

RESEARCH ARTICLE

The Work-Related Flow (WOLF) Inventory: Romanian Adaptation

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Abstract

Flow at work represents a short-term peak experience characterised by absorption, work enjoyment, and intrinsic work motivation and it is measured with the Work-reLated Flow inventory (WOLF). The aim of this paper was the Romanian adaptation of WOLF. We conducted the reliability and validity analyses, as well as the exploratory and confirmatory factor analyses, on a sample of 224 Romanian employees selected using the snowball sampling method. The high values of the internal consistency indices (similar to those obtained in the initial validation study) and the positive and statistically significant associations between factors indicated good psychometric properties of the instrument. On the one hand, the exploratory factor analysis revealed a two-factor solution for the Romanian population. These results are congruent with some recent studies showing that the work enjoyment and the intrinsic work motivation are two overlapping dimensions and that the work enjoyment is a main element of the intrinsic work motivation. On the other hand, the confirmatory factor analysis yielded that the initially suggested three-factor model fits better with the data. But, considering the results we obtained, we propose that a two-factor solution fits better the data. However, further studies in this area are required to draw a certain conclusion upon which factorial structure is better for the Romanian population. All the results considered, the WOLF Inventory has good psychometric properties and it can be used in research and practice.

Keywords

work-related flow; reliability; validity; factor analysis

Introduction

In the past decade, positive psychology began to receive a great interest in the research field of organizational and work psychology, businesses and public institutions becoming interested not only in maximizing the financial bottom line and productivity, but also in enhancing employees' positive experiences of work and helping them reach their full potential (Mills, Fleck, & Kozikowski, 2013). The increasing interest in this field is reflected in the rising of positive psychological interventions in organizations, with promising results for enhancing employee well-being

and performance (Meyers, van Woerkom, & Bakker, 2013). Just to give an example, United States Army has already adopted some positive psychology solutions to increase soldiers' resilience (Cornum, Mathews, & Seligman, 2011). Even though the application of positive psychology in organizational contexts has considerably evolved in the Western Europe and in the USA, there is little research showing its development in Romania (Vîrgă, 2014). The literature regarding positive psychology is sparse due to the lack of suitable instruments to measure the constructs relevant for this area, therefore we

conducted an adaptation of one of those instruments on the Romanian population.

One of the main concepts that emerged from the field of positive psychology is flow. The term was introduced by Csikszentmihalyi in the mid '70s to describe the state in which an individual is extremely involved in the performed activity and nothing else matters at that moment (Csikszentmihalyi, 1975). After interviewing employees from a few occupational classes, Csikszentmihalyi (1990) concluded that flow experience "is so gratifying that people are willing to do it for its own sake, with little concern for what they will get out of it, even when it is difficult or dangerous" (p. 71). Traditionally, the flow state was operationalized and measured as the result of a balance between the difficulty of the tasks and the competence level of the individual (Delle Fave, Bassi, & Massimini, 2003; Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005). Additionally, research has shown that other combinations between the perceived levels of skills and challenges could result in less favorable outcomes (Eisenberger et al., 2005). For example, the activities in which individual's skills are perceived to be higher than the challenges alleged by the activity may lead to boredom; low perceived skills compared to high challenges could lead to anxiety, while an interaction between low perceived skills and challenges could result in apathy (Eisenberger et al., 2005). However, some other research has shown that a congruence between perceived skills and challenges is a necessary, but not sufficient, condition of the flow state (Nakamura & Csikszentmihalyi, 2002). Wrapping up, the flow theory suggests that the relationship between the perceived level of task difficulty and flow state of an individual is curvilinear, therefore, if the task difficulty is perceived to be too high or too low, the occurrence of the optimal experience will be less likely (Bakker & Daniels, 2012). Consequently, an optimal level of challenge is required so that the flow states could occur, and this optimal level is dependent on the skills of the individual performing a task (Bakker & Daniels, 2012).

According to Csikszentmihalyi (1975), the flow state is characterized by the following

features: (1) a balance between the perceived level of individual's skills and the perceived challenges of the task (in this state, the individual is not only experiencing less strain, but he is also confident that the situation is under control); (2) the activity does not impose contradictory requests, but instead it is coherent and gives by itself clear feedback; (3) the activity is guided by an inner logic; (4) a high degree of concentration on the task due to the limited field of stimuli towards which the attention is divided; (5) a change in the individual's perception of time; (6) the merging of the person and the task. Consequently, one might assert that the flow state has a functional component with a positive valence, explaining why people tend to dedicate themselves to the tasks that offer them internal rewards (Engeser & Rheinberg, 2008).

