MSc Human Resource Management and Organizational Psychology

The Influence of Human Resource Practices on Employees’ Responses towards Organizational Change in the Automotive Industry:
Transformational Leadership as a Mediator

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Abstract
Organizational change, specifically the human dimension of change, is central to the corporate strategy of manufacturers and suppliers in the automotive industry in the 21st century. However, little research was conducted on the relation between commitment-based human resource practices and employees’ responses towards organizational change and future organizational change so far. The present study investigated the effects of commitment-based human resource (HR) practices, transformational leadership, and psychological safety on employees’ responses to organizational change and to future organizational change in the automotive industry. The author hypothesized that commitment-based HR practices are linked to favorable employee responses towards organizational change (1a) and future organizational change (1b); transformational leadership mediates the positive effect of commitment-based HR practices on employees’ change responses (2a) and employees’ responses to future change (2b); psychological safety mediates the positive effect of commitment-based HR practices on employees’ change responses (3a) and employees’ responses to future change (3b); and the positive relation between commitment-based HR practices and employees’ change responses (4a) and employees’ responses to future change (4b) is mediated by both high transformational leadership and high psychological safety (double mediation). 117 participants from different automobile manufacturers in Germany completed a cross-sectional survey. The results revealed a main effect of commitment-based HR practices on employees’ change responses, confirming the hypotheses 1a and 1b. Process analyses showed a full mediation effect of transformational leadership in the relation of commitment-based HR practices and employees’ change responses, confirming hypotheses 2a and 2b. The third hypothesis was not supported, since no full indirect effect of psychological safety in the relation of commitment-based HR practices and employees’ change responses was found. Finally, no serial double mediation effect of transformational leadership and psychological safety in the association of commitment-based HR practices and employees’ change responses was found, disconfirming hypotheses 4a and 4b. Based both on the theories of social exchange and uncertainty reduction, the findings highlight how commitment-based HR practices contribute to lower change resistance and change disengagement and to higher change acceptance and change proactivity among employees at German automobile manufacturers.

Keywords: responses to organizational change, commitment-based HR practices, transformational leadership, psychological safety, automotive industry
Declaration of Research Work Integrity

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature of any degree. This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by giving explicit references. A bibliography is appended.

By signing the present document, I confirm and agree that I have read RU's ethics code of conduct and fully understand the consequences of violating these rules in regards of my thesis.

07.01.2019

Date and place

Kemnitala

Signature
# Table of Contents

Abstract .................................................................................................................................................. i
Declaration of Research Work Integrity ................................................................................................. ii
List of Tables ........................................................................................................................................ v
1. Introduction ...................................................................................................................................... 1
2. Research question and contribution of the study ............................................................................. 2
3. Literature review ............................................................................................................................. 4
   3.1 The transformation of the automotive industry ........................................................................... 4
       Changes in job roles and job tasks: Ambidextrous employees and leaders .............................. 5
       Strategies to equip employees and leaders for their new job roles ........................................ 6
   3.2. Organizational change and employees’ change responses ..................................................... 8
       Organizational change conceptualized ....................................................................................... 8
       Employees’ responses to organizational change ......................................................................... 8
       *Circumplex model of employees’ responses to organizational change* ............................. 10
   3.3 Commitment-based HR practices and employees’ change responses ............................... 14
       A definition of commitment-based human resource practices .............................................. 14
       Commitment-based human resource practices as an antecedent .......................................... 15
   3.4 The mediating role of transformational leadership ................................................................. 17
       Transformational leadership conceptualized ............................................................................. 17
       Transformational leadership as an outcome ............................................................................. 18
       Transformational leadership as an antecedent ........................................................................ 18
       The mediating role of transformational leadership ................................................................. 19
   3.5 The mediating role of psychological safety ................................................................................. 19
       Psychological safety conceptualized ......................................................................................... 19
       Psychological safety as an outcome ......................................................................................... 20
       Psychological safety as an antecedent ...................................................................................... 21
       Psychological safety as a mediator ......................................................................................... 21
       Double mediation of transformational leadership and psychological safety .......................... 22
   3.6 Hypotheses and theoretical framework ...................................................................................... 23
4. Methodology ..................................................................................................................................... 24
   4.1 Rationale for the research method ............................................................................................. 24
   4.2 Participants ................................................................................................................................. 25
   4.3 Procedure ................................................................................................................................... 28
   4.4 Measures ..................................................................................................................................... 28
       Commitment-based HR practices ............................................................................................. 28
Transformational leadership ................................................................. 29
Psychological safety ........................................................................ 30
Organizational change process .......................................................... 31
Employees’ change responses .............................................................. 31
Employees’ responses to future organizational change ......................... 32
5. Results .......................................................................................... 32
  5.1 Correlational analysis ................................................................. 32
  5.2 Linear regressions ....................................................................... 33
      Commitment-based HR practices on employees’ change responses .................................. 33
  5.3 Mediation analyses ..................................................................... 34
      Mediation of transformational leadership .......................................... 35
      Mediation of psychological safety .................................................... 37
      Double mediation of transformational leadership and psychological safety .......... 40
6. Discussion ...................................................................................... 42
  6.1 Theoretical Implications ............................................................. 45
  6.2 Managerial Implications .............................................................. 47
  6.3 Limitations and future research .................................................... 48
7. Conclusion ....................................................................................... 49
Appendix 1 ......................................................................................... 50
   Informed Consent Form .................................................................... 50
List of Tables

Table 1: Gender frequency and percentages ................................................................. 25
Table 2: Age frequency and percentages ........................................................................ 25
Table 3: Job tenure frequency and percentages ............................................................. 26
Table 4: Job level frequency and percentages ............................................................... 27
Table 5: English competence frequency and percentages ............................................. 27
Table 6: Descriptive statistics, correlations, and reliabilities ......................................... 32
Table 7: Conditional indirect effects of commitment-based HR practices on employees' responses to organizational change (Model 4; Hayes, 2013) ................................................................. 35
Table 8: Conditional indirect effects of commitment-based HR practices on employees' responses to future organizational change (Model 4; Hayes, 2013) ................................................................. 36
Table 9: Conditional indirect effects of commitment-based HR practices on employees' responses to organizational change (Model 4; Hayes, 2013) ................................................................. 38
Table 10: Conditional indirect effects of commitment-based HR practices on employees' responses to future organizational change (Model 4; Hayes, 2013) ............ 39
List of Figures

Figure 1: Representation of double mediation among the study variables .......................... 3
Figure 2: Circumplex model of recipients' responses to change (Oreg et al., 2018) .... 11
Figure 3: Scatterplot of commitment-based HR practices and employees' responses to organizational change with regression line ................................................................. 33
Figure 4: Scatterplot of commitment-based HR practices and employees' responses to future organizational change with regression line ................................................................. 34
Figure 5: Full mediation of transformational leadership in the relationship between commitment-based HR practices and employees' responses to organizational change ................................................................. 36
Figure 6: Full mediation of transformational leadership in the relationship between commitment-based HR practices and employees' responses to future organizational change ......................................................................................................................................................... 37
Figure 7: Partial mediation of psychological safety in the relationship between commitment-based HR practices and employees' responses to organizational change ................................................................. 38
Figure 8: No mediation of psychological safety in the relationship between commitment-based HR practices and employees' responses to future organizational change ......................................................................................................................................................... 40
Figure 9: No serial double mediation of transformational leadership and psychological safety in the relationship between commitment-based HR practices and employees' responses to organizational change ......................................................................................................................................................... 41
Figure 10: No serial double mediation of transformational leadership and psychological safety in the relationship between commitment-based HR practices and employees' responses to future organizational change ......................................................................................................................................................... 42
1. Introduction

In today’s dynamic and ever-changing business world, automotive manufacturers need to go through organizational transformations to be able to remain competitive. Automotive manufacturers are therefore forced to manage change effectively (Winkelhake, 2018). Yet, several studies on organizational change have revealed that 70 to 80 percent of all change processes in organizations worldwide fail (Beer and Nohria, 2000; Kotter, 1995; Shin, Taylor & Seo, 2012). Many researchers gave attention to macro factors, like the external organizational environment (Attaran, 2004) or strategy of an organization (Paper & Chang, 2005), to explain this failure. Less attention, however, has been given to micro factors, such as employees’ perspective of organizational change (Kiefer, 2005).

Practitioners nowadays are more and more interested in studying the human role in organizational change, particularly employees’ change commitment (Kiefer, 2005), employees’ work behavior (Battistelli, Montani, Odoardi, Vandenbergh, & Picci, 2014), and employees’ emotions (Seo, Taylor, Hill, Zhang, Tesluk, & Lorinkova, 2012) during organizational change. The increasing interest in the human role in organization change is not surprising since employees are one of the critical drivers of organizational change processes (Rick, 2014).

Research on employees’ reactions to change has focused on three distinct employee responses before a future change (Neves, Almeida, & Velez, 2018) and during a change implementation (Smollan, 2007). A recent study by Oreg, Bartunek, Lee, and Do (2018) on employees’ responses to organizational change suggested that employees respond either favorably or unfavorably and actively or passively to organizational change processes.

As Rick (2014) claimed, employees are one of the drivers of change and play therefore an important role in organizational change processes. To implement an organizational change process successfully, the organization needs to commit its employees (Parish, Cadwallader, & Busch, 2006). Parish et al. (2006) research revealed that committed employees were more likely to display favorable work behaviors, such as being committed to change initiatives and supporting them. Organizations can commit their employees through several means (Liu, Zhang, & Xiong, 2010). One means is the organization’s support in the employee’s development in the long-term (Wright, Dunford, & Snell, 2001). Boon and Kalshoven (2014) found that if an organization supported employees’ development, employees were more likely to reciprocate by displaying
favorable change-oriented behaviors. In contrast, their study showed that if an organization did not support employees’ development, employees returned the disfavor by enacting change resistant behaviors. Consequently, Boon and Karlshoven (2014) pointed out that supportive, long-term oriented organizational practices determined the employee’s organizational behavior.

Furthermore, the leadership style (Holten & Brenner, 2015) and a team climate characterized by mutual trust and safety (Edmondson, 1999) are also important for employees’ change responses. Holton and Brenner (2015) found that if the organization provided employees the necessary support to contribute to the change process, the team leader was better able to motivate his employees to work on more challenging tasks, thereby facilitating followers’ trust in himself and each other. Research by Ortega, Van den Bossche, Sánchez-Manzanares, Rico and Gil (2014) further asserted leadership style and a climate of mutual trust and safety to be linked, in that leadership style preceded and facilitated a safe work environment characterized by feeling safe to speak up and learning from each other. This change-oriented and safe work environment yielded favorable employee responses towards organizational learning in healthcare teams in Ortega’s et al. (2014) study. In this way, leadership style and a psychological safe work climate might also explain the influence of supportive organizational practices on employees’ responses to organizational change in the study at hand.

2. Research question and contribution of the study
The current research explores if commitment-based HR practices are linked to employees’ change responses at automotive manufacturers in Germany. By investing in the staff’s development in the long-term, it is assumed that commitment-based HR practices help to reduce employees’ negative responses and increase their positive responses towards organizational change and future organizational change (see “Hypothesis 1” in Figure 1) (Wright et al., 2001). Further, it is proposed that a motivational, empowering behavior displayed by a team leader (i.e. transformational leadership; Bass & Bass, 2008) is an underlying mechanism by which commitment-based HR practices help to reduce employees’ negative responses and increase their positive responses to organizational change and future organizational change (see “Hypothesis 2” in Figure 1). The transformational leader reduces employees’ uncertainty about the organizational change and the organization’s future by providing a compelling vision of the future that is motivational and engaging for employees (Ford & Ford, 1994). A second
underlying mechanism that is argued in this study to account for the relation between commitment-based HR practices and employees’ change responses is an interpersonal climate of mutual trust and safety (i.e. psychological safety; Edmondson, 1999) in the department team at work (see “Hypothesis 3” in Figure 1). By creating a safe and tolerant work environment, psychology safety promotes readiness for change among employees in an organization (Lewin, 1974). Lastly, it is argued that both transformational leadership and psychological safety account for the association between commitment-based HR practices and employees’ change responses. Ortega et al. (2014) found in their research in health organizations that a leader who displays empowering, transformational behavior contributes to the creation of a psychological safe team climate. This double mediation of transformational leadership and psychological safety is shown in the path “Hypothesis 4” in Figure 1.

