

**Adaptive Leadership Behaviour: The Roles of Time Pressure & Emotional  
Intelligence and its Influence on Follower OCB**

Master Thesis

Student: Laurence Rodesch (i6154644)

Supervisors: Sophie Nöthel, M.Sc. & Ute Hülsheger, PhD

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Faculty of Psychology and Neuroscience, Maastricht University  
Work and Organizational Psychology

### **Abstract**

Adaptive leadership has gained prominence in research and organizational practice in today's rapidly changing, uncertain and ambiguous times. Adaptive leadership behaviour enables leaders to react adequately and flexibly to new and changing situations in the work environment. However, the weekly precursors and consequences of adaptive leadership behaviour are still largely unknown. Therefore, this study employs a 5-week diary study among 86 leader-follower dyads to assess the influence of weekly time pressure on weekly adaptive leadership behaviour, the moderating role of weekly emotional intelligence in this relationship and the impact of weekly adaptive leadership behaviour on weekly follower organizational citizenship behaviour. Results revealed, in contrast to expectations and previous findings, that weekly time pressure is significantly and positively related to weekly adaptive leadership behaviour. No strong evidence could be found for the moderation effect of weekly emotional intelligence in this relationship, the direct effect of weekly adaptive leadership behaviour on follower's weekly organizational citizenship behaviour and the complete moderated mediation model. Nevertheless, this study contributes to a more comprehensive understanding of adaptive leadership by highlighting weekly time pressure as a significant and positive predictor of adaptive leadership behaviour.

## Contents

Introduction .....	4
Theoretical Background .....	6
Adaptive Leadership Behaviour .....	6
The Influence of Weekly Time Pressure on Weekly Adaptive Leadership Behaviour.....	7
The Moderating Role of Weekly Emotional Intelligence .....	8
Weekly Adaptive Leadership and Weekly Organizational Citizenship Behaviour .....	10
Weekly Adaptive Leadership as a Mediator & the Complete Model.....	11
Methods .....	11
Participants and Procedure .....	11
Measures.....	13
Demographics.....	13
Adaptive Leadership.....	13
Emotional Intelligence.....	13
Time Pressure .....	14
Organizational Citizenship Behaviour .....	14
Statistical Analysis .....	14
Results .....	15
Preliminary Analyses.....	15
Hypotheses Testing .....	15
Discussion.....	20
Limitations and Directions for Future Research .....	22
Limitations.....	22
Future research .....	23
Practical Implications .....	24
Conclusion.....	24
References .....	25

In response to the drawbacks of mostly static and leader-centric contingency approaches of leadership that narrowly focus on few situation variables, the construct of adaptive leadership has recently been developed (Nöthel et al., 2021; Yukl, 2010 ; DeRue, 2011). The adaptive leadership theory conceptualizes leadership in terms of a socially complex and adaptive process and thus extends the dominant theoretical paradigms in the leadership literature (DeRue, 2011). Adaptive leadership involves changing behaviour appropriately when the situation shifts (Yukl & Mahsud, 2010). This type of leadership has become essential in today's organizations due to the rapid increase in pace of changes (Dess & Picken, 2000). Those changes include, amongst others, increased globalization, rapid technological progress, more diverse workforces, growing visibility of leader actions and concern for outcomes besides profit, such as sustainability and environmental impact (Burke & Cooper, 2004). The current COVID-19 pandemic with its induced uncertainties and ambiguities, as well as the consequent increased use of virtual interaction further adds to the challenge of organizations trying to remain competitive. Adaptive leaders contribute to the success of organizational outcomes by showing the ability to lead during organizational change and motivating employees to discover creative and innovative solutions (Heifetz, 2004). Thus, during rapidly changing, uncertain and ambiguous times, the leaders' ability to appropriately and flexibly respond to new and changing demands in their workplace, known as adaptive leadership behaviour, may be imperative to ensure the functioning of organizations.

Naturally, adaptive leadership behaviour is influenced by several external factors, as well as different individual characteristics. Despite the importance of time pressure in organizational settings, it is still unclear how time pressure influences adaptive leadership behaviour. Furthermore, to date, little is known about the person related boundary conditions that could serve as a protective factor in this relationship, such as emotional intelligence (EI). Lastly, notwithstanding the growing significance of extra-role employee performance, namely employees' organizational citizenship behaviour (OCB), little is known about the impact that adaptive leadership behaviour can have on OCB. Investigating the role of time pressure, EI and OCB, in the context of adaptive leadership is important, however, to address the considerable obscurity about the nature of adaptive leadership and to reduce the lack of research on the antecedents and consequences of adaptive leadership behaviour (Yukl & Mahsud, 2010).

In the present study, we therefore aim to further our understanding of the concept of adaptive leadership by investigating the role of time pressure as an antecedent to adaptive leadership, the effect of EI as a moderator in this relationship and the impact that adaptive

leadership has on their followers' OCB. For this, we use a quantitative 5-week diary study involving leader-follower dyads to investigate within-person fluctuations in adaptive leadership behaviour, time pressure, EI and OCB. More specifically, by adopting a within-person approach to leadership, we move away from the traditional approach of the between-person view of leadership, assuming that there are individual differences in leadership styles or behaviours on average (Breevaart et al., 2016). Instead, we adopt the view that adaptive leadership behaviour may fluctuate within individuals from day to day, and, hence, from week to week. Additionally, a weekly design allows to capture the considerable fluctuations in time pressure and OCB that research has highlighted (Diebig et al., 2017; Binnewies et al., 2010). Moreover, the choice of a weekly diary approach enables us to distinguish between people's general potential for displaying EI (person-level/trait EI) and whether they actually display EI in a given situation (enacted/state EI) (Pekaar et al., 2017). More generally, given the highly dynamic nature of today's world, which is characterized by rapid changes, ambiguities, and uncertainties, it makes most sense to analyse the variables in a dynamic way by using a weekly design. Lastly, besides the ability to capture these dynamic and short-term variations in the different variables, using a weekly diary design further allows for a reduction of the retrospective bias, as the questions relate to individuals' perceptions, feelings, and behaviors in a certain week (Ohly et al. 2010).

