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INTOLERANCE OF UNCERTAINTY AS A PERSONAL VULNERABILITY FACTOR IN WORK ENGAGEMENT AND BURNOUT

Ester Nosáľová
Department of Psychology, Pavol Jozef Šafárik University in Košice (Slovakia)

Abstract

Personal resources are among the most effective predictors of work engagement and serve as important protective factors against job demands and burnout. In contrast, higher intolerance of uncertainty (IU) is associated with negative self-evaluations and reduced self-efficacy, which may limit individuals' ability to effectively mobilize these personal resources. Based on this background, the present study examined whether baseline intolerance of uncertainty predicts initial levels and longitudinal changes in work engagement and burnout. The sample consisted of 353 employed participants (mean age = 47.17 years; 64.3% women) who completed all three waves of data collection. Measurements were conducted approximately four months apart (T1: October 2024; T2: January 2025; T3: May 2025). Work engagement was assessed using the Utrecht Work Engagement Scale (UWES), burnout using the Burnout Assessment Tool (BAT), and intolerance of uncertainty using the Intolerance of Uncertainty Scale (IUS). Latent growth curve models (LGCMs) were estimated separately for work engagement and burnout using robust maximum likelihood estimation. Linear intercept and slope factors were specified, and baseline IU was included as a predictor of both initial levels and change over time. Results showed that higher baseline IU was associated with lower initial levels of work engagement, indicating that individuals who perceive uncertainty as threatening tend to report lower engagement overall. However, IU did not significantly predict changes in engagement over time. For burnout, higher baseline IU was associated with higher initial burnout levels, reflecting an opposite pattern compared to engagement. Moreover, IU showed a small but negative association with the burnout slope, suggesting slightly less favorable burnout trajectories among individuals higher in IU. Across both models, average linear change was modest and individual differences in change were limited. Overall, intolerance of uncertainty appears to function primarily as a baseline vulnerability factor for employee well-being rather than as a strong driver of longitudinal change. These findings highlight IU as a relevant individual difference linked to sustained levels of work engagement and burnout, with potential implications for interventions aimed at supporting employee well-being in uncertain work contexts.

Keywords: *Intolerance of uncertainty, burnout, engagement.*

1. Introduction

According to the Job Demands–Resources (JD-R) model, job demands and job resources can initiate two primary processes. In the health-impairment process, frequent or severe job demands require sustained effort that progressively drains employees' physical, emotional, and cognitive resources, potentially resulting in exhaustion and health problems (Bakker et al., 2023). Burnout, as defined by Schaufeli et al. (2020), represents a work-related state of exhaustion that occurs among employees and is characterized by extreme tiredness, a reduced ability to regulate cognitive and emotional processes, and mental distancing from work.

The motivational process describes how job resources satisfy basic psychological needs and foster employee work engagement. The experience of work engagement subsequently leads to creativity and improved performance (Bakker et al., 2023). In this context, work engagement is understood as a positive work-related state reflected in feeling energetic, connected to one's work, and capable of performing work duties effectively (Schaufeli et al., 2006; Soane et al., 2012).

Intolerance of uncertainty refers to an individual's tendency to perceive possible future negative situations as threatening, regardless of the likelihood that they will actually occur. This tendency relates primarily to future situations and stimuli rather than to events occurring in the present moment (Carleton et al., 2007; Birrell et al., 2011). Its core components include a desire for predictability (prospective anxiety) and behavioural paralysis when confronted with uncertainty (inhibitory anxiety) (Berenbaum et al., 2008; Birrell et al., 2011).

Several theoretical considerations support a potential link between intolerance of uncertainty, work engagement, and burnout. Regarding engagement, personal resources have been shown to be among the most effective predictors of engagement (Mazzetti & Guglielmi, 2023; Contreras et al., 2020; Kim & Hyun, 2017). However, the availability of such resources may be limited in individuals with high intolerance of uncertainty. Personal resources such as optimism and self-efficacy may be lower for individuals who perceive uncertain situations as threatening (Muchová & Nosáľová, 2025; Sevari, 2021; Uzun & Karataş, 2020). Similarly, personal resources also play a crucial protective role in relation to burnout (Contreras et al., 2020). In addition, previous research has documented associations between intolerance of uncertainty and burnout, although this evidence primarily concerns academic burnout (Javed et al., 2025; Qiang et al., 2024).

The present study therefore aimed to examine whether intolerance of uncertainty predicts initial levels of burnout and work engagement, as well as longitudinal changes in these constructs. We expected intolerance of uncertainty to be negatively associated with both the initial levels and changes in work engagement and positively associated with burnout.

2. Methods

2.1. Sample and procedure

The final sample included 353 employed participants (mean age = 47.17 years; 64.3% women) who completed all three waves of data collection. Data were collected at three time points approximately four months apart (T1: October 2024; T2: January 2025; T3: May 2025).

2.2. Measures

Work engagement was assessed using the 9-item Utrecht Work Engagement Scale (UWES-9; Schaufeli et al., 2006).

Burnout was measured using the short 12-item version of the Burnout Assessment Tool (BAT; Schaufeli et al., 2020), which focuses on the core symptoms of burnout.

