
# THE IMPORTANCE OF A HOMOGENEOUS TRANSFORMATIONAL LEADERSHIP CLIMATE FOR ORGANIZATIONAL PERFORMANCE

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This study puts a core assumption of the recently-emerged concept of transformational leadership (TFL) climate under direct empirical scrutiny; namely, that it is not only the average level (i.e., the mean perceptions among employees), but also the level of homogeneity (i.e., the variance in perceptions) which is important for understanding the effect of TFL climate on organizational outcomes. By developing and testing an interaction hypothesis in a dual-source dataset containing 107 small- and medium-sized organizations, we extend previous knowledge in two important ways. First, we extend the limited empirical evidence on TFL climate by relating it for the first time to organizational performance. Second, we test the previously assumed, but never investigated, assumption of homogeneity for the TFL climate construct at the organizational level. Our results show that it is important to investigate such underlying core assumptions, as the average level of TFL climate was found to relate more strongly to organizational performance with increasing levels of homogeneity in TFL climate.

**A** notion which recently emerged in the leadership literature is that a transformational leadership (TFL) climate arises when employees throughout an organization perceive that their leaders show similar levels of TFL behaviors. In 2010, Walter and Bruch argued, and subsequently demonstrated, that TFL climates exist and differ between organizations. More specifically, they showed that organizations with stronger TFL climates are more successful in energizing their employees to pursue organizational goals than organizations with weaker TFL climates. These organizational-level effects of TFL climate were theorized to occur because a TFL climate captures the collective perceptions and behaviors across an entire organization. In short, the TFL climate construct is, thus, conceptually similar to other climate constructs (e.g., Bliese &

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Halverson, 1998), such as supportive organizational climate (e.g., Rogg, Schmidt, Shull, & Schmitt, 2001) or safety climate (e.g., Zohar & Luria, 2005). Yet, whereas other climate constructs have already been related to various organizational processes and outcomes (e.g., Dawson, Gonzales-Roma, Davis, & West, 2008; Lindell & Brandt, 2000), little research has investigated the effects of TFL climate. Most pressingly, although the literature on TFL behaviors has shown positive effects on many processes and outcomes (e.g., Walumbwa, Avolio, & Zhu, 2008; Walumbwa & Hartnell, 2011; Wang, Oh, Courtright, & Colbert, 2011), no study to date has investigated if TFL climate ultimately benefits "the bottom line" of organizations. Therefore, the first goal of this study is to investigate if TFL climate affects organizational performance.

However, to adequately address this first gap, it is necessary to address a second, larger gap; namely, that a core assumption of the TFL climate construct has not yet been put under empirical scrutiny. This untested assumption comes from the notion that TFL climate captures the "typical" or "shared" way organization members perceive their work environments, and that it is this similarity, or homogeneity, which underlies the organizational-level effects of TFL climate (Walter & Bruch, 2010; see also Feinberg, Ostroff, & Burke, 2005; James, 1982; James et al., 2008). Hence, our second, main goal is to assess if it is indeed the degree to which leaders throughout the organization are perceived to display TFL behaviors which is important for organizational outcomes (cf. Walter & Bruch, 2010, p. 1). We will investigate this by discussing the need to separate the average level of TFL climate (i.e., the mean perceptions among employees of the TFL climate) from the level of homogeneity in TFL climate (i.e., the variance in perceptions). As James, Demaree, and Wolf (1984) already argued more than 20 years ago, variance in perceptions does not have to be discounted as mere error variance, but can also be used as a meaningful higher-level construct (see also, Chan, 1998; Klein & Kozlowski, 2000; Lindell & Brandt, 2000). Nevertheless, in spite of this observation, researchers have only recently started to investigate the effects of variance within perceptions of leadership behaviors at the organizational level of analysis (cf. Sanders, Geurt, Van Riemsdijk, 2011, p. 104). Moreover, Wang, Oh, Courtright, and Colbert (2011, p. 250) recently concluded in their meta-analysis of the TFL literature that "potential moderators of the outcomes of transformational leadership … should be addressed in future research given the nonnegligible true variance across studies." In other words, Wang et al. observed that previous studies on TFL reported an as-of-yet-unexplained wide range of findings. We expect that one reason for this might be that previous organizational-level studies overlooked the core assumption of homogeneity and, by doing so, ignored an important moderator.