Based on previous studies, Bakker (2008) placed the flow concept into the work context and he defined it as representing a short-term peak experience with work enjoyment, intrinsic work motivation and absorption as its main dimensions. It appears that all the definitions of the flow state have in common three major components: (1) *absorption*: time is distorted and passes faster while the individual forgets about anything other than the task at hand (Bakker, 2008); (2) *work enjoyment*: it seems that the employees who enjoy their tasks and activities tend to emit better judgements about their work in general (Bakker, 2008); (3) *intrinsic work interest/motivation*: the employee performs the activities for the simple sake of performing them and not due to external pressures or demands (Salanova, Bakker, & Llorens, 2006).

Although the majority of research placed the flow concept into the leisure context (in sports or in artistic activities), the results have shown that adults are more prone to enter the flow state during their work (Csikszentmihalyi, 1990). In this manner, Csikszentmihalyi stated the fact that the forerunner conditions of flow (a combination of high skills and high challenges): (1) tend to appear three times more often in the occupational context as opposed to other activity domains; (2) tend to occur for

approximately 50% of the working day (as opposed to 18% in leisure); (3) appear more frequently in the working environment, even for the blue-collar workers (Hektner, Schmidt, & Csikszentmihalyi, 2007).

Paradoxically, meeting the forerunner conditions of flow is not necessarily associated with entering the flow state in the working environment (Bakker & Daniels, 2012) for three major reasons. First of all, researchers have shown that employees who meet the triggering conditions of the flow state could experience an increase in their stress level - this perspective is consistent with the stress models which identify job demands as representing a major component of it (Kelloway & Day, 2005). Secondly, it is possible for the individual's motivation to represent a moderating variable in the relationship between flow conditions and negative/positive outcomes - there could be significant differences between the effects associated with entering the flow state by an intrinsically motivated employee (the person who works for the sake of working) and an extrinsically motivated one (the person who works in order to attain material benefits). Lastly, the intense absorption that characterizes flow could actually prevent performance in some certain circumstances (Bakker & Daniels, 2012). For example, performing a surgery is demanding and implies the flow conditions mentioned earlier (Bakker & Daniels, 2012). However, surgeons are expected to perform well not only technically, but also non-technically, meaning that they are expected to possess skills regarding the process of decision-making or communication (Yule, Flin, Paterson-Brown, Maran, & Rowley, 2006). Therefore, the flow state could increase the technical performance, but also affect the occurrence of these non-technical skills (Bakker & Daniels, 2012).

Related concepts

The scientific literature suggests that the most important predictors of work-related flow are represented not only by job resources such as autonomy, supervisor's feedback upon employee performance, coaching, social support (offered by colleagues), and the level of control an employee has upon his/her work

activity (Mäkikangas, Bakker, Aunola, & Demerouti, 2010), but also by a series of individual variables such as self-efficacy (Salanova et al., 2006) or the internal locus of control of the individual (Keller & Blomann, 2008).

Bakker's study (2005) on a sample of music teachers showed that job resources represent the most important predictors of flow not only for teachers, but also for their students. In other words, teachers who worked in schools with high levels of autonomy, social support or coaching managed to easily enter the flow state (Bakker, 2005). Job resources were defined as representing those physical, psychological, social or organizational facets of work which: (1) play a major role in reaching work goals; (2) diminish the job demands and the costs associated with them (both psychological and physiological); (3) stimulate employee growth and development (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Other research has discovered a correlation between flow at work and the motivational potential score (a combination of skills variety, task identity and significance, organizational feedback, and job autonomy) (Demerouti, 2006). Moreover, another study has pointed out the fact that a combination of perceived high skills and challenges is associated with positive mood, task interest, and organizational spontaneity (employee's willingness to make constructive suggestions to help his/her colleagues) for goal-oriented employees (Eisenberger et al., 2005).

The results of one study emphasize the importance of job autonomy and using skills to increase the probability of reaching well-being and entering the flow state at work by the employees (Fagerlind, Gustavsson, Johansson, & Ekberg, 2013). The individual's opportunity to exert control in his or her work activity led to an increase not only in the usage of social resources, but also caused growth and development in the work environment, whereas the lack of job control did not offer the employees the chance to benefit from these job resources (Fagerlind et al., 2013)

Studies have shown a relationship between positive work experiences such as flow and the way that personal and organizational resources change over time (Salanova et al.,

2006). It seems that this relationship is circular since not only the flow state has an impact on employee's efficacy, but also the level of self-efficacy influences employee's proneness to enter the flow state at work, even though the effect size is smaller (Salanova et al., 2006).

