

The curvilinear effect of work engagement on employees' turnover intentions

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Numerous studies have shown the positive consequences of work engagement for both organisations and employees experiencing it. For instance, research has demonstrated that work-engaged employees have lower levels of turnover intentions than non-engaged employees. However, in this research, we examined whether there is a dark side of work engagement. More precisely, we investigated whether the relationship between work engagement and employees' turnover intentions might be non-linear. Based on two different samples, our results indicated that the relationship between work engagement and employees' turnover intentions is curvilinear. The theoretical and practical implications of these results are discussed.

Keywords: Work engagement; Turnover intentions; Curvilinear effect.

Work engagement is defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002, p. 74). Vigor refers to employees “high level of energy and mental resilience while working, the willingness to invest effort in one's work and persistent even in the face of difficulties” (Schaufeli et al., 2002, p. 74). Dedication is characterised by “a sense of significance, inspiration, pride, and challenge” (Schaufeli et al., 2002, p. 74). Finally, absorption refers to the state of being fully concentrated in one's work, where by time flies when working and employees have difficulties with detaching from working (Schaufeli et al., 2002).

Over the past decade, this construct has received considerable attention in the organisational literature. Based on the motivational process of the JD-R model and because work engagement is able to create resources among employees (e.g. Halbesleben, 2010), it was found to be related to a wide number of positive outcomes. Precisely, work engagement is associated with outcomes beneficial for both the organisation (e.g. higher levels of performance and lower levels of turnover intentions; e.g. Halbesleben, 2010) and the employee (e.g. a better self-perceived health; e.g. Schaufeli & Bakker, 2004). Thus, prior work has usually considered work

engagement as a “positive construct” and explored linear relations between work engagement and outcomes (e.g. Schaufeli & Bakker, 2004). However, several scholars have recently suggested that work engagement might also have a dark side (e.g. Bakker, Albrecht, & Leiter, 2011; Bakker & Leiter, 2010; Sonnentag, 2011) and that employees' “overengagement” is likely to have negative effects.

In line with this, our research investigated the potential negative effect of employees' work engagement. Precisely, we examined whether the relationship between employees' work engagement and turnover intentions, referring to “the subjective estimation of an individual regarding the probability of leaving an organization in the near future” (Cho, Johanson, & Guchait, 2009, p. 374), is best represented by a curvilinear relation (U-shaped curve) rather than by a linear one. We decided to focus on employees' turnover intentions because it is a predictor of their actual turnover (e.g. Griffeth, Hom, & Gaertner, 2000) and prior studies have demonstrated the general detrimental impact of high levels of turnover for organisations in terms of direct (e.g. replacement and recruitment) and indirect costs (e.g. loss of knowledge; e.g. Biron & Boon, 2013).

A recent meta-analysis on work engagement reported a negative correlation between this construct and employ-

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ees' turnover intentions (Halbesleben, 2010). When an organisation provides valued resources to employees, it would foster a motivational process (i.e. through an increase of work engagement), which leads employees to be less inclined to leave their organisation (Schaufeli & Bakker, 2004). Because all prior studies indicated that an increase of work engagement is associated with benefits in return for organisations (i.e. decreased turnover intentions), managers were led to conclude that "the most employees are work-engaged, the best it is to retain them." Nevertheless, according to Sonnentag (2011), it might be relevant to explore the potential negative side of work engagement by examining whether the relationships between work engagement and some positive outcomes—or, to a larger extent, some negative outcomes such as turnover intentions—are curvilinear.

Recently, Pierce and Aguinis (2013) have introduced in the organisational literature the meta-theoretical principle of Too-much-of-a-good-thing-effect (TMGT), which states that excessive levels of beneficial antecedents may lead to undesirable outcomes. This TMGT effect "occurs when ordinarily beneficial antecedents reach inflection points after which their relations with desired outcomes cease to be linear and positive, instead yielding an overall curvilinear pattern" (Pierce & Aguinis, 2013, p. 316). In line with this idea, Harris, Kacmar, and Witt (2005) showed that the relationship between leader-member exchange, referring to "the quality of the exchange relationship between an employee and his/her supervisor" (Erdogan, Kraimer, & Liden, 2004, p. 310), and employees' turnover intentions was best represented by a curvilinear U-shaped relation rather than by a linear one. Accordingly, employees having low-quality relationship with their leader might be "pushed-out" the organisation, while employees experiencing high-quality relationship with their leader might receive more job opportunities or might have higher job aspirations leading them to be attracted to other companies. Similarly, several studies have demonstrated that the relationship between job performance and employees' turnover intentions is best characterised by a U-shaped curve (e.g. Salamin & Hom, 2005). Top performers might be more attracted to alternative employers and more likely to be hired elsewhere. Furthermore, when high performers are not paid as equally to their contribution they might have a higher desire to move from their current organisation (e.g. Sturman, Shao, & Katz, 2012).