Consequently, we will investigate if the average level of TFL climate is more strongly related to organizational performance with increasing levels of homogeneity in TFL climate (cf. Lindell & Brandt, 2000). We will test our expectations in a dual-source dataset (i.e., containing employee and top-management ratings) of 107 small- and medium-sized organizations. This investigation has two main contributions to the literature. The first is that we extend the limited empirical evidence on TFL climate (Walter & Bruch, 2010) by relating it for the first time to organizational performance. This also benefits the larger TFL literature as the number of organizational-level studies have been limited (e.g., Avolio, Walumba, & Weber, 2009; Wang et al., 2011). Second, we put a core assumption of TFL climate, shared by many other climate constructs (e.g., Rogg, Schmidt, Shull, & Schmitt, 2001; Zohar & Luria, 2005), under empirical scrutiny, namely that it is the homogeneity of such organizational-level phenomena which is



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important for understanding their relations with performance outcomes at aggregated levels of analysis (cf. Cole & Bedeian, 2007; Schneider, Salvaggio, & Subirats, 2002).

## Theory and Hypotheses

*How a TFL Climate can Arise*

TFL climate emerges from the behaviors of individual leaders across the organization and the subsequent perceptions of these behaviors by followers. Walter and Bruch (2010) recently argued that, in line with other characterizations of leadership climate (e.g., Bliese & Halverson, 2002; Gavin & Hofmann, 2002), TFL climate arises as a shared property of the organization if there is sufficient similarity within organizations and differences between them (cf. Bliese, Halverson, & Schriesheim, 2002; Chen & Bliese, 2002; Chen, Mathieu, & Bliese, 2004). Drawing from the theory of social influence (Festinger, Schachter, & Black, 1950) various authors have argued that collective and shared perceptions of leadership reflect the quality of employees' shared social environment and that it is these shared perceptions of the environment which increase the similarity in behavior among employees (e.g., Bliese & Halverson, 1998; Cole & Bedeian, 2007; Sanders et al., 2011). While these previous studies mainly focused on the individual or team level (Wang et al., 2011), Walter and Bruch (2010) recently described several processes by which individual-level attitudes and behaviors become shared and produced an emergent, collective structure of attitudes, norms, and behaviors at the organizational level of analysis (e.g., Currall, Towler, Judge, & Kohn, 2005). Given that these processes were recently discussed in detail by Walter and Bruch (2010), we will only briefly address them here.

First, the attraction-selection-attrition cycles that operate in all organizations can contribute to the similarity of individuals within organizations, as different organizations are prone to attract, select, and retain similar types of individuals through specific policies and processes (Ostroff & Bowen, 2000). Second, socialization processes can influence newcomers in such a way that they change their behaviors to meet organizational standards and, thus, become more like the other organizational members (Schneider & Reichers, 1983). Third, employees are likely to have similar experiences and social influences (Kozlowski & Hattrup, 1992), because they are all working in the same context and surroundings (i.e., the same organization). These three processes work together to increase within-organizational homogeneity and, since companies are likely to have different processes, to simultaneously increase between-organizational heterogeneity as well.

Hence, since organizations are likely to attract, select, and retain specific types of leaders and then tend to socialize these leaders in a comparable manner, while at the same time exposing them to similar experiences and social influences, it can be expected that the behaviors of leaders from the same organization are rather similar to each other, as compared to those of other organizations (Walter & Bruch, 2010). The above three processes also influence employees, making employees' perceptions of leadership behaviors also relatively homogeneous (cf. Conger & Kanungo, 1987; Kozlowski & Hattrup, 1992). As Walter and Bruch (2010) have recently shown, the above can indeed lead to differences in average TFL climate and affect an organization's productive work climate.

*Why a Homogeneous TFL Climate is Important for Organizational Performance*

A positive relationship between the average TFL climate and organizational performance can be expected by extrapolating the recent findings that TFL climate is important for motivating employees to pursue organizational goals (Walter & Bruch, 2010), because when employees are more motivated to use their full potential it stands to reason that organizational performance will



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increase. In contrast, obtaining high organizational performance in organizations in which employees are less motivated is likely to be more difficult.

The broader literature on TFL supports the above argument, as many studies have shown that providing TFL is beneficial to employees, because it provides them with an articulated vision, good role models, high performance expectations, accepted common goals, intellectual stimulation, and individualized support (e.g., Dumdum, Lowe, & Avolio, 2002; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996; Podsakoff, MacKenzie, & Bommer, 1996; Podsakoff, MacKenzie, Moorman, & Fetter, 1990). Moreover, past research has shown that TFL is related to increased individual performance (e.g., Walumbwa et al., 2008) and, although the number of studies is limited, there is also evidence of a positive relation between TFL and organizational outcomes (Wang et al., 2011). As such, higher average levels of TFL climate can be expected to be related to higher organizational performance, as individuals across the organization are more effectively performing their tasks and are more successfully completing their, and their organization's, goals. Yet, although the average level of TFL climate has been related to some organizational processes, its relationship with organizational performance has not yet received any empirical attention, and our first hypothesis is therefore:

H1: Higher average levels of TFL climate are positively related to organizational performance.

