Master's thesis

# *Accepting Negative Emotions Makes us Resilient to Daily Work Stressors*


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**Abstract**

In the present study acceptance was examined as a protective factor against the aversive effects of daily work stressors. We hypothesized that the habitual tendency to be accepting of one's negative emotions would be associated with better daily well-being. Daily well-being was operationalized as low negative affect, low end-of-day fatigue and high work engagement. Furthermore, we predicted that acceptance would buffer the aversive impact of work stressors on the three variables. A micro-longitudinal study was carried out to gather the data of 92 employees of the health care sector on 10 working days. Multilevel modeling was used to analyze the data. Acceptance emerged as an important predictor of lower negative affect, lower end-of-day fatigue and higher work engagement across the 10-day diary period. Furthermore, acceptance moderated the effect of stressor occurrence on daily well-being. Specifically, accepting individuals experienced less change in negative affect and work engagement after experiencing at least one stressor during the day than less accepting individuals. However, no moderation effect of acceptance was identified for the prediction of end-of-day fatigue. Our findings emphasize the benefits of accepting negative emotional states. For practice, it appears sensible to teach employees acceptance skills that can help them deal with work stressors and ultimately increase well-being.

*Keywords:* acceptance, stress, negative affect, end-of-day fatigue, work engagement, well-being, emotion regulation

# Accepting Negative Emotions Makes us Resilient to Daily Work Stressors

In everyday life, people are constantly faced with stressors. Problems in relationships, concerns at work or at home, caring for other people, or malfunctioning electronic devices are examples of daily hassles that represent constant challenges to our day-to-day routine (Almeida, 2005). Negative daily events have been found to be related to negative consequences for the individual like daily ill-being or anxiety and depression (Lazarus, 1999). Numerous studies have shown that the job is by far the biggest source of stress for adults (American Association of Stress, n. d.): Occupational stress is strongly associated with negative outcomes for the individual (Cooper, Dewe, & O'Driscoll, 2001; Nixon, Mazzola, Bauer, Krueger, & Spector, 2011; Schaufeli, Martínez, Marques Pinto, Salanova, & Bakker, 2002). Considering the detrimental effects of work stress, it appears theoretically and practically relevant to identify factors that protect people from the aversive consequences of stress.

When facing stressful events, it seems particularly important how people deal with their emotions (Gross, 1998). Recently, researchers as well as practitioners have emphasized the importance of acceptance for psychological functioning. Acceptance involves facing and not avoiding emotions – even the negative ones – while maintaining a focus on goal-oriented behavior (Hayes, Strosahl, & Wilson, 1999). Acceptance has been associated with numerous positive outcomes (e.g., more positive affect, less depression and burnout) and is taught in behavioral and cognitive therapy to help people deal with their emotions and circumstances (Hayes et al., 1999). In this research, we will argue that acceptance buffers individuals' vulnerability to work stressors for two reasons: Firstly, acceptance has been shown to be an effective strategy for handling stressful situations (e.g., Plumb, Orsillo, & Luterek, 2004; Shallcross, Troy, Boland, & Mauss,

2010). Secondly, it employs fewer cognitive resources than other coping strategies (Alberts, Schneider, & Martijn, 2012) and consequently frees resources that can be directed at dealing with the problem at hand (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996).

The current study contributes to research in three domains: First, it adds to the growing body of literature regarding acceptance and its numerous positive outcomes. Second and even more important, it examines acceptance as a potential protecting factor of work stress, which might open up perspectives to help employees improve their stress management. Third, we examine these relationships in the long run and take daily stress variation into account by making use of an innovative longitudinal repeated measures design.

**Work Stressors and Emotions**

According to the American Institute of Stress (n. d.), work stress in the US causes costs of nearly $300 billion dollars a year as compensation for absenteeism, decreased productivity, or as direct medical and insurance costs. Work stress has a negative effect on general physical (Nixon et al., 2011) and mental health (Iliceto et al., 2013) by significantly increasing the risk of developing burnout or depression (Cooper et al., 2001; Schaufeli et al., 2002). Furthermore, it contributes to fatigue (Zohar, Tzischinski, & Epstein, 2003) and, importantly, work stress has a spillover effect on family life: individuals who face occupational stressors have been shown to have a lower parent-child relationship quality (van Roeters, & Kluwer, 2010) and are more likely to divorce (Poortman, 2005). However, while certain situational working conditions are likely to trigger stress responses in most employers (Karasek & Theorell, 1990), stress is a highly personalized phenomenon. Therefore, the individual response to a stressful event is even more predictive of negative outcomes than the event itself (Beck, Rush, Shaw, & Emery, 1979).

Naturally, individuals differ in their emotional or physical reactions to daily stressors, which in turn determine their resilience and vulnerability (Diehl & Hay, 2010; Lazarus, 1999; Bolger & Zuckerman, 1995). As such, reactivity to daily stressors is an important moderator of the relationship between daily negative events and negative long-term outcomes like depressive symptoms (Parris, Cohen, & Laurenceau, 2011).

The impact of negative events on well-being is greatly influenced by how people deal with their emotions (Gross, 1998). Similarly, affective events theory (AET; Weiss & Cropanzano, 1996) emphasizes the role of emotions in response to stressful events. It posits that affective responses are the crucial mediator between specific events at work and immediate cognitions and behaviors – a proposition that has received much empirical support (e.g., Glasø, Vie, Holmdal, & Einarsen, 2011; Lam & Chen, 2012). AET differs from other work event theories by focusing on the individual affective response to particular work events instead of ongoing environmental job conditions (Paterson & Cary, 2002). According to AET, events at work are appraised for whether they impede or facilitate goal achievement. While events hampering goal achievement usually trigger negative emotions, events facilitating goal achievement usually trigger positive emotions, which in turn influence job related behaviors and attitudes. As such, a particular negative work event triggers immediate emotions that in turn prompt destructive behavior and negative attitudes like job dissatisfaction. Similarly, in terms of experiencing work stressors, research findings have supported AET by showing that individuals experience psychological distress in response to aversive events at work and that daily mood fluctuates in relation to these stressors (Fuller, Stanton, Fisher, Spitzmüller, Russell, & Smith, 2003). Importantly, AET states that the reactions to work events are strongly impacted by

dispositional individual factors. This proposition is in line with much research demonstrating that resilience and vulnerability to stressors vastly differ between individuals (Diehl & Hay, 2010; Lazarus, 1999). In sum, AET highlights the importance of emotions in response to (negative) work events and their direct influence on job related attitudes and behaviors.

