

How is commitment to change among start-up employees affected by transformational leadership? The role of empowerment and perceived threat

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Abstract

The goal of the present study was to investigate the role of transformational leadership on commitment to change, which was measured with the subscales affective, continuance and normative commitment to change among start-up employees. Empowerment and perceived threat were investigated as moderating variables. Thus, dependent variables were affective, normative and continuance commitment to change, whereas independent variables were transformational leadership, empowerment, and perceived threat.

To measure the dependent variables the affective, normative and continuance commitment to change scales from the paper of Herscovitch and Meyer (2002) were used. To measure transformational leadership, the global transformational leadership scale (GTL) was used, as it is the shortest transformational leadership scale. To measure the level of empowerment, the psychological empowerment at the workplace scale of Spreitzer (1995) was used. Finally, to measure perceived threat, the perceived threat at the workplace scale of Fugate et al. (2008) was used.

The normative commitment to change, affective commitment to change and empowerment scales yielded questionable factor analysis results, what could have been caused by the low number of participants ($N = 30$). A significant positive effect of transformational leadership on affective, normative and continuance commitment to change was expected, yet results could not confirm this expectation. Furthermore, no interaction effects between transformational leadership and empowerment or perceived threat were found.

In general, the results should be interpreted with caution due to the minimalistic sample size. These results were obtained within a cross-sectional study design and analysis of the obtained data was done with a general linear model.

As the results deviate from the scientifically informed expectations, future research should investigate why the present studies results are not in line with for example the results of a meta-analysis of Choi et al. (2011), where transformational leadership was found to influence commitment to change positively.

A reason could be the investigated sample, as only start-up members were investigated. In start-ups, there is a tendency that all members should develop leadership capacities, whereas in most other companies there are rather strict hierarchies, and not all members should develop leadership capacities (Prommer, Tiberius & Kraus, 2020). As leaders tend to develop change initiatives and try to spread them, instead of following others

plans (Oreg & Berson, 2019), it might be that it is not the perceived transformational leadership that impacts commitment to change, but the own perceived leadership capabilities that make start-up members committed to a certain change initiative.

Introduction

Organizational change is a challenge that companies face in response to various circumstances. Examples of such circumstances can be crises like the COVID-19 pandemic, that led to workplace changes like working from the so called “home office” or implementation of new innovative technologies in a company’s infrastructure. For Start-Up companies, the picture looks different, as they experience ongoing change to reach their goals, instead of just changing in response to circumstances like described above (Okanovic et al., 2020). That is the case because, besides other factors, start-ups are aiming to “find a repeatable business model that whilst experiencing high levels of uncertainty”, which implies that constant successful change is important to achieve these goals (Ries, 2011). Here, the word repeatable means that the business model in question proves to be successful over a long period of time, and thus the product or service can be offered to a potentially infinite amount of customers in a consistent manner. An example of a repeatable business model would be the Netflix business model, which is selling subscriptions. Those subscriptions gain access to the content the platform offers and are available consistently to a potentially infinite amount of customers.

To understand the diverse topic of organizational change better, different fields of study investigate it from different perspectives. Psychological research on organizational change deals, among other topics, with attitudinal constructs related to organizational change. These attitudinal constructs towards the organization and change initiatives can be important predictors of behaviors that can lead to the successful implementation of change initiatives (Choi, 2011).

Commitment to Change

There is one attitudinal construct that received more research attention than others, which is commitment to change (Choi, 2011). This construct is essential in attitude research in the organizational change context, as possession of this attitude is most likely to lead to a behavior that is likely to facilitate the change initiative (Choi, 2011). Research investigating the underlying reasons for the positive relationship between committed employees and successful organizational outcomes include that committed employees show increased cooperation with co-workers, understanding of the work task, an increased likelihood to adhere to supervisors and management team (Benkhoff, 1997).

Commitment to change appears to be highly related to organizational commitment, which can be seen as a psychological bond between employees and their employing

organization, which leads to attachment to the organization (Herscovitch & Meyer, 2002). The close relation is based on a common understanding of commitment, which is according to Herscovitch and Meyer (2002) “a force or mind-set that binds an individual to a course of action of relevance to one or more targets”. Furthermore, also organizational commitment is positively related to change-supportive behaviours (Herscovitch & Meyer, 2002). Yet, organizational commitment is more related to general commitment towards the organization and not specifically to commitment towards change initiatives. (Herscovitch & Meyer, 2002). For this purpose, Herscovitch and Meyer (2002) introduced the attitudinal construct of commitment to change, which they describe as “a force [...] that binds an individual to a course of action deemed necessary for the successful implementation of a change initiatives”. Commitment to change is more related to establishing behaviors that could facilitate change initiative than organizational commitment and is thus the investigated construct in this research (Herscovitch & Meyer, 2002). Organizational commitment and commitment to change have different subtypes that need to be considered in research. There is a distinction between three types of commitment. According to Choi (2011) these are affective commitment, normative commitment, and continuance commitment to change. Affective commitment to change is related to showing support for a change initiative because the benefits of the successful implementation of the change initiative appear to be promising. Normative commitment to change is related to supporting the change initiative because feeling obliged to do so, for example because an employee does not want to disappoint the supervisors or managers. Continuance commitment to change is related to feeling committed to a change initiative because the possibility of no or faulty implementation of the change initiative appears to be dangerous by having negative effects on the organization. It must be noticed, that whilst normative and affective commitment to change can be seen as purely positive in relation to successful implementation of change initiatives, continuance commitment to change can be a source of stress, and so potentially having adverse effects (Herscovitch & Meyer, 2002; Irving & Coleman, 2003).

Transformational Leadership

An important topic in the context of commitment to change and attitudinal research in the context of organizational change at large is leadership. Accumulating evidence suggests that leadership styles are highly associated with attitude formation of the followers of a leader, thus the leader herself or himself can serve as a role-model and influence attitude creation among its followers (Barling et al., 1996; Dvir et al., 2002; Fuller et al., 1996;

Howell & Hall-Merenda, 1999; Piccolo & Colquitt, 2006). A leadership style that appears to have a positive influence on followers' commitment to change is transformational leadership (Choi, 2011; Herold et al., 2008; Seo et al., 2012). This type of leadership is concerned with being visionary and instilling the vision among employees, as well as defining missions for employees. Transformational leaders inspire by e.g. setting high expectation, but not punishing failure, by intellectual stimulation, smart problem solving, serving as a role-model and individual treatment of employees (Bass, 1990). Furthermore, the visionary approach of transformational leaders is likely to lead to an increase in attachment to the company and increased behavioral support for goal achievement (Burns, 1978; Parish et al., 2008).