The present study contributes to the literature in the following ways. First, the results of this study extend and refine theory on adaptive leadership and help to better understand the roles of time pressure, EI and OCB in the context of adaptive leadership behaviour. More specifically, we characterize leaders' state EI as a moderating variable, buffering the negative impact of time pressure on adaptive leadership behaviour. Through this, adaptive leadership unfolds its positive effect on followers' OCB. The insights gained through this study thus provide a step forward in developing a comprehensive understanding of adaptive leadership. Secondly, by adopting a dynamic approach to EI, we examine EI closer to the work situation than prior research and thus contribute to the understanding of EI in a way that could not be extrapolated from previous work (Pekaar et al., 2017). Thus, with this study we intend to not only extend the literature on adaptive leadership, but also on emotional intelligence.

This theoretical knowledge can be applied in practice. Understanding which factors promote or hinder adaptive leadership helps to facilitate the increased use of adaptive leadership behaviour on a weekly basis, which is particularly relevant in fast-paced business environments as well as in the current and uncertain times of the COVID-19 pandemic. More precisely, the increased use of adaptive leadership behaviour in these times is not only relevant

but can even be advantageous for organisations. The ability of adaptive leaders to react appropriately and flexibly to new and changing demands in the work environment allows them to lead during organizational change. In addition, as already mentioned, they have the potential to encourage employees to find creative and innovative solutions and might even stimulate their employees' OCB, which contributes to the organization's competitive advantage (Heifetz, 2004). Hence, the increased presence of adaptive leaders may contribute to the success of organizational outcomes and might be essential to ensure the functioning of organizations. Understanding the antecedents of adaptive leadership behaviour and its associated benefits could therefore enable and encourage the creation of a favourable work environment that stimulates adaptive leadership behaviour.

## **Theoretical Background**

### **Adaptive Leadership Behaviour**

Adaptive leadership behaviour includes four main aspects, namely *accurately perceiving situational demands, maintaining a toolbox of behavioural strategies, balancing opposing demands, and appropriately and flexibly applying these behaviours* (Nöthel et al., 2021). Adaptive leaders should be capable of identifying adaptive pressures, thus, to understand situational demands such as followers' needs or environmental demands, so that they can adjust their behaviour accordingly (Kaplan & Kaiser, 2003). The correct identification of situational cues forms the informative basis for further action, which enables leaders to anticipate what will be required in a particular situation and how to respond appropriately (Ployhart & Bliese, 2006).

For an appropriate reaction to take place, possessing various behavioural strategies from which the leader can choose the best-fitting behaviour for a certain situation is of great importance (Ployhart & Bliese, 2006). The behaviours of choice can range from taking over control if needed to renouncing authority to others when required, and hence can span from authoritarian leadership to participative leadership (Nöthel et al., 2021).

Next, the ability to balance conflicting requirements when confronted with opposing demands is paramount for an appropriate behavioural reaction. This capability is especially relevant in dynamic and complex environments, which are characterized by ambiguous situations that can be solved by many possible solutions, as well as seemingly incompatible situational demands. Thus, to balance opposing demands, adaptive leaders need to accept and acknowledge those incompatible demands to be able to react to them in an appropriate manner (Nöthel et al., 2021).

Lastly, a key factor for the success of adaptive leadership behaviour is the ability to apply the behaviours from the behavioural repertoire in a flexible and appropriate manner. This is determined by the previously mentioned behaviours. The accurate assessment of adaptive pressures is needed to understand the requirements of a specific situation. The sustainment of a large variety of behavioural strategies and the balancing of opposing demands then help adaptive leaders to choose and apply the most appropriate behaviour for the assessed situation from which eventually emerges successful adaptive leadership behaviour (Ployhart & Bliese, 2006; Yukl & Mahsud, 2010). Thus, by correctly assessing situations and having the capability to selectively make use of a variety of behaviours, adaptive leaders have the skills needed to respond flexibly and appropriately to changing situations that are common in these rapidly changing, ambiguous and uncertain times (Yukl & Mahsud, 2010; Nöthel et al., 2021).

### **The Influence of Weekly Time Pressure on Weekly Adaptive Leadership Behaviour**

Time pressure is particularly prevalent in today's competitive and rapidly changing organizational environments that require effective adaptive leadership. It is known to be one of the most influential stressors in the workplace and is a pervasive problem, affecting all professional and occupational groups (Bakker & Demerouti, 2007; Yamani et al., 2014). This stressor can have detrimental effects on employees' physical and psychological health, and negatively impacts leadership (Bakker & Demerouti, 2007; Melamed et al., 2006; Dóci et al., 2020). These negative consequences surface because as time pressure increases, psychological resources increasingly have to be diverted to deal with this stressor until the resources are depleted and the individual is unable to further cope with work (Bakker & Demerouti, 2007). The Conservation of Resources (COR) theory indeed predicts this by suggesting that using resources to prevent further resource loss makes people increasingly vulnerable to time pressure and its negative consequences (Hobfoll, 2001).

Time pressure was also implied to be an important determinant of adaptive leadership functioning (Harms, 2017). More specifically, it has been shown that time pressure not only negatively affects the resources required to deal with this stressor, but also negatively influences the cognitive resources needed to engage in important processes of adaptive leadership (Thompson, 2010). Adaptive leaders must be able to dedicate significant cognitive resources to address problems and to engage in decision-making, while at the same time maintaining awareness of situational factors that might impact the decision-making parameters (Gibson et al., 1993; Mumford et al., 2007). The exposure to time pressure reduces the availability of the resources necessary for these processes and thus impairs complex cognitive

functioning and increases the use of heuristics (Amsten, 1998; Driskell & Salas, 1991). Furthermore, high levels of time pressure can lead to the decreased likelihood of adaptive leaders considering alternative solutions to problems (Hunter et al., 2011).