Furthermore, negative events deplete resources by requiring self-control (Lavallee & Campbell, 1995). Not only controlling the negative affective response requires self-control (Gross, 2008), but also controlling attention so that it stays with the task (Beal, Weiss, Barros, & MacDermid, 2005). Self-control is a limited cognitive resource that is diminished each time it is drawn upon (Baumeister, Vohs, & Tice, 2007). Negative events often trigger an off-task focus, and diverting attention back to the situation at hand is very costly in terms of self-control (Beal et al., 2005). The off-task focus entails concerns about prospective failure or rumination and requires much cognitive resources. It is thus not surprising that negative events at work have been associated with increased fatigue after work (Gross, Semmer, Meier, Kälin, Jacobshagen, & Tschan, 2011). Finally, considering the detrimental impact of stressors and given the importance of the appropriate individual emotional response, it is important to identify factors that help people deal better with negative events.

**Acceptance and Well-Being**

Being accepting of one's emotions and thoughts forms the positive counterpart of experiential avoidance, a concept that describes the unwillingness to face aversive experiences like negative emotions or situations (Hayes et al., 1996) and has often been found to increase psychological distress (Wenzlaff & Wegner, 2000). Acceptance is a two-step process: Firstly, it involves consciously and non-judgmentally dealing with one's emotions no matter whether

they are positive or negative (Segal, Williams, & Teasdale, 2002). As such, any internal state is accepted the way it is. Secondly, acceptance involves not attempting to regulate or control feelings and thoughts, an action that is suggested to interfere with pursuing one' s goals and values (Hayes et al., 1996). These two processes help individuals to divert attention from controlling internal states towards controlling overt behavior that is consistent with individual values and goals. According to Hayes and colleagues (1999), acceptance promotes mental health by reducing the impact of negative stimuli and by maintaining a focus on pursuing personal goals and values, a process usually referred to as commitment. It is important to note that acceptance does not mean to give up or to tolerate unpleasant experiences like psychological distress. The crucial point is to be aware of negative mental states, while not letting these experiences determine one's actions and behaviors.

Even though acceptance entails recognizing and embracing any emotions, even the negative ones, it has been associated with decreased negative affect and depressive symptoms across numerous clinical and non-clinical settings (e.g., Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Shallcross et al., 2010). The short-term benefits of acceptance in stressful conditions were for example examined by exposing non-clinical participants (Feldner, Zvolensky, Eifert, & Spira, 2003) or schizophrenic patients (Karekla, Forsyth, & Kelly, 2004) to a $CO_2$ challenge. Results indicated that high self-reported accepters had lower physical and cognitive stress symptoms than low accepters. Furthermore, in another study, high self-reported accepters that were shown an aversive movie reported less negative affect than low accepters (Shallcross et al., 2010). Importantly, laboratory studies manipulating the use of acceptance provide evidence for its causal effect on anxiety and negative affect (Campbell-Sills et al., 2006; Levitt, Brown,

Orsillo, & Barlow, 2004). For example, Campbell-Sills and colleagues (2006) manipulated acceptance as opposed to suppression in a clinical sample. Patients that listened to an acceptance rationale reported less negative affect watching a negative movie than patients that listened to the suppression rationale.

Furthermore, recent longitudinal field research emphasizes the benefits of acceptance for psychological functioning (Plumb et al., 2004). Similarly, Shallcross and colleagues (2010) examined depressive symptoms in a community sample that has recently experienced a stressful life event. They found that higher acceptance levels buffered the effect of elevated life stress on depressive symptoms over a period of 4 months (Shallcross et al., 2010).

Additionally, applying acceptance to the work context seems promising. Workshops teaching employees acceptance skills have great benefits for the employee as well as the organization. Bond and Bunce (2000; 2003) found that employees receiving acceptance training had better general mental health, less depression and better innovation potential compared to a control group. What is more, the beneficial effects of perceived job control were higher for participants with high levels of acceptance (Bond & Bunce, 2003). The authors conclude that accepting individuals had more cognitive resources to effectively use their job control because they did not try to control or avoid internal states. Another study investigated acceptance as an alternative to the two traditionally studied emotional labor strategies surface and deep acting (Biron & van Veldhoven, 2012). Emotional labor describes the process of tailoring the display of emotions to the demands of the job. The authors conducted a diary study in which participants reported habitual use of acceptance at baseline, and emotional exhaustion, deep, and surface

acting at three consecutive days. Results indicated that acceptance was associated with less daily emotional exhaustion than surface acting or deep acting.

It is widely argued that acceptance is beneficial because accepters refrain from controlling internal states and thus do not employ cognitive resources (e.g., Hayes et al., 2004). Empirical research on this fundamental proposition is scant, but one recent study suggests that acceptance indeed draws on fewer resources. The authors compared self-regulatory ability after exposure to a sad video, for which participants were instructed to either suppress emotions, accept emotions, or received no instruction (Alberts et al., 2012). Results indicate that participants in the acceptance group performed better on the subsequent self-regulatory task than participants in the suppression or the control group. This is first empirical evidence suggesting that acceptance indeed requires fewer cognitive resources than other emotion regulation strategies.

Concluding, previous literature has shown that acceptance has beneficial short- and long-term effects on mental health. However, acceptance has never been examined in relation to resilience to daily work stressors. This is surprising given that daily work hassles have such a big impact on individual well-being (Cooper et al., 2001; Nixon et al., 2011; Schaufeli et al., 2002). Based on the reviewed literature, two characteristic of acceptance give rise to the idea that it is a constructive way to deal with negative events at work. Firstly, acceptance is related to decreased negative affect and other quality-of-life variables like decreased depression. Importantly, it has proven especially beneficial in stressful situations. Secondly, acceptance draws on fewer cognitive resources than other emotion regulation strategies and thus allows cognitive resources to be used otherwise and be directed at the task at hand. Behavior can be

tailored as needed to the pursuit of goals irrespective of negative thoughts and emotions (Hayes et al., 2004). Especially in the context of stressors this might be adaptive, as emotions get recognized and while being mindful of the distressing feeling, one can pursue one's goal without diverting attention to suppressing or transforming emotions. When accepting a negative emotion related to a negative event, one can focus on the concrete issue (i.e., fixing a computer) instead of the emotional response.

**The Present Study**

The present work investigated the relationship between the habitual use of acceptance, daily work stressors and occupational well-being. Occupational well-being was operationalized by lower negative affect and end-of-day fatigue and higher levels of work engagement. The study followed a nested design assessing not only between-subjects variation, but also variability within subjects by employing repeated measures strategies. At first, participants' levels of acceptance were assessed at baseline making use of an online questionnaire. Subsequently, participants were asked to fill out a web-based diary after work on 10 working days, in which they reported the frequency and intensity of negative work events. In the same questionnaires, negative affect, end-of-day fatigue and daily work engagement were assessed. To ensure demanding job conditions and the occurrence of stressors, the study was conducted with employees from the health sector, who have been shown to experience higher levels of stress than other workers (Moore & Cooper, 1996). In the following, we will briefly describe our hypotheses and the outcome variables.