With regards to affective commitment and transformational leadership, it has been found out transformational leadership increases followers' group identification and understanding of the group values, which is positively related to affective commitment to change. Furthermore, Herold et al. (2008) explain the positive relationship between transformational leadership and affective commitment to change with the creation of certain conditions. These conditions include inspiring followers, having an optimistic vision for the future and decreasing the stress and anxiety of employees that might have been evoked by the change.

With regards to normative commitment to change, scholars argue that transformational leadership might lead to an increased perceived duty to meet the organizations goals, which might lead to an increase in normative commitment to change (Hill et al., 2012).

As continuance commitment to change is related to stress and anxiety (Herold et al. 2008), one can argue that transformational leadership is positively related to continuance commitment to change, as it might lower the experienced stress and anxiety that employees perceive.

Yet, there are still blank spaces in explaining the effects of transformational leadership on commitment to change. This means that there is still much unexplained variance in the previous research on the effects of transformational leadership on commitment to change and thus, it is not clear yet, what underlying mechanisms account for the previously found positive effect of transformational leadership on commitment to change (Hechanova & Cementina-Olpoc, 2013).

Research Question

Thus, the present study investigated the research question "How is commitment to change among start-up employees affected by transformational leadership?". Two variables,

empowerment and perceived threat, were investigated with regards to whether they could be underlying mechanisms that can help to explain the effect of transformational leadership on commitment to change and thus form the theoretical framework of the present research.

Empowerment

Scholars argue that empowerment of employees could be an underlying mechanism that leads to employees' increased commitment to change, as empowerment of employees is stressed in transformational leadership (Hechanova et al., 2013; Herold et al., 2008). Yet, there is no research on whether empowerment of employees is an underlying factor that leads to an enhanced commitment to change. According to Spreitzer (1995), psychological empowerment can be understood as consisting of meaningfulness, competence, impact at the workplace and the degree of how self-determined a person can act at the workplace. Matthews et al. (2003) identified three central factors that facilitate organizational empowerment based on research on psychological and relational empowerment. These factors are “dynamic structural framework”, “control of workplace decisions” and “fluidity in information sharing”.

Thus, it can be argued that employees are more likely to be committed to a change initiative, when they experience these factors and thus have an increased perception of workplace meaning, competence, self-determination and impact and therefore an increased perception of empowerment.

Organizational Type

Besides the role of leadership in commitment to change, Hill et al. (2012) argue that future research on commitment to change should investigate different types of organizations, as organizational structures and hierarchies differ highly and thus the research settings differ to a large extent, making generalizability of findings difficult. Furthermore, Hechanova and Cementina-Olpoc (2013) argue that organizational culture and organizational size, as well as different types of organizations need to be investigated more in the commitment to change research, as in their study transformational leadership and the manner of change management only accounted for 30% of variance of commitment to change.

An organizational type that has been largely ignored in commitment to change literature, are start-up organizations. A start-up organization does not have a fixed definition, the one used in the present study will be that a start-up can be defined as “a new company that creates a new product or service in conditions of uncertainty, aiming for fast growth using technology” (Skala, 2019). These companies are characterized by a high failure rate of on average 90% and strong dependence on money or money equivalents like short-term

investments (Skala, 2019; Kalyanasundaram, 2018). They are an especially interesting type of organization for this research, as Baron and Hannan (2002) describe, that start-ups can experience organizational changes as destabilizing, leading to adverse effects to financial performance, employee turnover and threatened survival of the company. Okanovic et al. (2020) describe that there is a demand for ongoing change in Start-Ups to achieve their goals. In their effort to structure organizational changes, Okanovic et al. (2020) came up with certain key changes in Start-Ups, which include changes in “goals and strategies, changes in organizational structure, changes in leadership and changes in human resources”. These need to be successfully implemented to achieve the goals and prevent them from failing (Okanovic et al, 2020).

Perceived Threat

Given the crucial role of successful organizational change in start-ups, it is important to find out, how these changes could be facilitated, for example, through a high level of commitment to change. As described above, Start-Up companies appear to be highly exposed to threats (i.e. failure rate of roughly 90%). Thus, perceived threat of employees in response to change situations should be considered as an influencing factor to get a better understanding of commitment to change in start-up companies. Straw et al. (1981), came up with the threat-rigidity hypothesis, describing that changes in organizational settings can lead to perceived threat which can lead to psychological stress and anxiety, which is also associated with continuance commitment (Meyer & Herscovitch, 2002). To describe the variable of perceived threat further, it can be said that the threat level is likely to be associated with affective and behavioural responses towards a certain change initiative (Fugate et al., 2008). Also, perceived threat is likely to alter the experience of a change initiative by making an individual realize what might be at risk due to a certain change initiative and is thus likely to lead to an increase in distress (Fugate et al., 2008). Considering the negative correlation between affective and continuance commitment to change (Bouckenooghe et al., 2014), it was hypothesized that perceived threat is positively related to commitment to change and negatively related to affective commitment to change.

Hypotheses

The research question “How is commitment to change among start-up employees affected by transformational leadership?” was investigated with the following hypotheses. The first hypothesis was that there would be a positive effect of transformational leadership on affective, normative, and continuance commitment to change. The second hypothesis was that there would be a positive effect of transformational leadership on empowerment. The

third hypothesis was that empowerment would moderate the effect of transformational leadership on affective, normative, and continuance commitment to change. The interaction effect for this hypothesis was expected to be positive, meaning that a high score of empowerment would lead to a positive effect of transformational leadership on the dependent variables. The fourth hypothesis was that there would be an interaction effect between perceived threat and transformational leadership. The interaction effect for this hypothesis was expected to be negative, meaning that a high score on perceived threat was expected to lead to a negative effect of transformational leadership on commitment to change. The fifth hypothesis was that perceived threat would have a positive effect on continuance commitment to change and a negative effect on affective commitment to change.