However, we anticipate that if the average TFL climate is moderate to high, but lacks homogeneity, many employees gain the above benefits, while numerous others do not have a clear vision, have less appropriate role models, less shared goals, et cetera. As was noted by Schneider et al. (2002, p. 227), such a "lack of agreement about organizational goals, purpose, and direction…could also lead to chaos and confusion." The notion that differences in TFL behaviors among leaders is harmful for organizational performance is not only supported by recent research on leadership and TFL (e.g., Avolio et al., 2009; Walumbwa et al., 2008; Wang & Howel, 2010; Wu, Tsui, & Kinicki, 2010), but can also be derived from other established theories, one of which is goal theory (Locke & Latham, 2002). Goal theory indicates that a lack of clear goals, purpose, and direction should, in and of itself, lower the performance of employees because they then do not have enough information on how to work towards the organizational goals. Furthermore, a lack of clear goals does not only lower individual performance, it also hinders the attainment of shared or mutual goals because organizational members do not know how to coordinate and integrate their efforts.

Second, drawing from equity theory (Adams, 1963), it can be expected that low homogeneity in TFL climate might also invoke negative processes, because when some employees are given preferential treatment (i.e., some receive much TFL) and others are devoid of this beneficial leadership behavior, jealousy and increased perceptions of unfairness or inequity are likely to arise. This unfairness can cause employees to experience a breach of psychological contract (e.g., Rousseau & Parks, 1992) when they see that some employees obtain more support from their leaders, while they are left to themselves. Eventually, this could lead employees to engage in deviant behaviors, such as showing up late, stealing, or even abusing coworkers (e.g., Ferris, Brown, Lian, & Keeping, 2009), which all pose a direct threat to organizational performance.

Third, drawing from role stress theory (e.g., Kahn, Wolfe, Quin, Snoek, & Rosenthal, 1964), it can be expected that differences in leadership behaviors across an organization hinder



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employees because such differences increase role conflicts and role ambiguity. When some managers provide clear visions, goals, support, et cetera, while other managers provide different, and less clear and less well-articulated TFL behaviors, individual and collective effectiveness is likely to suffer. Moreover, when TFL behaviors are not aligned between different leaders, employees may not only experience increased stress, but also increased process losses (e.g., Steiner, 1972), because they have to double check with each other, and their leaders, which vision or goal to pursue.

In sum, we expect that the positive effect of having a higher average TFL climate will occur if the TFL climate is in fact shared by the members of the organization. However, we also expect that if there are substantial differences within the organization (i.e., low homogeneity in TFL climate), higher average levels of TFL climate are *not* related to organization performance. We expect this to be so, as many employees are then not receiving the benefits of TFL (e.g., Avolio et al., 2009), which lowers the ability of employees to perform well individually and as a collective (cf. Locke & Latham, 2002), increases feelings of inequity and unfairness (cf. Adams, 1963), and enhances role conflicts, role ambiguity, and process losses (cf. Kahn et al., 1964). Consequently, we expect that the interaction between the average of TFL climate and the homogeneity in TFL climate is related to organizational performance, in the following way:

H2a: Higher average levels of TFL climate are positively related to organizational performance if homogeneity in TFL climate is high.

H2b: Higher average levels of TFL climate are not significantly related to organizational performance if homogeneity in TFL climate is low.

## Method

*Sample and Procedure*

Data collection for this study was part of a larger research project for which we cooperated with a benchmarking agency located in Germany, which contacted 180 organizations located in Germany in 2008. In return for their participation each organization received a detailed benchmarking report. Organizations which did not provide data on both their TFL climate as well as their organizational performance, which had fewer than 25 employees, and organizations in which fewer than 25 percent responded were excluded. This resulted in a final dataset of 107 organizations (59 percent of the contacted organizations). Similar to previous studies (e.g., Ambrose & Schminke, 2003; Schminke, Ambrose, & Cropanzano, 2000; Schminke, Cropanzano, & Rupp, 2002; Walter & Bruch, 2010), organizations in our dataset represented diverse industries, demographic compositions, and sizes, increasing the likelihood of finding substantial variation in our main variables of interest. In our final dataset, the average within-organization response rate was 62% (SD =.19). On average organizations consisted of 319.69 members (SD=423.28), average age was 38.51 years (SD=3.66), and on average 61% of the organizational members were male.

Data were collected from various sources to alleviate concerns about common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). General information (e.g., organizational size, et cetera) was provided by the organizations' Human Resources executive or a top management team member. TFL climate and the control variables (discussed below) were collected by an employee survey, while organizational performance was rated by the top management team. Standardized procedures and survey formatting were used in order to ensure



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equivalence of data collection and all respondents were assured of full anonymity. Both surveys were translated to German by native speaking translators who followed a double-blind back-translation procedure. A standardized email was sent, which described the purpose of the study and which contained a link to a web-based survey. In a few companies we installed computer terminals in order to allow the participation of employees who did not have an email address.