In line with the above, we argue that extremely high levels of work engagement are likely to be linked to higher levels of employees' turnover intentions. In our view, several rationales might explain this curvilinear relationship. First, employees who are extremely work-engaged and put a lot of effort in their job might expect that their organisation should reciprocate their input at the same level. If highly work-engaged employees do not feel

rewarded at the same level than their investments, they might start looking to work in another organisation.

Second, Maertz and Griffeth (2004) identified eight different motivational forces that can explain employees' intent to quit their organisation (Harris et al., 2005). Among these forces, the calculative force appears to be particularly relevant to explain why extremely work-engaged employees might intend to quit. The calculative force is, indeed, described as the "rational calculation of the probability of attaining important values and goals in the future through continued membership" (Maertz & Griffeth, 2004, p. 669). In other words, employees ask themselves if they are able to meet their goals and values within their organisation. If the response is no, it creates among employees the motivation to quit. In line with this reasoning, extremely work-engaged employees might be more particularly subject to the calculation force because by nature they might have higher work goals. At a certain point, they might think that their actual organisation will not be able to fulfil their needs and therefore start seeking to work elsewhere.

Thus, in line with the above rationales and arguments, we hypothesised that there is a curvilinear relationship (U-shaped curve) between work engagement and employees' turnover intentions.

METHOD

Participants and procedure

Sample 1

As part of a larger survey, an electronic questionnaire was sent out via email to employees from a Belgian public organisation specialised in employment and training services. In this email, employees were invited to complete the questionnaire and were assured the anonymity of their responses. After 2 weeks, a reminder was sent out. A total of 692 employees responded to the questionnaire (response rate = 34.72%). The final sample was comprised of the 499 participants who fully completed the questionnaire on our variables of interest (i.e. work engagement and turnover intentions). Of this sample, 67.94% were females, 17.64% were males and 14.43% participants omitted to indicate their gender. Average age of the participants was 43.00 years ($SD = 8.11$). They were on average working for their organisation for 12.21 years ($SD = 8.05$). Finally, most of participants hold a bachelor's degree (37.48%).

Sample 2

A total of 148 employees from a Belgian hospital center responded to a paper questionnaire (response

rate = 49.33%). More precisely, employees were invited to complete the questionnaire at work and to return it in a drop-off box after completion. After 2 weeks, they were orally reminded to participate in the study. The majority of participants was nurses and holds a bachelor's degree (58.78%). Of this sample, 12.84 % were males, average age was 38.92 years ($SD = 11.10$) and employees were working on average for this organisation for 11.17 years ($SD = 10.12$).

Measures

Work engagement

In both samples, work engagement was assessed using the nine items of the short French version of the UWES (Schaufeli et al., 2002; e.g. "At my work, I feel bursting with energy"). Participants were invited to provide their responses on a 7-point Likert-type scale ranging from *Never* to *Always*.

Turnover intentions

In both samples, employees' turnover intentions were assessed using the three items developed by Jaros (1997) and translated in French (e.g. "I intend to leave my organization in a near future"). People were invited to provide their agreement on a 7-point Likert-type scale.

Control variables

We measured gender, age, level of education and organisational tenure. We analysed and controlled in the subsequent analyses for the demographic variables having a significant correlation with the dependent variable.¹

RESULTS

First, we conducted confirmatory factor analyses (CFA) using LISREL8.8 to assess the discriminant validity of the constructs of interest in each sample. Results indicated that a two-factor model (i.e. work engagement and turnover intentions) fits the data well (Sample 1: $\chi^2(51) = 231.60$, non-normed fit index (NNFI) = 0.97, standardized root mean square residual (SRMR) = 0.05, comparative fit index (CFI) = 0.98, root mean square error of approximation (RMSEA) = 0.08; Sample 2: $\chi^2(51) = 98.89$, NNFI = 0.96, SRMR = 0.06, CFI = 0.97, RMSEA = 0.08)² and was statistically superior to a one-factor model.³ All items loaded on their latent constructs with standardised loadings above 0.40.⁴

Means, standard deviations, Cronbach's alphas and Pearson correlations, are presented in Table 1 for both samples. As evidenced in this table, work engagement⁵ is negatively correlated with turnover intentions in both samples.