Methods

Design

The conducted study had a cross-sectional design, meaning that data was collected at one point in time from participants. The independent variables were transformational leadership, empowerment, and perceived threat. The dependent variables were affective, normative and continuance commitment to change. Before filling in the survey, participants were asked to think about organizational change episodes that they experienced in their start-up. As the study was distributed among populations in Germany and the Netherlands, the study was conducted in English, German and Dutch language, depending on the preference of the participant.

Participants

To be able to participate in the study, inclusion criteria had to be met. Participants needed to be actively involved in a Start-Up in which they have experienced an episode of organizational change. Here, organizational change refers to an organizational adaption to circumstances or an adaptation of organizational practices and functioning towards goal achievement. To make sure that participants were members of start-ups, they were recruited through personal networks, distribution of the survey on LinkedIn networks and in internal networks of start-up accelerators, which are business programs that support early-stage, growth driven companies. The total number of participants was 30 ($N = 30$). All responses of participants could be used for analysis ($N = 30$). Of those participants, 63.3% ($N = 19$) were

female, 30% ($N = 9$) were male and 6.7% ($N = 2$) were non-binary. The age of the participants ranged from 19 years to 52 years, with 42 years ($N = 1$) and 52 years ($N = 1$) being outliers, considering that 93.3% ($N = 28$) of the participants were between 19 and 27 years old. The most frequent age was 22 years, with 36.7% ($N = 11$). Of all participants, 60% ($N = 18$) had a high school degree, 20% ($N = 6$) had a bachelor's degree, 3.3% ($N = 1$) had a Dutch VWO degree, 3.3% ($N = 1$) had a Dutch MBO degree, 6.7% ($N = 2$) had a master's degree and 3.3% had a PhD ($N = 1$) as their highest academic degree. Of all participants, 46.7% ($N = 14$) had a management position, 16.7% ($N = 5$) did not have a management position, whilst 36.7% ($N = 11$) refused to indicate whether they had a managing function in their start-up or not. The participants worked in diverse industries, yet a small majority of participants worked in "development" ($N = 3$) and "internet" ($N = 4$). The study was pilot tested with two participants to rule out potential unclarities that could occur during the study.

Materials and Measures

Demographic Questionnaire

First, participants were presented with a demographic questionnaire which consisted of questions about age, gender, academic achievement, but also about whether they have a management position or not and what industry they work in (Appendix A).

Global Transformational Leadership Scale

Secondly, participants were confronted with a transformational leadership scale. To measure transformational leadership, the global transformational leadership (GTL) scale from Carless et al. (2000) was used (Appendix B). This scale has the advantage that it is short, in that it narrowed down the questionnaire to seven items, making the length of the study more convenient for participants. Despite the shortness of the scale, it previously yielded satisfying results on reliability, as well as high factor loadings. For exact numbers, the article of Carless et al. (2000) can be consulted. In the present study however, a Cronbach's Alpha analysis was conducted, yielding an alpha of .70, indicating adequate internal consistency (Vaske et al., 2017). Items were measured with a seven – point Likert scale, as for example Finstad (2010) found out that five – point Likert scales have disadvantages like irritating the participants, which are not present when using seven – point Likert scales. This reasoning for using a seven-point Likert scale was used for all the scales in this study. The answer possibilities ranged from one (totally agree) to seven (totally disagree). An example item "My leader /

supervisor / manager instills pride and respect in others and inspires me by being highly competent”.

Psychological Empowerment at the Workplace Scale

Thirdly, psychological empowerment at the workplace was measured with the psychological empowerment at the workplace scale by Spreitzer (1995), which measures empowerment based on four factors, meaning, competence, self-determination and impact (Appendix C). The scale consists of eleven items on a seven-point Likert scale, with answer options ranging from one (totally agree) to seven (totally disagree). An example item of the scale is “The work I do is very important to me”. A Cronbach's analysis was conducted on the "Psychological Empowerment Scale". An alpha of .88 was observed, indicating a good internal consistency (Vaske et al., 2017). However, analysis revealed that the alpha can be raised to .89 when leaving out the item "I can decide myself on how to go about doing my work".

Perceived threat at the workplace scale

After measuring psychological empowerment at the workplace, perceived threat was measured with the perceived threat scale from Fugate et al. (2008) (Appendix D). This scale measures specific perceived threats to employees that are often associated with organizational change. The scale consists of four items on a seven-point Likert scale, with answer options ranging from one (totally agree) to seven (totally disagree). An example item is “Due to the change(s), I feel that my job security is threatened”. The previously obtained reliability and validity coefficients of the scale were solid (Fugate et al., 2008). In the present study, a Cronbach's analysis was conducted on the "Perceived threat at the workplace" scale. An alpha of .82 was observed, indicating a good internal consistency (Vaske et al., 2017).

Commitment to Change Questionnaire

As final measure, the dependent variables affective, normative and continuance commitment to change were measured with the Extended Commitment to Change Scale by Herscovitch and Meyer (2002). Commitment to Change was measured with three subscales that measure affective (Appendix E1), normative (Appendix E2) and continuance commitment to change (Appendix E3). The scale consists of 18 items divided to three six-item subscales, each on a seven-point Likert scale, with answer options ranging from one (totally agree) to seven (totally disagree).

An example item of the affective commitment to change scale is “This change serves an important purpose.” (Appendix E1). A Cronbach's analysis was conducted and revealed that the subscale's alpha was .67, which indicates an adequate internal consistency (Vaske et al., 2017). Further analysis found that deleting the item "I believe in the value of this change" could increase the alpha level to .70.

An example item of the normative commitment to change scale is “I feel a sense of duty to work toward this change.” (Appendix E2). The subscale also had a negative alpha of -.08, indicating weak internal consistency of the scale (Vaske et al., 2017).

An example item of the continuance commitment to change scale (Appendix E3) is “I have too much at stake to resist this change”. A Cronbach’s Alpha analysis was conducted and found an alpha of .91, which indicated a good internal consistency (Vaske et al., 2017).

