leaders’ exhaustion impacts their leadership behavior. According to this model, people who have very demanding jobs, especially in combination with poor job resources, are prone to experience burnout (Demerouti et al., 2001; Schaufeli & Taris, 2014). In terms of exhaustion, Bakker, Demerouti, Taris, Schaufeli, and Schreurs (2003) found that the negative effect of job demands on exhaustion increases when job resources are low. The experience of burnout (i.e., exhaustion), however, can diminish positive outcomes (Schaufeli & Taris, 2014) such as the ability to engage in high-quality leadership behaviors because high-quality leadership behavior (e.g., transformational leadership) may require resources that exhausted leaders lack (Byrne et al., 2014). In addition, a lack of resources is associated with withdrawal behavior (i.e., cynicism;

Demerouti et al., 2001). Thus, leaders who lack resources may be very motivated to protect themselves and the resources they have left (Schaufeli & Taris, 2014).

In contrast to the broad concept of transformational leadership, this study scrutinized a more specific health-related leadership concept. The HoL concept distinguishes between self-directed health-promoting leadership (i.e., SelfCare) and leaders' follower-directed health-promoting leadership (i.e., StaffCare). StaffCare is aimed at providing support and health-promoting working conditions for employees (Franke, Felfe, et al., 2014). It comprises three components—awareness, value, and behavior—with leader behavior being of special importance for employee health and well-being. In comparison with awareness and value, StaffCare behavior was found to be the strongest predictor of a wide range of health outcomes such as irritation or health complaints (Franke, Felfe, et al., 2014). Therefore, the present study used the construct of StaffCare behavior to capture leaders' health-oriented behavior toward their employees.

However, StaffCare behavior requires leaders to invest a great deal of time and effort. The concept summarizes leaders' health-relevant actions that are aimed at protecting and promoting follower health (Franke, Felfe, et al., 2014). For example, leaders should inform their employees about health and safety issues on a regular basis, improve working conditions, and foster a positive team climate. Leaders who suffer from exhaustion are thus not expected to have sufficient resources to perform such health-relevant actions in an adequate manner. Thus, the following hypothesis was proposed:

Hypothesis 2: Leaders' exhaustion is negatively related to their follower-rated StaffCare behavior.

2.3 Effects of StaffCare Behavior on Followers' Somatic Complaints

Harms et al. (2017) summarized, "leaders have the potential to be either a buffer against work stressors [...] or a major source of stress" (p. 180) for their employees. Many studies have shown that supportive leader behavior can improve employee health and well-being; by contrast, abusive leader behaviors were found to be associated with low levels of health and well-being in employees (Harms et al., 2017; Kuoppala et al., 2008; Skakon et al., 2010; Sparks, Faragher, & Cooper, 2001). Along these lines, a recent meta-analysis showed that transformational leadership was negatively related and

abusive supervision (Tepper, 2000) was positively related to both stress and overall burnout in followers (Harms et al., 2017).

StaffCare behavior was found to have unique effects on different health outcomes (e.g., state of health, irritation, and health complaints) beyond transformational leadership (Franke, Felfe, et al., 2014). The present study focused on employees' somatic complaints as the health outcome of interest. Whereas a great deal of previous research has addressed the impact of leadership behavior on employees' psychological well-being (Skakon et al., 2010), somatic symptoms have been studied less frequently. However, recent research has shown that leadership behavior can be associated with employees' physical health symptoms (Sparks et al., 2001), and Franke, Felfe, et al. (2014) found that employees reported fewer health complaints as a result of leaders' StaffCare behavior.

However, there are different possible explanations for why StaffCare behavior may reduce employee strain. According to the pathway model by Wegge et al. (2014), StaffCare behavior affects employee health through three avenues: 1) system- or team-focused actions, 2) climate control and identity management, and 3) modeling. First, leaders' health-related actions can improve employees' working environments and thus have the potential to reduce strain. Second, leaders who engage in health-oriented leadership aim to reduce follower strain by building a collective identity and a health-supporting working climate. Third, leaders who take care of their own health can function as role models for their employees and thus encourage employees to address their own health issues. The following hypothesis was therefore proposed:

Hypothesis 3: Follower-rated StaffCare behavior is negatively related to followers' somatic complaints.

2.4 StaffCare Behavior as a Mediator of the Relation between Leaders' Exhaustion and Followers' Somatic Complaints

Based on the previous theoretical and empirical assumptions, an indirect effect of leaders' exhaustion on followers' somatic complaints through a reduction in leaders' StaffCare behavior was hypothesized (see Figure 1).

In addition to direct crossover, Westman (2001) proposed an indirect process in explaining how feelings of impaired health and well-being can be transferred between two people. She referred to interpersonal factors such as coping strategies, social

undermining, or social support as possible mediating mechanisms. On the basis of the conceptual model by Westman (2001), ten Brummelhuis et al. (2014) defined the processes by which these mechanisms take place as behavioral crossover processes.

Social support can be linked to aspects of StaffCare behavior. According to House (1981), there are four types of social support: informational, instrumental, emotional, and appraisal support. In fact, leaders' StaffCare behavior implies that they provide their followers with adequate support regarding health-related issues: They inform their employees about safety standards and measures (informational), provide resources to improve working conditions (instrumental), create and support a positive team climate (emotional), and pay special attention to health-related problems (appraisal). Exhausted leaders, by contrast, are expected to lack the resources to adequately support their followers, and this should in turn lead to negative health-related outcomes, in this case, increased somatic complaints.

Studies have supported a behavioral crossover process with compromised leadership behavior mediating the crossover of strain from leaders to followers. For example, ten Brummelhuis et al. (2014) found that leader burnout was negatively related to leaders' supportive behavior, which in turn was associated with increased burnout in followers. Conversely, Li et al. (2016) showed that leaders' psychological distress affected followers' psychological distress through abusive supervision. Thus, the following was hypothesized:

Hypothesis 4: Leaders' exhaustion affects followers' somatic complaints via StaffCare behavior such that the more exhausted leaders are, the less StaffCare behavior they engage in, which in turn should subsequently lead to increases in the somatic complaints of their followers.

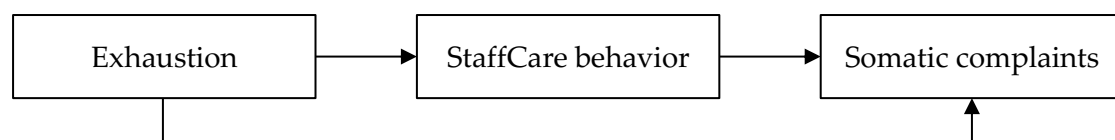


Figure 1. Theoretical model of the relation between leaders' exhaustion and followers' somatic complaints.