![Diagram of double mediation among study variables](image)

**Figure 1:** Representation of double mediation among the study variables

The present study contributes to the literature in several ways: The study is the first that highlights all four responses to change in a single study. By drawing on the circumplex model of employees’ responses to change (Oreg et al., 2018), change responses are conceptualized on both valence and activation dimensions in the present study. In this way, the study offers a comprehensive view of the spectrum of employees’ responses to organizational change and future organizational change.

Second, the study extends prior research on human resource practices and organizational change, illustrating commitment-based HR practices’ effect on the individual’s change response. More specifically, this relationship is built on the employee-employer relation...
and on social exchanges. Thereby, the study highlights the underlying social-psychological reciprocity norm in organizational contexts.

Third, the study is the first that sheds light on the mediators “transformational leadership” and “psychological safety” in organizational change and future organizational change in the automotive industry. On the basis of the conservation of resources theory (Hobfoll, 1989) and Berger’s and Calabrese’s (1975) theory of uncertainty reduction, the study aims to explain the important role of a change-oriented leader and a psychological safe team environment at work and their implications for employees’ responses towards organizational change and future organizational change.

3. Literature review

3.1 The transformation of the automotive industry

The automotive industry has faced a fundamental digital transformation in recent times. Mega trends - such as electric drives, connected cars and autonomous driving – have been affecting the industry profoundly. Automobile manufacturers have therefore increasingly introduced mobility services that are available as required through certain applications via peoples’ smartphones (Wagner & Kabel, 2018). In the near future, for instance, all vehicles will be linked via connected drive services and will be guided through the city’s traffic by a comprehensive system that controls the traffic and evades traffic jams. Along with these services, vehicle ownership has also become increasingly unimportant for residents in major cities (Bosler, Jud, & Herzwurm, 2017). Winkelhake (2018) further claimed that all automotive segments, except for the sports car and luxury line segments, are going through this profound transformation.

Providers of the new mobility services have launched different business models. For instance, a provider might either buy own fleets of vehicles, or might share a fleet of vehicles privately or with a company (Auer & Derer, 2018). As a result of greater sharing and higher utilization of vehicles in the mobility service business, the demand of vehicles has decreased. Winkelhake (2018) pointed out to automotive manufacturers and suppliers ongoing transformation to overcoming the aforementioned challenge: To remain competitive on the market, automotive manufacturers and suppliers need to invent new business strategies and models with new offers targeted to the demand of the customer,
the industry, and the greater society. Linked to this organization’s invention of new strategies and models is the digital and cultural transformation to align the organization with its new goals.

Considering the profound changes in the automotive industry, the major challenge, however, is not to remain competitive and bring more digitization into the business. Rather, it is more difficult to bring all employees on board and motivate them to actively participate in the organizational transformation and to abandon their old behavior patterns (Kotter, 1995). According to Winkelhake (2018), the corporate culture of automobile manufacturers nowadays is still characterized by strong hierarchical structures, long decision-making paths, and traditional values, such as stability and consistency. Employees therefore still possess the traditional job competencies and the traditional mindset that is in accordance with the traditional, old culture of the manufacturer. Yet, given the profound transformation of the industry, Winkelhake (2018) claimed that a modern, digital corporate culture is needed that breaks up the traditional structures and values and creates an open environment as a basis for the upcoming or ongoing change. Such a culture is shaped by flat hierarchies, short decision-making paths, speed, agility, motivation, more freedom, proactive change behavior, and readiness for change (Eilers, Möckel, Rump, & Schabel, 2016).

**Changes in job roles and job tasks: Ambidextrous employees and leaders**

As a result of this shift in the corporate culture from traditional to modern and digital, the job roles and demands placed on employees and leaders have also changed from routine, stable, and unaccountable roles toward flexible, complex, and self-responsible job roles (Landy & Conte, 2017). For example, whereas employees with traditional job roles had clearly defined tasks which they had to accomplished on their own, employees with more modern job roles collaborate with other coworkers, subordinates, and superiors to jointly accomplish more complex tasks. Due to the collaborative nature of the latter, employees and leaders need to stay flexible in organizing and completing their complex work. Also, since strong hierarchies has flattened in recent times, employees have also increasingly taken over more responsibility at work (Landy & Conte, 2017). Yet, many employees and leaders are still not familiar with the new job roles and lack these new competencies (Winkelhake, 2018).
From the top-down perspective, Hays (2016) claimed that managers feel the need to hire generalists with cross-industry and cross-topic experience who possess a creative mindset. Yet, many managers also claimed that structured processes are still necessary to ensure high quality and safety standards in the industry, emphasizing the traditional processes based on rigidity. As a result, managers still looked for experienced, process-oriented employees rather than young, creative people.

Many scholars and practitioners in the field have suggested that it is best for automotive manufacturers nowadays if employees and leaders are able to rely both on the traditional, proven job roles while at the same time adapt to the changes (Prieto & Santana, 2012; Raisch & Hotz, 2008; Rost, Renzl, & Kaschube, 2014). Duncan (1976) termed this ability organizational ambidexterity. Later, Levinthal and March (1993) discussed the concept and agreed that it is vital for both the organization and its employees to exploit their existing knowledge (exploitation) and dynamic adaptability as well as to create new knowledge to remain competitive in the future.

**Strategies to equip employees and leaders for their new job roles**

To meet the changing demand of the industry, automotive manufacturers and suppliers need to offer various training and development programs for their employees and leaders on the one hand (Rost, Renzl, & Kaschube, 2014), but also need to provide the necessary technical and organizational environment (Hays, 2018) on the other hand. First, automotive manufacturers and suppliers need to communicate the concept of organizational ambidexterity to all employees. This communication should be supported using certain human resource instruments and activities, such as talent development and inhouse-training (Rost, Renzl, Kaschube, 2014). If young employees are employed in the company already longer, it is necessary to support them according to their abilities. This is done, for example, through talent management programs. These programs represent a coordinated package of support measures for employees with special skills in an early career phase (Schreiber & Rietiker, 2010). In ambidextrous organizations, such programs should promote the targeted transfer of junior executives between exploitation and exploration areas (Rost, 2012). Leaders can thus develop an understanding for both areas and stimulate such development among their employees as role models and mentors in the sense of a change-oriented leadership style (Nemanich & Vera 2009).

In order to prepare leaders for the leadership style required for ambidextrous followers and an ambidextrous organization, the leadership style can be anchored in a mission
statement developed by the leaders, which forms the basis for manager training. In such training courses, the leaders must jointly translate the leadership principles into concrete behaviors specific to the work context and develop their application in a self-organized manner. This is because the possibility of using change-oriented leadership styles in the respective work areas with a focus on knowledge exploitation or exploration and competencies is based on corresponding leadership competencies that are not taught in a teaching process but can only be acquired in a self-organized learning process (Heyse, 2010).

Second, despite in-house training and talent development programs, Hays (2018) and Wyman (2018) pointed to three essential factors for the effective implementation of the new job tasks: First, as the most urgent and most promising improvement measure, management demanded better communication technologies. If employees are able to work more independently in the course of digitalization and make more decisions on their own responsibility, they also need access to appropriate information and exchange systems. Secondly, management listed flatter hierarchies among the top improvement measures. This underlines the fact that the change cannot be successfully managed by increased demands on employees in terms of independence and willingness to take responsibility alone. The type of management as well as the organizational structures must also be readjusted. As a third essential factor for the effective implementation of the new tasks, the managers emphasize the increasing importance of diverse teams - a further indication of the necessity to break up silo-like structures in the companies.

In summary, the automotive industry is undergoing a profound transformation. In view of the new mega trends, like electric drives, connected cars and autonomous driving, traditional and silo-like organizational structures are now acting as impediments to a successful transformation (Hays, 2018). In order to ensure the competitiveness and organizational performance of automotive manufacturers and suppliers, they not only need to invent flatter organizational structures and agile processes but also need to redefine their corporate culture and employees’ and leaders’ job roles (Winkelhake, 2018). By defining the new job roles and tasks, the organizations need to consider the employees’ and leaders’ set of competencies and skills. By giving both employees and leaders opportunities for development and training (Rost, Renzl, & Kaschube, 2014) and by ensuring an appropriate technical, cultural, and organizational environment (Hays,
2018), employees and leaders are very likely to become ambidextrous employees that possess both the creativity and readiness for change and the traditional routine best practices.

3.2. Organizational change and employees’ change responses

Organizational change conceptualized

According to Lewin (1951), organizational change is the planned and intentional transformation of an organization “from its current state to a desired future state”. Research has focused both on generic organizational change and particular forms of it, such as downsizing (Sheaffer, Carmeli, Steiner-Revivo & Zionit, 2009), mergers and acquisitions (Kansal & Chandani, 2014), or changes in products and services (Oliva & Kallenberg, 2003).

Organizational change research has been categorized into two different levels of analysis: The older level identified macro-level processes through which change emerges and affects the organization. Accordingly, this research focused on the change outcomes as well as the overall organizational outcomes (Oreg, Vakola & Armenakis, 2011). The second, newer level of analysis viewed change from the change recipient’s perspective, thus taking on a micro view. This perspective considered the consequences of organizational change for the recipient by covering the psychological processes during organizational change, defined as responses to organizational change (Bartunek, Rousseau, Rudolph, & DePalma, 2006). The present research addressed recipients’ responses to organizational change, respectively.

Employees’ responses to organizational change

Mc Guire (1985) classified employees’ change responses into three components, namely cognitive, affective, as well as behavioral. Each of the three reflected a distinct evaluation on behalf of the recipient towards the change event. The cognitive response considered employees’ thoughts and attitudes about the value and benefits of the organizational change for themselves. In particular, employees go through a cognitive appraisal process in which they evaluate the change’s relevance (primary appraisal) and their options for coping with the change (secondary appraisal) (Mc Guire, 1985). According to Lazarus (1991), these cognitive appraisals served as antecedents of affective and behavioral
responses. More recent organizational research by Fugate, Prussia, and Kinicki (2012) found further support for the preceding role of employees’ appraisals between change context and process and recipients’ affective reactions to organizational change.

The affective response addressed employees’ emotions and feelings towards organizational change (Mc Guire, 1985). Russell and Barrett (1999) extended the research on affect and identified core affect, a quadrant construct including four emotion types: 1) positive, activated (for example, feeling excited), 2) positive and deactivated (e.g., feeling satisfied), 3) negative, activated (for example, feeling afraid), and 4) negative, deactivated (e.g., feeling depressed) along the two independent dimensions of activation and valence. The authors defined activation as an individual’s sense of energy. The activation dimension ranged from low activation, such as sleepy and relaxed, to high activation, such as alert and hyperactive. Valence was defined by Russell and Barrett (1999) as a class of subjective mental states on how well an individual is doing. The authors further measured affect on the valence dimension that ranged from positive emotions to negative emotions. Happiness and enjoyment constitute positive emotions whereas sadness, fear or anger constitute negative emotions.

Building on Russell’s and Barrett’s (1999) affect quadrant in emotion research, more recent studies on affective responses to organizational change focused particularly on the second (positive and deactivated) and fourth (negative and deactivated) affective quadrant (Kiefer, 2005; Oreg, 2006; Walker, Armenakis, & Bernerth, 2007). In particular, both Kiefer (2005) and Oreg (2006) examined negative, deactivated affective responses to change, such as anxiety. Walker et al. (2007), in turn, investigated positive, deactivated affective responses to change, such as satisfaction and organizational commitment.