**Negative affect.** In line with previous findings linking acceptance to decreased levels of negative affect (Campbell-Sills et al., 2006; Shallcross, et al., 2010), we expected that higher acceptance is related to lower daily reported negative affect. Importantly, acceptance has been

found to be especially beneficial in times of elevated life stress. As such, acceptance was hypothesized to buffer the detrimental effect of stressors on affect.

*Hypothesis 1a: Acceptance is related to lower levels of daily negative affect.*

*Hypothesis 1b: Acceptance buffers the effect of daily stressors on daily negative affect. The occurrence of at least one stressor has a weaker impact on negative affect when acceptance levels are high.*

**End-of-day fatigue:** End-of-day fatigue is defined by depletion of resources at the end of a working day (Sonnentag & Bayer, 2005). As mentioned above, negative events drain cognitive resources and thus are strongly related to fatigue (Zohar et al., 2003). Acceptance, however, by definition entails drawing on fewer resources and allows engagement with the task, as emotions are not attempted to be controlled or changed (Hayes et al., 1996). Furthermore, empirical research has shown that acceptance requires fewer resources than other emotion regulation strategies (Alberts et al., 2012). Consequently, cognitive effort that is usually invested in controlling or avoiding emotions is saved and can be devoted to other tasks. It is thus conceivable that acceptance, firstly, is negatively related to end-of-day fatigue and, secondly, moderates the relationship between work stressors and fatigue, such that higher acceptance reduces the impact of stressors on fatigue.

*Hypothesis 2a: Acceptance is related to lower levels of daily end-of-day fatigue.*

*Hypothesis 2b: Acceptance buffers the effect of daily stressors on daily end-of-day fatigue. The occurrence of at least one stressor has a weaker impact on end-of-day fatigue when acceptance levels are high.*

**Work engagement:** Engaged employees have an active and positive work-related state (Schaufeli & Bakker, 2004). They tend to direct all their attention towards organizational goals, feel connected to their work, and sense that they can deal with the demands of the job (Schaufeli, Salanova, González-Romá, & Bakker, 2002). Work engagement is a three-dimensional concept that entails vigor (i.e., energetic and resilient work attitudes), dedication (i.e., strong involvement in one's work and experiencing enthusiasm and challenge) and absorption (i.e., being able to immerse in one's work; Schaufeli & Bakker, 2004). Work engagement is often considered the opposite of burnout (Schaufeli et al., 2002), which denotes a syndrome of emotional exhaustion that to a large extent results from job demands (Halbesleben, 2010). Given that acceptance has been negatively associated with burnout (Shallcross et al., 2010), it seems conceivable that acceptance is positively associated with work engagement denoting the opposite of burnout. Furthermore, work engagement has often been linked to personal resources like self-esteem or optimism. Given the positive effects of acceptance, this state of mind might serve as a personal resource that is positively associated with work engagement. Additionally, work engagement is related to commitment (Hakanen, Schaufeli, & Ahola, 2008; Kanste, 2011), which forms an important aspect of acceptance. Concluding, we predict acceptance to be positively related to work engagement.

*Hypothesis 3a: Acceptance is related to higher levels of daily work engagement.*

Recently, it has been suggested that work engagement varies from day to day depending on daily events. Xantholoulou, Bakker, Demerouti and Schaufeli (2009) showed that positive daily events like supervisor coaching or team atmosphere contribute to personal resources like self-esteem or optimism, which again add to daily work engagement. As such, positive events were

related to increased work engagement. Similarly, negative events should lead to decreased daily work engagement, which forms the pre-requisite for our next hypothesis: Acceptance - as a personal resource – is expected to buffer the negative effect of stressors on work engagement.

*Hypothesis 3b: Acceptance buffers the effect of daily stressors on daily work engagement. The occurrence of at least one stressor has a weaker impact on work engagement when acceptance levels are high.*

## Method

### Participants

The sample comprised 95 adults working in the health care sector from the greater rural area of Hannover, Germany. Of these participants, we obtained a total of 901 diary entries. Participants' age ranged from 17 to 64 years with a mean age of 43 years. 18% of the sample was male. In order to participate in the study, respondents had to be employed in the health care sector and have daily customer contact. The participants were recruited by contacting different health care organizations like private practices, pharmacies and institutions offering services like ambulant nursing, physiotherapy, or dietary advice. Furthermore, the private social network of the researchers was used to recruit participants. Some participants were referred by colleagues or friends who heard of the study or participated themselves. In exchange for participation respondents received personal feedback about their emotion regulation. Furthermore, participants could win one of two 100€ Amazon vouchers if they filled out at least 7 diary entries.

Three respondents dropped out of the study after completing the baseline questionnaire and were excluded from the analysis. Of the sample, 50% finished junior high school (Realschule), 14% completed secondary education (Abitur), and another 30% indicated as highest education a college or university degree. Organizational tenure ranged from 0 to 32 years, with an average of 9.61 years (SD = 8.10). Participants interacted with clients on average 5.59 hours a day (SD = 2.36). The mean working time was 8.74 hours per day (SD = 6.66).

**Procedure**

The study consisted of a web-based baseline survey, which was followed by about 10 web-based diary entries. Demographics and acceptance were assessed with the baseline questionnaire. At the end of the questionnaire, participants indicated the weekdays at which they usually worked so that e-mails with the links for the diary entries were only sent on individual working days. The diary phase started at the first working day after completion of the baseline questionnaire. Participants were emailed links for the diary surveys at 10 am and were instructed to fill out the surveys after work but before going to bed. Due to a system error, some participants were sent up to 17 diary surveys. The number of completed diary entries ranged from 2 to 17 (M = 10.05, SD = 2.39).

**Measures**

**Acceptance.** Acceptance was measured using the acceptance and action questionnaire (Bond et al., 2011). This instrument measures habitual acceptance and has been shown to have strong psychometric properties (e.g., Bond et al., 2011; Gloster, Klotschke, Chaker, Hummer, & Hoyer, 2011). Participants rated their agreement with 10 statements on a seven-point Likert scale

ranging from 1 "*never true*" to 7 "*always true*". Examples of items are "I am afraid of my feelings" (reverse-coded) or "It's OK if I remember something unpleasant". Cronbach's alpha indicated high reliability ($\alpha$ = .84).