3. Methods

3.1 Procedure and Sample

Data for this study stemmed from a larger research project on the antecedents (i.e., leader personality, health, work-related attitudes, and situational conditions) and effects (i.e., follower health, performance, motivation, and work relationships) of health-oriented leadership. Whereas data for the overall research project were collected on a rather broad level, in the current study, we explicitly concentrated on the antecedents and effects of health-oriented leadership concerning leader and follower health (i.e., exhaustion and somatic complaints). Data were collected in Germany from leaders and their employees via questionnaires in two waves. The first wave began in May 2016 (Time 1) and the second three months later in September (Time 2). The questionnaires were administered online using the host site unipark (unipark.de).

In the first wave, data were collected from leaders only. Leaders were recruited via mailing lists and snowball sampling. The first and third authors contacted members of their professional networks who were in leadership positions. These leaders were asked to forward the link to the study to other leaders. Leaders completed questionnaires on leadership, health, personality, work-related attitudes, and situational conditions. Three months after they completed the questionnaire at Time 1, leaders automatically received three emails, each containing a separate study link. Leaders were asked to forward two of these emails to two of their employees (one each) and to use the third one to complete follow-up questions themselves. All participants were assured that the responses would not be shared between leaders and followers and that they would remain anonymous. Employees responded to questionnaires on leadership, health, and performance. The present study used data on leaders' self-reported exhaustion at Time 1 and follower ratings of StaffCare behavior and somatic complaints at Time 2.

During the first wave, 177 leaders completed the survey and entered their email address to receive the links to the questionnaires to be sent to their employees three months later. Twenty of these participants had to be excluded from the analysis because they reported that they did not hold a leadership position, thus leading to a final sample of 157 leaders after wave 1. In the second wave, 65 followers participated. For 17 leaders, one follower filled out a questionnaire, and for 24 leaders, two followers filled out

questionnaires, leading to 41 leaders paired with one or two followers. Thus, the whole sample was comprised of a total of 106 respondents.

Participants in leadership positions were 48 years of age on average with a range from 32 to 64 years ($SD = 7.69$); 34% were female. They had worked in their current organization for about 17.0 years ($SD = 9.52$), and their average work week consisted of 44.5 hours, ranging from 24 to 65 ($SD = 9.00$, mode = 45). The leaders came from various organizational backgrounds, most of them working in the manufacturing or merchandising industries. Moreover, the leaders belonged to different work departments (e.g., finance, account management, human resources, and administration).

The followers were 41 years old on average, ranging from 23 to 61 ($SD = 10.06$); 60% were female. On average they had worked for their present company for 12.5 years ($SD = 9.50$) and worked 37.2 hours per week, ranging from 6 to 55 ($SD = 9.74$, mode = 40).

3.2 Measures

Exhaustion. The Oldenburg Burnout Inventory (OLBI) was used to assess leader exhaustion (Demerouti & Bakker, 2008; Demerouti & Nachreiner, 1998) in wave 1 of the online survey. The scale consists of eight items (four reverse coded). A four-point Likert scale was used, ranging from 1 = “*not at all*” to 4 = “*completely*.” Cronbach’s alpha was .83. A sample item is “After my work, I regularly feel worn out and weary.”

StaffCare behavior. For the assessment of leaders’ StaffCare behavior, the health-oriented leadership questionnaire (Franke, Felfe, et al., 2014) was used. It was administered to the followers in wave 2 of the online survey. The scale consists of seven items employees responded to on a five-point Likert-type scale (1 = “*not at all true*,” 5 = “*completely true*”). Cronbach’s alpha was .83. A sample item is “My supervisor asks me to inform him/her about health risks at my workplace.”

Somatic complaints. The assessment of followers’ somatic complaints was done via self-ratings during wave 2 with the somatic symptoms subscale from the General Health Questionnaire (GHQ-28) by Goldberg and Hillier (1979). The present study employed the translated version used by Klaiberg, Schumacher, and Brähler (2004). The scale consists of seven items (one reverse coded). A four-point frequency scale was used, ranging from 1 = “*not at all*” to 4 = “*much more than usual*.” Cronbach’s alpha was .77. A sample item is “In recent weeks, did you suffer from any headaches?”

3.3 Control Variables

Leader behavior may differ in accordance with leaders' gender and experience (i.e., age and tenure). So far, results concerning the relations between leader behavior, gender, and tenure have been mixed with some studies finding effects of gender (e.g., van Engen & Willemssen, 2004) and experience (e.g., Oshagbemi, 2004) in some settings or for specific leadership styles but not across the board. To control for possible confounds, leaders' gender, age, and tenure in their current company were included as control variables into the preliminary correlational analyses. Furthermore, to account for possible differences due to the type of relationship between leaders and employees, we included how long the leader and employee had been working together as well as the number of employees reporting to each leader.

3.4 Data Analysis

SPSS (version 23) was used for all statistical analyses. To conduct the mediation analysis, we used Model 4 from the PROCESS Macro (Hayes, 2013). The mediation analysis was computed on z-standardized values for all variables. Bias-corrected bootstrap confidence intervals were generated with 10,000 bootstrapped samples. One follower had extreme values in the General Health Questionnaire and another follower was identified as an outlier due to his/her response pattern on several scales and was excluded from further analyses, reducing the sample size to 39 leaders with completed questionnaires from one or two employees.

5. Results

5.1 Preliminary Analyses

In 24 cases, two employees per leader responded to the study survey. Paired *t*-tests showed that these pairs of employees did not differ significantly from each other in their appraisals of their leader. Thus, the average rating of these two ratings was used in further analyses.

Little's (1988) test for whether data were missing "completely at random" was conducted; data were missing at a low rate (1.5 to 6.3%), and the test showed no significant results. Thus, the missing values were treated as missing completely at

random, meaning that they could safely be disregarded in further calculations (Graham, 2009).

5.2 Tests of Hypotheses

Table 1 shows the means, standard deviations, and correlations of the variables used in this study. The correlations of the variables in the mediation model (e.g., exhaustion, StaffCare behavior, and somatic complaints) were significant and were either positively or negatively inter-related in accordance with the proposed hypotheses. The control variables were not significantly correlated with either the mediator or the outcome variable; thus, the control variables were not included in further analyses.

Table 2 shows the results of the mediation analysis. There was no direct effect of leaders' exhaustion on employees' somatic complaints ($c' = -.11, p = .325$). Hypothesis 1 was thus not supported by the findings.

Supporting Hypothesis 2, the extent of leaders' exhaustion negatively and significantly affected StaffCare behavior rated by their followers ($a = -.28, p = .033$).

In support of Hypothesis 3, StaffCare behavior in turn had a negative effect on employees' somatic problems ($b = -.34, p = .021$), that is, somatic complaints were reduced. See Figure 2 for an overview of the previous results.