Relating to the four main aspects of adaptive leadership behaviour mentioned above, time pressure exhausts the cognitive resources necessary to accurately identify and understand situational demands. This then further impedes leaders' ability to balance opposing demands and prevents them from choosing the best-fitting behaviour for a certain situation. Consequently, the leaders' ability to flexibly and appropriately apply the behaviours from the behavioural repertoire is negatively affected. Hence, leaders with depleted psychological resources are unable to engage in successful adaptive leadership behaviours (Eubanks & Mumford, 2010).

It is important to note that perceived time pressure within working weeks is subject to considerable fluctuations (Diebig et al., 2017). Additionally, adaptive leadership behaviour varies over time because leaders do not always behave consistently (Johnson et al., 2012). Johnson et al. (2012) determined that a leader who acts adaptively at one point in time may not necessarily do so at another point of time, as adaptive leadership behaviour largely depends on situation-based factors such as time pressure (Tims et al., 2011). Thus, in order to capture these short-term fluctuations in adaptive leadership behaviour and time pressure, a weekly perspective of adaptive leadership behaviour and time pressure is adopted.

Therefore, if high levels of weekly time pressure result in the depletion of resources necessary to engage in adaptive leadership processes, namely to understand and accurately perceive situational factors and react appropriately, as well as to make effective decisions and consider alternative solutions, the following hypothesis results:

*H1: Weekly time pressure is negatively related to weekly adaptive leadership behaviour.*

### **The Moderating Role of Weekly Emotional Intelligence**

Stress does not always arise directly from the pressure source itself, but rather from the individual perception of this pressure. Hence, individual differences variables that influence this perception, such as emotional intelligence, should be considered (Wu, 2011). Emotional intelligence (EI) generally refers to a set of hierarchically organized core competencies and skills relevant for identifying, expressing, processing, and regulating emotions, in the self and in others (Salovey et al., 2001). Accordingly, EI is traditionally defined either as a set of abilities or as a stable trait (Zeidner et al., 2008). However, more recent approaches highlight a limitation of this perspective (Pekaar et al., 2017). By defining EI as a stable trait and thus

assessing the construct at a single point in time, one can measure a person's potential to use EI without, however, revealing the situations in which one tends to actually make use of their EI (Elfenbein, 2016). The enactment of EI is said to fluctuate depending on contextual or individual factors, such as motivation (Pekaar et al., 2017). Thus, individuals with high trait EI can experience high state EI, but also low state EI in the case where contextual or individual factors impede the enactment of EI. Hence, by characterizing EI as a dynamic construct by focusing on whether individuals actually display EI in a given situation (enacted or state EI), one can study within-person fluctuations in the actual manifestation and usage of EI with the help of a weekly diary study (Pekaar et al., 2017).

While studies on state EI are rare, studies on trait EI show that this construct can influence an individual's response and ability to deal effectively with organizational demands, such as time pressure (Slaski & Cartwright, 2002). This may be due to the ability of highly emotionally intelligent individuals to make use of cognitive reappraisal, and employing strategies that include employing social resources and the disclosure of feelings in the stressful workplace (King & Gardner, 2006). Thus, high emotional intelligence may be associated with resilience and adaptability in stressful environments (Wu, 2011). Based on this, EI is often described as a coping resource for dealing with time pressure and a determinant of consequent adaptive outcomes. It is even suggested that EI can act as a buffer against stress stemming from time pressure (Zeidner & Matthews, 2018; Lewis et al., 2017).

Thus, on one hand, individuals actually applying their EI and thus showing high state EI should naturally feature an increased ability to deal effectively with time pressure. Consequently, if high state EI leads to less experienced time pressure then fewer resources should be depleted that are required for adaptive leadership behaviour. On the other hand, individuals that are unable to make use of their EI, and thus display low state EI, will experience a higher amount of time pressure. This then leads to an increased depletion of resources and consequently to reduced adaptive leadership behaviour. Accordingly, based on the fact that leaders high in state EI, compared to those with low state EI, are more capable to deal with time pressure associated with their job (Wu, 2011), the following hypothesis results:

*H2: Weekly state emotional intelligence moderates the relationship between weekly time pressure and weekly adaptive leadership in such a way that the negative relationship is weaker on days where state emotional intelligence is higher and stronger on days where emotional intelligence is lower.*

### **Weekly Adaptive Leadership and Weekly Organizational Citizenship Behaviour**

Adaptive leaders have the ability to motivate employees to find creative and innovative solutions to problems (Heifetz, 2004). Hence, adaptive leadership behaviour can encourage employees to invest efforts in their work that go beyond the requirements of their day-to-day job, meaning that adaptive leaders should be able to promote the organizational citizenship behaviour (OCB) of their employees.

Next to leadership, OCB has become an extensively studied topic within the field of applied psychology and organizational behaviour (Podsakoff et al., 2000). Already in the last few decades, it has been recognized that it is not enough for organizations to rely solely on the performance of behaviours represented in job descriptions in order to be successful. Instead, organizational effectiveness was found to be dependent on employees' voluntary efforts to take initiative in helping coworkers, protecting the organization and voicing suggestions (Katz, 1964). OCB indeed represents the willingness of employees to invest efforts in their work environment that go beyond the formal job descriptions without expecting rewards (Vigoda-Gadot, 2006). Thus, OCB describes extra-role and discretionary behaviours that are not prescribed but are organizationally desirable. OCB contributes to organizational effectiveness and has become particularly important as organizational contexts become increasingly uncertain and interdependent (Organ et al., 2006; Bambale et al., 2011).