**Daily events.** To assess affective work events, we asked participants to list events of the working day that they considered 'straining' or 'pleasant'. We explicitly asked for negative as well as positive events to counteract a possible negative bias that would arise when only negative events would have been made salient. Participants were asked to shortly describe the events and then rate their valence on a five-point Likert scale ranging from "*very negative*" to "*very positive*"; this was done to categorize events into positive, neutral, and negative ones. On average, 2.25 events were listed on each day, with more frequent report of positive (M = 1.25) than negative events (M = .71). Neutral events were reported least often (M = .21). Examples of reported negative events are "I am sick but I still went to work" or "I made a mistake today". Positive events were "Today, I only had friendly clients" or "I was able to finish a long-lasting task today", which will not be considered in the analysis.

**Daily negative affect.** To measure negative affect, we used a self-report measure that assesses emotions explicitly (Kessler & Staudinger, 2009). Participants were asked to indicate for 8 different negative emotions to what extent they experience that emotion currently. Emotions represented low arousal (e.g., "down", "lethargic", "droopy", "sluggish") and high arousal negative affect (e.g., "annoyed", "nervous", "worried", "anxious"). Current affect has been shown to be less prone to bias than assessing affect in retrospection (Robinson & Clore, 2002), which is why we decided to measure current negative affect after work. The ratings were

given on a five-point Likert scale ranging from "*very slightly or not at all*" to "*extremely*". Internal consistency across 12 days[2] was satisfactorily high ranging from .62 to .84 (M = .74).

**End-of-day fatigue.** After work, state fatigue was assessed with a measure by Nitsch (1976), which has shown good psychometric properties (e.g., Sonnentag & Bayer, 2005). This six-item measure was presented as part of the affect checklist. The items were "spent", "exhausted", "in need for recovery", "rested" [recoded], and "recuperated" [recoded]. Reliability across the 12 days was sufficiently high with a Cronbach's alpha ranging from .83 to .91 (M = .86).

**Work engagement.** To measure daily engagement in working, we used a shortened version of the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002). Each day after work, participants indicated for three items the extent to which they agreed with them ("Today, I immersed in my work", "Today, I felt strong and vigorous at my work", "I am proud on the work I did today"). Ratings were given on a five-point Likert scale ranging from "*not agree at all*" to "*agree completely*". The Cronbach's Alpha measures for each day ranged .73 to .93 indicating high internal reliability (M = .85).

## Statistical Analysis

Data were analyzed with multilevel modeling making use of MLwin (Rasbash, Charlton, Browne, Healy, & Cameron, 2005). Days (Level 1) were nested within individuals (Level 2). The count of negative and positive events per day was strongly right-skewed. In order to tailor the variable to the demands of a multilevel analyses, the variables were dichotomized so that "1" represented at least one negative (positive) event experienced on that day and "0" represented

that no negative (positive) event was experienced. The three outcome variables for well-being (negative affect, end-of-day fatigue, work-engagement) were predicted in three separate models. For matters of simplicity, only the model with negative affect as outcome will be depicted here. The Level 1 model below illustrates the variability within individuals in the relationship between daily work stressors and daily negative affect, controlling for the number of diary entry. The Level 2 model incorporates acceptance as a predictor of daily negative affect:

$$Level1: NA_{ij} = \beta_{0j} + \beta_{1j}Stressor + \beta_2 Diaryentry + e_{ij}$$

$$Level2: \beta_{0j} = \gamma_{00} + \gamma_{01}Acceptance + u_{oj}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}Acceptance + u_{1j}$$

The Level 1 outcome variable represents negative affect reported by participant i on day j and is predicted by the expected level of negative affect when no stressor is encountered ($\beta_{0j}$) and the expected change in negative affect when a stressor is encountered ($\beta_{1j}$). Because reported negative affect decreased with rising numbers of the diary entry, we controlled for the sequence effect of number of diary entry on negative affect $(\beta_2)$[1]. The Level 2 model takes individual differences in acceptance into account and estimates the regression coefficients for the Level 1 model. The Level 2 predictor acceptance was grand-mean centered, so that respective effects need to be interpreted relative to the sample mean. The main analysis examined the between-person relationship between levels of acceptance and negative affect and the cross-level moderating effect of acceptance on the relationship between experiencing a stressor and negative affect. The simple slopes for high (1 SD above the mean) and low levels (1

SD below the mean) of acceptance were examined making use of a tool developed by Preacher, Curran, and Bauer (2006). Significance tests were carried out as one-way tests on the 5%-level, because directional hypotheses were proposed. However, with regard to recent recommendations to shift towards estimation procedures (Coulson, Healey, Fidler, & Cumming, 2010), 95% confidence intervals will be reported as well.

## Results

### Preliminary Analysis

Negative affect, end-of-day fatigue, work engagement and stressor occurrence were averaged for individuals across all measurement points to obtain the between person correlations of all variables that are depicted in Table 1. Acceptance was moderately negatively correlated with reporting negative affect and end-of-day fatigue and positively associated with reporting high work engagement. Furthermore, levels of acceptance were positively related to age. However, acceptance was largely uncorrelated with stressor occurrence (i.e., reporting to have experienced at least on negative event on a given day, $r$ = -.13). Men and women reported equally high levels of acceptance ($t(90)$ = -.40, *95% CI* [-.61, .40]). Acceptance was unrelated to educational level ($F(4,84)$ = .32, $p$ = .87, partial $\eta^2$ = .01).

### Acceptance, Daily Stressors and Well-Being

The complete analyses with all including models are depicted in Table 3 for negative affect, in Table 4 for end-of-day fatigue and in Table 5 for work engagement as outcome variable. Before the analysis, we calculated null models to assess the proportion of variance

that is accounted for by person and day level, respectively. These revealed that between 45% and 49% of the total variability were due to person level in the three models, indicating that multilevel modeling is an appropriate procedure for analyzing the data (Nezlek, 2001). A prerequisite for the analysis was that stressors are related to a drop in the well-being variables. This was indeed found. Experiencing a stressor was related to increased negative affect (γ = .33, p < .001), to increased end-of-day fatigue (γ = .31, *p* < .001) and to decreased work engagement (γ = -.70, *95%CI* [-.84/-.56]).

The relationships between stressor occurrence and acceptance and the three outcome variables showed significant variance in intercepts across participants (see Tables 3 to 4). However, the slopes varied only slightly across participants. Including the cross-level interaction in the models reduced the slope variation further. Only with negative affect as the outcome variable slopes and intercepts covaried significantly.

Regarding Hypothesis 1a, acceptance was negatively related to daily negative affect (γ = -.14, *95%CI* [-.22/-.06]). Furthermore, in line with Hypothesis 1b, there was a significant cross-level interaction between experiencing a stressor and acceptance (γ = -.08, *95%CI* [-.16/-.004]). Figure 1 displays graphically the moderation effect. Importantly, adding the interaction term to the model improved the model fit significantly ($X^2_{change}(1) = 4634$, $p < .01$). The simple slope analysis revealed that the effect of a stressor on daily negative affect was lower for participants with relatively high levels of acceptance (γ = .25, *95%CI* [.15/.33]) than for participants with low levels of acceptance (γ = .40, *95%CI* [.32/.49]).