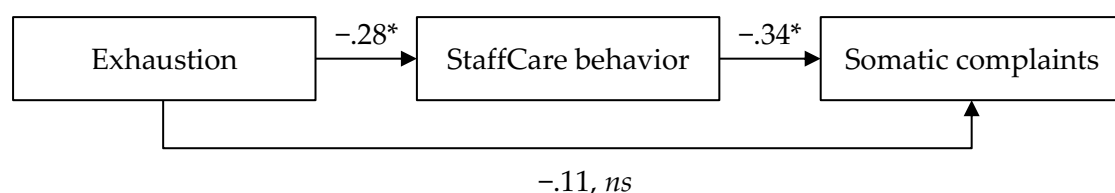


Figure 2. Empirical model of the relation between leaders' exhaustion and followers' somatic complaints. $N = 39$ pairs. Two pairs were deleted due to missing data. Standardized regression coefficients are represented in the model.

* $p < .05$.

The results were in line with Hypothesis 4 in showing that leaders' exhaustion indirectly influenced employees' somatic complaints through employees' assessments of leaders' StaffCare behavior. Through a bias-corrected bootstrap confidence interval with 10,000 bootstrapped samples ($ab = .09, 95\% \text{ CI } [.010, .265]$), an indirect effect was found.

Table 1
Means, Standard Deviations, and Correlations of the Study Variables

Variable	M	SD	1	2	3	4	5	6	7
1. Gender ^a	1.31	0.47							
2. Age ^b	47.77	7.74	-.01						
3. Tenure ^{c,d}	16.55	9.00	-.30	.57**					
4. Span of control	42.79	97.39	-.01	.13	-.05				
5. Years working together ^e	6.24	4.92	-.20	.37*	.40*	-.15			
6. Exhaustion	2.13	0.53	.02	-.17	-.15	.06	-.04		
7. StaffCare behavior ^f	3.80	0.78	.08	-.17	-.12	-.09	-.22	-.34*	
8. Somatic complaints ^g	1.81	0.43	.06	.16	-.03	.05	.02	-.03	-.34*

Note. N = 39. Pairwise deletion. Variables 1 to 4 and 6 were self-rated by leaders.

^aGender was coded 1 = male, 2 = female. ^bAge was coded in years. ^cn = 38. ^dTenure was coded in years. ^e _t ₁ ₂ ₃ ₄ ₅ ₆ ₇ ₈ Followers' assessments; M and SD based on ^en = 55, ^fn = 61, ^gn = 58.

p* < .05, two-tailed. *p* < .01.

Table 2

Model Coefficients for the Mediation Analysis

		StaffCare behavior ^a			<i>R</i> ²	<i>F</i> (<i>df</i>)	<i>p</i> -value
		Coeff.	<i>SE</i>	<i>p</i>			
Exhaustion	<i>a</i>	-.277	.125	.033	.117	4.921(1, 37)	.033
StaffCare behavior ^a		-	-	-			
Constant	<i>i</i> ₁	.076	.137	.583			
		Somatic complaints ^a			<i>R</i> ²	<i>F</i> (<i>df</i>)	<i>p</i> -value
		Coeff.	<i>SE</i>	<i>p</i>			
Exhaustion	<i>c</i> '	-.114	.114	.325	.140	2.933(2, 36)	.066
StaffCare behavior ^a	<i>b</i>	-.342	.142	.021			
Constant	<i>i</i> ₂	-.107	.118	.371			

Note. *N* = 39 pairs. Two pairs were deleted due to missing data. Variables were standardized prior to analyses.

^aFollowers' assessments.

6. Discussion

The aim of this study was to investigate the direct and indirect crossover of strain from leaders to their followers with a two-wave research design. Specifically, the study investigated how leaders' feelings of exhaustion at Time 1 affected followers' somatic complaints at Time 2. Leaders who were more exhausted were hypothesized to have followers who would report more somatic complaints (Hypothesis 1). The study further looked at why this effect may occur. Leaders' exhaustion was expected to lead to reduced StaffCare behavior (Hypothesis 2), which in turn was expected to increase followers' somatic complaints (Hypothesis 3). Based on this reasoning, StaffCare behavior was examined as a mediator and possible behavioral mechanism in the crossover of strain from leaders to followers (Hypothesis 4).

Results confirmed a negative relation between leaders' exhaustion and their reduced StaffCare behavior, supporting Hypothesis 2. This result is in line with current research that has shown that leaders' health and well-being affect their own leadership behavior (Barling & Cloutier, 2016; Harms et al., 2017).

In support of Hypothesis 3, the results showed a negative relation between leaders' StaffCare behavior and followers' somatic complaints. There is previous research demonstrating that overall leadership is associated with employee health and well-being (see also Harms et al., 2017; Skakon et al., 2010). However, StaffCare behavior

represents a rather new and health-specific leadership construct that has hardly been examined with respect to its effects on employee health and thus adds to existing research.

The results also showed an indirect effect of leaders' exhaustion on followers' somatic complaints through reduced StaffCare behavior, providing support for Hypothesis 4. Although research focusing on leadership behavior as a mediating mechanism in a crossover of strain from leaders to followers has been rare, some studies have provided evidence that such an indirect crossover process exists (e.g., Li et al., 2016; ten Brummelhuis et al., 2014). However, previous studies have mainly concentrated on either broad (i.e., supportive behavior; ten Brummelhuis et al., 2014) or destructive leadership behavior (i.e., abusive supervision; Li et al., 2016) that differs from the health-specific leadership behaviors considered in the present study. More specifically, the present study showed that exhausted leaders were less able than others to adequately care for their employees' health—and this in turn predicted higher reports of somatic complaints such as suffering from headaches or heat-sensitivity.

Whereas the findings confirmed an indirect crossover effect of strain through leadership behavior, they did not show a direct effect. Leaders' feelings of exhaustion at Time 1 did not predict followers' somatic complaints at Time 2, thus failing to support Hypothesis 1. Previous research has demonstrated a crossover effect of stress and strain in the workplace (Bakker et al., 2009). However, such a direct crossover effect has mainly been found among colleagues and within teams (e.g., Bakker, van Emmerik, & Euwema, 2006). Furthermore, outcome variables have varied widely (e.g., mood, burnout, depression, and physical illness; Westman, 2001). Direct dyadic crossover processes of strain and especially exhaustion between leaders and followers have been studied less frequently. Finally, results have been rather mixed. For example, Westman and Etzion (1999) found a direct crossover of job-induced tension between principals and teachers in a cross-sectional study but did not find a direct effect of burnout. Hakanen, Perhoniemi, and Bakker (2014) focused on exhaustion of both leaders and followers and failed to find a direct crossover in their sample of dentists and dental nurses. Instead, they showed that direct crossover occurred only under certain conditions (i.e., frequent and friendly contact, mutual feedback exchanges). The heterogeneity of findings may indicate that direct crossover processes are less ubiquitous than previously thought or that—at least

in the present study—the mediating role of StaffCare is so important that it captures most of the impact that leader exhaustion may have.