Adaptive leaders effectively perceive situational demands, as well as the demands of their followers (Reina, 2015). This enables them to adapt their leadership behaviours appropriately and flexibly to the dynamic and changing demands of the situation, and to the leadership requirements, daily needs, experiences and skills of their followers (Reina, 2015; Yukl & Mahsud, 2010). When followers receive situationally appropriate support in the form of leader behaviour, they are generally more effective in that they show greater job performance and extra-role performance, such as OCB (Reina, 2015). Blau's (1964) theory of social exchange explains that when followers feel supported and satisfied with their leaders, they are likely to reciprocate by engaging in activities that will ultimately help their leader achieve his/her goals. Thus, the leader's dynamic ability to adapt their leadership behaviours according to changing situational demands and support followers' needs should positively impact follower OCB. Followers' OCB, just as leaders' adaptive leadership behaviour, varies over time due to individual and contextual influences (Binnewies et al., 2010). Thus, to capture these fluctuations in followers' OCB and in the relation with the leaders' adaptive leadership behaviour, a weekly perspective is adopted. Based on all of this this, Hypothesis 3 is proposed:

*H3: Weekly adaptive leadership behaviour is positively related to weekly follower OCB.*

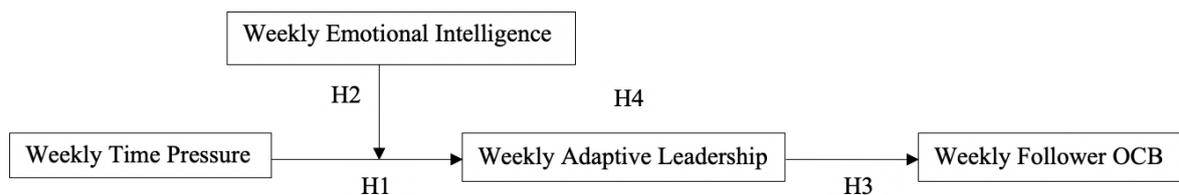
## Weekly Adaptive Leadership as a Mediator & the Complete Model

As mentioned above, time pressure depletes leaders' psychological resources needed to engage in adaptive leadership processes, which negatively impacts leaders' ability to effectively engage in adaptive leadership behaviour (Thompson, 2010; Eubanks & Mumford, 2010). Accordingly, this lowers the leaders' capability to adapt their leadership behaviours adequately in response to changing situations. Consequently, they might become unable to give their followers the situationally appropriate leader support needed, leading to reduced follower OCB (Reina, 2015). In addition, state EI moderates the relationship between time pressure and adaptive leadership behaviour, as high state EI allows adaptive leaders to deal effectively with time pressure and to efficiently use all available resources for adaptive leadership processes. Therefore, state EI should buffer the negative effects of time pressure on adaptive leadership behaviour (Zeidner & Matthews, 2018; Wu, 2011). From this follows the complete model (Figure 1) and the resulting hypothesis:

*H4: The indirect effect of weekly time pressure on weekly follower OCB via weekly adaptive leadership behaviour will be moderated by weekly emotional intelligence, such that the relationship will be weaker when weekly emotional intelligence is high.*

### Figure 1

*Hypothesized moderated mediation model*



## Methods

### Participants and Procedure

For the current study, multiple leader-follower dyads were recruited. A total of 499 individuals were asked to participate in this study together with their leader or follower. Of those 499 people, only 91 individuals agreed to participate in the study along with their follower or leader, resulting in a response rate of 18.2%. Of these 91 participating dyads, 5 dropped out during the study, resulting in a drop-out rate of 5.5%. Thus, the final sample of the study consisted of 86 leader-follower dyads.

The mean age of the participating leaders was between 45 and 54 years ( $M = 3.8$ ,  $SD = 1.1$ ). Most leader respondents in this study were male ( $N = 86$ , 51 males, 25 females, 10 missing). A substantial number of leaders indicated that they worked in sales (12.8%), in administration (11.6%) or in the production/service provision sector (9.3%). However, most leaders indicated that they worked in a sector that was not included in the possible response choices (“other department”) (33.7%). The mean job tenure of the participating leaders was close to 13 years ( $M = 12.9$ ,  $SD = 11.3$ ). The majority of participating leaders had earned a master’s degree (52.3%), followed by leaders who have earned a bachelor’s degree (10.5%).

The mean age of the participating followers was between 35 and 44 years ( $M = 2.9$ ,  $SD = 1.3$ ). Most participating followers were female ( $N = 86$ , 37 males, 40 females, 9 missing). A great number of followers indicated that they work in administration (12.8%), the production/service provision sector (11.6%) and in sales (10.5%). This was closely followed by people working in HR (9.3%). However, many of the followers indicated that they worked in a sector that was not listed among the response choices (“other department”) (30.2%). The mean job tenure of the participating followers was around 11 years ( $M = 10.7$ ,  $SD = 11.4$ ). On average, participating followers had already worked with their current leader for 4.3 years ( $SD = 5.25$ ). The majority of followers had earned a master’s degree (37.2%), followed by followers who have earned a bachelor’s degree (27.9%).

The current study employed a weekly diary design. The weekly diary design was chosen as it allows to detect state level fluctuations in variables of interest (Ohly et al., 2010). For this, dyads consisting of one leader and one employee were separately asked to complete a short questionnaire at the end of each working week, over a period of five weeks. All the participants were recruited by four master students. Dyads willing to participate could register by either sending an email to the students, or by filling out an online questionnaire requesting only the e-mail addresses of both the leader and the follower. After the registration, the participants were asked to give their informed consent and to fill out a baseline questionnaire. After this, they received an email each Friday with an invitation to complete the weekly online questionnaire, requiring approximately five minutes of the participants’ time. To be eligible for this study, a good command of the German language was required as the questionnaires were written in German. In addition, the leader and the employee needed to have personal contact at least on a weekly basis.