Factor Analysis

A factor analysis with a principal axis factoring extraction method and orthogonal rotation was conducted with all items from all subscales used in the study to find potential new constructs that arose from the data of the research (Appendix F). The analysis revealed a five-factor structure.

The first factor was comprised of 17 items, containing items from each scale used in the survey, except for the continuance commitment to change scale. Factor loadings ranged from .32 to .88, indicating that all 17 items measured an underlying factor. Cronbach’s alpha analysis of the first factor revealed a good internal consistency, with an alpha of .90.

The second factor was comprised of nine items from the normative commitment to change scale, global transformational leadership scale, affective commitment to change scale, and psychological empowerment at the workplace scale with factor loadings ranging from .33 to .77, indicating that these nine items measured one underlying factor. Cronbach’s alpha analysis revealed an alpha of .79, and thus an adequate internal consistency.

The third factor was comprised of six items, each from the continuance commitment to change scale. Factor loadings ranging from .71 to .87 indicate that all items of the continuance commitment to change scale indeed measure one underlying factor. The Cronbach’s alpha for the scale was .91, which indicated a good internal consistency.

The fourth factor was comprised of nine items from the normative commitment to change scale, global transformational leadership scale, affective commitment to change scale and the psychological empowerment at the workplace scale. The factor loadings ranged from .32 to .83, indicating and that these items measured an underlying factor. A Cronbach’s alpha

analysis revealed an alpha of .75 and thus indicated an adequate internal consistency.

The fifth factor was comprised of four items from the normative commitment to change scale, with factor loadings ranging .52 to .84, indicating that these four items measured an underlying factor. A Cronbach's alpha analysis revealed an alpha of .72, indicating an adequate internal consistency.

These results have to be interpreted with caution, as the low number of participants ($N = 30$) could account for faulty results (Kline, 1994).

Procedure

Ethical approval was obtained from the Ethical Committee of the Behavioral, Management and Social Sciences Department of the University of Twente. Participants received a link that directed them to the survey that was uploaded on the platform Qualtrics (<https://www.qualtrics.com>). The study was held completely online. On the first page of the study, participants were introduced to the study and its aims and asked to think about major current or recent organizational changes they experienced in their start-up project before continuing to the next page. This page presented the global transformational leadership questionnaire, which participants had to fill in. After that, the participants were directed to the next page, where they filled in the psychological empowerment at the workplace scale. On the next page, participants' level of perceived threat was assessed with the perceived threat scale. The final step was to fill in the commitment to change questionnaire. After that the survey ended (Appendix A-E).

Data Analysis

A general linear model analysis has been conducted to investigate the research question with hypothesis one, two, three four and five, with the dependent variables affective commitment to change, normative commitment to change and continuance commitment to change and independent variables transformational leadership, psychological empowerment at the workplace and perceived threat. Perceived threat and psychological empowerment were also investigated as moderating variables, potentially moderating the effect of transformational leadership on commitment to change. The data was exported from Qualtrics and imported into SPSS, where the data was analyzed using a general linear model, to answer the research question "How is commitment to change among start-up employees affected by transformational leadership?".

Results

Conducted Analysis and Presentation of Results

A general linear model analysis was conducted with continuance commitment to change, affective commitment to change and normative commitment to change as dependent variables and perceived threat, transformational leadership, and empowerment as independent variables. To determine whether empowerment and perceived threat affect the effect of transformational leadership on commitment to change, interaction effects between transformational leadership and empowerment and transformational leadership and perceived threat were investigated.

In addition, the main effects of the independent variables on the dependent variables were investigated to find out whether perceived threat, transformational leadership and empowerment have a direct effect on affective, normative and continuance commitment to change in the present study. Furthermore, the main effect between empowerment and transformational leadership was investigated.

Table 1*Correlations, Means and Standard Deviations*

	1.	2.	3.	4.	5.	6.	Mean	SD
1. Affective Commitment to Change							2.73	0.79
2. Continuance Commitment to Change	-.17						4.73	1.24
3. Normative Commitment to Change	.35	-.17					3.56	0.46
4. Empowerment	.14	-.47*	.38*				2.08	0.52
5. Transformational leadership	.41	-.50*	.32	.68*			1.90	0.36
6. Threat	-.25	.28	-.49*	-.17	-.31		5.71	0.80

*. Correlation is significant at 0.05 level (2-tailed).

$N = 30$

Descriptive Statistics. It must be mentioned that when interpreting Table 1, the lower the score of the participants, the more they agreed and that the higher the score, the more they disagreed. Meaning that, for example, as noted in Table 1, participants ($N = 30$) tended to experience a high level of transformational leadership in their organizations ($M = 1.90$). This high distribution was indicative for a ceiling effect, as results piled up at the higher end of the scale. With regards to perceived threat, scores indicate that participants did not feel that their job conditions were threatened due to an episode of organizational change. Furthermore, as noted in Table 1, participants felt generally empowered at their workplace. Regarding the dependent variables, it can be said that participants experienced a rather high level of affective commitment to change, meaning that they were committed to a change initiative mostly

because of inherent beliefs in benefits associated with the change. The level of normative commitment to change indicates that participants were to a certain degree committed to a change initiative because they felt an obligation to follow the initiative. Finally, the score on continuance commitment to change is rather low, indicating that participants were less likely to be committed to a change initiative if they felt that the cost of failure of the change initiative appeared high.

Correlations. Several significant correlations were found between the investigated variables. As noted in Table 1, a negative correlation was found between continuance commitment to change and empowerment $r(30) = -.47, p = .008$, indicating that a high level of empowerment was likely to be associated with a low level of continuance commitment to change and vice versa.

Furthermore, a significant negative correlation was found between continuance commitment to change and perceived transformational leadership, $r(30) = -.50, p = .005$, meaning that participants who experienced a high level of transformational leadership were likely to score low on continuance commitment to change.

Additionally, a significant negative correlation was found between perceived threat and normative commitment to change, $r(30) = -.49, p = .007$, indicating that a high score on perceived threat was likely to lead to a low score on normative commitment to change and vice versa.