However, there may be further explanations for why a direct crossover effect of strain from leaders to their followers was not found in the present study. First, the transmission of strain in previous research usually referred to the same form of strain in both individuals involved. In the present study, by contrast, we focused on different aspects of strain: exhaustion in the leader and somatic complaints in the follower. Thus, these different forms of strain can account for why we did not observe direct contagion here.

Second, previous research has also concentrated primarily on crossover concerning mostly the affective states of the parties involved (Westman, 2001). Thus, crossover in these cases referred to a form of emotional contagion in which, for example, one individual's affective exhaustion led to feelings of exhaustion in another individual. While exhaustion certainly has a strong affective component, we chose to work with a different conceptualization that defines exhaustion as "intensive physical, affective and cognitive strain" (Demerouti et al., 2001, p. 500). Moreover, with regard to the outcome variable in the followers, likewise, we did not focus on emotional but instead on somatic complaints. Our findings thus point to processes that go beyond mere emotional contagion.

Third, Westman (2001) explained that direct empathetic crossover effects "appear between closely related partners" (p. 730). Although relationships between leaders and followers are characterized by mutual exchange, they may differ in closeness (Graen & Uhl-Bien, 1995). Thus, followers might not necessarily know how their leaders feel—which would make crossover effects less likely to occur. In this line of reasoning, Barling and Cloutier (2016) suggested that followers might hold certain implicit leadership theories about their leaders' health. They may "romanticize" their leaders (Meindl, Ehrlich, & Dukerich, 1985) and see them as strong, competent, and healthy. Leaders, in turn, may support such theories by behaving accordingly in order to "save face". Whereas direct access to leader feelings may thus be difficult, followers can notice how leaders' impaired well-being is reflected in their actual behavior (i.e., reduced StaffCare), which in turn could impact their own health and well-being.

Fourth, a direct effect in the present study may exist under certain circumstances: Frequency of contact (Hakanen et al., 2014) or relationship quality (Westman, 2001) may moderate the crossover of strain from leaders to followers, such that crossover will be strongest in high-quality relationships with frequent contact—a finding that is again in line with the argument of emotional contagion as outlined above.

6.1 Limitations of the Present Study and Future Research

This study contains several limitations that need to be mentioned so that the results can be interpreted properly. First, some limitations are related to the sample. The sample size of this study was rather small. The overall sample size of leaders and their employees who participated was 106, resulting in 41 leaders who were rated by one or two followers. Different sources (leaders and their employees) were used, thus avoiding single-source bias at the expense of an otherwise larger sample size. Also, each leader individually chose the employees to whom they forwarded the required study links at Time 2, making selection bias more possible. Thus, leaders could have chosen employees who would rate their leadership behavior positively or employees whom they considered happy, healthy, and fit. In line with this reasoning, the mean values of employees' somatic complaints were rather low in comparison with other studies (Franke, Felfe, et al., 2014). Future research should therefore replicate these findings in a larger research sample.

Second, some limitations are related to the study design. Other researchers have called for more longitudinal studies in crossover research (Bakker et al., 2009). The current study attempts to answer this call with a two-wave study design that comprised a time lag of three months. However, three months may be too short to detect direct crossover processes of strain from one person to another. Future research should therefore investigate crossover effects in longitudinal studies with two or more measurement points within a broader time frame (Wang et al., 2017). Also, reciprocal crossover effects between followers and leaders could not be examined in the present study. Even though previous studies did not find effects from followers' exhaustion at Time 1 to leaders' exhaustion eight months later (Wirtz, Rigotti, Otto, & Loeb, 2017), future studies may help to clarify whether and when there would be a reciprocal crossover of strain between leaders and followers.

Third, in this study, only self-reports of leader and follower health were assessed. Future research would benefit from the inclusion of objective health measures such as blood pressure or skin conductance as well as information about followers' health at different measurement points. This will help better establish the link between leader behavior and follower health.

6.2 Practical Implications

The results show that exhausted leaders engage less in StaffCare behavior, which in turn increases employees' somatic complaints. Given the negative impact of leaders' reduced StaffCare behavior on employees' somatic complaints, organizations should offer training opportunities for leaders in order to improve their health-supporting leadership behavior. However, leaders' own health influences the way they care about their employees. Current studies have already called for interventions targeting leaders' health (e.g., Barling & Cloutier, 2016; Lanaj, Johnson, & Lee, 2016; Zwingmann, Wolf, & Richter, 2016).

In addition to StaffCare, the HoL concept introduces the idea of SelfCare, which concerns leaders' protection and promotion of their own health and which has been shown to have positive effects on different health outcomes (Franke, Ducki, & Felfe, 2014). Consequently, SelfCare helps to protect and build up leaders' resources —and thus allows them to perform StaffCare behavior. Thus, according to the HoL concept, SelfCare represents the basis of leaders' follower-oriented StaffCare behavior, which in turn positively influences employees' health and well-being (Franke, Felfe, et al., 2014). However, engaging in SelfCare is not enough! Franke, Felfe, et al. (2014) found that SelfCare and StaffCare are related to different health-relevant characteristics: SelfCare, for example, showed stronger relations to individual work behavior (e.g., overcommitment) than to the task and work context (e.g., task contents, work climate).

SelfCare and StaffCare may both be improved through training (group-based) or coaching (individual-based). Researchers have suggested that both issues (i.e., leaders' SelfCare and StaffCare) may be addressed (Franke, Vincent, & Felfe, 2011) —of course taking into account leaders' time constraints. All in all, organizations should provide the resources that are needed to foster leaders' SelfCare in order to reduce leaders' exhaustion and thus employees' somatic complaints.

6.3 Conclusion

Healthy employees perform better than others (e.g., Wright & Cropanzano, 2000; Wright & Cropanzano, 2007). But employee health also depends on how leaders feel at work (Skakon et al., 2010). This study investigated the direct and indirect crossover processes of strain from leaders to followers in a two-wave study using multiple sources. Leaders' exhaustion was expected to predict followers' somatic complaints three months later. Further, we hypothesized that leaders' StaffCare behavior would mediate this relation.

The results supported an indirect crossover effect of leaders' exhaustion on followers' somatic complaints through reduced StaffCare behavior. Exhausted leaders are apparently less able to care about their followers' health, and this in turn leads to negative health effects in their followers. Interventions targeting leader health are therefore very important for both leaders and followers.

A direct crossover effect was not found. Future research should therefore test these findings in a larger research sample and take potential moderators into consideration. This can help to clarify the conditions under which a direct crossover effect may occur.