## Measures

The weekly diary study is based on pre-existing and established scales that have been translated to German. The different scales have been adapted to fit the weekly context and only the items with the highest factor loadings were selected from the original scales. Generally, participants responded to the scales' items on five-point Likert scales. Both the leader and the follower completed a baseline questionnaire, followed by the weekly questionnaires.

### *Demographics*

The baseline questionnaire inquires about both the leader's and the follower's demographic information. In particular, the leader and the follower are asked about their gender, age, nationality, country of residence, education, as well as the nature and duration of their employment. The leader receives an additional question inquiring about the number of employees in the leader's responsibility. The follower is asked how long he/she has worked with the respective leader and about their frequency of encounter, and if he/she also acts as a leader for other employees.

### *Adaptive Leadership*

Five items from the *Adaptive Leadership Behaviour Scale* (ALBS; Nöthel et al., 2021) were applied in the follower's weekly questionnaire to measure the leader's weekly adaptive leadership behaviour. The five selected items were those with the highest factor loadings and those that represented the different dimensions of the 15 original items well in terms of content. A sample item was "This week my leader was able to continuously adapt his/her behaviour to the respective circumstances and to the right extent". Response options ranged from 1 (*totally disagree*) to 5 (*totally agree*). The scale's items were self-translated to German using the Brislin (1970) technique and adapted to fit the weekly context. This instrument allows for a concrete and straightforward measure to study adaptive leadership behaviour in the field (Nöthel et al., 2021). Cronbach's alpha ranged from .82 to .91 over the 5 weeks (mean  $\alpha = .87$ ).

### *Emotional Intelligence*

Four items from the *Wong and Law Emotional Intelligence Scale* (WLEIS; Wong & Law, 2002) were applied in the leader's weekly questionnaire to measure the leader's weekly emotional intelligence. The scale's items were self-translated into German using the Brislin (1970) technique and adapted to fit the weekly context. Only the four items with the largest factor loadings and those representing the different dimensions well in terms of content were retained in the weekly questionnaires out of the 16 original items. A sample item was "This week I had a good understanding of the emotions of the people around me.". Response options ranged from 1 (*totally disagree*) to 5 (*totally agree*). The WLEIS shows acceptable reliability

and validity, as well as good convergence with past emotional intelligence measures (Wong & Law, 2002). This scale has also been used in previous research measuring state EI by Pekaar et al. (2017). Cronbach's alpha ranged from .62 to .74 over the 5 weeks (mean  $\alpha = .68$ ).

### ***Time Pressure***

Four items from the validated extended version of the *Questionnaire on the Experience and Evaluation of Work* (VBBA; Van Veldhoven & Meijman, 1994) were applied in the leader's weekly questionnaires to assess the leader's weekly time pressure. These four selected items were the ones with the highest factor loadings and represented the different dimensions favourably. The items were self-translated to German using the Brislin (1970) technique and adapted to the weekly context. A sample item was "This week I worked under time pressure". Response options ranged from 1 (*very rarely or never*) to 5 (*very often or always*). The scale was used in previous research by Bakker et al. (2010). Cronbach's alpha ranged from .79 to .86 over the 5 weeks (mean  $\alpha = .83$ ).

### ***Organizational Citizenship Behaviour***

Three items from the German translation (Debus, 2012) of the *Organizational Citizenship Behaviour Checklist* (OCB-C; Spector et al., 2010) were applied in the leader's weekly questionnaire to assess the follower's weekly organizational citizenship behaviour. The items were adapted to fit the weekly context and only the three items with the highest factor loadings were selected. A sample item was "This week my employee volunteered for additional work". Response options ranged from 1 (*very rarely or never*) to 5 (*very often or always*). The scale has been used in previous research by Krastev & Stanoeva (2013). Cronbach's alpha ranged from .73 to .79 over the 5 weeks (mean  $\alpha = .77$ ).

### **Statistical Analysis**

The data obtained through the weekly diary approach applied in this study yields multiple observations per person over time. Thus, the use of multilevel analysis is required because the weekly assessments are not independent from each other. The measures acquired with the weekly questionnaires may yield results that are more similar when they come from the same person as opposed to different persons. Thus, observations on the weekly level are nested within persons and constitute Level 1 data (Ohly et al., 2010).

All week-level predictor variables are centered at the person mean (Kuonath et al., 2017). This centering method applied to the predictors influences the feasibility of the interpretation of the results as it allows the between-person variation to be removed from the week-level predictors (Ohly et al., 2010). This enables predictions of true within-person

variations concerning the week-level variables. This centering approach is generally advocated in the multilevel literature when predictions from within-individual variations of Level 1 predictor variables are prevalent (Enders & Tofighi, 2007; Kuonath et al., 2017).

The main effects of hypotheses 1 and 3, the moderation effect of hypothesis 2 and the complete model discussed in hypothesis 4 were therefore analysed with a multilevel regression analysis using SPSS 25. For hypothesis 4, the macro MLmed by Rockwood (2017) was used in addition.

## **Results**

### **Preliminary Analyses**

Before testing the hypotheses, the degree of within- and between-person variation of the dependent week-level variables was analyzed by calculating intraclass correlation coefficients (ICC). Results showed that 45.3% of the variance of adaptive leadership behaviour and 32.4% of the variance of followers' organizational citizenship behaviour were accounted for at the within-person level, and can thus be explained by situational influences. Hence, the use of multilevel analysis is appropriate (Haun et al., 2020). Means, standard deviations, reliabilities, correlations among the study's variables, and the intraclass correlation coefficients for the dependent variables are reported in Table 1.