*Measures*

*Average level of TFL climate.* The average level in TFL climate was captured in the employee survey by using the scale of Podsakoff and colleagues (1990, 1996), which consists of 22 items assessing six dimensions of TFL, namely providing a role model, articulating a vision, communicating high performance expectations, fostering the acceptance of common goals, providing intellectual stimulation, and providing individualized support. The psychometric qualities of this scale have been demonstrated in prior studies (e.g., Bommer, Rubin, & Baldwin, 2004). Akin to the recent study of Walter and Bruch (2010), we asked employees to what extent the leaders in their organization demonstrated TFL behaviors. The 5-point scale ranged from 1 (never) to 5 (very often). Aggregation and reliability statistics supported the creation of a measure of the average TFL climate at the organizational level ($F(106, 3835) = 7.56$, $p < .001$; $ICC(1) = .15$; $ICC(2) = .87$; $Rwg(j) = .97$; and Chronbach's alpha = .98).

*Homogeneity in TFL climate.* This variable was directly measured at the organizational level by following the procedures used by Cole and Bedeian (2007, p. 454; see also Bliese & Halverson, 1998). First, we calculated for each of the 22 items the variance of employees' perceptions of leadership within their organization. Second, we then converted these "variance scores" into "homogeneity scores" by multiplying each item by −1, so that higher scores represent higher homogeneity. The Chronbach's alpha was .91 and Rwg(j) was .97 and thus, we took a third step, and averaged the 22 homogeneity scores to produce our final homogeneity in TFL climate measure.

*Organizational performance.* In line with prior research (e.g., Delaney & Huselid, 1996; Wall et al., 2004), we asked the top management team to rate their own organization's performance compared to their competitors on eight performance items (scale ranged from 1 = far below average to 7 = far above average), rating operational and organizational performance (e.g., Combs, Crook, & Shook, 2005). Although we acknowledge that forward-looking stock market measures could have been a more ideal way to measure organizational performance, it was impossible to use such data given that the companies in our sample were predominantly privately owned and as such did not have publicly available information (cf. Rogers & Wright, 1998). Additionally, in light of our diverse sample, other "objective" measures, such as return on investment (ROI) or total revenues, could also not be used as there are significant differences in such measures between different sectors and industries. Hence, although we are aware of the potential problems regarding the use of subjective performance measures (Starbuck, 2004), we deemed it most appropriate to ask the top management team about their company's performance, given that empirical evidence has shown that such subjective measures by informed respondents are valid and can be used to gain insight into operational and organizational performance (Kunze, Boehm, & Bruch, 2011; Rowe & Morrow, 1999; Wall et al., 2004).

To assess operational performance we used four items, which were divided into two pairs, with two items inquiring on operational effectiveness (i.e., Employees' productivity; Efficiency of business procedures) and two items assessing operational satisfaction (i.e., Customer satisfaction; Employee satisfaction). The four items regarding organizational



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performance were likewise split into two pairs, with two items assessing total organizational performance (i.e., Total company performance; Financial position of the company) and two items on growth in organizational performance (i.e., Improvement in financial results; Total company growth).

We calculated a CFA by loading the first four items on one latent construct in order to capture operational performance. The latter four items were loaded on another latent construct in order to capture organizational performance. The two first-order constructs were then loaded on one second-order construct. To fully abide to our measurement structure, the error terms of each pair of items were allowed to correlate. The CFA ($\chi 2$ [15] = 47.57, $p < .001$, SRMR= .05, CFI= .93, GFI=.92; NFI=.90), together with the aggregation and reliability statistics ($F(106, 217) = 2.70$, $p < .001$; ICC(1) = .18; ICC(2) = .63; Rwg(j) = .96; and Chronbach's alpha = .89), supported the creation of an organizational level measure. Consequently, we averaged all eight items into one measure of organizational performance.

*Control variables.* Based on the study of Walter and Bruch (2010) on TFL climate, we controlled for organization size (log transformed), response rate, and the average centrality and formality (Schminke et al., 2000, 2002). In light of our interest in homogeneity in TFL climate, we also controlled for the homogeneity of these latter two variables in order to further exclude possible confounding effects (again we used the "variance*-1" approach of Bliese and Halverson (1998) for constructing the homogeneity measures). To control for differences in demographic make-up between organizations, we controlled for the gender composition (1=male, 2=female), average age, and the homogeneity in age within each organization.