Acknowledgements

The authors would like to thank Iris Koch for providing helpful comments on a previous version of this paper and Jane Zagorski for copyediting.

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Critique

This study showed that health-related leadership behavior is, in fact, related to followers' experience. More specifically, followers reported more somatic complaints when they observed less StaffCare behavior. This supports the proposed relation of the health-oriented leadership approach (Franke & Felfe, 2011). Furthermore, leaders' exhaustion was directly and negatively related to their StaffCare behavior, with higher levels of self-reported exhaustion leading to less StaffCare behavior (as observed by their followers).

The results supported the existence of a crossover effect (i.e., leaders' level of exhaustion had an impact on followers' experienced somatic complaints via leadership behavior). However, a direct effect between leader's exhaustion level and followers' somatic complaints was not supported in this sample. The crossover effect implies that exhausted leaders are less of a resource to their followers. They have less capacity to engage in behavior that could potentially buffer the adverse health effects of job demands on their followers.

There are some limitations to be considered for this study. Importantly, the small sample size poses a significant limitation. Small sample sizes make it easier to over-emphasize random results, on the one hand, while, on the other hand, it makes it harder to find existing effects due to the lack of statistical power (Bortz, 2005). It is advisable to conduct larger scale studies to establish the reproducibility of the results.

The small number of participants in this study may be due to the inherent nature of the subjects in question. Leaders, by definition, have a great number of demands, including limited time. Participating in a survey takes time out of the work-day that could be spent on tasks with a higher priority. It follows that self-selection might also be a factor to be considered, relating to the type of participant. More specifically, leaders who are generally more interested in health-related topics may have participated disproportionately in this study, compared to the total pool of leaders in the general population.

Moreover, not only were leaders required to participate (voluntarily), they were also tasked with nominating two of their followers to participate. This presents slightly more work than simply completing a survey. The leaders included in this study also had to decide on whom to ask to participate to provide more information about them as the

leaders. This alludes to another source of potential bias, namely selection bias among the followers. As the leaders themselves selected the followers to participate in this study, it is unlikely that the selection process resulted in a randomly selected sample of followers. It is conceivable that mostly followers were chosen to save face. The selected followers may have thus answered more favorably or felt compelled to comply due to sympathy toward the leader. This may have resulted in a more positive assessment of their leader's behavior than in a purely random sample.

Somatic complaints were assessed via self-report from followers. Hard data, such as medical reports, might be preferable for the assessment of such a construct. However, this would have further complicated the acquisition of participants due to the sensitivity of the subject. Asking for such information might be considered too intrusive by participants or even ethically questionable.

Another important limitation to consider is the number of time points. This study only used two time points. A larger number of time points, while preferred, were not feasible in this instance. The inclusion of more time points was likely to result in even higher drop-out rates due to participants' possible lack of motivation and commitment. In the end, the importance of retaining a greater number of participants outweighed the benefit of including additional time points (with even less participants).

The conditions that enable or harm follower-related health care behavior (i.e., StaffCare) would be an interesting point to try and build on the current study. It would be interesting to identify the specific demands that cause leaders' exhaustion which, in turn, influence leaders' display of StaffCare behavior. This study only obtained information on the exhaustion levels of the leaders and not on the causes of their exhaustion.

Despite the above limitations, the current study contributes to the literature examining the relation between leadership and follower health. The conditions that lead to StaffCare behavior (apart from leaders' SelfCare,) are not included into the health-oriented leadership approach. The current study may help the House of HoL to grow into a more holistic approach. A deeper understanding of the specific conditions that may hinder StaffCare behavior can pave the way to designing tailored interventions that can assist leaders in caring for their followers. This may result in less exhaustion for leaders and also less somatic complaints for followers.

GENERAL DISCUSSION

This work aims to improve peoples' well-being at work and to enable higher levels of performance. There are many ways to improve well-being (i.e. increasing satisfaction and reducing somatic complaints) and performance in both paid work and unpaid volunteer contexts.

Leadership is an important factor to consider in this endeavor. Effective leadership can be a valuable resource for followers. Leadership shapes the working conditions and is an integral part of the leader-follower interaction that affects followers directly. It is highly influential in the experience of followers. While effective leadership behavior can result in positive changes and outcomes, maladaptive leadership behavior results in predominantly negative outcomes (destructive leadership behavior, cf. Einarsen, Aasland, & Skogstad, 2007).

It is therefore of the utmost importance to gain a more refined understanding of how leadership behavior results in desirable outcomes. On the one hand, finding out more about the underlying mechanisms of leadership through the identification of important mediators and moderators, is important to grasp the complexities of a (volunteer) work environment. On the other hand, it is essential to know which factors can harm or help the display of those leadership behaviors that are linked to positive outcomes. Leadership does not occur within a vacuum: there are several factors that enable positive leadership behavior. These factors can be external to the leader (e.g., the work environment) or within the leader (e.g., motivation, skills, health).

Leaders and followers are both confronted with various demands when working in an organization. The type of demands they are confronted with depends on the individual's function, task requirements, and work environment. The demands have implications for their well-being as well as their performance. When there is leadership, followers' demands can often be directly and indirectly influenced by their leaders. More specifically, leadership behavior can serve as a resource via a reduction in the frequency of conflicts and the use of health specific leadership behavior (i.e., StaffCare behavior). One objective of this dissertation was to shed light on leadership behavior and its relation with followers' well-being and performance while taking mediators (i.e., task and relationship conflicts) into account. Complementary to this goal, the dissertation also aimed to consider the leader's own state of well-being (i.e. their level of exhaustion) as a potential source of influence on their own leadership behavior (i.e., StaffCare behavior), thereby, providing additional empirical results on the previously under-

researched topic of leaders' well-being (Barling & Cloutier, 2017). Overall, the joint aim of the three enclosed articles is to, firstly, provide an improved understanding of the functioning and outcomes of leadership behavior and, secondly, to include suggestions on how to improve the (volunteer) work-life for both leaders and followers.

This section combines the results of three articles to provide a short integrative summary of the findings, a discussion of implications (theoretical and practical) and limitations, and, lastly, a general conclusion.

Summary of the Results

The first two articles investigated the relations between transformational leadership behavior with followers' job satisfaction and followers' performance. These relationships were investigated while also considering the potential role of task and relationship conflict. All variables examined were closely related to the personal experience of the followers. That is, it was assessed as their perception and analyzed on the individual level.

The first article, using a sample of professional orchestra musicians, showed that there are direct effects between the extent to which transformational leadership is used and followers' job satisfaction and performance. This is similar to findings by previous studies (Braun et al., 2013; Judge & Piccolo, 2004; Podsakoff et al., 1996; Wang et al., 2011). These direct relations were also found to exist in a volunteer context using a sample of non-professional volunteer orchestra musicians (in Article 2).