### **Hypotheses Testing**

Hypothesis 1 proposed that weekly time pressure is negatively associated with weekly adaptive leadership, while hypothesis 2 suggested that weekly state EI moderates this relationship, with the effect that the negative relationship is weaker when state EI is higher and vice versa. To test this first hypothesis and thus to predict adaptive leadership behaviour, the analysis was started with an intercept-only model (null Model), only including adaptive leadership behaviour. In Model 1, time pressure was added as a person-mean centered level 1 predictor with a fixed slope. This model fits the data better than the null model. Time pressure (Estimate = .18,  $p = .008$ ) was significantly related to adaptive leadership behaviour. Contrary to expectations, however, time pressure was positively related to adaptive leadership behaviour. In Model 2, time pressure was added as a person-mean centered level 1 predictor with a random slope, thus allowing the slope to vary. This model did not fit the data better than the previous model. Moreover, the variance of the random components of time pressure was not significant (Estimate = .05,  $p = .349$ ). Hence, the effect of weekly time pressure on weekly adaptive leadership behaviour does not seem to vary across individuals. Consequently, a test

of moderation was not useful as there was no variance in slopes that could be explained by a level 1 moderator in the first place. For checking purposes, the interaction between time pressure and EI was still entered into model 3. The interaction was not significant (Estimate =  $-.07$ ,  $p = .769$ ). Therefore, both hypothesis 1 and hypothesis 2 could not be supported. The results are shown in Table 2.

Hypothesis 3 proposed that weekly adaptive leadership behaviour is positively associated with weekly follower OCB. To test the hypothesis, the statistical analysis was again started with an intercept-only model (null Model), only including followers' OCB. In Model 4, adaptive leadership behaviour (ALS) was added as a person-mean centered level 1 predictor with a fixed slope. This model fits the data better than the null model. ALS (Estimate =  $.06$ ,  $p = .537$ ) was not significantly related to followers' OCB. In Model 5, ALS was added as a person-mean centered level 1 predictor with a random slope, allowing the slope to vary. Convergence of this model could not be reached, however, as the model did not fit the data. This was also shown in the log likelihood test. The variance of the random components of ALS was close to zero or has not been estimated properly. Thus, the effect of ALS on OCB does not seem to vary across individuals. Hence, hypothesis 3 could not be supported, either.

Lastly, hypothesis 4 summarized the complete model by suggesting that the indirect effect of weekly time pressure on weekly follower OCB via weekly adaptive leadership behaviour will be moderated by weekly EI. To test this fourth hypothesis, the data was analyzed with the help of the MLmed macro by Rockwood (2017). The result of the moderated mediation model (Model 6) was insignificant (Estimate =  $.01$ ;  $p = .809$ ). Therefore, hypothesis 4 could not be supported. The results for hypotheses 3 and 4 are shown in Table 3.

**Table 1***Descriptive Statistics and Correlations for Study Variables*

Variable	<i>M</i>	<i>SD</i>	ICC	1	2	3	4	5	6	7	8	9	10	11
1. Age Follower <sup>a,c</sup>	2.94	1.27		(-)										
2. Age Leader <sup>a,c</sup>	3.75	1.13		.37**	(-)									
3. Gender Follower <sup>b,c</sup>	1.48	.50		.02	.18	(-)								
4. Gender Leader <sup>b,c</sup>	1.67	.47		.21	.22	.05	(-)							
5. Job Tenure Follower <sup>c</sup>	10.72	11.33		.66**	.31*	-.02	.09	(-)						
6. Job Tenure Leader <sup>c</sup>	12.93	11.19		.31*	.52**	-.20	.07	.57**	(-)					
7. Collaboration Leader-Follower <sup>c</sup>	4.32	5.23		.31**	.26*	-.15	.05	.42**	.45**	(-)				
8. Adaptive Leadership Beh. (FR) <sup>d</sup>	4.04	.53	.547	.18	.10	.05	.08	.02	-.09	-.09	(.87)			
9. Emotional Intelligence (LR) <sup>d</sup>	3.97	.43		.17	.13	.20	-.02	.21	.14	.18	.07	(.68)		
10. Time Pressure (LR) <sup>d</sup>	3.81	.68		.01	.14	.27*	.18	-.01	.07	.02	.21**	-.03	(.83)	
11. Org. Citizenship Behaviour (LR) <sup>d</sup>	3.02	.81	.676	-.06	-.14	-.00	.01	-.22	-.35*	-.11	.05	.20**	.18**	(.77)

Note. N = 86, \*p < .05. \*\*p < .01.

<sup>a</sup> Age: 1 = < 25 years, 2 = 25 - 34 years, 3 = 35 - 44 years, 4 = 45 - 54 years, 5 = 55 - 60 years, 6 = > 60 years; <sup>b</sup> Gender: 1 = male, 2 = female, 3 = diverse; <sup>c</sup> Baseline variables; <sup>d</sup> Weekly (Level 1) variables; FR = Follower Rating; LR = Leader Rating.

Cronbach's alpha values (calculated for each week and averaged across the 5 weeks of the study) are displayed in parentheses on the diagonal.

Correlations among Level 1 variables are person-mean centered.

**Table 2***Results from Multilevel Regression Analysis Predicting Adaptive Leadership Behaviour*

	Model 0			Model 1			Model 2			Model 3		
	Est	SE	t	Est	SE	t	Est	SE	t	Est	SE	t
Intercept	4.02	.06	63.54***	4.01	.07	58.52***	4.01	.07	58.47***	4.01	.07	58.15 ***
Time Pressure				.18	.07	2.68**	.17	.08	2.24*	.18	.08	2.25*
EI										.05	.08	.59
Time Pressure x EI										-.07	.24	-.30
-2X log	391.95			325.11			323.64			327.43		
Dif -2X log				66.84 <sup>+</sup>			1.47			-3.79		
df				1			2			2		

*Note.* <sup>+</sup>p < 3.84; \* p < .05; \*\* p < .01; \*\*\* p < .001.