We conducted polynomial hierarchical regression analyses.⁶ As evidenced in Tables 2 and 3, results indicated that education has a positive impact on turnover intentions in Sample 1 ($\beta = .10$, $p < .05$), whereas gender is negatively related to turnover intentions in Sample 2 ($\beta = -.19$, $p < .05$). Controlling for these covariates, the linear work engagement predictor term is negatively related to turnover intentions ($\beta = -.36$, $p < .001$, Sample 1; $\beta = -.30$, $p < .001$, Sample 2). Finally, the squared work engagement term is positively related to turnover intentions ($\beta = .15$, $p < .001$, Sample 1; $\beta = .17$, $p < .05$, Sample 2). As displayed in Figures 1 and 2,⁷ the general shape of the relation between work engagement and turnover intentions supports the hypothesis of a curvilinear relationship between these two constructs. We also calculated the inflection point⁸ for each of the nonlinear relationship. Results revealed that the inflection

¹We followed Becker's recommendations (2005).

²Because of a considerable content overlap among two absorption and vigor items, the error covariances of these items were freed to correlate just as it has been done in prior studies. The fit indices of the model without this correlation is in Sample 1: $\chi^2(53) = 825.56$, NNFI = .88, SRMR = .07, CFI = .91, RMSEA = .17; and in Sample 2: $\chi^2(53) = 208.57$, NNFI = .89, SRMR = .08, CFI = .91, RMSEA = .14.

³Fit indices of the one-factor model in Sample 1: $\chi^2(52) = 1205.18$, NNFI = .81, SRMR = .13, CFI = .85, RMSEA = .21; and in Sample 2: $\chi^2(52) = 340.74$, NNFI = .80, SRMR = .13, CFI = .84, RMSEA = .19.

⁴Sample 1: items loaded on their respective latent constructs with standardised loadings ranging from 0.62 to 0.90 for work engagement and from 0.84 to 0.95 for turnover intentions. Sample 2: items loaded on their respective latent constructs with standardized loadings ranging from 0.49 to 0.84 for work engagement and from 0.83 to 0.92 for turnover intentions.

⁵As recommended by prior scholars (e.g. Bakker & Demerouti, 2008) and in line with prior studies (e.g. Sonnentag, 2003), we decided to use a global score for the work engagement construct because of the practical purpose of our study, the high correlations among the three dimensions of work engagement, and the results of the factor analyses. This global score corresponds to the mean of participants' responses on the nine items.

⁶To increase interpretability, we centered the work engagement predictor prior computing the quadratic term.

⁷We followed the procedure recommended by Dawson and Richter (2006) to graph this relationship.

⁸The precise point where the relation turns to asymptotic or negative.

⁹We followed the procedure from Le et al. (2011).

TABLE 1
Descriptive statistics, alpha reliabilities, and correlation matrix

Variable	Sample 1 (N = 499)		Sample 1 (N = 148)		1	2	3	4	5	6
	Mean	SD	Mean	SD						
1. Gender	—	—	—	—	—	−0.05	0.01	−0.20 *	0.07	−0.21 *
2. Age	43.00	8.11	38.92	11.10	−0.14 **	—	0.74 ***	−0.13	−0.03	−0.08
3. Organisational tenure	12.21	8.05	11.17	10.12	−0.10 *	0.64 ***	—	−0.11	−0.01	−0.10
4. Education	—	—	—	—	0.03	−0.07	−0.14 **	—	−0.02	−0.01
5. Work engagement	4.89	0.99	5.38	0.83	−0.09	0.01	−0.06	−0.12 **	(0.93/0.90)	−37 ***
6. Turnover intentions	2.69	1.68	2.26	1.58	0.01	−0.08	−0.05	0.13 **	−0.41 ***	(0.93/0.90)

Note: $N = 499/N = 148$. Cronbach's alphas are provided in parentheses on the diagonal. Gender was coded 1 for males and 2 for females. Education was coded 1 = none; 2 = primary education; 3 = lower secondary education; 4 = higher secondary education; 5 = Bachelor's degree; 6 = Master's degree; 7 = PhD, 8 = Other.