Furthermore, it was predicted that acceptance would be associated with lower end-of-day fatigue (Hypothesis 2a). The results indeed showed a negative association between

acceptance and daily end-of-day fatigue (γ = -.21, *95%CI* [-.37/-.05]), but no interaction effect between acceptance and stressor as was predicted by Hypothesis 2b (γ = .01*, 95%CI* [-.13/.11]). Nevertheless, the model fit improved significantly after adding the interaction term ($X^2_{change}(1) = 30$, $p < .01$). Finally, diaryentry emerged as a significant predictor of end-of-day fatigue (γ = -.05, *95%CI* [-.07/-.03].

With regard to the outcome variable work engagement, the results supported our predictions: Acceptance emerged as a predictor of daily work engagement (γ = .15, *95%CI* [-.03/.33]), which is significant only for the one-sided significance test for alpha = 5%. Furthermore, acceptance and stressor occurrence interacted in predicting work engagement (γ = .21, *95%Ci* [.05/.37], $X^2_{change}(1) = 6312$, $p < .01$). This moderation effect is depicted in Figure 2. The simple slope analysis revealed that a stressor had a weaker effect on work engagement when acceptance levels were high (β = -.51, *95%CI* [-67/-.34]) than when acceptance levels were low (β = -.89, *95%CI* [-1.05/-.72]).

## Discussion

Acceptance involves facing and not avoiding emotions – even the negative ones – while maintaining a focus on goal-oriented behavior (Hayes et al., 1999). Somewhat paradoxical, accepting negative emotions has been associated with a range of positive outcomes including decreased negative affect, depression or anxiety. In this research it was investigated whether acceptance is beneficial for dealing with daily stress at work. Firstly, we hypothesized that acceptance is positively related to daily well-being. High well-being was operationalized by low negative affect, low end-of-day fatigue and high work engagement. Secondly, we predicted

acceptance to buffer the aversive effect of work stressors on the three outcome variables negative affect, end-of-day fatigue and work engagement. The results support our hypotheses to a large extent, suggesting that acceptance is indeed related to daily well-being and a protecting factor in face of elevated daily stress.

For all three measures of daily well-being, acceptance emerged as a significant predictor. The correlations between acceptance and averaged negative affect, end-of-day fatigue and work engagement, were of moderate effect size according to Cohen's classification (1992). Furthermore, accounting for variance within individuals, the multilevel analysis revealed that high levels of acceptance significantly predicted daily well-being. It is important to mention, though, that the 95% confidence interval of the predictor of acceptance on work engagement includes zero, while the one-tailed significance test on the 5% Alpha level is significant. Notably, the general pattern of the results emphasizes the beneficial associations with acceptance and bolsters our confidence in the identified relationships. Furthermore, given prior research that has related a habitual tendency to accept negative emotions to immediate decreased negative affect (Shallcross et al., 2010) or less emotional exhaustion (Biron & van Veldhoven, 2012), it is reasonable to conclude that individuals with high acceptance are likely to experience better well-being.

Secondly, acceptance buffered the detrimental relationship between stressor occurrence and negative affect and work engagement such that the outcome variables were less affected by stressor occurrence when acceptance was high. However, acceptance did not buffer the relationship between stressor occurrence and fatigue. We did not find a moderation effect for acceptance, which is rather surprising as previous research found individuals exhibiting high levels of acceptance experience less daily emotional exhaustion in response to

stressful work events (Biron & van Veldhoven, 2012). Replication studies are needed to disentangle the relationship between stress, acceptance and fatigue. Finally, to summarize the overall pattern of findings from our study it appears that acceptance protects individuals from the detrimental effects of daily work stressors. As such, findings are in line with previous research identifying acceptance as a protecting factor in face of elevated life stress (Shallcross et al., 2010). The present study extends prior findings by investigating relatively short-term effects of specific work stressors as opposed to long-term effects of general life stress of, for instance, over periods of 4 months (Shallcross et al., 2010) or one year (Bond & Bunce, 2003).

Controlling for different possible confounders like gender, education, tenure, number of events reported or reporting positive events did not change the results. Importantly, baseline acceptance was unrelated to reporting a stressor, suggesting that high accepters do not simply experience fewer negative events, which would explain higher well-being outcomes.

**What Are the Mechanisms?**

We hypothesized that acceptance can buffer the detrimental effect of stressors on affective well-being because accepting individuals are less disturbed by potentially stressful situations. They do not effortfully control their emotions and, as a result, can put energy into doing their job or solving a problem. However, this rationale is highly hypothetical. To our knowledge, fundamental research does not exist that examines the underlying mechanisms of the paradoxical association between accepting negative internal states and positive affective outcomes. Hayes and colleagues (1996) theorize that acceptance helps to maintain and re-establish positive affect by decreasing the impact of negative stimuli and allowing a focus on personal goals and values (i.e., commitment). Hayes and Smith (2005) compare controlling emotions with fighting against

quicksand: The more we try to get out of it, the deeper we get into it. While people are successful in controlling their environment, according to these authors, it is often impossible to control internal states completely and in a longer term. As such, trying to control emotions leaves us in a hopeless fight that ultimately reinforces the unwanted feeling instead of reducing it. Emphasizing the argument that acceptance allows value and goal commitment, it is suggested that acceptance entails enhanced emotional awareness and understanding, which provides access to a more diverse and greater range of possible behavioral and psychological responses (Segal, Williams, & Teasdale, 2002). This state of "psychological flexibility" – a concept that some authors have used interchangeably with acceptance (Bond et al., 2011) – allows the individual to react more flexible and hence facilitates behavior consistent with personal goals and values. Allowing effective goal commitment, psychological flexibility (or acceptance) ultimately leads to enhanced positive affect. However, these considerations have only very sparely been studied empirically. A first study seems to be in line with the above considerations. In an experiment (Alberts et al., 2012), participants were randomly assigned to an acceptance and a suppression condition. After a sad mood induction and employing the respective strategy (acceptance vs. suppression), the acceptance group performed significantly better on a cognitive task. This finding suggests that acceptance requires less cognitive effort than suppression and allows more successful completion of a subsequent task. What is more, the acceptance group was able to restore the drop in mood relatively quickly, whereas the suppression and control group experienced prolonged decreased mood. It seems that acceptance at first increases negative affect and only enhances mood after a certain period of time. This rather long-term beneficial effect of acceptance might serve as an explanation for the inconclusive results of studies investigating the immediate effect of acceptance

on positive affect: While some studies were able to identify immediate decrease of negativity (Shallcross et al., 2010), others were not (Campbell-Sills et al., 2006; Liverant, Brown, Barlow, & Roemer, 2008; Low, Stanton, & Bower, 2008). In their study with panic patients, Campbell-Sills and colleagues (2006) reach a similar conclusion as Alberts and colleagues (2012): Acceptance was superior to suppression after a sad movie was shown such that the acceptance group showed lower negative affect than the suppression group. However, during the movie both groups reported similar levels of negative affect. The authors conclude that acceptance does not decrease the experience of negative emotions, but instead diffuses negative emotions quickly so that it ultimately leads to less negative affect. Referring to the commitment and self-compassion theory, these mixed findings make sense as a certain time interval is needed for commitment to take action. To sum up, it appears that acceptance might be effective only in a relatively longer term. Future research is needed to investigate this factor more closely.