EI = Emotional Intelligence; Model 0 = intercept-only model; Model 1 = fixed slope model; Model 2 = random slope model; Model 3 = random slope model with interaction term.

**Table 3***Results from Multilevel Regression Analysis Predicting Organizational Citizenship Behaviour*

	Model 0			Model 4			Model 5			Model 6		
	Est	SE	t	Est	SE	t	Est	SE	t	Est	SE	t/z
Intercept	3.03	.10	30.92***	3.05	.11	28.94***	3.05	.11	28.83***	1.81	.99	1.83
ALS				.06	.10	.62	.09	.10	.90	.03	.10	.26
Moderated Mediation										.005	.02	.24
-2X log	542.01			426.89			426.56			759.38		
Dif -2X log				115.12			0.33					
df				1			2					

Note. <sup>†</sup>p < 3.84; \* p < .05; \*\* p < .01; \*\*\* p < .001.

ALS = Adaptive Leadership Behaviour; Model 0 = intercept-only model; Model 4 = fixed slope model; Model 5 = random slope model; Model

6 = moderated mediation model.

## Discussion

This study aimed to extend current research on adaptive leadership by exploring the predictors of adaptive leadership behaviour and its influence on followers' organizational citizenship behaviour using a weekly diary study approach with leader-follower dyads. The results of the empirical analysis show that weekly time pressure was significantly and positively related to weekly adaptive leadership behaviour. This finding was in contrast to the predicted negative relationship. Previous research has shown that time pressure impairs complex cognitive processes necessary for adaptive decision-making, leading to an increased and maladaptive use of heuristics (Amsten, 1998; Driskell & Salas, 1991). Additionally, time pressure has also been found to negatively affect the ability of adaptive leaders to consider alternative solutions to problems, which in turn led to reduced adaptive leadership behaviour in past research as well (Hunter et al., 2011).

Based on this, the significant positive association found in this study between time pressure and adaptive leadership behaviour seems surprising. One possible explanation could be that although heuristics are generally conceived as a source of systematic errors in decision making, this perception can be incorrect for decisions made under uncertainty (Artinger et al., 2015). Uncertainty is a defining characteristic of adaptive leadership decision-making, as adaptive leaders constantly encounter situations in which they do not know all possible options with their consequences and probabilities. In such ambiguous and rapidly changing environments where adaptive leadership is essential, complex decision-making often leads to errors due to its high sensitivity to variance in the environment. However, even though a simple heuristic can lead to errors due to certain biases, it shows much less sensitivity to the frequent fluctuations in the constantly shifting environment, making it a robust and high-performing strategy (Artinger et al., 2015). Indeed, in these complex and uncertain environments, the use of simple heuristics has been shown not to lead to maladaptive decisions, but rather has been proven to yield successful decisions and outcomes (Artinger et al., 2015). Thus, heuristics are not necessarily the result of mental shortcomings and do not always lead to second-best decisions, as Kahneman (2011) previously presumed. Rather, heuristics enable adaptive responses to situations in uncertain and complex environments (Baum & Wally, 2003; Khatri & Ng, 2000). Some evidence even suggests that time pressure can reduce decision biases and induce adaptive leaders to adopt alternative and more adaptive strategies (Ordóñez et al., 2015).

Another possible explanation could come from the fact that time pressure might be perceived as a challenge stressor (LePine et al., 2005). LePine et al. (2005) highlighted that work demands can be appraised as hindrances or challenges. Employees facing challenge

stressors are usually coping with the demand by increasing their effort. For hindrance stressors, however, the increased effort to cope with the demand is associated with a low probability of meeting the demand. Consequently, individuals are generally not motivated to spend extra effort to deal with hindrance stressors, as opposed to challenge stressors (Vroom, 1964; LePine et al., 2005).

Challenge stressors, while having a considerable impact on strain and the depletion of resources, can nevertheless be beneficial as they have been shown to promote greater motivation and improved performance (LePine et al., 2005). Interestingly, research has shown that elevated motivation can compensate for depleted resources (Muraven & Slessareva, 2003). In addition, challenge stressors should encourage an increased resource allocation toward the goal (Wallace et al., 2009). Thus, time pressure as a challenge stressor may not only buffer the depletion of resources through increased motivation, but also enable adaptive leaders to focus more efficiently on the situational demands at hand with the help of a more favourable allocation of resources. This in turn allows for more flexible and appropriate adaptive decision-making. Time pressure may therefore not impair the decision-making processes required for effective adaptive leadership, as previously assumed, but may even enable more adaptive leadership behaviours.

No significant evidence could be found for the moderation effect of EI on the relationship between time pressure and adaptive leadership behaviour, as the effect of weekly time pressure on weekly adaptive leadership behaviour does not vary across individuals. Furthermore, adaptive leadership behaviour does not appear to significantly influence followers' OCB. One possible explanation for this insignificant result could be that the relationship between adaptive leadership behaviour and employees' OCB is influenced by additional variables. In fact, research has shown that employee job satisfaction, as well as perceived organizational support, mediate the association between adaptive leadership and OCB (Asgari et al, 2020). Thus, if the employees' job satisfaction and perceived organizational support are insufficient, adaptive leadership behaviour does not have the desired significant effect on employees' OCB. Consequently, the moderated mediation model could not be supported either. Nevertheless, these insignificant results still help to shed light on the processes involved in adaptive leadership behaviour.