According to Mc Guire (1985), the third response to change is the behavioral response. It includes intentional actions or explicit behaviors carried out in response to the organizational change. Russell and Barrett (1999) have agreed upon the correspondence of individuals’ affective responses and their behavioral responses in their affect quadrant model. They indeed found that positive feelings towards an event or a situation were associated with positive behaviors towards this event or situation (pleasure). In contrast, negative feelings, such as anxiety, led to negative behaviors towards the event or situation (displeasure). In the same vein, these authors suggested a correspondence between the level of activation of emotion and behavior and claimed that an individual in a state of
low activation felt sleepy or was sleeping, whereas a highly aroused individual acted hyperactive. This correspondence was later supported by research on deviant behavior at the workplace by Harvey, Martinko, and Douglas (2009). Harvey and colleagues examined the emotions underlying employees’ decisions to remain silent (silence response) or report a coworker’s deviant behavior (voice response). They found that employees who were angry reported the coworker’s deviant behavior. In contrast, employees who showed compassion towards the deviant coworker remained silent and did not report the coworker. Hence, their study suggested that activated emotions (such as anger) trigger active behavior (such as voice) whereas deactivated emotions (such as compassion) trigger deactivated behavior (such as silence).

To conclude, employees evaluated organizational change from three distinct dimensions (Mc Guire, 1985). A bunch of research on emotions and organizational change has shown that the cognitive responses precede affective responses to change because the employee first appraises the change before he can react emotionally to it (Lazarus, 1991; Fugate et al., 2012). After the employee elicited an emotion or a feeling, he responds to the change by carrying out a certain action or behavior (Russell & Barrett, 1999; Harvey et al., 2009). Yet, prior research has claimed that the affective and cognitive components are intertwined (Edwards, 1990) and that all three components are not linearly related but rather distinct components (Breckler, 1984).

**Circumplex model of employees’ responses to organizational change**

Until recently, organizational change researchers viewed change recipients as implicitly passive, being resistant to change (Oreg et al., 2011) or at best committed towards change initiatives (Herscovitch & Meyer, 2002). For example, Oreg et al. (2011) measured employees’ responses on a single continuum that ranged from passive resistance to compliance in order to find out to which extent organizational change is encouraged. Although these researchers examined several responses to organizational change, they assessed them exclusively on one dimension, the valence dimension (from negative to positive).

Recently, Oreg, Bartunek, Lee and Do (2018) have highlighted the active role of change recipients in organizational changes. Building on the existing emotion literature of Russell (1980), on Russell and Barrett (1999) affect quadrant model, and on earlier research on passive change responses (Herscovitch & Meyer, 2002; Oreg et al. 2011).
Oreg and colleagues (2018) developed a comprehensive circumplex model of recipients’ active and passive responses to organizational change. This model comprised cognitive, affective, and behavioral responses to change and represented four quadrants which reflect the affective and behavioral circumplex distinguished by the valence (positive vs negative) and activation (passive vs active) dimensions (see Figure 2). By introducing the degree of activation as a second dimension, Oreg and colleagues pioneered in measuring not only positive and negative but also active and passive employee responses to change in the organizational context. Figure 2 showed Oreg et al. (2018) circumplex model in which four distinct behavioral responses together with the preceding affective responses are classified into: change disengagement, change acceptance, change resistance and change proactivity (see Figure 2). The researchers also considered the implications of each of the four quadrants for the employee, the organizational change, and broader organizational environment.

Figure 2: Circumplex model of recipients' responses to change (Oreg et al., 2018)
Negative valence and passivity characterize change disengagement, as shown in the bottom-left quadrant in Figure 2. The corresponding emotions are unpleasant and deactivated, such as sadness. Behavioral responses in this quadrant equal withdrawal behaviors such as doing nothing, feeling bored or withholding information (Pinder & Harlos, 2001). Oreg (2006) found that if employees showed change disengagement, they tended to be passive during the change process. As a negative consequence, the employees experienced more neglect behaviors and lower change engagement. Due to the passivity, employees’ responses are covert and might be akin to change acceptance for planning change, a phase in which little feedback is expected and the status quo is preserved (Oreg et al., 2018).

The change acceptance quadrant combined low activation with positive valence, as depicted in the bottom-right quadrant in Figure 2. Change acceptance was characterized by deactivated, pleasant emotions, such as calmness and content. Employees displaying acceptance to change passively supported it (Oreg et al., 2018). For instance, they felt content towards a change by displaying passive behaviors like compliance and attentive listening. This behavioral response of change acceptance was also regarded as readiness for change by Holt, Armenakis, Feild, and Harris (2007). Further, several consequences of change acceptance have been identified. For instance, employees’ change acceptance was positively associated with their well-being as well as with the organization’s implementation of the change (Holt et al., 2007).

Although acceptance to change eased change implementation (Holt et al., 2007), it undermined the giving and receiving of feedback to improve the change process. It thus had a divergent influence on the change’s success (Paterson & Cary, 2002). Employees’ change acceptance supported change implementation but did not yield any constructive feedback for superiors to optimize the change process. Hence, although positively framed in prior research, change acceptance might have drawbacks for change success (Oreg et al., 2018).

Change resistance consisted of negative valence and high activation and of unpleasant, active emotions, as depicted in the top left quadrant in Figure 2. The most likely behavioral response was change resistance, which was referred to an active conduct to preserve the initial state and to disrupt the change (Oreg et al., 2018). Unpleasant,
activated affective responses to resistance were stress or anger, as shown in the literature (Barrett & Russell, 1998). In fact, employees getting angry about the change actively voiced their opinions about it (Van Dyne, Ang, & Botero, 2003). Also, change resistance was associated with lower individual well-being, higher turnover (incuring high costs for staffing practices), and lower organizational performance (Fugate, Harrison, & Kinicki, 2011). Hence, change resistance has detrimental effects to both the employee and the organization as a whole.

Still, change resistance also has benefits for both the employee, organizational members and the organization. Research on voice found that employees relieve stress by actively voicing their resistance opinion, and in turn, they were less likely to withdraw from the firm (Batt, Colvin, & Keefe, 2002). Also, this stream of research showed that voicing objections towards change provided information that might benefit the planning of the change further. At the team-level, Van Dyne et al. (2003) asserted that change agents might more easily understand employees’ change resistance than employees’ disengagement behaviors due to the latter’s high degree of ambiguity. The authors further claimed that by experiencing less ambiguity in understanding employees’ change resistance, change agents interpreted employees’ negative views of the event more accurately. Thus, change agents were better able to react to employees’ change resistant behaviors than their disengagement behaviors. This altered the valence dimension to more positive responses towards the change, as claimed by Oreg et al. (2018).

Change proactivity, shown in the top right quadrant in Figure 2, involved both high activation, positive valence, and activated, pleasant emotions, such as excitement and enthusiasm. This response type was positively associated with change implementation (Oreg et al., 2018). Proactive in nature, Oreg et al. (2018) defined change proactivity as recipient-initiated, improvement-oriented, focused on the future. It was characterized as a response to change with an external locus of causality, meaning that employees’ change proactivity was driven internally but that the change event is initiated by other people, as shown in the study by Morrison (2011). Further, Oreg et al. (2018) asserted that the change might be initiated by change agents or superiors and employees act in response to them to support the change proactively. This strengthened collaboration between the employees and change agents, by actively developing the planning and implementation of change.
In fact, scholars found that pleasant, active emotions elicited creative solutions (Baas, De Dreu, & Nijstad, 2008), proactive behaviors facilitated the implementation of creative ideas within companies (Dutton, Ashford, O’Neill, & Lawrence, 2001), and these behaviors promoted better individual and organizational outcomes (Parker, Bindl, & Strauss, 2010). Consequently, it can be argued that employees’ change proactivity is related to positive long-term outcomes of the change to both the individual and the organization.

Despite its various beneficial outcomes, change proactivity in a team context might slow down the change process due to longer change planning (Oreg et al., 2018). Campbell (2000) labelled this slowing down in change proactivity the initiative paradox. It occurred when change agents were required to accommodate their own ideas and their planning for the change, a task that might be challenging for them. Employees, in turn, expressed and used their own initiative while also being expected to act in accordance with their superior. Accordingly, change proactivity on behalf of the employee might force change agents to adjust their ideas and thoughts.

Overall, Oreg et al. (2018) circumplex model gave insights into the four distinct types of employee change responses and their positive and negative impacts for the individual employee, the change itself, and the organization. Having identified employees’ change responses, the upcoming sections highlight potential conditions that elicit the particular responses and the paths through which the conditions affect employees’ responses to organizational change and future organizational change.

3.3 Commitment-based HR practices and employees’ change responses

A definition of commitment-based human resource practices

Many organizational scholars and scientists have agreed that employees’ behaviors, motivations and employee-employer interactions shape organizational performance, success, innovations, and transitions (Ceylan, 2013; Collins & Smith, 2006; Paré & Tremblay, 2007; Wright & McMahan, 1992). Several organizational human resource (HR) practices were found to influence employees’ behaviors, motivations and interactions at work (Wright et al., 2001). Hereof, Wright and colleagues distinguished two types of HR practices: The first type were HR practices that focused on short-term
employee-employer interactions and viewed the employee as a replaceable asset, referred to as transactional HR practices by Tsui, Pearce, Porter, & Tripoli (1997). Since the former did not consider the future of the organization and its staff, the present study addressed the second type, namely commitment-based HR practices. The latter was defined by Wright et al. (2001) as HR practices that were targeted towards the long term, viewed the employee as highly valuable, and were based on certain psycho-social principles. Due to commitment-based HR practices’ motivational approach, employees were more likely to display positive work behaviors and foster high-investment interactions with their employer at work, as shown in a study by Arthur (1992).

O’Meara and Petzall (2013) pointed out three main dimensions of commitment-based HR practices to foster the employee-employer relation: 1) recruitment and selection practices, 2) monetary compensation, as well as 3) training and development opportunities. Recruitment and selection referred to the process of attracting suitable applicants for a job, interviewing a selected pool of candidates, and selecting one candidate for employment by considering the internal labor market. Compensation and benefits were defined by the researchers as monetary and non-monetary benefits that the employees receive from an organization. These benefits were often based on employees’ work performance and were an important driver of employees’ work motivation and organizational commitment. Lastly, O’Meara and Petzall defined training and development opportunities as means that emphasize on the development of the employees in the long-term by developing and enhancing their skills further. Rousseau (1995) claimed that these three practices together increased employees’ motivation and commitment to their organization and its strategy. In fact, the objective of commitment-based HR practices is the development of a strong psychological commitment between the employee and the organization by investing in the workforce (Boon & Kalshoven, 2014). This commitment is essential because it is related to both organizational outcomes, such as innovations and changes, corporate climate, and employee engagement (Boon & Kalshoven, 2014; Ceylan, 2013; Collins & Smith, 2006; Neves, Almeida, & Velez, 2018).

**Commitment-based human resource practices as an antecedent**

Despite the important role of commitment-based HR practices in organizations worldwide, only little research has examined if these HR practices affected employees’ responses to organizational changes. Indeed, literature on HR practices and organizational
change has mostly focused on how HR practices either reduce employees’ resistance to future change (Neves, Almeida, & Velez, 2018) or foster their commitment to change (Conway & Monks, 2008). No research so far has considered all four response dimensions to organizational change, as defined by Oreg et al. (2018). Because of the pervasion of organizational transformations in the automotive industry nowadays and its effect on the employees and the organization (Rost, Renzl, & Kaschube, 2014), it is important to deepen our knowledge about commitment-based HR practices’ effects on employees’ change responses.

In light of HR practices focus on the long-term and high-investment employee-employer relation, these practices were shown to affect one type pf employees’ responses to organizational change (Neves, Almeida, & Velez, 2018). In ligh of social exchange theory (Blau, 1964), the employee-employer relation can be viewed as a social exchange (Aryee et al., 2002), a long-term exchange of voluntary favors by the employer which will be reciprocated favorably by the employee in the future. This exchange tends to elicit trust and gratitude at both ends. In particular, it can be argued that if the employer cares about his employee’s well-being, the employee tends to reciprocate this favor by displaying positive work behaviors and attitudes either actively or passively. Research in this veine found that organizations which invested in employees’ training and development, were returned the favor by employees who displayed positive work behaviors (Moorman et al., 1998). More recent research by DeGeest et al. (2015) revealed that commitment-based HR practices which supported the organization’s workforce, fostered a reciprocal work environment characterized by active employee behaviors. Moreover, research by Neves, Almeida and Velez (2018) found that employees’ change resistance was reduced when the organization had high level commitment-based HR practices. In turn, employees’ change acceptance was enhanced when the organization had high level commitment-based Hr practices. Employees thus felt obliged to support their organization by reacting favorably and either actively or passively towards the change.