The idea that accepting negative emotions leads to less negative affect is still somewhat paradoxical. The proposed underlying mechanisms center on commitment and do not explain how the mindful and conscious experience of negative emotions can decrease negative affect instead of exacerbating it. However, not only advocates of acceptance promote the idea that experiencing negative emotions might be helpful and might ultimately lead to less negative affect. Recently, Tamir and Ford (2012) showed that people who embrace and pursue negative emotions in situations in which they are useful, are happier overall. They make the point that negative emotions can be helpful and facilitate goal pursuit, which ultimately increases psychological well-being. Similarly, in another study participants that highly valued happiness were lonelier than participants who valued happiness to a lesser degree (Mauss et al., 2012), which was also

found when valuing happiness was induced experimentally. This finding is based on the idea that happiness is usually defined in self-centered terms and that pursuing happiness thus implies a focus on the self, which might be detrimental for social connections. Even though counterintuitive, these studies provide evidence that attending to negative emotions can be beneficial and even lead to greater happiness and less negative affect.

**Practical Implications**

The present findings have important implications for practice: Learning acceptance skills might improve people's stress management. As our study was cross-sectional and correlational in nature, inferences about causality cannot be drawn. However, research investigating programs that teach acceptance as part of a therapy or organizational intervention, suggests that acceptance not only is a crucial mediator between intervention and improved health outcomes, but also that acceptance can be trained: The construct of acceptance originally comes from behavioral cognitive therapy and forms the basis of acceptance and commitment therapy (ACT; Hayes et al., 1999). ACT teaches patients to notice emotions and thoughts, but to base their behavior on personal values and goals instead of letting internal states influence them (Hayes et al., 1996). Since its development in 1999, ACT has received much empirical support. Learning the skills of acceptance and commitment has proven helpful for patients suffering from a wide range of mental disorders like depression (Folke, Parling, & Melin, 2012), anxiety, or borderline personality disorder (Linehan, 1993). Importantly, applying ACT to the working context has shown its benefits for the individual in terms of mental health and productivity. More specifically, ACT-programs tailored to the demands of non-clinical working settings seem to have great benefits for the employee as well as the organization. Bond and

Bunce (2000) were the first to develop an ACT program for stress management at work and found that employees receiving ACT had better general mental health, less depression and better innovation potential compared to the control group. Notably, it was shown that the employees improved in these domains *because ACT enhanced their acceptance*. In a later, two-wave cross-sectional study (Bond & Bunce, 2003), the same authors showed that higher acceptance is associated with better mental health as well as better performance over a time interval of one year. In contrast, high mental well-being and performance at wave 1 did not predict acceptance at wave 2, suggesting that the relationship is unidirectional. These findings suggest that we cannot only teach people acceptance, but also that acceptance is the crucial factor that improves mental health. While causal inferences cannot be drawn based on our results, put in broader context it seems that employees can learn acceptance, which in turn makes them more resilient to work stress. However, more research is needed to test this implication empirically.

**Strengths and Limitations**

The results of this study should be interpreted in light of its limitations. First of all, the study was cross-sectional correlational in nature and conclusions about causality cannot be drawn (Mook, 1983). Nevertheless, we consciously chose for this design because correlational studies are typically high in external validity (Mook, 1983) and we were primarily interested in finding associations between our variables of interest. However, to provide causal evidence, we recommend future studies investigating the relationship between acceptance and stress and well-being in tightly controlled experimental environments.

A second potential weakness of our study is its reliance on self-reports, as they are vulnerable to social desirability concerns as well as to common method variance. Participants subjectively rate themselves on variables, seeing themselves in a favorable light and wanting to appear socially desirable, which can result in social desirability bias. Furthermore, self-report measures could be problematic with respect to common method variance. Due to common method variance it is possible that our main effects have been overestimated and that the relationships between acceptance and the well-being variables are not as strong as found in this study. However, common method variance does not pose a threat to our interaction effect finding. In fact, it may even lead to an underestimation of interaction effects, so that they are difficult to detect (McClelland & Judd, 1993; Morris, Sherman, & Mansfield, 1986), and therefore, even small effects should be considered important (Evans, 1985). In this vein, the occurrence of an interaction effect in a field study fosters the confidence we can put in our findings.

A last limitation of our study is the sample selection. Ideally, the sample would have been randomly chosen with a high response rate to ensure unbiased results. We, however, used a convenience sample of people that were willing to participate, which might have biased our results. To solve this problem and to increase external validity, we suggest future research to create a survey sample that is based on random selection. Yet, our sample selection provided relatively high external validity. Considering the rising discussion about the representativeness and validity of student samples that is often used in psychological experiments (Landrum & Chastain, 1999), we made use of a community sample allowing for inferences about a broader population. Furthermore, the sample was relatively heterogeneous. To ensure a high level of

job stressors and demands, all participants were employed in the health sector and had daily patient contact. However, the sample comprised many job fields (e.g., physiotherapists, pharmacists, doctors, nurses) and all job levels ranging from trainees to self-employed health care professional with up to 48 subordinates. Nonetheless, external validity might still be threatened and results should only carefully be generalized to individuals employed outside the health sector or to individuals from other cultures and countries.

**Conclusion**

The present study investigated the buffering effect of acceptance on the aversive effects of daily work stressors. Firstly, acceptance was associated with positive outcomes, such that it was negatively correlated to negative affect and end-of-day fatigue, but positively correlated to work engagement. Furthermore, work stressors had a lesser impact on individuals with a stronger tendency to accept negative emotions. The body of findings strongly suggests that acceptance is related to daily well-being and serves as a protecting factor in face of daily work stress. As such, they add to the existing body of literature emphasizing the beneficial effects of acceptance. Applying these findings to practice, it seems reasonable to learn acceptance in order to develop greater stress resilience. Given that it has been proven that acceptance can be learned during workshops or therapies, it seems beneficial to teach employees acceptance skills that can help them deal with work stressors and ultimately increase well-being.