Concerning the relations with conflict, both articles supported the role of conflict as a mediator of the relations between transformational leadership and followers' satisfaction and performance. The patterns of results differ across the two studies and seem to be unique to the type of work context. More specifically, Article 1 found that task conflict mediated the relation between transformational leadership and performance and that relationship conflict mediated the relation between transformational leadership and job satisfaction. In contrast, Article 2 found that both task and relationship conflict mediates the relation between transformational leadership and job satisfaction (and not performance) in the volunteer context. All the mediation effects were quite small, yet significant.

The third article focused on a more specific aspect of leadership behavior, namely StaffCare behavior. The study was concentrated on followers' health as well as its

relations with followers' self-reported somatic complaints and with leaders' self-reported level of exhaustion. The theoretical framework within Article 3 was rooted in the health-oriented leadership approach. Leaders' health was included as an antecedent of StaffCare behavior, thereby expanding on the original concept. Leader health was operationalized as the leader's level of exhaustion. Leader health was found to be negatively related to the StaffCare behavior (operationalized as the extent to which followers' observe such leader behavior). Moreover, the results provided support for an indirect crossover effect from exhaustion to followers' somatic problems via StaffCare behavior. Lastly, a direct effect between StaffCare and somatic complaints was also found, although no evidence was found of a direct crossover effect between leaders' level of exhaustion and followers' somatic complaints.

Theoretical Implications

The included studies contribute new insights to several areas of the leadership literature. The overarching aim of this dissertation was to investigate factors that influence an individual's physical and psychological well-being as well as their performance - in both paid work and volunteer work environments. More specifically, this was done by focusing on the antecedents and outcomes of leadership behavior which, based on theory and previous research, have been deemed to increase well-being and performance.

The concept of transformational leadership has been around for decades. There are vast troves of research supporting its usefulness and its relevance to the modern working environment (e.g., Bass, 1990, 1999; Felfe, 2015). Articles 1 and 2 add to existing literature by presenting a closer examination of one of the mechanisms underlying transformational leadership in order to explicate its relation to specific desirable outcomes (i.e. job satisfaction and performance). Additionally, these articles contribute to the literature on transformational leadership behavior by examining it in different contexts, that is, both paid work and unpaid volunteer work contexts. It therefore extends the investigation of transformational leadership beyond the more typically studied work-for-pay contexts.

Previous research has neglected the potential role of conflict in the relation between transformational leadership and followers' job satisfaction and performance.

The two articles thus present new information concerning the manner through which transformational leadership results in improved job satisfaction and performance.

Addressing the question whether transformational leadership functions as a resource for the followers (as per the job demands-resources model), the results show that transformational leadership was related to less conflict - in both paid work and volunteer work contexts. Previous authors have classified interpersonal conflicts as a job demand (Schaufeli & Taris, 2014). Both task and relationship conflicts are associated with negative emotions (Spector & Bruk-Lee, 2008; Spector et al., 2000), thus, a lower frequency of conflict is in and of itself preferable. The results in both articles showed when more transformational leadership behavior was employed by the leader, as perceived by the followers, the followers also perceived a lower frequency of conflict.

This result, in conjunction with the direct positive relations found between transformational leadership and followers' job satisfaction and performance, imply that transformational leadership behavior can indeed be considered a resource to followers. More research is, however, needed to expand the understanding of this implication. In particular, longitudinal data will be required to determine the causality (i.e. direction) of the paths.

Another important finding is the different pattern of mediation effects found across the two samples used in Articles 1 and 2. This suggests that transformational leadership may function differently in unpaid volunteer and paid professional environments. This also limits the generalizability of the conclusions drawn from professional samples to volunteer samples - and vice versa. This is particularly interesting as both samples consisted of orchestra musicians. Although seemingly similar, the two types of context (paid professional work vs unpaid volunteer work) represent an important distinction between the two samples. The differing pattern of results found in Article 1 and 2 demonstrates this clearly.

Research on unpaid volunteer samples (as opposed to paid professionals or college students) remains scarce. The available research, nevertheless, suggests important differences in the motivation between the two groups. While monetary compensation is an important motivator in paid work, it can by default not be a reason to engage in unpaid work. Instead, symbolic compensation such as enjoying the common activity, engaging in social activities, building friendly relationships (Prouteau and Wolff 2008), or experiencing personal growth (Jamison 2003) are typical reasons to put effort in a

cause without being paid. The aim of transformational leadership is to transform individual motivation in the direction of a group goal (Bass, 1999). As such, conducting more research in the field of unpaid work is important in order to improve followers' experience in these contexts as well. The study supports the importance of transformational leadership in unpaid volunteer contexts.

Article 2 showed lower frequencies of conflict are prevalent in the volunteer musician sample. Definitions of interpersonal conflicts usually include the assumption that interdependence is an important factor in the development of conflict (Glasl, 2013; Jehn, 1994; Jehn et al., 1997; Thomas, 1992). The fact that (both task and relationship) conflicts are occurring less frequently in the volunteer sample may be due to non-professional musicians being able to leave adverse situations as their membership to the group is not the source of their livelihood. Volunteer orchestra musicians presumably spend much less time together, thus there may be less opportunities for conflict to arise. Also, there may be less or different types of interdependence present in volunteer contexts compared to professional contexts. This opens up an area of research to investigate conflicts in volunteer environments.

The third article provided support for one of the building blocks of the health-oriented leadership approach. More specifically, health-related leadership behavior (i.e. StaffCare behavior) had an effect on followers' somatic complaints. This finding is in line with the proposed relations of the so-called House of HoL (i.e., health-oriented leadership) (Franke et al., 2015). The House of HoL is a relatively new approach with many propositions - not all of which have been tested. Article 3 showed that StaffCare behavior does have an effect on followers' rating of their somatic complaints, as per the House of HoL approach. This article thus provided support for its relevance for theory and practice.

Furthermore, the study built on the health-oriented leadership approach and expanded on it by connecting leaders' health to their behavior and followers' experience. In addition to supporting parts of the health-oriented leadership approach, the third article included leaders' exhaustion levels. Exhaustion had a direct impact on StaffCare behavior and an indirect effect on followers' somatic states. Thus, when leaders experience lower levels of exhaustion there is a higher chance of the desired behavior occurring. Moreover, an indirect crossover effect was found from leaders' exhaustion levels to followers' somatic complaints via their StaffCare behavior. The study thus

demonstrated the importance of considering leaders' exhaustion as an antecedent when conducting research using the health-oriented leadership approach.

Authors of the health-oriented leadership approach have reported relations between StaffCare and many different follower health outcomes, such as irritation, general state of health, and work-family conflicts (Franke et al., 2014). It would therefore be suitable to test whether the crossover effect from leaders' exhaustion via StaffCare behavior to followers' apply to a more diverse range of health outcomes. This would, consequently, further establish leaders' exhaustion as an important factor where followers' health is concerned.