Positive significant correlations were found between empowerment and transformational leadership, $r(30) = .68, p = <.001$, and empowerment and normative commitment to change, $r(30) = .38, p = .038$, whereas the prior indicates that when participants experienced a high level of perceived transformational leadership, they were likely to feel empowered and the latter indicating that when participants felt empowered, they tended to score high on normative commitment to change.

Table 2

Parameter Estimates of Main Effects of Independent Variables Transformational Leadership, Empowerment and Perceived Threat on Dependent Variables Affective Commitment to Change, Normative Commitment to Change and Continuance Commitment to Change

Dependent Variable	Parameter	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Affective Commitment to Change	Empowerment	0.35	0.38	0.91	.370
	Transformational Leadership	-0.43	0.57	-0.77	.451
	Perceived Threat	-0.27	0.19	-1.39	.175
Normative Commitment to Change	Empowerment	0.30	0.20	1.53	.137
	Transformational Leadership	-0.06	0.29	-0.21	.834
	Perceived Threat	-0.26	0.10	-2.62	.015*
Continuance Commitment to Change	Empowerment	-0.63	0.53	-1.17	.252
	Transformational Leadership	-0.93	0.80	-1.16	.257
	Perceived Threat	0.24	0.27	0.89	.381

*. Correlation is significant at 0.05 level (2-tailed).

Perceived Threat. It was hypothesized that perceived threat would be positively related to continuance commitment to change and negatively related to affective commitment to change. Analysis revealed that results were in the hypothesized direction, yet they were insignificant. Analysis indicated a non-significant relationship between perceived threat and affective commitment to change and continuance commitment to change. This result meant that the level of affective and normative commitment to change among participants appeared to not be affected by the level of perceived threat. Thus, the hypothesis had to be rejected.

Unexpectedly, a significant negative effect of perceived threat on normative commitment to change was found. This indicated that a high level of perceived threat was related to a low level of normative commitment to change among participants. Exact statistical parameters can be found in Table 2.

Transformational leadership. It was hypothesized that transformational leadership would be positively related to affective, normative and continuance commitment to change. The analysis indicated no significant main effects between transformational leadership and affective commitment to change. Participants' degree of affective commitment to change was not affected by their score on transformational leadership, meaning that perceived transformational leadership was not related to participants' level of affective commitment to change.

The analysis indicated no significant main effect of transformational leadership on normative commitment to change. Participants' degree of normative commitment to change was not affected by their score on transformational leadership, meaning that transformational leadership was not related to participants level of normative commitment to change.

The analysis indicated no significant main effect of transformational leadership on continuance commitment to change. Participants' degree of continuance commitment to change was not affected by their score on transformational leadership, meaning that transformational leadership was not related to participants level continuance commitment to change.

Thus, in the present study, transformational leadership did not have a significant effect on affective, normative or continuance commitment to change and the hypothesis had to be rejected. Exact statistical parameters can be found in Table 2.

Table 3

Parameter estimates of the main effect of independent transformational leadership on dependent variable empowerment

Dependent Variable	Parameter	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Empowerment	Transformational Leadership	0.99	0.20	4.94	<.001*

*. Correlation is significant at the 0.05 level (2-tailed).

Transformational leadership and empowerment. It was hypothesized that transformational leadership would have a positive effect on empowerment. The analysis indicated a significant main effect of transformational leadership on empowerment [$F(1,28) = 24.440, p = <.001$]. Participants who indicated a high degree of perceived transformational leadership tended to indicate a higher level of empowerment, thus a positive effect was observed, and the hypothesis was accepted [$B = 0.988, T = 4.944, SE = 0.200, p = <.001$]. This meant that the degree of empowerment was positively affected by transformational leadership. Exact statistical parameters can be found in Table 3.

Table 4

Parameter Estimates of Interaction Effects of Independent Variables Transformational Leadership, Empowerment and Perceived Threat on Dependent Variables Affective Commitment to Change, Normative Commitment to Change and Continuance Commitment to Change

Dependent Variable	Parameter	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Affective Commitment to Change	Empowerment*Transformational Leadership	0.08	0.60	0.12	.902
	Perceived Threat*Transformational Leadership	0.26	0.45	0.58	.566
Normative Commitment to Change	Empowerment*Transformational Leadership	0.33	0.30	1.07	.295
	Perceived Threat*Transformational Leadership	0.11	0.23	0.47	.643
Continuance Commitment to Change	Empowerment*Transformational Leadership	-0.56	0.80	-0.70	.488
	Perceived Threat*Transformational Leadership	-1.01	0.60	-1.69	.105

*. Correlation is significant (2-tailed).

Interaction effect between transformational leadership and empowerment. It was hypothesized that there would be an interaction effect between transformational leadership and empowerment.

With regards to the dependent variable affective commitment to change, analysis indicated no significant interaction effect between transformational leadership and empowerment, as presented in Table 4. The effect of transformational leadership on affective commitment to change was not moderated by empowerment, meaning that the effect of transformational leadership on affective commitment to change occurred independent of the level of empowerment. Exact statistical parameters can be looked up in Table 4.

With regards to the dependent variable normative commitment to change, analysis did not indicate a significant interaction effect between transformational leadership and empowerment. The effect of transformational leadership on normative commitment to change was not moderated by empowerment. Thus, the relation between transformational leadership and normative commitment to change was not affected by the level of empowerment, meaning that the effect of transformational leadership on normative commitment to change occurred independent of the level of empowerment. Exact statistical parameters can be looked up in Table 4.

With regards to the dependent variable continuance commitment to change, analysis did not indicate a significant interaction effect between transformational leadership and empowerment. The effect of transformational leadership on normative commitment to change was not moderated by empowerment, meaning that the effect of transformational leadership on continuance commitment to change occurred independent of the level of empowerment. Exact statistical parameters can be looked up in Table 4.

Interaction effect between transformational leadership and perceived threat. It was hypothesized that the effect of transformational leadership on affective, normative and continuance commitment to change would be moderated by perceived threat.

There was no significant main effect of perceived threat on affective commitment to change, as presented in Table 4. With regards to the dependent variable affective commitment to change, analysis revealed that there was no interaction effect between transformational leadership and perceived threat. The effect of transformational leadership on affective commitment to change was not moderated by perceived threat. This means that the effect of transformational leadership on affective commitment to change occurred independent of the level of perceived threat during a change episode. Exact statistical parameters can be looked up in Table 4.