*Statistical Analyses*

Our model focuses on the organizational level of analysis, and to test our hypotheses we used the standard OLS regression techniques for assessing interaction effects, as described by Aiken and West (1991). As suggested by these authors, all the independent variables were standardized and the interaction term was calculated from the products of the standardized variables. In the first step of the regression we entered the control variables, in the second step we added the main effects of the average level of TFL climate and the homogeneity in TFL climate, and in the third step the interaction effect was added. As such, the final model contained all the control variables, the main effects, and the interaction effect.

## Results

*Descriptive Statistics*

The means, standard deviations, and Pearson zero-order correlations are presented in Table 1. As expected, there were several significant correlations between our control variables and the variables in our model, reaffirming the need to control for them. To keep the text concise, we will only discuss the correlations between our three main variables in detail. In line with our argumentation, the correlation between the average level of TFL climate and organizational performance was positive and significant ($r = .30$, $p < .01$). Hence, these results provide support for hypothesis 1 by showing that higher average levels of TFL climate (as reported by



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Table 1: Descriptive Statistics and Pearson Zero-Order Correlations Among the Study Variables at the Organizational Level (n=107).

| Variable | | M | SD | Alpha | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Org. size (log) | 319.69 | 423.28 | -- | | | | | | | | | | | |
| **2** | Response percentage | .62 | .19 | -- | -.62*** | | | | | | | | | | |
| **3** | Gender composition | 1.39 | .20 | -- | .05 | -.13 | | | | | | | | | |
| **4** | Average age | 38.51 | 3.66 | -- | .08 | -.05 | .11 | | | | | | | | |
| **5** | Homogeneity in Age | -101.55 | 30.73 | -- | -.01 | .17† | -.09 | -.10 | | | | | | | |
| **6** | Average Centralization | 3.30 | .70 | .98 | .27** | -.24* | .02 | .25** | -.15 | | | | | | |
| **7** | Homogeneity in centralization | -2.26 | .71 | .89 | -.28** | .20* | -.07 | -.23* | .11 | -.69*** | | | | | |
| **8** | Average Formalization | 4.24 | .63 | .81 | .15 | -.25** | .36*** | .01 | -.21* | .23* | -.19* | | | | |
| **9** | Homogeneity in Formalization | -2.16 | .47 | .48 | -.19* | .05 | .08 | -.14 | .05 | -.26** | .43*** | .13 | | | |
| **10** | Average TFL Climate | 3.44 | .37 | .98 | -.32*** | .18† | .21* | -.34*** | .00 | -.71*** | .48*** | .13 | .24* | | |
| **11** | Homogeneity in TFL Climate | -.88 | .20 | .91 | -.31** | .27** | -.11 | -.33*** | .06 | -.55*** | .57*** | -.02 | .42*** | .63*** | |
| **12** | Organizational Performance | 4.80 | .80 | .89 | -.06 | .01 | .23* | -.14 | .10 | -.12 | .07 | .13 | .01 | .30** | .12 |

Note: the M and SD of org. size are not log transformed.

*** p≤.001

** p≤.01

* p≤.05

† p≤.10



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employees) are associated with higher levels of organizational performance (as rated by the top management team). The correlation between the level of homogeneity in TFL climate and organizational performance was not significant (r= .12, n.s.). The average level of TFL climate and the level of homogeneity in TFL climate were significantly and positively correlated (r= .63, p< .001), indicating that higher average levels of TFL climate are associated with higher levels of homogeneity in TFL climate.

Table 2: Results of Regression Analyses

| | | Step 1 | | Step 2 | | Step 3 | |
|---|---|---|---|---|---|---|---|
| **Step** | **Variable** | ***b*** | ***se*** | ***b*** | ***se*** | ***b*** | ***se*** |
| **1** | Organizational size (Log) | -.07 | .10 | -.02 | .10 | .03 | .10 |
| | Response percentage | -.03 | .10 | -.02 | .10 | -.03 | .10 |
| | Gender composition | .18* | .08 | .13 | .09 | .14 | .09 |
| | Average age | -.11 | .08 | -.06 | .08 | .05 | .08 |
| | Homogeneity in age | .10 | .08 | .11 | .08 | .14† | .08 |
| | Average centralization | -.08 | .11 | .13 | .14 | .17† | .14 |
| | Homogeneity in centralization | .02 | .12 | .03 | .12 | .05 | .12 |
| | Average formalization | .10 | .09 | .03 | .09 | .03 | .09 |
| | Homogeneity in formalization | -.08 | .09 | -.07 | .09 | -.05 | .09 |
| **2** | Average TFL climate | | | .29* | .15 | .31* | .14 |
| | Homogeneity in TFL climate | | | -.02 | .12 | -.06 | .12 |
| **3** | Interaction *(average TFL climate * homogeneity in TFL climate)* | | | | | .13* | .06 |
| | $R^2$ | .12 | | .16 | | .20 | |
| | $\Delta R^2$ | .12 | | .04† | | .04* | |

* p≤.05
† p≤.10

*Regression Analyses*

Our main expectation was that the level of homogeneity in TFL climate would interact with the average level of TFL climate, and that it was this interaction which shapes the influence of TFL climate on organizational performance. As can be seen in Table 2 (step 2), and as was also demonstrated by the significant correlation in Table 1, average levels of TFL climate were significantly and positively related to organizational performance (b=.29, p<.05). Thus, hypothesis 1 was supported by our data.