These behavioral tendencies of employees that depend on the organization’s commitment-based HR practices can be classified into four quadrants ranging from active to passive and positive to negative as prior identified in Oreg’s et al. (2018) circumplex model (see section 3.2). Therefore, based on both the circumplex model and social exchange theory, it is argued that commitment-based HR practices influence employees’ responses to organizational change in two different ways, such that change resistance and
change disengagement are reduced and change acceptance and change proactivity are increased by commitment-based HR practices.

3.4 The mediating role of transformational leadership

Transformational leadership conceptualized

Organizational scholars have often associated organizational change with leadership (Nadler & Tushman, 1990; Schruijer, 2010). Kotter (1996) defined leadership as a means to give an outlook of the organization’s future by aligning employees with the vision of the organization and inspire them to achieve the vision in spite of obstacles. More recently, scientists have termed this leadership style “transformational leadership” (Bass & Bass, 2008). Rather than giving employees rewards, a transformational leader inspires and motivates employees to achieve their goals by transforming employees’ attitudes and behaviors (Bass & Bass, 2008).

Bass and Bass (2008) further conceptualized transformational leadership into five domains: “idealized influence, intellectual stimulation, inspirational motivation, individualized consideration, and empowerment”. Leaders had idealized influence if they were honest, open and willing to take risks in times of uncertainty. The ability to gain employees’ trust and respect was also a core feature of leaders’ idealized influence. “Intellectual stimulation” marked a leader that encouraged his employees to challenge the status quo and to try out new, innovative things and find new solutions to problems. Furthermore, a leader with inspirational motivation established a shared vision that is meaningful and challenges employees’ work tasks. An inspirational leader also expresses confidence towards his followers to prepare them for change. This, in turn, fostered more organizational commitment on behalf of the employee. “Individualized consideration” of a leader was marked by supporting and developing the employees in terms of task competency and self-efficacy. Lastly, empowering leadership practices implied task delegation that is meaningful and enhances learning and growth. Also, an empowering leader set high performance expectation and was confident that employees will perform and complete their tasks successfully. By encouraging employees to challenge the status quo in a trusting, supportive environment, envisioning the future, and empowering them, change-oriented leaders influence employees’ attitude and responses to organizational change (Edwards, Knight, Broome, & Flynn, 2010).
Transformational leadership as an outcome

Research has revealed a relation between high-involvement organizational practices and leadership behaviors (Neves, Almeida, Velez, 2018). In terms of the high-involvement model by Lawler (1986), skill development favorably influenced employees, work teams, and the organization. Lawler’s model showed that skill development enhanced employees’ skills and learning and encouraged them to work better and more innovative. A study by Simard et al. (2005) also reported positive associations between skill development and positive learning outcomes. Another study by Bass and Riggio (2006) indicated that the skill development practice, as an organizational HR practice, influenced transformational leadership style. In particular, the authors illustrated that transformational leaders set meaningful but challenging tasks for employees. To master these tasks, it was vital for employees to have access to training and development opportunities. If the HR department did not provide these opportunities, employees were not able to master the tasks and attain the goals set by the leader. Furthermore, the study showed that since transformational leaders encouraged employees’ self-development from different angles, transformational leaders encouraged employees’ innovative ideas and solutions. These leadership behaviors were closely linked to the high-involvement model by Lawler (1986). Thus, transformational leadership should be effective, if the organization has long-term, high-investment HR practices, that focus on employees’ development. Therefore, it is argued that effective transformational leadership should be the outcome of high commitment-based HR practices.

Transformational leadership as an antecedent

Beyond the relation between organizational practices and transformational leader behaviors, a couple of studies has confirmed the role of transformational leadership in shaping followers’ attitudes and responses to organizational change (Oreg & Berson, 2011). Oreg and Berson’s (2011) study found that employees’ change resistance was reduced by transformational leadership. In turn, Nemanich and Keller (2007) found that employees’ change acceptance and change proactivity increased with transformational leadership behaviors. Since these studies were conducted during an organizational change process, the work context was characterized by great levels of uncertainty on behalf of the employees. Leaders, therefore, needed to transmit confidence and to maintain the vision despite the high level of uncertainty. Hereof, uncertainty reduction theory (URT) (Berger & Calabrese, 1975) might be a suitable theoretical framework to explain the
transformational leadership-employees’ change responses association. According to URT, a leader tries to reduce uncertainty in his interaction with his followers before they can react. Accordingly, the leader is at the core of reducing employees’ uncertainty because he provides the compelling vision and confidence in times of change by transforming uncertainty into an opportunity (Bass, 1985). Given leaders’ change-oriented behavior, transformational leaders might be more likely to positively reframe employees’ responses to change.

The mediating role of transformational leadership

As previously discussed, a bunch of research has examined the associations of organizational HR practices, transformational leadership, and employees’ change responses. Still, these studies examined transformational leadership as an outcome, antecedent, or moderator variable (Herold et al., 2007; Nemanich & Keller, 2007; Neves, Almeida, Velez, 2018; Oreg & Berson, 2011). In the context of the present study, however, transformational leadership as a mediator variable leads to a more refined comprehension of the relation of commitment-based HR practices and change responses. If the HR department provides development opportunities for employees in the long-term (O’Meara and Petzall, 2013), employees might be more motivated to accomplish their work tasks and attain the organizational targets. Consequently, through the leader’s transformational behavior, uncertainty inherent in organizational change among employees is reduced and opportunities are seen (see URT; Berger & Calabrese, 1975). In this way, transformational leadership might positively influence employees’ responses to organizational change, particularly their change acceptance and change proactivity. Thus, based on the high-involvement model and uncertainty reduction theory, it is expected that commitment-based HR practices enhance high transformational leadership behavior, which is further linked to favorable change responses.

3.5 The mediating role of psychological safety

Psychological safety conceptualized

A psychological safe team environment at the workplace does not only play an important role in influencing employees’ work behaviors but also in times of organizational change (Edmondson & Lei, 2014). Psychological safety is grounded in early organizational
science research by Schein and Bennis (1965). They first introduced psychological safety as a key component of the unfreezing stage in Lewin’s (1974) model of managing organizational change. The researchers suggested psychological safety to minimize an individual’s anxiety and encourages learning and readiness to change by creating a tolerant and safe work environment. In this regard, psychological safety was identified as a key component in facilitating learning and change in organizations. Kahn (1990) depicted psychological safety as a cognitive state that had implications on an individual’s engagement and disengagement at work. While psychological safety was conceptualized as an individual-level construct by the former researchers, it was identified as a group-level construct more recently.

In her research on learning behavior in work teams, Edmondson (1999) introduced psychological safety as a tacit belief that a team does not need to worry about taking interpersonal risks at work, to the scientific community. It was the perception of being confident that the team will not feel embarrassed nor threatened by a group member that speaks up. This perception derived from interpersonal trust and esteem between members of the team. In this regard, team psychological safety is by definition closely related to interpersonal trust, the belief that other people's actions will be beneficial for oneself (Robinson, 1996). Yet, team psychological safety has been shown to be more comprehensive than interpersonal trust because it constitutes a team climate of mutual trust and esteem in which team members feel comfortable in their own skin (Edmondson & Lei, 2014).

**Psychological safety as an outcome**

Apart from the influence of HR practices on employees’ change as explained by social exchange theory (see section 3.3), the same might be evident for the association between commitment-based HR practices and a psychological safe work environment. Giving employees training and development opportunities, their knowledge and competencies were enhanced, and they were more likely to share them with the team (Edmondson & Lei, 2014). Whitener, Brodt, Korsgaard, and Werner (1998) found that training methods, such as teamwork or job rotations, increased knowledge exchange and continuous learning within the team. This knowledge exchange lead to greater social interaction and communication within the team in their daily work and fostered an interpersonal climate of mutual openness and safety in the long term. Related to the former finding, a field study by Collins and Smith (2006) found that HR practices enhanced an interpersonal
team climate of trust in a technology company. However, instead of psychological safety, the researchers examined the highly similar construct of trust. Thus, commitment-based HR practices, such as long-term investments in employees’ training and development, indicate the organization’s investment in their employees, thereby enhancing employees’ work and team behaviors favorably.

**Psychological safety as an antecedent**

A comprehensive literature on psychological safety has further examined its various work-related outcomes on different levels of analysis (Edmondson & Lei, 2014). A study by Cataldo et al. (2009) showed the implication of psychological safety for organizational change. The researchers argued that structure and autonomy in times of organizational change allow employees to feel psychological safe in their work environment which in turn positively influenced the organizational change process. In particular, when employees felt safe in their workplace, they displayed positive work behaviors essential for successful organizational change. Accordingly, an interpersonal safe work climate enhanced employees’ change responses.

**Psychological safety as a mediator**

Edmondson and Lei (2014) further highlighted the mediating role of psychological safety of relationships between supportive organizational practices, and individual, team, and organizational outcomes. In their comprehensive review, the authors shortly introduced the conservation of resources (COR) theory (Hobfoll, 1989) as means to understand psychological safety’s mediating role. In particular, Hobfoll’s (1989) COR theory provides a holistic picture of both the antecedents of a psychological safe work environment as well as its outcomes. It explains how resources in the organization (such as commitment-based HR practices) enhanced positive work outcomes (such as positive responses towards organizational change), how psychological safety developed, and how individual and team resource investment and depletion accounted for the association between psychology safety and work outcomes. The underlying principle of COR theory is that employees need to acquire resources to secure themselves from resource loss. Resources include development opportunities, compensation, or rewards than can be gained or drawn off by the superior, team, or organization. Employees with greater resources (i.e. relationships within an interpersonal work climate of safety) are less likely to lose resources (depletion) and are more likely to gain additional resources (investment)
by using their current resources. Gaining additional resources, employees can better satisfy their work demands. For instance, if the organization invests in their employees in the long-term (commitment-based HR practices) (O’Meara and Petzall, 2013), employees tend to feel psychological safe to share their ideas, with the belief that this helps the employees to receive additional resources and to reciprocate the investment made by the organization. This enables employees to display favorable attitudes and behaviors towards organizational change. Thus, based on COR theory (Hobfoll, 1989) and social exchange theory (Blau, 1964), it is expected that a psychological safe team environment accounts for the link between HR practices and employees’ change responses.

**Double mediation of transformational leadership and psychological safety**

Organizational researchers also found certain relations between psychological safety and transformational leadership (Kumako & Asumeng, 2013; Ortega et al., 2014). Ortega et al. (2014) asserted that transformational leaders facilitated a psychological safe team climate in healthcare teams. In fact, by being inspiring and focusing on change, the team leader contributed to a creation of a psychological safe team climate. Consequently, employees were more likely to engage in social exchanges and interpersonal risk taking and voice their opinions since they had trust in their leader that he will not punish them if undesirable work outcomes occur. Hence, the researchers identified transformational leadership as a critical antecedent of psychological safety. Moreover, a study by Kumako and Asumeng (2013) found that a psychological safe team climate was moderated by transformational leader behaviors to facilitate learning and innovation. Team members felt safe when a transformational team leader was present and tended to share more knowledge and interact. In turn, team members’ psychological safety was reduced when transformational leadership was low. Taken together, the extent to which employees felt psychologically safe depended on employees’ perceptions of the leader’s change-oriented behavior (Kumako & Asumeng, 2013; Somech, 2006).

Therefore, based on the literature on psychological safety (Edmondson and Lei, 2014) and transformational leadership (Oreg & Berson, 2011) in the organizational context, it is expected that commitment-based HR practices influence transformational leader behaviors, which in turn influence a psychological safe team climate that leads to certain employees’ responses to organizational change and future organizational change.
3.6 Hypotheses and theoretical framework

The present study tested the association between commitment-based HR practices and employees’ change responses. Employees’ responses to change are influenced by commitment-based HR practices (O’Meara and Petzall, 2013), as based on by social exchange theory (Blau, 1964) and Oreg et al. (2018) circumplex model. Transformational leadership and psychological safety as mediators, based on uncertainty reduction (Berger & Calabrese, 1975) and COR (Hobfoll, 1989), are considered in the aforementioned relationship as well.

Following the literature review, it was expected that

Hypothesis 1: there should be a main effect of commitment-based HR practices on employees’ change responses (1a) and employees’ change responses to future organizational change (1b).