* $p < .05$. ** $p < .01$. *** $p < .001$.

TABLE 2
Hierarchical regression analyses of linear and curvilinear terms predicting turnover intentions

Predictors	B	SE	β	ΔR^2
Step 1				.02 **
Education	.27 **	.09	.13 **	
Step 2				.16 ***
Education	.17 *	.09	.08 *	
Work engagement	−.68 ***	.07	−.40 ***	
Step 3				.02 ***
Education	.21 *	.09	.10 *	
Work engagement	−.61 ***	.07	−.36 ***	
Work engagement squared	.16 ***	.04	.15 ***	

Note: $N = 499$. Final Model: $F(3, 495) = 40.13$, $p < .001$; R^2 total adjusted = .19.

* $p < .05$. ** $p < .01$. *** $p < .001$.

TABLE 3
Hierarchical regression analyses of linear and curvilinear terms predicting turnover intentions

Predictors	B	SE	β	ΔR^2
Step 1				.04 *
Gender	−.99 *	.38	−.21 *	
Step 2				.12 ***
Gender	−.88 *	.36	−.19 *	
Work engagement	−.67 ***	.15	−.35 ***	
Step 3				.03 *
Gender	−.87 *	.35	−.19 *	
Work engagement	−.57 ***	.15	−.30 ***	
Work engagement squared	.27 *	.13	.17 *	

Note: $N = 148$. Final Model: $F(3, 144) = 11.34$, $p < .001$; R^2 total adjusted = .17.

* $p < .05$. ** $p < .01$. *** $p < .001$.

point of the curve is at 6.80 in Sample 1, and at 6.43 in Sample 2. Finally, additional analyses⁹ indicated that the correlation between work engagement and turnover intentions changed from a significant negative correlation to a non-significant positive correlation ($r = .40$, *n.s.*, Sample 1; $r = .30$, *n.s.*, Sample 2) after the inflection point in both samples.

DISCUSSION

The aim of this research was to examine whether the relationship between employees' work engagement and turnover intentions might be better represented by a curvilinear relationship rather than by a linear one. First, consistent with prior studies (e.g. Schaufeli & Bakker, 2004), we found a linear negative relationship between work engagement and turnover intentions. Nevertheless, our findings revealed that this relationship is more complex than traditionally presumed. Indeed, we also found a curvilinear relationship between employees' work engagement and turnover intentions across two different samples. Specifically, consistent with the suggestion of Sonnentag (2011) and the TMGT effect (Pierce &

Aguinis, 2013), our results indicated that, at a certain level of work engagement (i.e. inflection point at 6.80 and 6.43), an additional increase of work engagement does not provide additional desirable effects. This result suggests that although a moderate level of work engagement is associated with lower levels of turnover intentions, excessive levels of work engagement is not beneficial.

Our findings also respond to the call of scholars to investigate the potential dark side of work engagement (e.g. Bakker & Leiter, 2010; Bakker et al., 2011). In doing so, we contribute to the work engagement literature by challenging the traditional view that highly work-engaged employees are not willing to quit their organisation. Furthermore, this result is consistent with the norm of reciprocity (Gouldner, 1960). Highly work-engaged employees might indeed consider that their organisation does not reciprocate equally the high efforts they put towards their work. As a consequence, their intentions to quit the organisation do not decrease anymore. This result might also suggest that a very high level of work engagement might lead employees experiencing it to find their job as too stressful, and therefore to start thinking to look for another, less demanding job.

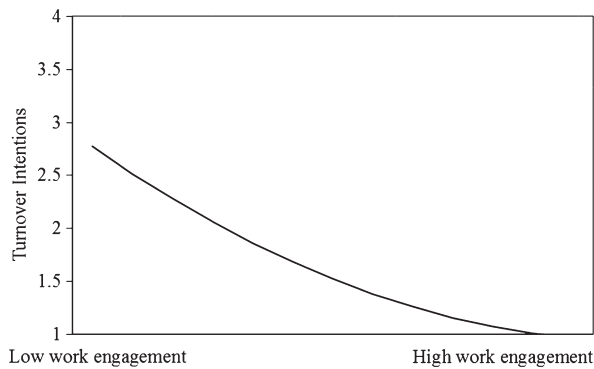


Figure 1. Curvilinear relationship between work engagement and turnover intentions (Sample 1).