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## Footnotes

[1]Controlling for sex, tenure, education and occurrence of positive events did not have an effect on the results.

[2]Internal consistency was computed for the first 12 days, because too few entries (< 6) were obtained for subsequent days to obtain reliable measures. Number of survey entries that were used for internal consistency across the 12 days ranged from 92 at day one to 11 at day 12.

Table 1

*Correlations and Intercorrelations of the Relevant Variables*

| | | M | SD | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|
| Person-level (Level2)[a] | | | | | | | | | |
| 1 | Acceptance | 5.26 | .94 | - | | | | | |
| 2 | Sex[b] | .18 | .39 | .04 [-.16/.25] | - | | | | |
| 3 | Age | 43.47 | 11.14 | .36** [.16/.52] | .24* [.03/.42] | - | | | |
| Day-level (Level1)[c] | | | | | | | | | |
| 4 | Stressor occurrence | .46 | .28 | -.19 [-.38/.02] | .05 [-.15/.25] | -.09 [-.29/12] | - | | |
| 5 | Negative Affect | .32 | .18 | -.42** [-.57/-.23] | .03 [-.18/.23] | -.05 [-.26/.16] | .41** [.22/.56] | - | |
| 6 | End-of-work Fatigue | 3.05 | .69 | -.33** [-.50/-.13] | .23* [.03/.44] | .11 [-.09/.31] | .36** [.17/.53] | .71** [.57/.79] | - |
| 7 | Work Engagement | 5.21 | .88 | .35** [.16/.52] | -.03 [-.24/.17] | .16 [-.04/.36] | -.39** [-.55/-.02] | -.52** [-.66/-.35] | -.50** [-.64/-.32] |

Note.

[a]N = 92. [b] 0 = female; 1 = male. [c] aggregated on person level (across diary entries)

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

Table 2

*Summary of Multilevel Model Analyses for the Three Full Models*

| | Negative Affect | | | Fatigue | | | Work Engagement | | |
|---|---|---|---|---|---|---|---|---|---|
| | Coeff | SE | 95% CI | Coeff | SE | 95% CI | Coeff | SE | 95% CI |
| Person-level (Level2)[a] | | | | | | | | | |
| Acceptance | -.14** | .04 | -.22/-.06 | -.21** | .08 | -.37/-.05 | .15* | .09 | -.03/.33 |
| Stressor X Acceptance | -.08* | .04 | -.16/-.004 | .01 | .06 | -.11/.13 | .21** | .08 | .05/.37 |
| Day-level (Level1)[b] | | | | | | | | | |
| Intercept | 1.60** | .05 | 1.49/1.69 | 3.2** | .08 | 3.04/3.36 | 5.55** | .10 | 5.35/5.75 |
| Stressor | .33** | .04 | .25/.41 | .31** | .05 | .21/.41 | -.70** | .07 | -.84/-.56 |
| Diaryentry | .01 | .01 | -.01/.03 | -.05** | .01 | -.07/-.03 | .01 | .01 | -.01/.03 |

Note. Significance tests are one-tailed, because the hypotheses predicted a directional effect

[a]df = 86. [b]df = 896

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

Table 3

*Results of All Models Predicting Negative Affect*

| | 1. Nullmodel | | 2. Control Model | | 3. Acceptance Model | | 4. Full Model | |
|---|---|---|---|---|---|---|---|---|
| | Estimate | SE | Estimate | SE | Estimate | SE | Estimate | SE |
| Fixed Effects | | | | | | | | |
| Intercept | 1.55** | 0.05 | 1.60** | 0.05 | 1.59** | 0.05 | 1.60** | 0.05 |
| Stressor | 0.33** | 0.03 | 0.33** | 0.04 | 0.33** | 0.04 | 0.33** | 0.04 |
| Diaryentry | | | -0.01 | 0.01 | -0.01 | 0.01 | -0.01 | 0.01 |
| Acceptance | | | | | -0.14** | 0.04 | -0.14** | 0.04 |
| Stressor X Acceptance | | | | | | | -0.08* | 0.04 |
| Random Effects (Variance Components) | | | | | | | | |
| Between person | | | | | | | | |
| Intercept | 0.16** | 0.03 | 0.11** | 0.02 | 0.09** | 0.02 | 0.09** | 0.02 |
| Cov (Int/Stressor) | | | 0.05** | 0.01 | 0.04** | 0.01 | 0.04** | 0.01 |
| Stressor | | | 0.01 | 0.02 | 0.01 | 0.02 | 0.00 | 0.02 |
| Within person | | | | | | | | |
| Residual | 0.19 | 0.01 | 0.19 | 0.01 | 0.19 | 0.01 | 0.19 | 0.01 |
| -2*loglikelihood: | 1.275.248 | | 1.255.341 | | 1.244.461 | | 1.239.827 | |

Note. The models build up on each other. Each model adds predictors to the preceding model.

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

Table 4

*Results of All Models Predicting End-of-day Fatigue*

| | 1. Nullmodel | | 2. Control Model | | 3. Acceptance Model | | 4. Full Model | |
|---|---|---|---|---|---|---|---|---|
| | Estimate | SE | Estimate | SE | Estimate | SE | Estimate | SE |
| Fixed Effects | | | | | | | | |
| Intercept | 2.87** | 0.07 | 3.19** | 0.08 | 3.18** | 0.08 | 3.18** | 0.08 |
| Stressor | 0.36** | 0.05 | 0.31** | 0.05 | 0.31** | 0.05 | 0.31** | 0.05 |
| Diaryentry | | | -0.05** | 0.01 | -0.05** | 0.01 | -0.05** | 0.01 |
| Acceptance | | | | | -0.20** | 0.07 | -0.21** | 0.08 |
| Stressor X Acceptance | | | | | | | 0.01 | 0.06 |
| Random Effects (Variance Components) | | | | | | | | |
| Between person | | | | | | | | |
| Intercept | 0.39** | 0.06 | 0.41** | 0.07 | 0.38** | 0.07 | 0.38** | 0.07 |
| Cov (Int/Stressor) | | | -0.05 | 0.04 | -0.05 | 0.04 | -0.05 | 0.04 |
| Stressor | | | 0.05 | 0.04 | 0.05 | 0.04 | 0.05 | 0.04 |
| Within person | | | | | | | | |
| Residual | 0.40 | 0.02 | 0.37 | 0.02 | 0.364 | 0.019 | 0.36 | 0.02 |
| -2*loglikelihood: | 1.945.400 | | 1.882.407 | | 1.874.473 | | 1.874.443 | |

Note. The models build up on each other. Each model adds predictors to the preceding model.