More specifically, commitment-based HR practices are linked negatively to employees’ change resistance and change disengagement as well as positively related to employees’ change acceptance and change proactivity.

Hypothesis 2: there should be a mediation effect of transformational leadership on the association between commitment-based HR practices and employees’ change responses (2a) and employees’ responses to future change (2b).

In particular, it was expected that commitment-based HR practices enhance transformational leader behaviors, which in turn lead to favorable responses to organizational change and future organizational change, such as change acceptance and change proactivity.

Hypothesis 3: there should be a mediation effect of team psychological safety on the relationship between commitment-based HR practices and employees’ responses to organizational change (3a) and employees’ responses to future organizational change (3b).

Here, it was expected that commitment-based HR practices enhance a safe and trustful environment, which in turn lead to favorable responses to organizational change and future organizational change, such as change acceptance and change proactivity.
Hypothesis 4: there should be a double mediation effect of transformational leadership and psychological safety on the association between commitment-based HR practices and employees’ change responses (4a) and employees’ responses to future organizational change (4b).

More specifically, it was expected that commitment-based HR practices enhance transformational leader behaviors, which in turn facilitated a psychological safe team climate that lead to favorable responses to organizational change and future organizational change, such as change acceptance and change proactivity.

4. Methodology

This chapter illustrated the research process for the study at hand. It started with the rationale of the research approach, design, and method chosen by the researcher. Next, demographics about the participants and the procedure of the study was provided. Finally, the measures used for the study were explained in detail.

4.1 Rationale for the research method

Instead of investigating individuals in their natural settings (as in qualitative research) (Berg, 2001), the present study employed a quantitative research approach (Creswell, 2009) in which a theoretical framework was developed, tested and numerical data for statistical analyses was generated. This research approach was grounded in the researcher’s paradigm, in the research design related to the paradigm and in the specific research method used (Creswell, 2014).

As a reductionist-post positivist, the researcher viewed reality as measurable and used valid and reliable instruments to obtain this reality. The researcher’s intent was also to break down broader constructs into discrete variables. Thus, she used a deductive approach to test the theoretical framework by stating hypotheses and then collecting data to be able to test them empirically (Creswell, 2014). In line with her epistemology orientation, the researcher chose a cross-sectional design for the study, namely survey research.

Creswell (2014) pointed out that in survey research, data is collected on a sample of the target population at one point in time. This provides a body of quantifiable data related to some variables that can be analyzed to detect relationships between them. The intent is to make generalizations to the population of interest and to be able to easily replicate the
study in the future. Fowler (2009) further identified several types of data collection methods in survey research, such as a paper-and-pencil questionnaire. The strengths of a paper-and-pencil questionnaire are its shortness, low-cost administration, as well as its allowance for standardization of measurement and protection against the interviewer bias (Bryman & Bell, 2015).

Due to its various strengths, the researcher devised a paper-and-pencil questionnaire for the present study to collect primary data. Consisting of two parts, the questionnaire’s first part identified respondents’ demographics. The second part consisted of 33 descriptive statements that examined respondents’ evaluations concerning HR practices, leadership, team climate, and responses to organizational change in their company on a descriptive rating scale (see Appendix 2).

### 4.2 Participants

One hundred and twenty ($N = 120$) employees from large-scale German automobile manufacturers participated in an English questionnaire. The questionnaire was carried out in Germany. Participation was anonymously and voluntarily. Three participants had to be excluded from the statistical analyses due to missing data. A final sample of one hundred and seventeen respondents was obtained. Table 1 shows the nearly equal proportion of men (46.2%) and women (53.8%) in the study.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>63</td>
<td>53.8</td>
</tr>
<tr>
<td>Male</td>
<td>54</td>
<td>46.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

To ensure a higher level of anonymity, year ranges were used to rate respondents’ age and job tenure. Respondents’ age frequencies and percentages by year range are displayed in Table 2. This table showed that 63 of 117 respondents were between 18 to 34 years old, while only 2 respondents were either under 18 or over 65 years old. The remaining 52 respondents fell in the age groups from 35 to 64 years. The average year range was $M = 3.62$ ($SD = 1.53$), which corresponds to an average age of approximately 36 years.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
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</tr>
<tr>
<td>Male</td>
<td>54</td>
<td>46.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 2: Age frequency and percentages
Respondents’ job tenure was classified into six year ranges from less than 1 year to over 31 years (see Table 3). Table 3 showed that 58.1% of respondents worked for their current employer for less than a year to 5 years. 41.9 percent of respondents were employed longer than 5 years at their current employer. The average job tenure was $M = 2.57$ ($SD = 1.50$), which corresponds to an average employment relationship of approximately five to six years.

<table>
<thead>
<tr>
<th>Year range</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Under or 18 years</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>(2) 18 to 24 years</td>
<td>36</td>
<td>30.8</td>
</tr>
<tr>
<td>(3) 25 to 34 years</td>
<td>27</td>
<td>23.1</td>
</tr>
<tr>
<td>(4) 35 to 44 years</td>
<td>20</td>
<td>17.1</td>
</tr>
<tr>
<td>(5) 45 to 54 years</td>
<td>10</td>
<td>8.4</td>
</tr>
<tr>
<td>(6) 55 to 64 years</td>
<td>22</td>
<td>18.8</td>
</tr>
<tr>
<td>(7) 65 years or older</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>100</td>
</tr>
</tbody>
</table>

The job level of respondents was also assessed. Table 4 displays seven job levels from intern to CEO as well as their frequencies and percentages. Nearly half of the respondents were associates (48.7%), followed by interns (16.2%) and entry-level employees (16.2%). Only 18 of the 117 respondents had a leadership or managerial position (see Table 4).
Table 4: Job level frequency and percentages

<table>
<thead>
<tr>
<th>Job level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intern</td>
<td>19</td>
<td>16.2</td>
</tr>
<tr>
<td>Apprentice</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Entry level</td>
<td>19</td>
<td>16.2</td>
</tr>
<tr>
<td>Associate</td>
<td>57</td>
<td>48.7</td>
</tr>
<tr>
<td>Department manager</td>
<td>8</td>
<td>6.8</td>
</tr>
<tr>
<td>Manager</td>
<td>7</td>
<td>6.0</td>
</tr>
<tr>
<td>CEO</td>
<td>3</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Since the questionnaire was anglophone, the English competency level of respondents was assessed. Table 5 shows that all respondents rated their English competence between very good (B2) and native (C1). Almost three quarters (74.4%) of those surveyed had fluent English competency (C1). The average English level among respondents was $M = 4$ ($SD = .50$) which equals English level C1 (fluent).

Table 5: English competence frequency and percentages

<table>
<thead>
<tr>
<th>English competence</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Basic (A1-A2)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(2) Good (B1)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(3) Very good (B2)</td>
<td>11</td>
<td>9.4</td>
</tr>
<tr>
<td>(4) Fluent (C1)</td>
<td>87</td>
<td>74.4</td>
</tr>
<tr>
<td>(5) Native (C2)</td>
<td>19</td>
<td>16.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The two main sampling criteria were that the automobile manufacturers either had undergone organizational changes or were currently undergoing an organizational transformation. Organizational change and transformation were specified as transitions in the strategy, vision, culture, processes, or technology of the company. The respondents did not receive any compensation for participation.
4.3 Procedure

The participants were approached directly via word-of-mouth by the researcher at several automotive manufacturers in Southern Germany. After describing the study’s purpose orally, the participants received the informed consent form and the double-sided paper-and-pencil questionnaire from the researcher (see Appendix 1 and 2). They filled in the blanks and handed the questionnaires immediately back to the researcher. Some participants requested the questionnaire as an editable PDF document for convenience only. The researcher sent those participants the PDF questionnaire via E-Mail. The participants filled it out and sent it back to the researcher at another point in time later. Each participant was able to discontinue the questionnaire at any point in time.

Both the paper-and-pencil and the PDF version of the questionnaire started with an introduction about the study and its purpose. Shortly after, an informed consent form with an overview of the procedure, guaranteed respondents’ confidentiality and voluntary participation as well as risks and benefits of the research followed. It needed to be signed before the respondents could start the questionnaire.

The respondents were allowed to complete the questionnaire in any desired order. They were also able to change their responses anytime by simply deleting or crossing out their check marks in the boxes. Respondents were asked to specify their demographic information, such as their gender, age range, organizational tenure, job title, and English competence level. Next, they were invited to answer questions about their attitude towards HR practices, leadership, and organizational change in their companies. In the end, respondents were thanked for participating in the study.

4.4 Measures

Commitment-based HR practices

Seven items from Collins and Smith’s validated 16-item scale on commitment-based HR practices were used to measure HR practices (Collin & Smith, 2006). This scale measured commitment-based HR practices based on three composites: selection policies (2 items), incentive policies (1 item), and training and development policies (4 items). The seven items were chosen on the basis of their contextual fit to the study at hand. The uneven distribution of items for the three composites was justified by the composites’ relative importance for this study. Since prior research found that especially employee training and development were positively related to employees’ perception during change (e.g.,
Maheshwari & Vohra, 2015), this composite received a greater number of items than the other two composites. The respondents indicated the items on a 5-point Likert scale with the stem claiming “Thinking about human resource practices in your organization. To what extent do you agree (...)” from “1 = not at all” to “5 = always”. A sample item for selection policies was “Internal candidates are given consideration over external candidates for job openings”. Incentive policies were assessed by “Employee bonuses or incentive plans are based primarily on the performance of the organization” while training and development policies were measured by items such as “Performance appraisals are used to plan skill development and training for future advancement within the organization”. The three composites were pooled to form the single commitment-based HR practices factor. In this study, the single factor yielded an acceptable reliability (Cronbach α = 0.70).

**Transformational leadership**

Transformational leadership was assessed through 10 items adapted from Edwards, Knight’s, Broome’s and Flynn’s (2010) 84-item Survey of Transformational Leadership (STL). This comprehensive survey proved to have good convergent and criterion validity as well as very high internal consistency (Edwards, Knight, Broome, & Flynn, 2010). The ten items were assessed on a 5-point Likert scale with the stem claiming “Please think about your immediate superior at work. This person ...”. Respondents had to indicate the extent to which their superior displayed certain transformational leadership practices assessed from “1 = not at all” to “5 = always”.

The single factor transformational leadership was based on five dimensions: “idealized influence (II), intellectual stimulation (IS), inspirational motivation (IM), individualized consideration (IC), and empowerment (E)” (Bass & Bass, 2008). Within these five dimensions, nine facets of transformational leadership practices emerged: 1-2) for II: integrity and sensible risk, 3-4) for IS: encourages innovation and demonstrates innovation, 5) for IM: inspirational motivation, 6-7) for IC: develops others and supports others, and for 8-9) E: task delegation and expects excellence. Inspirational motivation had a single facet while the other four components had two facets each.

Factor analysis was used to first identify the most influential item within each facet following the item with the highest loading within each of the five dimensions. For the single facet inspirational motivation, two items with the highest loadings were identified so that they have an equal number of items for each of the dimensions (two items for each
of the five dimensions). In the next step, the researcher changed the wording of the items were to make them suitable for employees in the industry. For instance, one item measuring idealized influence was changed from “...takes appropriate risks in order to improve the program” to “...takes appropriate risks in order to improve the status quo”. The two primal items for inspirational motivation were “...expresses a clear vision for the future of the program” and “...sets attainable objectives for reaching program goals” which were changed to “...expresses a clear vision for the future of the organization’s business targets” and “sets attainable objectives for reaching stated goals”. Unchanged primal items were “...offers individual learning opportunities to staff members for professional growth” for individualized consideration and “expects that staff members will give tasks their best efforts” for empowerment. These three modified items along with the other seven primal items were ultimately used to measure the five dimensions and, respectively, the aggregated factor transformational leadership. Two items were negatively phrased and were reversed coded for the statistical analysis. The internal consistency of the overall transformational leadership measure was good (Cronbach α = 0.79).