## **Limitations and Directions for Future Research**

### ***Limitations***

Although this study has clear strengths due to its research design, it is not without limitations. A first limitation is that for some scales, in some weeks, the internal consistency was quite low. This was especially the case for the items of the EI and the OCB scales. A possible reason for this could be that in diary studies, the time frame of existing scales is often adapted. In this study, the items of the different scales were adapted to refer to the specific week in question. It is possible that some items relate to experiences that cannot be answered every week, resulting in lower inter-item correlations and, consequently, lower internal consistency of the scale in that week (Sonnentag et al., 2010). Although the values of Cronbach's alpha were low for some scales in certain weeks, on average, the internal consistencies in this study meet the internal consistency of .60 for early stages of research determined by Nunnally (1967). Additionally, unreliable measures attenuate the relationships between predictors and outcomes in such a way that the relationships are underestimated, implying that the relationships in the present study can be considered as conservative (Breevaart et al., 2013). Nevertheless, future research on the psychometric properties of these scales in the context of weekly diary studies is required.

Next, the study's sample of 86 leader-follower dyads is considered to be a smaller sample, entailing several drawbacks (Du & Wang, 2016). Using a larger number of participating dyads (> 100) could help reduce the weaknesses of a smaller sample by increasing convergence rates, lowering biases, and achieving good coverage rates (Du & Wang, 2016). A larger sample also yields more valid, reliable and generalizable results and allows to give a more precise estimate of the effects necessary to interpret significant results (Bartlett et al., 2001; Biau et al., 2008). Future studies may therefore analyze the variables in question by making use of a larger sample and, thus, including more dyads.

Another limitation of this study could be that the data was collected during the COVID-19 pandemic and thus at a time that was predominantly characterized by working from home. Although the leader-follower dyads interacted at least on a weekly basis, most contact took place online. This might limit the generalizability of the results to a certain extent. In particular, the data collected from other-reports, namely the leader's adaptive leadership behaviour and the follower's OCB, may have been influenced by the lack of face-to-face interactions. Thus, further research is needed once personal interactions become the norm again.

Lastly, a more general limitation of this study is that the data was gathered with the help of both self- and other-reports. The leaders' adaptive leadership behaviour was assessed

by reports of their followers, while leaders assessed their follower's OCB. The leaders' experienced time pressure and EI were self-reported. This may potentially increase the risk of common method variance (Podsakoff et al., 2003). However, common method bias is rarely strong enough to bias results (Spector, 2006). To further allay such concerns, analyses focused on relationships between the variables at the within-person level of analysis. With this approach, predictor variables are centered at the person-mean and, thus, between-person variation is removed. As a result, findings cannot be distorted by individual difference variables (Hülshager et al., 2018). Still, to alleviate this concern in future studies, predictor, moderator and criterion measures may be assessed at different times (Podsakoff et al., 2003).

### ***Future research***

Future research may investigate the role of time pressure on adaptive leadership further. This study is one of few to suggest that time pressure has a positive effect on adaptive leadership behaviour, while others propose a negative association (e.g. Hunter et al., 2011; Eubanks & Mumford, 2010). In previous studies, time pressure has even been found to have a curvilinear relationship with several outcome variables, such as work engagement (Sheng et al., 2017). Additionally, Sheng et al. (2017) found that the curvilinear relationship between time pressure and outcomes can be attenuated by an individual's psychological capital or chronic sleep quality. Therefore, the exact relationship between time pressure and adaptive leadership behaviour should be further analysed in order to determine to what extent time pressure has a positive effect and when the effect becomes negative. Moreover, leaders' psychological capital and sleep quality, or the level of fatigue, may be included as moderating variables in this relationship in future research.

Additionally, future research may build upon and extend the current line of research by taking into account additional predictors of adaptive leadership behaviour. While the focus of this study was on time pressure as a predictor, this focus may be extended to include other work demands, such as psychological or physical demands, situational constraints and role conflict. Of course, other predictors unrelated to work demands such as personality traits or organisational climate may be included, to shed light on a broader range of antecedents of adaptive leadership behaviour. Additional moderating and outcome variables may be taken into account as well for a holistic and complete understanding of adaptive leadership behavior in the workplace.

The dynamic approach to emotional intelligence and its role in adaptive leadership behaviour should be further analysed in future studies with larger samples, as well as the

influence of adaptive leadership behaviour on followers' OCB. Testing the hypothesized associations of this study with a larger sample in a future study would help to further review and investigate the results of the present study.

### **Practical Implications**

The results of this study help to understand the processes involved in adaptive leadership behaviour. In practice, this knowledge allows to understand the factors promoting adaptive leadership behaviour and hence permit organizations to create an optimal environment, as well as to facilitate and encourage the increased use of adaptive leadership behaviours. Organizations benefit from adaptive leaders as these individuals enable organizations to survive and remain competitive in these complex and ambiguous times (Uhl-Bien & Arena, 2017). It would be of interest to invest in training that promotes adaptive leadership behaviour. Before doing this, of course, more research needs to be done on the predictors and outcomes and, more generally, on the processes involved in adaptive leadership.

The positive association between time pressure and adaptive leadership behaviour forms a starting point, however. The suggestion that the use of heuristics could lead to more adaptive decisions should stimulate organizations to encourage the use of simple heuristics by adaptive leaders to better manage decision-making in complex and uncertain situations. To counter reluctance to rely solely on intuition, organizations and adaptive leaders could choose to combine the use of simple heuristics with statistical models, which has been shown to improve predictive accuracy even further (Artinger et al., 2015).

### **Conclusion**

In conclusion, this study investigated the relationships between time pressure and emotional intelligence as predictors of adaptive leadership behaviour and its influence on organizational citizenship behaviour. Using a weekly diary study with leader-follower dyads and a multi-level regression analysis, the current study contributes to the literature by shedding light on the processes involved in adaptive leadership behaviour, in particular on the positive association between time pressure and adaptive leadership behaviour. Future research on the mechanism and the boundary conditions of the relationship uncovered in this study is now required. Hopefully, this initial study, despite its limitations, sparks further research into this approach to understanding adaptive leadership.

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