Locus of control is a concept that implies the beliefs that people have regarding the relationship between their actions and results (Keller & Blomann, 2008). Research has indicated that people with a strong internal LOC are much more prone to enter the flow state while working as long as their skills and challenges are compatible (Keller & Blomann, 2008).

From the beginning, literature on flow suggested a relationship between flow and performance and, on a conceptual basis, flow is associated with performance for two major reasons: (1) flow is a highly functional state which should include performance; (2) employees who manage to enter the flow state are motivated to finish their tasks and they will set high goals in order to re-enter the flow state; as a consequence, flow could represent a motivational force for reaching both performance and excellency (Engeser & Rheinberg, 2008).

Instrument description

Bakker (2008) developed and validated a measuring instrument for employee's flow state – The WOrk-ReLated Flow Inventory (WOLF). Initially, work-related flow had been operationalized through a set of 16 items whose face validity had been investigated by five organizational psychologists, but this set was diminished to 13 items after conducting the exploratory factor analysis (Bakker, 2008). The instrument was created in order to capture all three dimensions of flow at work (4 items for absorption, 4 items for work enjoyment, and 5 items for intrinsic work motivation). Participants had to indicate how often they experienced some work-related flow elements and their responses varied on a frequency scale from 1 (never) to 7 (always).

Using exploratory factor analysis, it was shown that the best way to measure work-related flow consisted of reducing flow to a three-factor solution which explained 65% of

the overall variance: absorption explained 10% of the variance, work enjoyment counted for 46% of the total variance whereas intrinsic work motivation explained 9% of it. Factor loadings varied from .46 to .85 (Bakker, 2008). By conducting a CFA, the three-factor model was compared to the one or the two-factor models, concluding that the three-factor solution is the best fit (Bakker, 2008).

Reliability analyses revealed strong correlations between the three dimensions of flow (.44 for absorption and work enjoyment, .82 for work enjoyment and intrinsic work motivation) and the Cronbach's alpha coefficients were .90 for work enjoyment, .80 for absorption, and .75 for intrinsic work motivation. Also, Bakker (2008) conducted the test-retest reliability which was high, generating strong correlations such as .74 for absorption, .77 for work enjoyment, and .71 for intrinsic work motivation.

The convergent validity of the instrument was tested by identifying each dimension's correlation with the general description of flow and with the frequency of this state. The values ranged between .48 and .59 (Bakker, 2008). Also, the author investigated the correlations of the three dimensions with job satisfaction and, as expected, its highest correlation was registered with work enjoyment even when the effect of the other dimensions of flow was kept under control (Bakker, 2008).

With the purpose of investigating the construct validity of the scale, the author took into consideration five predictors (job characteristics – work pressure, emotional demands, autonomy, social support, and self-development opportunities) and the three dimensions of flow as criteria. The results have indicated the fact that job characteristics explain 18,7% of the variance of absorption, 28,3% of the variance of work enjoyment, and 20,9% of the fluctuation of intrinsic motivation for work. Also, there were high correlations between self-development opportunities and the three dimensions of flow, whereas the correlations registered between the three dimensions of flow and emotional demands and work pressure were rather low (Bakker, 2008).

To test the predictive validity of the instrument, Bakker (2008) used two criteria – in-role and out-role performance – and the results showed that work enjoyment was the best antecedent of in-role performance ($\beta = .22, t = 3.10, p < .01$), whereas intrinsic work motivation was shown to be the best antecedent of out-role performance ($\beta = .27, t = 4.05, p < .001$).

The results of an adaptation of the instrument on the Italian population were similar to those obtained in the initial validation study (Colombo, Zito, & Cortese, 2013). However, the adaptation on the Australian population came across a few difficulties since the results indicated the fact that including work enjoyment and intrinsic work motivation as two different dimensions of flow was problematic because: (1) it would not be consistent with empirical evidence from the work place (Delle Fave, 2007); (2) intrinsic work motivation and work enjoyment could be two overlapping dimensions (Ryan & Deci, 2000); (3) some researchers (i.e. Happell, Gaskin, & Platania-Phung, 2015; Rodríguez-Sánchez, Schaufeli, Salanova, Cifre, & Sonnenschein, 2011) asserted the fact that intrinsic work motivation would rather be a predictor of flow at work and not a distinct dimension of it.

Method

Objective

The main purpose of this paper was represented by the adaptation of The Work-related Flow Inventory on a sample of Romanian workers. In this manner, the analyses of reliability and validity were conducted, as well as the confirmatory and exploratory factor analyses of the scales.