**Psychological safety**

Edmondson’s (1999) validated seven-item measure of psychological safety was used to measure psychological safety at the team-level. To introduce the measure, the following stem was included: “Please think about your department team at work” and respondents had to indicate on a 5-point Likert scale ranging from “1 = not at all” to “5 = always” to which extent they agreed with the items. The statements were modified to make them more convenient for the individual employee. For instance, the indefinite pronouns “someone”, “him”, “her”, and the word “in this team” were replaced with the personal pronouns “you”, “your”, “my”, and the words “at work” and “in your department team”. A sample primal item for psychological safety was: “When someone makes a mistake in this team, it is often held against him or her” (negatively phrased) and the modified item was: “If you make a mistake at work, it is often held against you by your department team” (negatively phrased). Three of the seven items were reverse coded for statistical analysis later. The reliability for the overall measure was good (Cronbach α = 0.80).
Organizational change process

A dichotomous question was used to assess if employees believe their company undergoes an organizational change process. To find a smoother transition from the leadership scale to the organizational change question, an introductory sentence was incorporated: “Electric mobility, car sharing, autonomous driving – the automotive industry has to face massive changes that impact peoples’ working and living environments”. The dichotomous question that followed was “Do you think that your organization is currently undergoing a change process”. This item was rated with “yes” or “no”, respectively. If respondents indicated “no”, they were able to skip the following scale about responses to organizational change and moved directly to the last scale “responses to future organizational change”.

Employees’ change responses

Six modified items of Oreg’s (2003) 15-item Change Attitude Scale (CAS) were used to assess employees’ change responses. The CAS proved to have good criterion validity and high reliability in previous studies (Oreg & Berson, 2011; Sverdlik & Oreg, 2009). Respondents’ were introduced to the scale with the following sentence, “Please think about the change process your organization is undergoing at the moment” and rated their agreement on a 5-point Likert scale ranging from “1 = not at all” to “5 = always”.

This scale measured responses to organizational change based on three subscales, i.e. affective responses (two items), behavioral responses (two items), and cognitive responses (two items). The two affective items comprised negative and positive feelings concerning organizational change. The two behavioral items assessed employees’ intents to take actions for or against the organizational change. Lastly, the two cognitive items encompassed employees’ appraisals about the drawbacks of the organizational change.

In order to link the questionnaire to recent organizational changes in automotive companies, the six items were modified and phrased in present tense. For instance, one original item measuring affective responses was changed from “I was stressed by the change” to “The change stresses me”. One primal item for behavioral responses “I spoke rather highly of the change to others” (reverse scored) was adapted to “I speak rather highly of the change to others” (reverse scored). Finally, the primal items assessing cognitive responses were also changed into present tense. For instance, “I thought that it’s a negative thing that we were going through this change” was modified into “It’s a negative thing that my organization is going through this change”. Two items were
reverse coded for the statistical analysis. The reliability coefficient was excellent ($\alpha = 0.90$).

**Employees’ responses to future organizational change**

Employees’ responses to future organizational change was assessed using two adapted items from the cognitive subscale from Oreg’s Change Attitude Scale (CAS) (2003). Items were assessed on a 5-point Likert scale with the stem claiming, “Thinking about future organizational changes... To what extent do you agree with” certain evaluations of potential benefits of future changes which ranged from “1 = not at all” to “5 = always”. The two cognitive items encompassed employees’ appraisals of the benefits of a future organizational change. Consequently, these items were phrased in future tense instead of past tense. For instance, the original item “I believed that the change would benefit the organization” and “I believed that I could personally benefit from the change” were adapted to “I believe that the change will benefit the organization” and “I believe that I will personally benefit from the changes”. Cronbach’s alpha was acceptable ($\alpha = 0.73$).

**5. Results**

**5.1 Correlational analysis**

Descriptive statistics, Pearson correlations, and scale reliabilities of all study variables are depicted in Table 1. The correlations represented the associations between any two variables and were all significant at $p < .01$, except from one being significant at $p < .05$. All data were screened for violation of normality, linearity, independence, and homogeneity of variances prior to main analyses.

**Table 6: Descriptive statistics, correlations, and reliabilities**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Commitment-based HR practices</td>
<td>3.81</td>
<td>.60</td>
<td>(.70)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Psychological safety</td>
<td>3.61</td>
<td>.74</td>
<td>.26**</td>
<td>(.80)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Transformational leadership</td>
<td>3.55</td>
<td>.62</td>
<td>.37**</td>
<td>.46**</td>
<td>(.79)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Responses to organizational change</td>
<td>2.36</td>
<td>1.12</td>
<td>-.29**</td>
<td>-.32**</td>
<td>-.62**</td>
<td>(.90)</td>
<td></td>
</tr>
</tbody>
</table>
5. Responses to future organizational change

|            | 3.74 | 1.07 | -0.33** | 0.23* | 0.60** | -0.84** | (0.73) |

Note. N = 117. *p < .05, **p < .01.

5.2 Linear regressions

Commitment-based HR practices on employees’ change responses

To test hypothesis 1a, a simple linear regression analysis with commitment-based HR practices as the fixed factor and employees’ responses to organizational change as the dependent variable was performed. In line with the researcher’s expectation, there was a significant main effect of commitment-based HR practices on employees’ change responses \([F(1,115) = 10.73, p < .002]\), showing that by increasing commitment-based HR practices, change resistance and change disengagement among employees is reduced \((B = -0.53)\) (see Figure 3). Hence, hypothesis 1a was supported. \(R^2\) revealed that 8.3% of the variation in employees’ responses to organizational change was predicted by commitment-based HR practices, indicating a low effect size (Cohen, 1992).

Figure 3: Scatterplot of commitment-based HR practices and employees’ change responses with regression line
A second simple linear regression analysis was conducted to determine if commitment-based HR practices predict employees’ future change responses. The results revealed indeed that HR practices significantly predicted employees’ responses to future organizational change \[ F(1,115) = 13.543, p < .001 \]. In accordance with the researcher’s initial prediction, high commitment-based HR practices were linked to more positive employee’ responses toward future change \( B = .57 \) (see Figure 4), such as change proactivity and change acceptance, supporting hypothesis 1b. \( R^2 \) showed that 10.5% of the variation in employees’ appraisal of future organizational change was predicted by commitment-based HR practices, indicating a low effect size (Cohen, 1992).

Figure 4: Scatterplot of commitment-based HR practices and employees’ responses to future organizational change with regression line

5.3 Mediation analyses

To test hypotheses 2 to 4, the method by Preacher, Rucker, and Hayes (2007) and the PROCESS macro by Andrew F. Hayes (2013) was used. The PROCESS macro is a widely used instrument in the sciences to test direct and indirect effects in several mediator and moderator path models (Edwards & Lambert, 2007; Hayes, 2009). The present conceptual mediation framework was tested with Hayes (2013) PROCESS path model 4 (simple mediation) and 6 (double mediation) with 1000 bootstrap samples (see Figure 1). For mediation to occur, Baron and Kenny (1986) identified four conditions that must be satisfied: 1) the X and M path coefficient is significant, 2) the M à Y path coefficient is significant, 3) the association between X and Y is significant, and 3) the
association between X and Y is weaker or non-significant when M is added. Results of the mediation analyses are depicted in Tables 2 to 7.

**Mediation of transformational leadership**

First, a second Model 4 PROCESS analysis was conducted that tested the mediating effect of transformational leadership for commitment-based HR practices with employees’ responses to organizational change. Controlling for the mediator transformational leadership, commitment-based HR practices no longer had a significant effect on employees’ change responses \( (b = -.13, SE = .15, t_{(114)} = -.92, p = .36, CI [-.42, .16]). \) Having tested the indirect effect, the results showed that the indirect coefficient of transformational leadership was significant \( (b = -.39, SE = .11, CI [-.62, -.19]). \) This finding revealed a full mediation effect of transformational leadership between commitment-based HR practices and employees’ change responses, supporting hypothesis 2a (see Table 7 and Figure 5).

**Table 7: Conditional indirect effects of commitment-based HR practices on employees' responses to organizational change (Model 4; Hayes, 2013)**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator variable model (DV = transformational leadership)</th>
<th>Dependent variable model (DV = responses to organizational change)</th>
<th>Conditional indirect effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE</td>
<td>( t_{(115)} )</td>
</tr>
<tr>
<td>Constant</td>
<td>2.12</td>
<td>.34</td>
<td>6.16</td>
</tr>
<tr>
<td>Commitment-based HR practices</td>
<td>.38</td>
<td>.09</td>
<td>4.20***</td>
</tr>
</tbody>
</table>

*Note. LLCI = Lower level confidence interval; ULCI = Upper level confidence interval.  
*\( p < .05, **p < .01, ***p < .001.\)*
To test hypothesis 2b, another Model 4 PROCESS analysis was conducted. Controlling for the mediator transformational leadership, commitment-based HR practices no longer had a significant effect on employees’ responses of future organizational change ($b = .22$, $SE = .14$, $t_{(114)} = 1.55$, $p = .12$, CI [-.06,.49]). Having tested the indirect effect, the results showed that the indirect coefficient of transformational leadership was significant ($b = .35$, $SE = .09$, CI [.18,.56]) (see Table 8 and Figure 6). This finding revealed a full mediation effect of transformational leadership between commitment-based HR practices and employees’ responses of future organizational change, supporting hypothesis 2b.

**Figure 5:** Full mediation of transformational leadership in the relationship between commitment-based HR practices and employees' change responses

**Table 8:** Conditional indirect effects of commitment-based HR practices on employees' responses to future organizational change (Model 4; Hayes, 2013)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator variable model (DV = transformational leadership)</th>
<th>Dependent variable model (DV = responses to future organizational change)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>$SE$</td>
</tr>
<tr>
<td>Constant</td>
<td>2.12</td>
<td>.34</td>
</tr>
<tr>
<td>Commitment-based HR practices</td>
<td>.38</td>
<td>.09</td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>.94</td>
<td>.13</td>
</tr>
</tbody>
</table>

Note: *p < .05; **p < .01
Conditional indirect effects

<table>
<thead>
<tr>
<th></th>
<th>Effect</th>
<th>SE</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational leadership</td>
<td>.35</td>
<td>.09</td>
<td>.18</td>
<td>.56</td>
</tr>
</tbody>
</table>

*Note. LLCI = Lower level confidence interval; ULCI = Upper level confidence interval. \*p < .05, \**p < .01, \***p < .001.

**Figure 6:** Full mediation of transformational leadership in the relationship between commitment-based HR practices and employees' responses to future organizational change

**Mediation of psychological safety**

A Model 4 PROCESS analysis was run to investigate the mediating effect of psychological safety on the relationship between commitment-based HR practices and employees’ change responses. When controlling for psychological safety, commitment-based HR practices still had a significant effect on employees’ responses to organizational change (\(b = -.40, SE = .16, t_{(114)} = -2.43, p = .02, CI [-.73, -.07]\)). Testing the indirect effect, the results revealed that the indirect coefficient of psychological safety was significant (\(b = -.13, SE = .06, CI [-.26, -.02]\)). Since the direct relationship between commitment-based HR practices and employees’ change responses was significant, psychological safety did not fully mediate the relationship (see Table 9 and Figure 7). Hence, hypothesis 3a was only partly supported.
Table 9: Conditional indirect effects of commitment-based HR practices on employees' responses to organizational change (Model 4; Hayes, 2013)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator variable model (DV = psychological safety)</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE</td>
</tr>
<tr>
<td>Constant</td>
<td>2.39</td>
<td>.43</td>
</tr>
<tr>
<td>Commitment-based HR practices</td>
<td>.32</td>
<td>.11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Dependent variable model (DV = responses to organizational change)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE</td>
</tr>
<tr>
<td>Commitment-based HR practices</td>
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<td>.17</td>
</tr>
<tr>
<td>Psychological safety</td>
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<td>.13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Conditional indirect effects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effect</td>
<td>SE</td>
</tr>
<tr>
<td>Psychological safety</td>
<td>-.13</td>
<td>.06</td>
</tr>
</tbody>
</table>

Note. LLCI = Lower level confidence interval; ULCI = Upper level confidence interval.