In step 3, the interaction coefficient was added. As can be seen in Table 2, adding the interaction coefficient significantly improved the explanatory value of the model, as the increase



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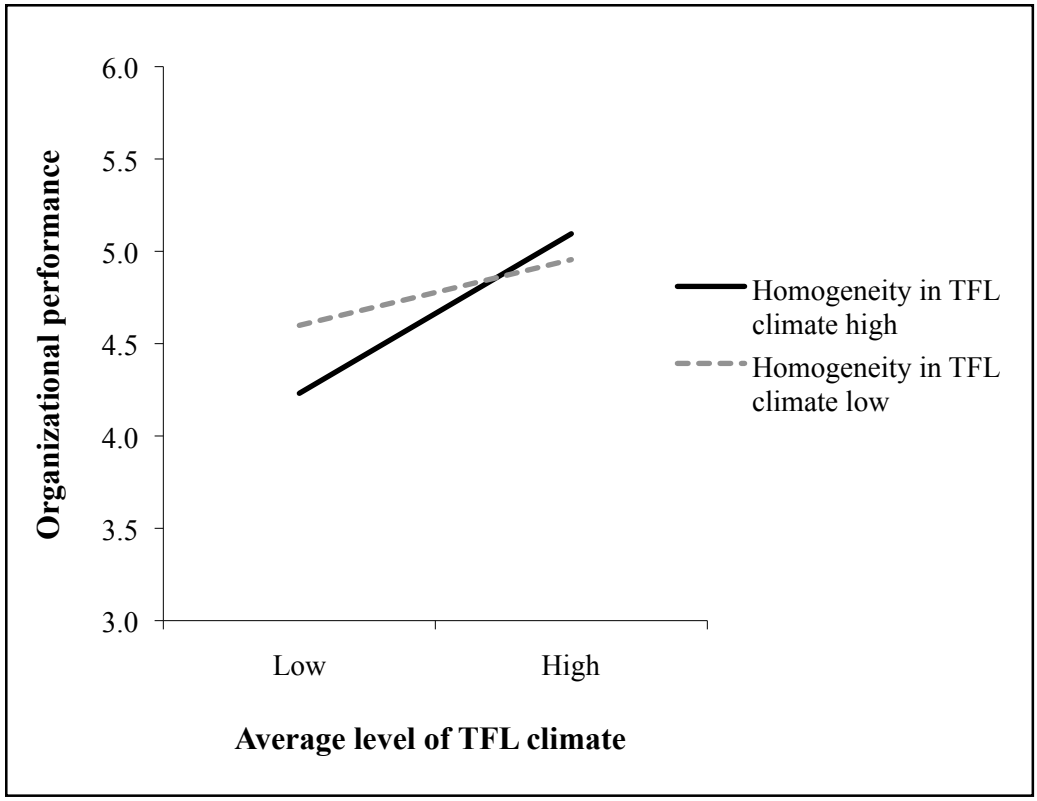
in $R^2$ was statistically significant at $p<.05$. And, as expected, the interaction coefficient was positive and significant ($b=.13$, $p<.05$). Figure 1 represents the significant two-way interaction.

Figure 1: Average Level of TFL Climate and Organizational Performance at Different Levels of Homogeneity in TFL Climate




To create Figure 1, we followed the procedures of Aiken and West (1991) and plotted the low condition at -1 SD and the high condition at +1 SD. As expected, higher average levels in TFL climate had no significant relationship with organizational performance when homogeneity in TFL climate was low (simple slope: $b=.18$; $se=.15$, n.s.). Yet, when the homogeneity in TFL climate was high, higher average levels of TFL climate were significantly and positively related to organizational performance (simple slope: $b=.43$; $se=.16$; $p<.01$). These results provide full support for Hypotheses 2a and 2b.

*Robustness Checks*

To assess the robustness of our findings, we performed several additional analyses. First, to assess if multi-collinearity was an issue, we inspected the Variation Inflation Factors (VIFs) of all the variables in our most complex model (i.e., all variables reported in step 3). Since all VIFs where below 4, multi-collinearity was not an issue in our model (e.g., Miles & Shevlin, 2001).