It must be mentioned that a direct crossover effect from exhaustion to somatic complaints was not found. That is, leaders' exhaustion did not directly affect followers' somatic complaints. Somatic complaints are purely physical in nature, whereas exhaustion includes both a physical and psychological component (e.g., emotional exhaustion, cf. Maslach, Schaufeli, & Leiter, 2001). While both variables are components of an individual's health and well-being, it is conceivable that the conceptualizations are too dissimilar to show a direct crossover effect from leaders' health to followers' health. Diving into more research on this topic with more similar operationalizations of health would be advisable for more conclusive results.

Another point of interest would be to examine a potential crossover from followers' health to leaders' health. This is, however, not included into the health-oriented leadership approach. Leadership is an interaction involving at least two parties - with both reacting to and influencing one another. Followers' behaviors likely affect their leaders. Reciprocal crossover effects regarding health have been previously suggested, but a body of research that would allow for causal interpretation is still missing (Rigotti, Emmerich, & Holstad, 2014).

The third article also contributes to research on the job demands-resources model. Exhaustion can be the result of overwhelming job demands (Bakker & Demerouti, 2017). Thus, exhaustion can be thought of as an expression of the job strain that a person experiences. Furthermore, physical, mental and emotional exhaustion relate to the general capacity to perform (Cropanzano, Rupp, & Byrne, 2003; Féry, Ferry, Hofe, & Rieu, 1997; Marcora, Staiano, & Manning, 2009). The capacity levels of these individuals are quite literally exhausted, resources are depleted. While leaders with no meaningful levels of exhaustion will not be negatively impacted, leaders with higher

levels of exhaustion will have diminished levels of performance. Higher levels of exhaustion imply there are fewer resources available to enable desired performance. In this study, a direct, negative relation between leaders' exhaustion levels and StaffCare behavior was found. Alternatively stated, when there is less of the desirable StaffCare behavior outwardly shown to the followers, it may be due to leaders' diminished capacity as indicated by their higher exhaustion levels.

A direct relation was found between higher StaffCare leader behavior and lower somatic complaints by followers. This implies that StaffCare behavior (e.g., providing support, creating health-promoting working conditions, Franke et al., 2014)) can be considered a resource to the followers, consequently linking components of the health-oriented leadership approach to the job demands-resources model.

The above mentioned relations highlight the importance of empowering leaders to use their influence to achieve positive follower outcomes. Hopefully, the included articles present important building blocks in advancing knowledge in this area. The knowledge generated through these studies could potentially be used to inform leadership interventions and, consequently, show leaders how their behavior can actively serve as a resource to followers and themselves.

Practical Implications

Protecting and maintaining the well-being and health of an organization's members is a valuable goal. For organizations employing people or working with volunteers, the findings in this dissertation can be translated to a number of suggestions for practical use.

As the first two articles both showed that transformational leadership is positively associated with job satisfaction and performance, it follows that adopting and practicing transformational leadership behaviors should be promoted among organizational leaders. This can either be achieved through the targeted selection of transformational leaders or by training leaders to show the behaviors that signify a transformational style.

If the conditions that are conducive to transformational leadership can be identified through more extensive research, recruitment and training policies and practices can be based on sound theory and will be of use to practitioners (i.e. leaders and followers). In the first two studies, task and relationship conflicts were identified as

potentially important factors in the mechanism underlying transformational leadership's relation to job satisfaction and performance. The findings not only show the relevance of transformational leadership to both the professional and volunteer context; it also shows the importance of considering the role of transformational leadership in addressing task and relationship conflicts. Training and development interventions often inform and educate participants about the benefits of the desired behavior. The findings of this dissertation suggest the importance of informing leaders about the relation between the use of transformational leadership and the frequency of conflicts (and its relation regarding followers' job satisfaction and performance).

Conflict mostly results in negative outcomes (De Dreu, 2008), thus, a low(er) frequency would likely be advantageous to the individual and the organization. This can be achieved via two pathways. Firstly, existing conflicts can be solved or, secondly, their development can be averted. An important way of reducing conflict is thus to prevent it from developing in the first place. Ideally, actions regarding conflict resolution address the potential for conflict and causes of conflict and not only its symptoms. Both task and relationship conflicts are less frequent when leaders engage in transformational leadership behaviors, which implies, that conflicts develop less often under transformational leadership.

In professional contexts, task conflicts are especially relevant when it comes to the relation between transformational leadership and performance. Therefore, when leaders attempt to improve followers' performance, addressing conflicts about the tasks (as opposed to interpersonal conflicts) may prove to be particularly fruitful. In the article using the professional sample, relationship conflict was found to be a mediator between transformational leadership and job satisfaction. This suggests that by addressing interpersonal tensions, clashing personalities, and emotional conflicts, leaders could improve followers' job satisfaction.

The second article focused on transformational leadership in an unpaid volunteer context. The results suggest that it would be useful to use a transformational leadership style to affect job satisfaction and performance. In contrast to the findings of the paid professional context, the findings of Article 2 suggest that it may prove fruitful to leaders to focus on task and relationship conflict when trying to impact the job satisfaction of volunteers.

Development programs for leaders can be of use to provide knowledge and further develop their leadership skillset. Development programs, including training of transformational leadership, have been shown to successfully change leadership behavior to more transformational leadership behavior (Abrell, Rowold, Weibler, & Moenninghoff, 2011; Kelloway, Barling, & Helleur, 2000). Transformational leadership training should, when considering the results of Articles 1 and 2, be helpful in increasing job satisfaction, performance and reducing the frequency of task and relationship conflicts.

The third study strongly suggests that it is advisable to try to reduce the leaders' exhaustion levels. The reduction of leaders' exhaustion levels would be a benefit in itself, because the health and well-being of all is important. Furthermore, reducing leader exhaustion has the added benefit of possibly enabling leaders to show more StaffCare behavior which, in turn, is beneficial to followers as it could result in reduced somatic complaints.

The job demands-resources model would suggest decreasing demands on leaders in order to reduce the likelihood of high exhaustion levels. Time management training and delegation skills training may be helpful to decrease demands, such as time pressure. It may, however, not always be possible to decrease demands in all areas for leaders. Therefore, an alternative to decreasing leaders' demands can be to improve their resilience to stressors i.e., to increase the resources at the leader's disposal. Past research has identified that, for example, performance feedback and career support are helpful resources (Vincent, 2012).

Since the health-oriented leadership approach is still quite new (Franke & Felfe, 2011), more research is needed to support or refute its proposed effects. Thus far, the results of this study already suggest the usefulness of health-related caring behavior that is directed at followers. Consequently, knowledge about how to best train StaffCare behavior may be useful to establish a more caring organizational environment - one that avoids placing unnecessary strain on followers' health and is mindful of the importance of leaders' health.