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

Figure 7: Partial mediation of psychological safety in the association between commitment-based HR practices and employees’ change responses

Then, a Model 4 PROCESS analysis was run to investigate the mediating effect of psychological safety on the relationship between commitment-based HR practices and employees’ responses to future change. Controlling for psychological safety, commitment-based HR practices were still significantly related to employees’ responses to future organizational change ($b = .50$, $SE = .16$, $t(114) = 3.14$, $p < .01$). Psychological
safety was not significantly related to employees’ response to future organizational change ($b = .22, SE = .13, t_{(114)} = 1.66, p = .09, CI [-.04,.48]). Consequently, the indirect coefficient of psychological safety was non-significant ($b = .07, SE = .05, CI [-.02,.19]) and hypothesis 3b could not be confirmed (see Table 10 and Figure 8).

**Table 10: Conditional indirect effects of commitment-based HR practices on employees’ responses to future organizational change (Model 4; Hayes, 2013)**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator variable model (DV = psychological safety)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>SE</td>
</tr>
<tr>
<td>Constant</td>
<td>2.39</td>
<td>.43</td>
</tr>
<tr>
<td>Commitment-based HR practices</td>
<td>.32</td>
<td>.11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Dependent variable model (DV = responses to future organizational change)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>SE</td>
</tr>
<tr>
<td>Commitment-based HR practices</td>
<td>.50</td>
<td>.16</td>
</tr>
<tr>
<td>Psychological safety</td>
<td>.22</td>
<td>.13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conditional indirect effects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological safety</td>
<td>.07</td>
</tr>
</tbody>
</table>

**Note.** LLCI = Lower level confidence interval; ULCI = Upper level confidence interval. *p < .05, **p < .01, ***p < .001.
Figure 8: No mediation of psychological safety in the relationship between commitment-based HR practices and employees’ responses to future organizational change

**Double mediation of transformational leadership and psychological safety**

To test if there is a double mediation of transformational leadership and psychological safety on the association between commitment-based HR practices and employees’ change responses, the researcher conducted bootstrapping model 6 (Hayes, 2013). As a first step, she examined the direct effects. The results showed that commitment-based HR practices were significantly related to transformational leadership ($b = .27$, $SE = .09$, $t_{(114)} = 3.18, p < .01$, CI [.10,.44]) and psychological safety ($b = .32$, $SE = .11$, $t_{(115)} = 2.90, p < .01$, CI [.10,.54]). Transformational leadership was significantly related to psychological safety ($b = .33$, $SE = .07$, $t_{(114)} = 4.70, p > .001$, CI [.18,.46]). Moreover, whereas transformational leadership was significantly negatively related to employees’ responses to organizational change ($b = -.40$, $SE = .11$, $t_{(113)} = -4.51, p < .01$, CI [-.62,-.19]), psychological safety was not ($b = -.07$, $SE = .13$, $t_{(113)} = -.54, p = .59$, CI [-.32,.18]). Since the path psychological safety $\rightarrow$ employees’ responses to change path was non-significant (see Figure 9), no serial double mediation effect of transformational leadership and psychological safety between commitment-based HR practices and employees’ change responses was found, rejecting hypothesis 4a.
Figure 9: No serial double mediation of transformational leadership and psychological safety in the relationship between commitment-based HR practices and employees’ responses to organizational change.

A second bootstrapping model 6 (Hayes, 2013) was conducted to test if there is a double mediation of transformational leadership and psychological safety on the relationship between commitment-based HR practices and employees’ responses to future organizational change. First, all direct effects were tested. The results revealed that commitment-based HR practices were significantly related to transformational leadership ($b = .27, SE = .09, t_{(114)} = 3.18, p < .01, CI [.10,.44]$) and psychological safety ($b = .32, SE = .11, t_{(115)} = 2.90, p < .01, CI [.10,.54]$). Transformational leadership was significantly related to psychological safety ($b = .33, SE = .07, t_{(114)} = 4.70, p < .001, CI [.18,.46]$). Transformational leadership was significantly related to employees’ responses to future organizational change ($b = .57, SE = .16, t_{(113)} = 3.68, p < .001, CI [.26,.88]$) while psychological safety was not ($b = -.11, SE = .12, t_{(113)} = -.88, p = .38, CI [-.35,.13]$) (see Figure 10). Hence, no serial double mediation effect of transformational leadership and psychological safety between commitment-based HR practices and employees’ responses to future organizational change was found, rejecting hypothesis 4b.
Figure 10: No serial double mediation of transformational leadership and psychological safety in the relationship between commitment-based HR practices and employees' change responses

6. Discussion

The purpose of the present research was to test a more detailed model of how high-investment HR practices affect employees’ responses to organizational change and future organizational change through transformational leadership and psychological safety. A model was developed by first defining commitment-based HR practices. Then, these practices were linked with the leadership style and to the work team’s interpersonal climate of feeling psychological safe. Transformational leadership and psychological safety were also further connected to employees’ responses to organizational change and future organizational change.

In this regard, the present study was the first that highlighted the role of commitment-based HR practices on all four employee responses to organizational change and future change, namely, change resistance, change engagement, change acceptance, and change proactiveness as classified in Oreg’s et al. (2018) circumplex model. Consequently, this study offered a comprehensive view of the whole spectrum of employees’ responses to organizational change and future organizational change.

Furthermore, this study extended prior research on HR practices and organizational change by examining the role of long-term HR practices regarding employees’ change responses, as explained by the employee-employer relationship (Aryee et al., 2002) and
by social exchange theory (Blau, 1964). Here, the present study highlights the underlying social-psychological norm of reciprocity in a dynamic organizational environment.

Lastly, the study was the first that investigated transformational leadership and psychological safety as mediators in the above relationship. Based on uncertainty reduction (Berger & Calabrese, 1975) and conservation of resources (Hobfoll, 1989), the present study provides an explanation of the important role of a transformational leader and a psychological safe team environment at work as well as the constructs’ implications for employees’ responses towards organizational change and future organizational change.

In the present study, it was first proposed that HR practices are related to employees’ change responses and future change responses. That is, high commitment-based HR practices were positively associated with employees’ change acceptance and change proactivity and negatively associated with employees’ change disengagement and change resistance. The results support this hypothesis and are in line with previous research on social exchange theory (Blau, 1964), showing that the social exchanges between employees and employer are strengthened when the employer provides voluntary favors to the employee because the employee is likely to reciprocate this favor to the employer in the future (Aryee et al., 2002). Consequently, employees tend to commit to their organization during organizational change because they reciprocated with favorable reaction to organizational change, like acceptance and proactivity, and with less unfavorable reactions, such as resistance or disengagement.

Furthermore, it was tested whether transformational leadership mediates the relation between commitment-based HR practices and employees’ change responses and future change responses. In particular, it was expected that commitment-based HR practices enhance transformational leader behaviors, which in turn lead to favorable responses to organizational change, such as change acceptance and change proactivity. This hypothesis was supported. Indeed, this finding is in line with both the high-involvement model (Lawler, 1986) and uncertainty reduction theory (Berger & Calabrese, 1975). When HR practices and leadership behavior go hand in hand, the social exchanges between the employee and employer are enhanced. Consequently, employees are more willing to reciprocate. Employees are then more likely to perceive change as beneficial and will be guided by a transformational leader (Herscovitch & Meyer, 2002). In contrast,
if leaders fail to display transformational behaviors, the influence of commitment-based HR practices also diminished, since employees loose trust in the organization (Burnes and By, 2012). When the positive effect of HR practices diminished, these practices are no longer effective for successful organizational change. Burnes and By’s (2012) finding highlighted the importance of transformational leadership for successful organizational change and claimed that commitment-based HR practices, through transformational leadership, define the relation between the employee and employer. By showing the long-term investment in its employees, the organization is also more likely to decrease uncertainty through change-oriented leadership behaviors (Berger & Calabrese, 1975). Consequently, employees are readier for the change characterized by uncertainty.

Moreover, it was expected that the relationship between HR practices and employees’ change responses is explained by psychological safety. Here, it was suggested that HR practices enhance an environment of interpersonal safety and mutual trust, which in turn leads to favorable responses to organizational change, such as change acceptance and change proactivity. However, this hypothesis was not supported. This finding contradicts prior research that emphasized the mediating role of psychological safety (Edmondson & Lei, 2014) and the conservation of resources theory (Hobfoll, 1989). In light of Hobfoll’s (1989) conservation of resource theory, it might be argued that employees had already been spoiled by the organization’s HR practices to such a great extent that they take the organization’s investment in them for granted and do not see the urge anymore to reciprocate the investment by displaying favorable behaviors towards organizational change. Accordingly, employees’ motivation or drive to reciprocate might be diminished.

Lastly, it was hypothesized that the relationship between HR practices and employees’ change responses is explained by both transformational leadership and psychological safety (i.e. “double mediation”; Hayes, 2013). More specifically, it was expected that commitment-based HR practices enhance transformational leader behaviors, which in turn facilitate a psychological safe team climate that leads to favorable responses to organizational change and future organizational change, such as change acceptance and change proactivity. This hypothesis was not supported because of the non-significant association between psychological safety and employees’ responses to organizational change and future organizational change. Besides the above explanation of the null effect of psychological safety as a mediator, it might be that the order of the mediators should
be reversed. Namely, that psychological safety becomes an antecedent of transformational leadership. To explore this reversed mediator association, the researcher in the present study conducted an additional process analysis that examined the “commitment-based HR practices → psychological safety → transformational leadership → employees’ responses to organizational change and future organizational change” path (see Appendix 3). Surprisingly, this model yielded a full double mediation effect of psychological safety and transformational leadership in the relation between commitment-based HR practices and employees’ change responses. This additional finding from the present study extends the literature on the relation between psychological safety and transformational leadership because it shows that a psychological safe team environment, which fosters openness, voice behaviors, and learning (Edmondson & Lei, 2014), is related to enhanced transformational behaviors displayed the leader. These leadership behaviors in turn are related to employees’ favorable change responses, such as change proactivity and change acceptance, as shown before.

Taken together, these findings suggest that commitment-based HR practices, through transformational leadership, clearly set the tone for the employee-employer relationship (Aryee et al., 2002) in times of uncertainty. When the organization demonstrates through its commitment-based HR practices its long-term investment in the relationship with its employees (Tsui et al., 1997) and is able to reduce uncertainty through the behavior of its leaders (Berger & Calabrese, 1975), employees become more willing to go beyond the call of duty and embrace events charged with uncertainty. The mediating role of psychological safety, however, is only evident in the relation between commitment-based HR practices and transformational leadership, but not for employees’ responses to organizational change and future organizational change per se.

6.1 Theoretical Implications

The findings of this study carry important theoretical implications. The main theoretical implication is related to the micro-perspective towards organizational change, focusing on employees’ responses to organizational change rather than on the organizational change process itself. Notably, most organizational change research has only focused on employees’ resistance to change. For example, Neves, Almeida, and Velez (2018) studied only employees’ change resistance, disregarding other responses towards organizational change. The present study, however, emphasized all four response types towards
organizational change: from active, negative resistance, to deactivates, negative disengagement, to deactivated, positive acceptance, and finally to activated, positive proactivity. Herewith, the present study revealed the detailed cognitive, affective, and behavioral responses which employees have towards organizational change. In this regard, the study illustrates the emotional spectrum of employees’ responses towards organizational change and future organizational change.

A second theoretical implication is related to the study’s examination of the important role of HR practices (DeGeest et al., 2015) and the application of social exchange theory (Blau, 1964) in the organizational context. Social exchange theory, as based on the reciprocity norm (Blau, 1964), is the basis for the long-term employee-employer relationship and thus for the establishment of highly commitment-based organizational HR practices over the long-term (Arthur, 1992; Tsui et al., 1995). The results of the present study as well as results by DeGeest et al. (2015) and Van Dam et al. (2008) revealed that the employee-employer relationship is critical and omnipresent for the future of the organization. Hence, researchers should focus not only on what happens during a change process (e.g., Furst & Cable, 2008), but should consider HR practices long-term implications for employees’ change responses.

A third implication emphasizes the usage of uncertainty reduction theory (Berger & Calabrese, 1975) as a means to illustrate the mediating role of transformational leadership in organizational change by providing evidence for the association between commitment-based HR practices and transformational leadership behaviors. If transformational leadership behaviors are not enacted, commitment-based HR practices are less effective. Uncertainty reduction theory might therefore play an important underlying role in the aforementioned relation.