Furthermore, we conducted a Kolmogorov-Smirnov test (with Lilliefors correction), which indicated that the standardized residuals of the final model did not significantly deviate from normality (K-S statistic=.074, df=107, n.s.). As such, the model fitted well to the data. Lastly, we recalculated the final model (containing all controls and main effects as well as the interaction effect as reported in step 3 of Table 2) in a dataset which excluded all organizations



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with more than 500 employees. The analysis of this dataset, containing 89 organizations, again showed a positive and significant interaction coefficient ($b=.17$, $p<.01$). In addition to this, we also recalculated our final model (again containing the controls, main effects, and interaction effect) in a dataset which excluded all organizations with more than 250 employees. The results of this analysis of 71 organizations revealed again a positive and significant interaction effect ($b=.17$, $p<.05$). Consequently, we concluded that the model reported in step 3 is robust and adequately represented the data.

## Discussion

The main goal of this study was to test a core assumption of the TFL climate construct (Walter & Bruch, 2010) shared by many other organizational-level phenomena (e.g., Dutton, 2003; Dawson, González-Romá, Davis, & West, 2008; González-Romá, Peiro, & Tordera, 2002; Rogg et al., 2001; Zohar & Luria, 2005), namely that it is the homogeneity of these constructs which is a key driver behind their influences on organizational-level processes and outcomes. The results of our analyses of a dataset containing 107 small- and medium-sized organizations supported this and showed that higher average levels of TFL climate were significantly and positively related to organizational performance when levels of homogeneity in TFL climate were high. The results also showed that, as expected, there was no relationship when homogeneity in TFL climate was low. Below, we discuss the theoretical implications of these findings, after which we will discuss the strengths and limitations of this study and ideas for future research. We conclude with the practical implications.

### *Theoretical Contributions*

The first contribution is that our study is the first to demonstrate that TFL climate is related not only to organizational processes, such as productive organizational energy (Walter & Bruch, 2010), but also to organizational performance. In other words, our findings indicate that the effects of TFL climate are not limited to relatively "soft" issues, but also impacts "hard" issues, such as the performance of the company. This contributes to the emerging area of TFL climate research, as well as to the larger TFL literature (e.g., Cole & Bedeian, 2007; Schneider et al., 2002; Wang et al., 2011), because it increases the scientific and managerial relevance of the TFL climate construct.

The second, and in our view most important, theoretical implication is that our study is the first to demonstrate that homogeneity at the organizational level is indeed important for TFL behaviors, which had previously been hinted at (cf. Cole & Bedeian, 2007; Schneider et al., 2002), but not yet investigated (cf. Avolio et al., 2009). Although a recent team-level study (Cole, Bedeian, & Bruch, 2011) showed an indirect effect of the interaction between average levels of TFL and homogeneity in TFL on the aggregated self-rated performance of individual team members, no study to date has shown a direct effect on organizational performance following a more methodologically stringent dual-source approach. In addition, our results also suggest that one reason for the considerable variation in findings regarding leadership behaviors and organizational performance (cf. Wang et al., 2011, p. 250) might be because prior organizational-level studies overlooked the core assumption of homogeneity. Hence, our study contributes both to leadership literature (e.g., Avolio et al., 2009; Bommer et al., 2004; Feinberg et al., 2005; Wang et al., 2011) as well as to the emerging TFL climate literature (e.g., Walter & Bruch, 2010), as we have shown that it is indeed important to have homogeneity in leadership behaviors within companies.



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*Strengths and Limitations*

As do all studies, the present research has some strengths and some limitations. A first limitation is that the dataset was cross-sectional, and it was thus impossible to investigate causality. However, as we did not investigate mediating mechanisms (cf. Walter & Bruch, 2010), possible reversed causality issues do not appear to present a serious problem. Besides this limitation, the dataset also had several strengths, as it drew from different sources (e.g., employees and top management team members), making mono-source issues less likely.

Another potential limitation could be that we asked the top management team members to rate their company's performance in comparison to their competitors and as such had to rely on their assessment instead of on more "objective" performance data. As already discussed in our measurement section it was impossible to use stock market data, given that the companies in our sample were predominantly privately owned (cf. Rogers & Wright, 1998), and other "objective" measures, such as return on investment (ROI), could also not be used as there are significant differences between different sectors in such measures. Although prior research has shown that subjective measures by informed respondents are valid and can be used to gain insight into operational and organizational performance (Kunze, Boehm, & Bruch, 2011; Rowe & Morrow, 1999; Wall et al., 2004), future studies might nevertheless want to replicate our study by restricting their sample to publically owned companies and by using stock market data.