There was no significant main effect of perceived threat on normative commitment to change. With regards to the dependent variable normative commitment to change, analysis did not indicate a significant interaction effect between transformational leadership and threat. The effect of transformational leadership on normative commitment to change was not moderated by empowerment. Thus, the relation between normative commitment to change and transformational leadership was not affected by perceived threat during a change episode. This means that the effect of transformational leadership on normative commitment to change occurred independent of the level of perceived threat during a change episode. Exact statistical parameters can be looked up in Table 4.

With regards to the dependent variable continuance commitment to change, analysis did not indicate a significant interaction effect between transformational leadership and perceived threat. The effect of transformational leadership on normative commitment to change was not significantly moderated by empowerment. Thus, the relation between continuance commitment to change and transformational leadership was not affected by perceived threat during a change episode. This means that the effect of transformational leadership on continuance commitment to change occurred independent of the level of perceived threat during a change episode. Exact statistical parameters can be looked up in Table 4.

Taken together, the results showed that hypotheses one, three, four and five had to be rejected, whereas hypothesis two could have been accepted. That means that in the present study, transformational leadership had no significant effect on either of the dependent variables, normative, affective and continuance commitment to change. Neither were their interaction effects between transformational leadership and perceived threat or empowerment, meaning that the relationship between transformational leadership and the dependent variables was not influenced by the presence or absence of perceived threat or empowerment. Yet, a significant positive effect of transformational leadership on empowerment was found, meaning that among participants transformational leadership was likely to facilitate the level empowerment. Furthermore, perceived threat had no significant effect on affective nor continuance commitment to change, yet a significant negative relationship was found between perceived threat and normative commitment to change, meaning that in the sample, participants were likely to score higher on normative commitment to change, when perceived threat was low.

Discussion

Meaning of the results

This study has been conducted to investigate the research question “How is commitment to change among start-up employees affected by transformational leadership? The role of empowerment and perceived threats”. To do so, the main effect of transformational leadership, but also moderating variables empowerment and perceived threat were investigated. Furthermore, the role of perceived threat on normative and affective commitment to change has been investigated, given the high vulnerability for failure of start-ups. After conducting analysis, four out of five hypotheses had to be rejected. And the research questions cannot be answered, as no insights were gained with regards to how start-up employees’ commitment to change is affected by transformational leadership.

Prior to interpreting the findings, it must be stated that the results have to be interpreted with caution, as due to the low number of participants ($N = 30$), the sample is not representative for a larger population.

As there were no significant main effects of transformational leadership on affective, normative and continuance commitment to change, it appears that, in the investigated sample, there was no evidence that transformational leadership is related to commitment to change. Those results came rather unexpected, as a meta-analysis of Choi (2011) revealed that transformational leadership would be positively related to developing a higher level of commitment to change among employees. Various factors could account for the differences between the present and prior studies. The rather homogenous and small sample could be a reason for the lack of results. The sample could be considered homogenous, as the standard deviations are mostly below one and ceiling effects could be observed on most scales, meaning that a vast majority of participants scored on one end of a scale, instead of scoring varied on the scale. Thus, the results that Herold et al. (2008) or Hechanova et al. (2013) found regarding the effect of transformational leadership on commitment to change could not be replicated. A difference between the present study and the studies of Herold et al. (2008) or Hechanova et al. (2013), is that the investigated sample, investigated only start-up members, instead of members of more established, large companies. A reason for these findings could be that in start-ups, there appears to be a tendency to develop leadership capabilities among all employees, in contrast to the practice in larger, more established companies (Prommer, Tiberius & Kraus, 2020). Thus, the commitment to change of the participants might be less

affected by perceived transformational leadership, but by their own perceived leadership capabilities through these change episodes, as leaders tend to shape organizational change campaigns and aim to influence recipients, instead of following others plans (Oreg & Berson, 2019).

To answer the research question “How does transformational leadership affect commitment to change among start-up employees?” it can be said that transformational leadership did not affect affective, normative or continuance commitment to change among start-up members, and that the level of empowerment and perceived threat did not impact the relationship between transformational leadership and commitment to change.

Yet, a significant positive effect of transformational leadership on empowerment was found, which is a relationship that was investigated, because scholars argue, that empowerment could be an underlying mechanism that accounts for the effect of transformational leadership on commitment to change (Hechanova et al. 2013; Herold et al., 2008). But as there was no significant effect of transformational leadership on commitment to change, no further implications about whether empowerment could serve as an underlying factor that could have moderated the relationship between transformational leadership and commitment to change could be drawn.

With regards to the independent variable perceived threat, the participants did not tend to feel that their job or job conditions were threatened by organizational change, even though Barron and Hannan (2002) described that organizational change in start-ups can be destabilizing and have potential negative effects. Furthermore, organizational changes are crucial for goal achievement and thus start-ups are often confronted with them (Okanovic et al., 2020). Still, the vast majority of participants did not feel threatened by organizational changes. But the findings indicate, that when participants feel threatened, their normative commitment to change decreases, meaning that perceived threat associated with a change initiatives led to participants feeling less obliged to support the change initiative for reasons like feeling that one has to follow the change initiative, because e.g. time or monetary resources were invested in the participant by the start-up. A reason for this could be that the perceived threat could lead to an increased stress level, which is associated with decreased acceptance of organizational change (Vakola & Nikolau, 2005).

Strengths and Limitations

Limitations

Starting with the limitations of the study, a major downside of the study was the limited generalizability of the results, due to the low number of participants ($N = 30$). A sample of 150 participants was the aim, yet it was failed to achieve this aim. Due to time constraints, analysis had to be conducted, as soon as the minimum number of participants ($N = 30$) was reached.

Another limitation of the study was the choice of the methodological measurement instruments, that have partly revealed questionable validity results after conducting a factor analysis. The scales that turned out to have questionable results are the affective commitment to change scale, the normative commitment to change scale, and the psychological empowerment at the workplace scale. In addition to questionable results of the factor analysis, the Cronbach's Alpha of the normative commitment to change scale, was negative, indicating a weak internal consistency (Vaske et al., 2017). These results must be interpreted with caution, as in contrast to the absolute minimum of 100 data points that are needed for a valid factor analysis, only 30 could be analyzed, which could have led to invalid factor analysis outcomes (Kline, 1994).