Intolerance of uncertainty was assessed using the 12-item Intolerance of Uncertainty Scale (IUS-12; Carleton et al., 2007).

2.3. Analyses

Latent growth curve models (LGCMs) were estimated separately for work engagement and burnout using robust maximum likelihood estimation. Linear intercept and slope factors were specified to model initial levels and change over time. Intolerance of uncertainty measured at the first wave was included as a predictor of both the intercept and slope factors. Work engagement and burnout were assessed at all three time points.

3. Results

As shown in Table 1, a latent growth curve model was estimated to examine whether baseline intolerance of uncertainty predicts initial levels and change in work engagement. The model showed acceptable fit to the data ($\chi^2(2) = 25.68$, $p < .001$, CFI = .97, TLI = .91, RMSEA = .18, SRMR = .03). Higher intolerance of uncertainty was associated with lower initial levels of work engagement ($b = -0.28$, SE = 0.09, $\beta = -.19$, $p = .001$). However, intolerance of uncertainty did not significantly predict changes in engagement over time ($b = -0.03$, SE = 0.03, $\beta = -.14$, $p = .281$). The mean slope was positive and significant, indicating a small increase in work engagement across the three waves.

Table 1. Latent Growth Curve Model Predicting Work Engagement from Intolerance of Uncertainty.

Parameter	b	SE	β	p
Intercept (mean)	4.28	0.29		< .001
Slope (mean)	0.22	0.09		.013
IUS (T1) → Intercept	−0.28	0.089	−0.19	.001
IUS (T1) → Slope	−0.03	0.029	−0.14	.281

Model fit: $\chi^2(2) = 25.68$, $p < .001$; CFI = .97; TLI = .91; RMSEA = .18; SRMR = .03.

As shown in Table 2, a second latent growth curve model was estimated to examine whether baseline intolerance of uncertainty predicts initial levels and change in burnout. The model demonstrated good fit to the data ($\chi^2(2) = 6.42$, $p = .040$, CFI = .99, TLI = .98, RMSEA = .08, SRMR = .02). Higher intolerance of uncertainty was associated with higher initial levels of burnout ($b = 0.46$, SE = 0.05, $\beta = .53$, $p < .001$). Intolerance of uncertainty also showed a small negative association with the burnout slope ($b = -0.04$, SE = 0.02, $\beta = -.28$, $p = .038$), indicating slightly less favourable burnout trajectories among individuals with higher intolerance of uncertainty. The average slope was not significant, suggesting no overall linear change in burnout across the three waves.

Table 2. Latent Growth Curve Model Predicting Burnout from Intolerance of Uncertainty.

Parameter	b	SE	β	p
Intercept (mean)	0.99	0.14		< .001
Slope (mean)	0.10	0.07		.126
IUS (T1) → Intercept	0.46	0.05	.53	< .001
IUS (T1) → Slope	−0.04	0.02	−.28	.038

Model fit: $\chi^2(2) = 6.42$, $p = .040$; CFI = .99; TLI = .98; RMSEA = .08; SRMR = .02.

4. Discussion

The present study examined whether intolerance of uncertainty predicts initial levels and longitudinal changes in work engagement and burnout. Consistent with expectations, higher baseline intolerance of uncertainty was associated with lower initial levels of work engagement and higher initial levels of burnout. These findings align with previous research indicating that personal resources are among the strongest predictors of engagement and serve as protective factors against burnout (Contreras et al., 2020; Mazzetti & Guglielmi, 2023; Kim & Hyun, 2017). Individuals with higher intolerance of uncertainty may perceive uncertain situations as more threatening, which may be associated with lower levels of optimism or self-efficacy and consequently lower engagement (Muchová & Nosáľová, 2025; Sevari, 2021; Uzun & Karataş, 2020).

However, intolerance of uncertainty did not significantly predict changes in engagement over time, and overall change in engagement was modest. Similarly, although intolerance of uncertainty showed a small association with change in burnout, average burnout levels did not change significantly across the study period. These findings suggest that intolerance of uncertainty may function primarily as a baseline vulnerability factor rather than as a strong driver of longitudinal change in employee well-being.

One possible explanation for the limited changes observed over time is the relative stability of both engagement and burnout in working populations. Previous research has shown that burnout profiles may remain structurally stable over time, with different configurations of burnout characteristics reflecting distinct developmental pathways (Boersma & Lindblom, 2009). Within the JD-R framework, both engagement and burnout are influenced not only by personal resources but also by relatively stable job characteristics such as organizational culture, leadership, and workload (Bakker et al., 2023). If work environments remain stable, large longitudinal changes in these outcomes may be unlikely.

Overall, the results highlight intolerance of uncertainty as an individual difference primarily associated with baseline levels of work engagement and burnout rather than with substantial longitudinal change. However, these findings should be interpreted with caution given the relatively limited changes observed over time and the less-than-ideal fit of the engagement model, particularly the elevated RMSEA value. Future research could further clarify these dynamics by examining contexts in which job demands and resources change more substantially, such as during job transitions or organizational restructuring. Such designs may provide a stronger test of whether intolerance of uncertainty interacts with changing work environments to influence trajectories of employee well-being.

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