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

Table 5

*Results of All Models Predicting Work Engagement*

| | 1. Nullmodel | | 2. Control Model | | 3. Acceptance Model | | 4. Full Model | |
|---|---|---|---|---|---|---|---|---|
| | Estimate | SE | Estimate | SE | Estimate | SE | Estimate | SE |
| Fixed Effects | | | | | | | | |
| Intercept | 5.55** | 0.09 | 5.54** | 0.10 | 5.54** | 0.10 | 5.55** | 0.10 |
| Stressor | -0.70** | 0.06 | -0.72** | 0.08 | -0.70** | 0.08 | -0.70** | 0.07 |
| Diaryentry | | | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Acceptance | | | | | 0.21* | 0.09 | 0.15* | 0.09 |
| Stressor X Acceptance | | | | | | | 0.21** | 0.08 |
| Random Effects (Variance Components) | | | | | | | | |
| Between person | | | | | | | | |
| Intercept | 0.55** | 0.09 | 0.43** | 0.08 | 0.43** | 0.08 | 0.41** | 0.08 |
| Cov (Int/Stressor) | | | 0.10 | 0.06 | 0.05 | 0.06 | 0.06 | 0.06 |
| Stressor | | | 0.13 | 0.07 | 0.14* | 0.07 | 0.11 | 0.07 |
| Within person | | | | | | | | |
| Residual | 0.68 | 0.03 | 0.65 | 0.03 | 0.65 | 0.03 | 0.65 | 0.03 |
| -2*loglikelihood: | 2.401.254 | | 2.388.310 | | 2.383.049 | | 2.376.737 | |

Note. The models build up on each other. Each model adds predictors to the preceding model.

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

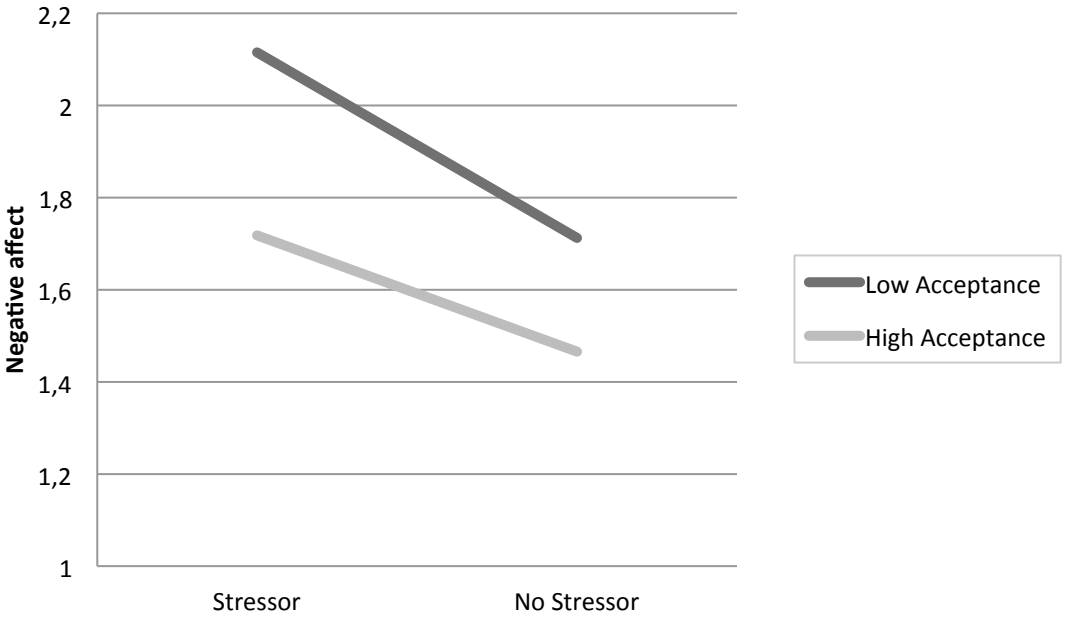


*Figure 1.* The relationship between high and low levels of acceptance, daily stressor occurrence and daily negative affect. High acceptance is computed as 1 SD above the mean and low acceptance as 1 SD below the mean.

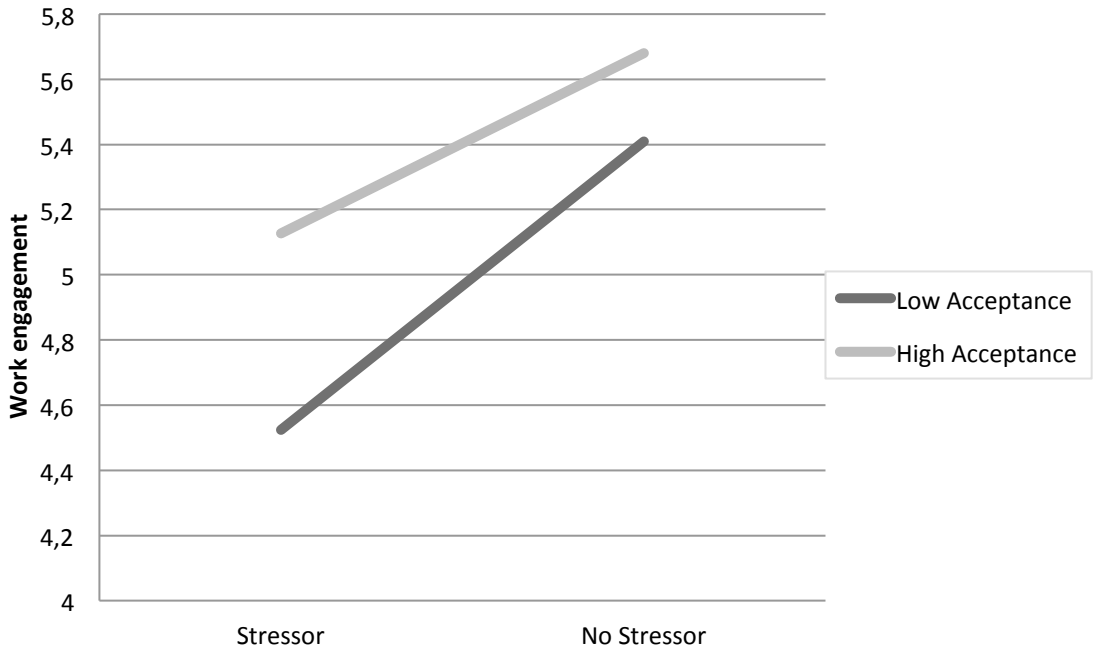


*Figure 2.* The relationship between high and low levels of acceptance, daily stressor occurrence and daily work engagement. High acceptance is computed as 1 SD above the mean and low acceptance as 1 SD below the mean.