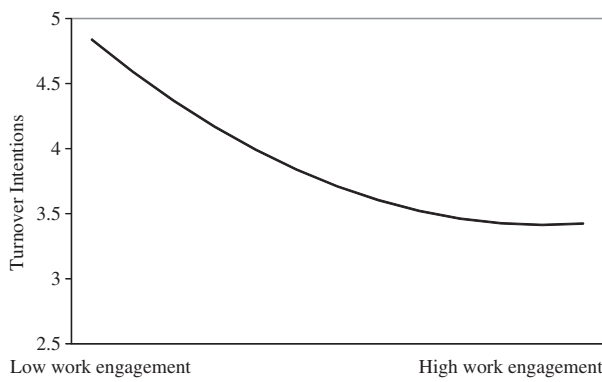


Figure 2. Curvilinear relationship between work engagement and turnover intentions (Sample 2).

This research has also several limitations that raised challenging questions for future studies. First, we used self-reported measures to apprehend our constructs and data were collected at one time in both samples which might have exposed our data to the common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To assess the influence of this potential threat in our data, we conducted the Harman's single-factor test in each sample. As indicated above, results indicated a very poor fit for this one-factor model. In addition, Siemsen, Roth, and Oliveira (2010) showed that "common method variance deflates regression estimates of quadratic effects" (p. 16). Therefore, finding a significant quadratic effect of work engagement across two samples provides strong evidence that a curvilinear effect exists.

A second limitation is that the design we used was cross-sectional. This design prevents us to make any conclusion of causality among our variables and it is therefore possible that the reverse causal chain explains our results. In other words, we cannot exclude the possibility that employees who strongly intent to quit their organisation might be actively seeking for another job and are therefore less engaged in their work. To solve

this issue, future research should replicate our study using a longitudinal design.

A third limitation of this research is that the variance explained by the curvilinear term is relatively small in each sample (i.e. 0.02–0.03). There are, however, in line with those reported in prior studies examining non-linear effects (e.g. Harris et al., 2005). Furthermore, as claimed by several authors, even though these effects are small, they cannot be neglected as they have an important impact for both practice and science (e.g. Pierce & Aguinis, 2013).

A fourth limitation is that our research focused on only one outcome (i.e. turnover intentions). Future studies might therefore examine other potential negative effects of work engagement such as a non-linear effect of work engagement on employees' performance or subjective health.

Fifth, even if our results were found across two different samples, we think these results should be replicated among different organisational settings to provide stronger evidence concerning the generalisation of our findings.

Finally, as suggested by Sonnentag (2011), future research should also examine potential moderators of the relationships between work engagement and negative outcomes to strengthen the understanding of the effects of employees' "overengagement." Accordingly, because the decision to quit an organisation implies risks and uncertainty (Allen, Weeks, & Moffitt, 2005), it might be possible that employees' personality traits such as employees' risk aversion (i.e. a sense that more risk is worse and that risk is undesirable; Allen et al., 2005, p. 982) moderates the curvilinear relationship between work engagement and turnover intentions. Specifically, it appears reasonable to suggest that employees who are less risk-averse might be more prone to behave in ways that reinforce the curvilinear effect of work engagement on turnover intentions.

This research has also implications for managers. As suggested by the linear negative relationship found between work engagement and turnover intentions, managers should foster human resources practices aiming to increase employees' work engagement. Specifically, managers should ensure high levels of job resources by providing social support, feedback and participative management (Schaufeli & Bakker, 2004). Another effective way for managers to foster work engagement is to increase employees' personal resources such as self-efficacy by providing effective mentoring or role modelling to employees (e.g. Chughtai & Buckley, 2011; Halbesleben, 2010). Nevertheless, our findings also indicated that it is not always better to increase employees' work engagement. Therefore, managers should be aware of the fact that having excessive work-engaged employees is not necessarily the best in terms of employees'

retention. Managers should therefore be very careful concerning the specific population of employees who tend to be extremely engaged in their work. They should identify employees who are particularly prone to be extremely engaged and adapt their human resources practices towards them accordingly, to maintain among them work engagement at optimal levels rather than to unnecessary excessive levels. Managers can also be attentive to provide to their highly work-engaged employees a fitting “effort-reward” structure.

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