A fourth theoretical implication concerns the team-level construct psychological safety (Edmondson, 1999) and its role in organizational change. Since this study was the first that examined the mediating role of psychology safety in an organizational change context at the micro-level, many of the underlying principles of psychological safety have yet to be discovered in organizational change processes. Yet, psychological safety was found to be correlated with both long-term organizational HR practices and
transformational leadership, making it a viable variable to further examine in such theoretical frameworks.

### 6.2 Managerial Implications

The findings of the present study also have useful implications for practice. First, the detailed examination of employees’ response types to change has important implications for management, which may downplay employees’ responses to the firm’s change initiatives. Since the study highlights the importance of paying considerable attention to recipients’ attitudes to particular change events, their feeling about them, and their behavioral responses to them (see also Oreg et al., 2018), management should appreciate the potential long-term benefits that may result from employees’ activated responses (change resistance or change proactivity) and should accordingly view the possible short-term delays in a more positive light. Further, by analyzing the particular response type to change, management can rethink or adjust change initiatives, so that the employees do not feel threatened or overtaken by the change process. Thus, change agents need to give greater consideration to the variety of possible employee responses.

Second, the findings are also useful for the human resource department in organizations. Rather than employing externally hired change consultants when change process are ongoing, it is good to consider the human resource strategy as a change enabler. Human resource managers need to take into account the implications of the HR practices for the employees they use instead. It is vital for human resource managers and an organization to nurture their talents in times of stability but even more in times of uncertainty in order to retain them (Rost, Renzl, & Kaschube, 2014; Winkelhake, 2018). A negative consequence would be, however, if talent is retained to focus explicitly on resisting change efforts, as those employees do not trust the message being conveyed by management. This may lead to negative work-related outcomes and negative individual outcomes for both employees and the organization.

The afore mentioned also implies that human resource managers need to take into account management’s behavior, including team leaders, since management and leaders are concerned about the development of a long-term oriented human resource strategy. If the human resource department fails to do so, their strategic efforts will most likely not
accomplish the expected results. This is also in line with the concept of transformational leadership (Bass & Bass, 2008; Kotter, 1995): it is not only the employees that look for guidance, it is the leader that needs to inspire, help, and guide his employees in the first place. Hence, the human resource department needs to align the human resource strategy in accordance with the leadership in teams in order to be an effective driver of change.

### 6.3 Limitations and future research

Two limitations of the present study concern the design of the study. First, although it was argued that HR practices impact employees’ responses to organizational change and future organizational change in the long-term, a cross-sectional design was used. Since a cross-sectional design helps one to understand employees’ responses to change only at one given point in time, a more complete examination of these responses requires measurement at several points in time in the change process to capture its dynamic nature (Armenakis & Bedeian, 1999). The multitude of employees’ responses during an organizational change process has been shown in Fugate et al. (2012) study on threat appraisals. In particular, Fugate and colleagues collected data at several stages during the change process and found that employees’ responses to organizational change are dynamic and change throughout the change process. Consequently, by collecting multisource data at several stages of the change process, the long-term influence of HR practices on employees’ responses to change can be better examined.

Connected to the former limitation is also the null effect of psychological safety on the outcome measures. Psychological safety was measured with Edmondson’s (1999) 7-item psychological safety scale. Perhaps, the set-up of the questions and the way the question were formulated have irritated respondents. Therefore, researchers should use another psychological safety scale, such as the one from Carmeli, Reiter-Palmon and Ziv (2010). Carmeli and colleagues assessed the construct with five items which were not negatively phrased. This might ease responses for participants. Hence, future studies should obtain data by using a different design, such as a longitudinal design, and should make scale adaptations for assessing psychological safety to be able to better understand employees’ responses to organizational change.
A third concern is related to the administration of the survey in English language. Since the researcher completes an English study program abroad, the development and administration of the study’s survey took place in English language and with English rating scales. However, as the study took part in automotive manufactures in Germany, almost exclusively native Germans completed the English survey. Despite the fact that all respondents indicated high levels of English proficiency, the English statements might have biased certain responses of participants due to a possible lack of English comprehension. For instance, this might be evident in the psychological safety scale, in which most participants responded with an average rating. Therefore, future research should take the language barrier into account when designing a study in a non-native language of the country in which the study is later conducted.

In general, future research in the field of organizational change should focus on the individual dimensions of HR practices, such as compensation or employee development, to gain a deeper understanding through which mechanisms these HR practices influence employees’ responses to organizational change and future organizational change. Furthermore, future studies need to emphasize other mechanisms of the relation between HR practices and employees’ change responses. For instance, whether the employees are committed to their organization (i.e., organizational commitment) or their team (i.e., team commitment). Future studies need to test several mediators, such as agile leadership (Medinilla, 2012) to gain a more comprehensive picture of which leadership behavior best accounts for the relationship.

7. Conclusion

To conclude, the findings of the present study highlighted the effect of commitment-based HR practices on employees’ change responses in the automotive industry, by showing that these HR practices lead to active and favorable employee responses to change through transformational behaviors displayed by leaders. Investigating the mechanisms that shape employee’ change responses is important for two reasons: To prepare for change, automotive manufacturers must develop a long-term, high-investment HR strategy. Also, HR and management have to make sure that leaders display transformational behaviors and convey their change-oriented behavior towards the employees. Only when the HR strategy is aligned with operational behaviors, automotive
manufactures are able to prepare their employees and leaders for uncertain times by reducing their concerns.

Appendix 1

Informed Consent Form

This Informed Consent Form is for employees who are invited to participate in my master thesis research project. The title of my research project is “Human resource practices and organisational change in the automotive industry”.

I am Lena-Alessa Fiedler and I am conducting this research for my master thesis at Reykjavik University. The purpose of this research is to find out if and in which way HR practices influence employees’ behavior towards organisational change.

Procedure
In this research I will ask you to fill out a short paper-to-pencil survey which will take you approximately 5 to 10 minutes to complete. I am inviting all employees that work in the automotive industry to participate in my research.

Voluntary Participation and Confidentiality
Your participation in this research is entirely voluntary. It is your choice whether to participate or not. You may change your mind later and stop participating even if you agreed earlier. The information that I collect from this research project for my master thesis will be kept confidential. All handling of data will be in line with ethical standards. No data will be traceable to you as an individual.
Risks and Benefits
There are neither benefits nor any risks associated with this research.

Sharing the Results
The cumulative knowledge that I get from conducting this research will be shared with my supervisor and the research community. Confidential information will not be shared.

Who to Contact
If you have any questions you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact me (lenalessa17@ru.is or +4915738777962)

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate in this research.

Signature of Participant _______________________

Date ______________
    day/month/year
Appendix 2

**Demographics**

<table>
<thead>
<tr>
<th>Gender:</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your age?</td>
<td>&lt; 18 years</td>
<td>25 to 34 years</td>
</tr>
<tr>
<td></td>
<td>18 to 24 years</td>
<td>35 to 44 years</td>
</tr>
<tr>
<td></td>
<td>25 to 34 years</td>
<td>Age 65 or older</td>
</tr>
<tr>
<td>Length of employment in your current organisation:</td>
<td>&lt; 1 year</td>
<td>6 to 10 years</td>
</tr>
<tr>
<td></td>
<td>1 to 5 years</td>
<td>11 to 20 years</td>
</tr>
</tbody>
</table>
Which of the following most closely matches your current job title?

- Intern
- Entry level
- Analyst/Associate
- Manager
- Senior manager
- Director
- CEO
- Owner

My competence in English is:

- Basic (A1-A2)
- Good (B1)
- Very good (B2)
- Fluent (C1)
- Native (C2)

**Survey**

**Thinking about human resource practices in your organisation…**

To what extent do you agree with the following statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal candidates are given consideration over external candidates for job openings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The selection system focuses on the potential of the candidate to learn and grow with the organisation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee bonuses or incentive plans are based primarily on the performance of the organisation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The organisation provides multiple career path opportunities for employees to move across multiple functional areas.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The organisation provides training focused on team-building and teamwork skills training.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The organisation offers an orientation program that trains employees on the history and processes of the organisation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance appraisals are used to plan skill development and training for future advancement within the organisation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Please think about your department team at work…**

To what extent do you agree with the following statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you make a mistake at work, it is often held against you by your department team.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members of your department team are able to bring up problems and tough issues.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members of your department team sometimes reject other department team members for being different.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is safe to take a risk on this department team.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is difficult to ask other department team members for help.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No one on this department team would deliberately act in a way that undermines my efforts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with members of this department team, my unique skills and talents are valued and utilized.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Please think about your immediate superior at work. This person …**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>takes appropriate risks in order to improve the status quo.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
<td>Rarely</td>
<td>Not at all</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------</td>
<td>-------</td>
<td>-----------</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>does not display honesty.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>encourages staff to try new ways to accomplish their work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tries ways of doing things that are different from the norm.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>expresses a clear vision for the future of the organisation’s business targets.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sets attainable objectives for reaching stated goals.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>offers individual learning opportunities to staff members for professional growth.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>does not respect individual staff members’ personal feelings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>delegates tasks that provide encouragement to staff members.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>expects that staff members will give tasks their best efforts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric mobility, car sharing, autonomous driving – the automotive industry has to face massive changes that impact peoples’ working and living environments.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Do you think that your organisation is currently undergoing a change process?  
- Yes  
- No (please mark “does not apply” in the following section)

Please think about the change process your organisation is undergoing at the moment…  
To what extent do you agree with the following statements?  

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>The change stresses me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The change excites me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I complain about the change to my colleagues.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I speak rather highly of the change to others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It’s a negative thing that my organisation is going through this change.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The change makes my job harder.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thinking about future organisational changes…  
To what extent do you agree with the two statements?  

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe that the changes will benefit the organisation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I believe that I will personally benefit from the changes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 3

Process analysis: Double mediation analysis with psychological safety as an antecedent mediator before transformational leadership (Model 6; Hayes, 2013)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator variable model (DV = psychological safety)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
</tr>
<tr>
<td>Predictor</td>
<td>Mediator variable model (DV = transformational leadership)</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>Constant</td>
<td>2.39</td>
</tr>
<tr>
<td>Commitment-based HR practices</td>
<td>.32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Dependent variable model (DV = responses to organizational change)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.34</td>
<td>.35</td>
<td>3.76</td>
<td></td>
</tr>
<tr>
<td>Commitment-based HR practices</td>
<td>.27</td>
<td>.08</td>
<td>3.18**</td>
<td></td>
</tr>
<tr>
<td>Psychological safety</td>
<td>.33</td>
<td>.07</td>
<td>4.70***</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Conditional indirect effects</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological safety*Transformational leadership</td>
<td>-.11</td>
<td>.04</td>
<td>-.20</td>
<td>-.04</td>
</tr>
</tbody>
</table>

*Note. LLCI = Lower level confidence interval; ULCI = Upper level confidence interval.

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

Process analysis: Double mediation analysis with psychological safety as an antecedent mediator before transformational leadership (Model 6; Hayes, 2013)
## Mediator variable model (DV = transformational leadership)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>b</th>
<th>SE</th>
<th>t(114)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.34</td>
<td>.35</td>
<td>3.76</td>
</tr>
<tr>
<td>Commitment-based HR practices</td>
<td>.27</td>
<td>.08</td>
<td>3.18**</td>
</tr>
<tr>
<td>Psychological safety</td>
<td>.33</td>
<td>.07</td>
<td>4.70***</td>
</tr>
</tbody>
</table>

## Dependent variable model (DV = responses to future organizational change)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>b</th>
<th>SE</th>
<th>t(113)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment-based HR practices</td>
<td>.23</td>
<td>.14</td>
<td>1.64</td>
</tr>
<tr>
<td>Psychological safety</td>
<td>-.11</td>
<td>.12</td>
<td>-.88</td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>.33</td>
<td>.07</td>
<td>4.60***</td>
</tr>
</tbody>
</table>

## Conditional indirect effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>SE</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological safety*Transformational leadership</td>
<td>.10</td>
<td>.04</td>
<td>.04</td>
</tr>
</tbody>
</table>

*Note. LLCI = Lower level confidence interval; ULCI = Upper level confidence interval.

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

### 9. References


Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement
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10.1002/job.339


https://doi.org/10.1177/00182674700100103