Limitations and Implications for Future Research

In general, the factors limiting the scope of the articles relate to the methods and samples of the individual articles.

All three articles have limitations concerning the method of data collection. More specifically, all three articles relied solely on self-report questionnaires. There may thus be common-method bias, which can manifest as inflated relations between variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). A possible cause for common-method bias is the possibility of shared variance that is rooted in the participants' implicit theories. This can be an issue in leadership research concerning perceived leadership behavior and how other variables are evaluated (Junker & van Dick, 2014; Podsakoff et al., 2003). While some variables are inherently subjective - such as, job satisfaction - objective performance data, as well as objective data concerning the actual state of health of the followers would be especially useful to investigate the relation between leadership behavior and these dependent variables. A multi-method approach would thus be useful to gain a clearer picture to the relations between the variables.

The first two articles also used a single source, that is, only the followers, not their leaders or objective measures. This may also lead to increased relations over and above their actual relations (Podsakoff et al., 2003). While the third article includes both leaders and their follower's, the leadership behavior itself is still operationalized as the perception of the leadership behavior as perceived by the followers. Future research should adopt a more varied approach when it comes to the measurement of the variables. In particular, multiple source data of the leadership behavior could be useful as well as having both the perspective of the follower and the leader.

Concerning the measurement, the times of data collections are greatly important. The implied influence of the leadership behavior with conflict, job satisfaction, performance and health is limited. In all three articles the leaders' behavior was assessed at the same time as the dependent variables. To find stronger support for the claim that transformational leadership directly and indirectly influences job satisfaction and performance via the frequency of conflict (Articles 1 and 2), a multiple wave approach would be useful. Ideally, transformational leadership behavior should be assessed first and then its proposed impact on the variables should be measured and tracked over time. Although the data for Article 3 were collected in two waves, the StaffCare scale as well as the assessment of followers' somatic complaints, were administered in the same questionnaire to the followers. Only the data concerning the exhaustion of the leaders was collected at an earlier time (three months) via questionnaire. A longitudinal study to track the developments over time would be promising to gather more detailed results.

A limitation concerning the scope of this dissertation is the representativeness of the samples of the articles. In a broad sense, the studies were conducted in Germany, limiting accessibility and generalizability to other countries. For the first two articles, the generalizability may be questioned as the sample consisted of orchestra musicians. To address this limitation, the models would benefit from being tested in other contexts as well. Concerning the third article, representativeness may also be an issue. The sample size was quite small, possibly limiting both the representativeness and statistical power (Button et al., 2013; Dupont & Plummer, 1990).

An overarching problem in these studies (and other leadership centric studies) is the lack of gender diversity with regard to the sampled leaders and those indirectly sampled to provide a perception of them (i.e., followers). There are indications that leadership behaviors differ between genders. For instance, in their meta-analysis, Eagly, Johannesen-Schmidt, and van Engen (2003) found women leaders to be more likely to use transformational leadership behaviors than their male counterparts. Similarly, Reuvers, Engen, Vinkenbug, and Wilson-Evered (2008) found that men using a transformational leadership style were considered to engage in more innovative work behavior by followers compared to women employing transformational leadership. This lack of diversity is a factor that does not necessarily hinder the generalizability if the samples reflect the real distribution of genders. For example, conducting positions are held predominantly by men (Hasselbeck, 2016; Weber, 2016). The surveyed samples in both Articles 1 and 2 are thus in alignment with the actual state of affairs. Nevertheless, the scope of these articles may be limited the distribution of genders in leadership position in other professions may not be as stark. Thus, the results of these articles should not (without further study) be extrapolated to make strong assumptions about the interplay of the variables in female-led contexts. I would, consequently, strongly advise to study leadership, its relation, and its consequences with followers' performance, job satisfaction, and somatic complaints with a more diverse set of leaders.

Conclusion

From the outset, this dissertation aimed to advance the current knowledge on the antecedents of individuals' physical and psychological well-being as well as their performance at work. The three included articles address essential factors that are related to people's experiences in paid work and unpaid volunteer work settings. This

dissertation concentrated on leadership behavior and its relation with followers' job satisfaction, health, and performance.

This dissertation helps to further the current understanding of how leader behavior is related to followers' experiences which can, in turn, enhance both leaders' and followers' well-being and performance in the future. Overall, the findings contained in this work show how leadership relates to job satisfaction and performance in both professional and volunteer work contexts, while also considering the occurrence of task and relationship conflicts. Furthermore, the dissertation shows the complex interplay of factors that impact leadership behavior and the resultant desired outcomes. In particular, leaders' higher levels of exhaustion are related to more somatic complaints reported by the followers, due to decreased demonstrations of StaffCare behavior.

The results show the importance of both transformational and health-oriented leadership behavior in shaping followers' experiences. The articles emphasize the potential of these leadership behaviors to change followers' well-being and performance for the better. The results also imply that leaders' impaired health ought to be addressed, not only for their own benefit, but on the grounds that leaders' exhaustion negatively impacts their followers' health through an indirect crossover process. In conclusion, this dissertation shows that leadership - transformational and health-oriented - can be an important resource to followers due to its relations to followers' physical and psychological well-being as well as to their performance.

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APPENDIX

Table 1
Goodness-of-Fit Statistics

Model	N	Maximum Likelihood Estimates						
		χ^2	df		CFI	RMSEA	SRMR	Δ CFI
Measurement model, pooled	1516	2612.362	340	.01	.921	.066	.056	
Measurement model, Professional musicians	335	948.118	340	.01	.910	.073	.077	
Measurement model, Lay musicians	1181	1990.118	340	.01	.915	.064	.054	
Invariance model 1 ^a		2938.236	680	.01	.914	.066	.059	-
Invariance model 2 ^b		2972.681	703	.01	.913	.065	.061	< -.010
Invariance model 3 ^c		3380.319	726	.01	.898	.069	.063	-.015
Invariance model 4 ^d		3752.611	754	.01	.885	.072	.066	-.013
Invariance model 5 ^e		4045.963	759	.01	.874	.076	.125	-.011

Notes. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; Δ CFI = Difference between CFI, more restrictive model - less restrictive model, starting with the least restrictive, which is the configural invariance model. ^a Model 1: The same factor structure is imposed on all groups (configural invariance); ^b Model 2: The factor loadings are constrained to be equal across groups (weak invariance); ^c Model 3: The factor loadings and intercepts are constrained to be equal across groups (strong invariance); ^d Model 4: The factor loadings, intercepts and residual variances are constrained to be equal across groups (strict invariance); ^e Model 5: The factor loadings, intercepts, residual variances and means are constrained to be equal across groups (Jorgensen et al., 2018).