Another limitation was that start-up companies do not have clear boundaries, like for example certain numbers of employees or years of existence, or minimum revenues, which made it difficult to classify objectively and scientifically what a start-up is. In Zaech & Baldeggers' (2017) study on leadership in start-ups, they aim to describe a set of defining characteristics, which include operations in a specific context, uncertainty, limited financial and human resources. So they used a similar approach as the present study by scanning literature to develop a theoretical framework that describes characteristics of start-ups. A study of Jyoti and Singh (2020), summarized definitions of start-ups based on performance, nature of the business and a mix of both factors. Interestingly, many definitions contradict each other, so does one definition state that a start-up is an enterprise that is operating for less than two years, whilst another describes that the company should not be older than five years. Also, some sources state that in the first three years, a turnover excess of USD 1 million should have been made, whilst another source argues that the turnover after five years should be below USD 3.7 million. Some definitions are focused on finding solutions for various problems, whereas others emphasize working towards innovative and technological solutions. So, after all, classifying an enterprise as start-ups is always, at least partly, of subjective

nature, which impedes unified research on this topic.

Strengths

A strength of this study was that it was the first scientific research to investigate attitudinal constructs towards change in the start-up context, and thus can be seen as a first step entering a new niche of research. Here, the results were not as expected and point towards a different effect of transformational leadership on commitment to change in start-up companies, as compared to other organizational structures, like those used in the studies of Choi et al. (2011), Hechanova et al. (2013), and Herold et al. (2008) Thus, the study indicates, that in start-up companies, commitment to change might be developed independent of transformational leadership.

In addition, a strength of this study was that participants had the chance to view and answer the survey in Dutch, English and German language, thus enabling participants to choose the language they were most fluent in, thus potential language barriers among participants have been ruled out as much as possible. Besides that, the study was pilot tested with two participants to find out whether there were any unclarities in the survey.

Furthermore, the continuance commitment to change scale, the global transformational leadership scale and the perceived treat scale yielded good validity and reliability coefficients, which adds to the quality of the research.

Implications for future research

The present research is the first that explicitly dealt with attitudinal constructs towards change in start-up organizations. Therefore, implications for future research arouse.

Firstly, future research should investigate the research question with a larger, less homogenous sample, to find out whether the results, which were obtained in the present study, can be replicated with a sample that has a higher level of generalizability. This could not only be important for the results of the hypothesis, but also to find out whether the research instruments with the questionable validity and reliability data become more valid and reliable with increasing sample size, to find out if they are generally suited for this type of research.

Secondly, the term “start-up” should get a more closed academic definition, as so far, the definition is rather open and there are no clear boundaries, when an organization is a start-up and when it has exceeded the start-up status, as described in the strengths and limitations section. As start-up companies are on the rise, it could be wise to understand and study them closer, as in Germany alone, the number of green-tech start-ups grew by 144% between 2020

and 2021 (Brandt, 2022), and worldwide USD 16.3 billion were invested in climate-tech start-ups between 2013 and 2019 (Janson, 2020). Additionally, there is a vast and growing number of support institutions for start-ups, like start-up accelerators or incubators, in which start-ups receive support to grow and achieve their goals (Zinke et al., 2018). Thus, research on certain topics of, for example, organizational psychology or business studies could be studied within the context of start-ups more directly, to get a better understanding of, for example, commitment to change in start-up enterprises. Besides start-ups themselves, start-up accelerators or incubators could most likely profit from gaining more scientific insights into start-up enterprises to facilitate the process of supporting their start-ups. As there are plenty of definitions of start-ups, like for example those that Zaech and Baldegger (2017) or Jyoti and Singh (2020) describe, a meta-analysis could be conducted to find out the most common factors in all definitions, and based on that, achieve a common understanding of the term “start-up”. On such a common scientific definition, a new body of unified research could be built.

Thirdly, as empowerment and perceived threat did not appear to moderate the relationship between transformational leadership and commitment to change, future research should investigate which underlying factors account for the relationship between both constructs, which has been found in previous studies.

Fourthly, future research should investigate different leadership styles and their effect on commitment to change in start-up companies to find out whether there is a certain leadership style that can improve commitment to change among start-up members, with the overall aim to successfully manage organizational change campaigns. Zaech and Baldegger (2017) found that transactional leadership and laissez-faire leadership can have a positive effect on start-up performance, depending on the size of the start-up. Future research should investigate, if commitment to change could account for this relationship between these leadership-styles and positive start-up performance, as commitment to change is significantly related to change-supportive behaviors and thus start-up performance.

Lastly, following up the previous point, future research should not only investigate the effect of perceived leadership styles, but also the effect of perceived leadership capabilities. This suggestion is based on the previously mentioned point that in start-ups, there is the tendency to develop leadership capabilities among all employees (Prommer, Tiberius, & Kraus, 2020). Among leaders there is a tendency to create organizational change campaigns and influence others with them, instead of being influenced by others and acting accordingly (Oreg & Berson, 2019). Thus, start-up employees might be more committed to their own plan,

then to someone else's plan, which could explain why no significant effect of perceived transformational leadership and commitment to change was found in the present sample.

Conclusion

The study's results differ from prior research results and provide first insights into attitudinal research among start-up organizations, in that attitudes towards change might be built up independently from transformational leadership. Furthermore, it shows that despite the high failure rate, organizational changes do not pose a perceived threat among start-up members. Yet, the study confirms a positive relation between transformational leadership and empowerment, also in the start-up domain. All in all, this is a first step towards the investigation of attitudinal constructs in start-up companies, which's results have to be handled with caution due to limited generalizability induced by low number of participants. Thus, further, and more large-scale research in this area is needed to gain more insights that can be used to stimulate start-up members' attitudes towards change.

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Appendices

Appendix A: Screenshot of demographic questionnaire



How old are you?

What is your gender?

- Male
- Female
- Non-binary / third gender
- Prefer not to say

What is your educational level?

- High School Degree
- Bachelors Degree
- Masters Degree
- Doctoral Degree

Do you have a management role in your organization?