Related to the above, researchers concerned about the use of subjective measures and surveys might also want to consider assessing TFL climate via other methods. For example, although practically very daunting, it is possible to have external raters code the amount of actual TFL behaviors and to construct a TFL climate measure from that observational data. We decided to stay close to methodology of recent studies on TFL climate (e.g., Walter & Bruch, 2010) and other climate constructs (e.g., Rogg et al., 2001; Zohar & Luria, 2005) in order to align our research with prior studies.

A third limitation might be that the dataset did not contain very large companies and only contained companies from Germany, as this puts some limits on the generalization of our findings. However, this clear focus of our dataset is also a strength, as it limits the possibility of distorting influences due to unobserved differences between organizations. Moreover, given that we focus on one cultural setting, problems associated with comparing (mean) values across different cultural contexts are not likely to affect our findings (e.g., Riordan & Vandenberg, 1994). This is especially so, since the TFL climate construct has already demonstrated its worth in the German cultural context (Walter & Bruch, 2010). Yet, we would like to point out that future research which aims to assess differences in TFL climates across different cultural contexts would need to take into account such issues with cross-cultural measurement equivalence. To conclude, given that we focus on one country and controlled for differences between organizations in both demographical and structural characteristics, we argue that our results are robust and, at the very least, applicable to many types of small and medium-sized companies in countries and cultures similar to Germany.

*Future Research*

As our findings have shown, organizational-level moderators (in our case, homogeneity in TFL climate) can influence the organizational-level effects of average levels of TFL climate, and as such, our results support the call of Wang et al. (2011) that future studies should investigate more moderators to establish the boundary conditions of TFL climate. Research on



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TFL climate could also benefit from more insight into the detailed processes and mechanisms (i.e., investigate mediators). The study of Walter and Bruch (2010) provided a starting point by relating average TFL climate to the productive work climate, but besides this, no organizational-level processes have yet been investigated. The search for other mediators could start by looking into the processes of attraction-selection-attrition theorized by Walter and Bruch (2010). Yet, these processes were used to explain the effects of the average level of TFL climate, not the effects of homogeneity. Given our results, we advise scholars to (also) draw on the other theories we used, such as equity theory (Adams, 1963), and/or draw more from the climate strength literature (e.g., Dawson et al., 2008; Meyer, Dalal, & Hermida, 2010).

Another option for investigating new mediators is to draw from studies regarding TFL which were conducted at lower levels of analyses and thus investigate mediators such as efficacy, empowerment, trust, or identification (e.g., Walumbwa et al., 2008). However, as has been previously theorized (e.g., Klein & Kozlowski, 2000), and as our results have indicated, it is important to acknowledge the underlying assumptions, such as the assumption of homogeneity, when investigating constructs are higher levels of analyses. Besides explicitly addressing this need for testing underlying assumptions, we hope to have provided future scholars with a clear approach for conducting such research, by means of our methodology and analyses.

Future research might also apply our methodology to other organizational phenomena, such as supportive organizational climate (e.g., Rogg et al., 2001), energy in organizations (e.g., Dutton, 2003), or safety climate (e.g., Zohar & Luria, 2005), and investigate if the homogeneity of these collective constructs is equally as important as we found it to be for TFL climate. Doing so might be of particular value to organizational-level phenomena of which the average level has been spuriously found to be related to organizational performance. This has, for instance, been observed in the situational strength literature (e.g., Dawson et al., 2008; Meyer et al., 2010).

*Practical Implications*

Our study has at least three practical implications. First, our findings show that it is important that leaders throughout an organization show transformational leadership (TFL) behaviors, as a strong TFL climate increases the performance of the whole organization. Second, our results also indicate that, in order to optimize organizational performance, it is important to increase the average in TFL climate and increase the amount of homogeneity (i.e., the shared perceptions among employees) in TFL climate. We therefore suggest that practical interventions not only raise the average level of TFL climate in an organization, for example, by giving everybody the same training (e.g., Barling, Weber, & Kelloway, 1996), but also actively research if there are differences in the TFL climate across the company and then provide, for instance, specific training aimed at resolving such differences. Third, given that the theoretical mechanisms underlying our study are very similar to other climate constructs, such as safety climate, diversity climate, or supportive organizational climate, practitioners striving to maximize the impact of such climates are advised to consider that it might not only be the average level of these climates, but also the level of homogeneity, which makes them relevant to organizational processes and performance. Hence, although more research is necessary, for now it seems wise to try to increase the average level of these climates while at the same time also reduce the differences in (the perceptions of) such climates across the organization.

To conclude, our results indicate that, in order to optimize organizational performance, it is important to increase the average in TFL climate and increase the amount of homogeneity in



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TFL climate. If considerable lack of homogeneity is found, our theory and results indicate that increasing the TFL for the organizational members who are currently experiencing relatively low amounts of TFL is a promising way to increase organizational performance.

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