- Yes
- Prefer not to say
- No

In which industry does your organization operate? (e.g. Trade, Health, Research, AI...)

Appendix B: Global Transformational Leadership Scale



Please think about leadership in your organization and answer the following questions. "Leader" can be seen as your supervisor, manager or co-founder.

My leader communicates a clear and positive vision of the future.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

My leader treats staff as individuals, supports and encourages their development.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

My leader gives encouragement and recognition to staff.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-



My leader fosters trust, involvement and cooperation among team members.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

My leader encourages thinking about problems in new ways and questions assumptions.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

My leader is clear about her or his values and practises what she or he preaches.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

My leader instills pride and respect in others and inspires me by being highly competent.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

Appendix C: Psychological Empowerment at the Workplace Scale



Please respond to following statements by indicating the extent to which you agree or disagree with the them.

The work I do is very important to me.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

My job activities are personally meaningful to me.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

The work I do is meaningful to me.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-



I am confident about my ability to do my job.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I am self-assured about my capabilities to perform my work activities.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I have mastered the skills necessary for my job.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I have significant autonomy in determining my how I do my job.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree



I can decide myself on how to go about doing my work.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I have considerable opportunity for independence and freedom in how I do my job.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

My impact on what happens in my department is large.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I have a great deal of control over what happens in my department.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

Appendix D: Perceived Threat at the Workplace Scale



Please think about the current or the most recent change episode your organization experienced before answering the following questions. Here, organizational change refers to an organizational adaptation to circumstances or an adaptation of organizational practices and functioning towards goal achievement. In the following questions, the word "threatened" can be understood as "a possibility of getting worse in the future".

Due to the change(s), I feel that my salary and benefits are threatened.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

Due to the change(s), I feel that my general working conditions are threatened.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

Due to the change(s), I feel that my job security is threatened.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

Due to the change(s), I feel that my personal job opportunities are threatened.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

Appendix E1: Affective Commitment to Change Scale



Please think about the current or the most recent change episode your organization experienced before answering the following questions. Here, organizational change refers to an organizational adaptation to circumstances or an adaptation of organizational practices and functioning towards goal achievement.

I believe in the value of this change.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

This change is a good strategy for the organization

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I think that management is making a mistake by introducing this change.

- 
- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
- 

This change serves an important purpose.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

Things would be better without this change.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

This change is not necessary.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree



Appendix E2: Normative Commitment to Change Scale

It would be irresponsible of me to resist this change.

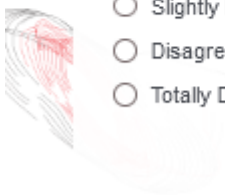
- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I would feel guilty of opposing this change.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I do not feel any obligation to support this change.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree





I feel a sense of duty to work toward this change.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I do not think it would be right of me to oppose this change.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

I would not feel badly about opposing this change.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-



Appendix E3: Continuance Commitment to Change Scale



I have no choice but to go along with this change.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

I feel pressure to go along with this change.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree

I have too much at stake to resist this change.

- Totally Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Totally Disagree



It would be too costly for me to resist this change.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

It would be risky to speak out against this change.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
-

Resisting this change is not a viable option for me.

- Totally Agree
 - Agree
 - Slightly Agree
 - Neutral
 - Slightly Disagree
 - Disagree
 - Totally Disagree
- 

Appendix F: Factor Analysis Table

Results From a Factor Analysis of all Items used in the Study

Items	Factor loading				
	1	2	3	4	5
1. The work I do is very important for me.	.88				
2. I have considerable opportunity for independence and freedom in how I do my job.	.86				
3. My job activities are personally meaningful for me.	.86				
4. I am self-assured about my capabilities to perform my work activities.	.79	.42			
5. My leader treats staff as individuals, supports and encourages their development.	.76				
6. My leader communicates a clear and positive vision of the future.	.70				
7. My leader gives encouragement and recognition to the staff.	.70				
8. I am confident about my ability to do my job.	.70	.51			
9. My impact on what happens in my department is large.	.66		-.41		
10. I can decide myself on how to go about doing my work.	.66			.47	
11. The work I do is meaningful for me.	.60		-.37	.32	
12. My leader fosters trust, involvement and cooperation among team members.	.53				
13. This change serves an important purpose.	-.40	.33			
14. My leader encourages thinking about problems in new ways and questions assumptions.	.40	.34		.33	
15. My leader instills pride and respect in others and inspires me by being highly competent.	-.37			.33	
16. Due to the change(s), I feel that my salary and benefits are threatened.		-.88			

17. Due to the change(s), I feel that my job security is threatened.					-.82
18. I believe in the value of this change.					.78
19. Due to the change(s), I feel that my general job conditions are threatened.	.37				-.65
20. Due to the change(s), I feel that my my personal job opportunities are threatened.					-.63
21. I feel pressure to go along with this change.					.59
					.52
22. This change is a good strategy for the organization					.55
					.42
23. I can decide myself how I do my work.					-.52
24. My impact on what happens in my department is large.	.35				-.48
					-.47
25. I have too muc at stake to resist this change.					.87
26. It would be too costly for me to resist this change.					.86
27. I feel pressure to go along with this change.	-.37				.75
28. Resisting this change is not a viable option for me.	-.31				.75
29. I have no choice but to along with this change.					-.32
					.72
30. It would by risky to speak out against this change.	-.40				.71
31. I have mastered the skills necessary for my job.					-.46
					-.31
32. This change is not necessary. (R)					.83
33. Things would be better without this change. (R)					.75
34. I think that management is making a mistake by introducing this change. (R)					.66
35. My leader is clear about his or her values and practices what she or he preaches.	.44	.38			-.38
					.51
36. It would be irresponsible of me to resist this change.	.32				.84

37. I feel a sense of duty to work towards this change.	.34	.66
38. I would not feel badly about opposing this change. (R)		-.66
39. I would feel guilty of opposing this change.		.61
40. I do not feel any obligation to support this change (R)		
		.43 -.58

Note. $N = 30$. The extraction method was principal axis factoring with an orthogonal (Varimax with Kaiser Normalization) rotation. Each item's highest factor loading is marked in bold. Reverse-scored items are denoted with an (R).