Participants and procedure

The sample consisted of 224 Romanian employees (86 males and 138 females) with an age range between 18 and 65 years ($M = 27.73, SD = 8.56$). The participants were selected from 8 occupational domains: defense (2,2%), trade (11,2%), education (16,1%), finances and insurances (6,3%), information and communication (8%), production (3,1%), health and social domain (8%), science and

technology (10,7%) and other domains (34,4%). The participants received the instruments through social media and the sample was formed using the snowball sampling method. The participation was anonymous (the data were analyzed globally, and not individually) requiring only the age, gender as well as the occupational domain of the participants. Also, the data were analyzed using programs such as SPSS Statistics 20 and MPlus for the confirmatory factor analysis.

Instruments

Work locus of control was assessed using The Work Locus of Control Scale (WLCS). The instrument consists of 16 items concerning people's beliefs upon reaching success and performance in occupational contexts. The answers to items are spread on a scale from 1 to 6 (where 1 means strong disagreement and 6 means strong agreement). The initial form of the scale consisted of 49 items generated through a conceptual analysis regarding locus of control and the way it relates to the work place (Spector, 1988). The author did not report a factor analysis and the construct was considered unidimensional (Macan, Trusty, & Trimble, 1996). Later, a factor analysis revealed a structure consisting of two factors – externalism and internalism (Spector, 1992). Three criteria were used in item selection: inter-item correlations, lack of correlation with social desirability and balance of the scale, meaning that it should include an equal number of items for the internal and external orientation of locus of control (Spector, 1988). Inter-item correlations ranged between .24 and .67 with a mean of .25 (Spector, 1988). Cronbach's alpha coefficients varied between .75 and .85 and there was found no correlation with social desirability, but this last result was expected since it represented a criterion for item selection (Spector, 1988). Significant correlations were registered between internal locus of control and some organizational variables such as job satisfaction, job control, autonomy, and decreased stress levels as shown by research conducted in this area (Spector, 1982).

Self-efficacy was investigated with The General Self-Efficacy Scale (GSE). The scale

was created to assess people's perceived efficacy so that the ability to cope with daily issues could be predicted, as well as the possibility of recovery after the individual went through a stressful event in his/her life (Schwarzer & Jerusalem, 2010). Perceived self-efficacy is an unidimensional construct which concerns individual's optimistic attitude towards his/her own potential; in other words, it refers to the individual's belief that he/she could face the adversities found in several areas of the human functionality (Schwarzer & Jerusalem, 2010). Individuals with a high level of perceived self-efficacy manage to set goals more easily, to invest more effort, and to be more persistent when confronting with obstacles (Schwarzer & Jerusalem, 2010). The scale was originally created in Germany and it has been translated and adapted to other 28 countries (Luszczynska, Scholz, & Schwarzer, 2005). The adaptations were made using the group consent model which includes backtranslations and group discussions (Brislin, 1970). The scale comprises 10 items whose answers vary on a 4-point scale (1-strong disagreement and 4-strong agreement). In samples coming from 23 countries, Cronbach's alpha indices varied from .76 to .96 (Schwarzer & Jerusalem, 2010). Criterion related validity was investigated by running many studies which found links with positive emotions, optimism and job satisfaction while burnout, depression, anxiety, stress, and health complaints were shown to be negatively associated with self-efficacy (Schwarzer & Jerusalem, 2010).

Job performance was assessed with Goodman & Svyantek's Performance Scale. It comprises a total of 16 items which investigate both task and contextual performance. The item responses oscillate on a scale from 1 to 4 (where 1 means strong disagreement and 4 means strong agreement). The two dimensions of performance are different for 4 main reasons: (1) while the activities including task performance have either a direct or indirect contribution to the increase of the overall technical performance (at the organizational level), the actions related to contextual performance support the social and psychological organizational climate where

task performance takes place; (2) the activities involving task performance are usually found in the job description (which vary from one work place to another), while the activities including contextual performance are common for the great majority of the work places; (3) the activities including task performance are established according to the position/role owned by each of the employees and are executed in exchange for financial reward, while the activities including contextual performance are common for all the employees regardless of their position in the organization; (4) while knowledge, skills, and abilities (KSA) are the most important individual characteristics that enable task performance, contextual performance is often determined by the variations in the employee's disposition and willingness to involve in the out-role activities (Goodman & Svyantek, 1999). Research conducted on samples consisting of employees from multiple occupational domains reported values for Cronbach's alpha index ranging between .90 for task performance and .88 for contextual performance (Bakker, 2008).

Job autonomy was measured using The Job Demands-Resources Questionnaire. The instrument is based on the JD-R Model which was proposed in order to predict burnout among employees (Bakker & Demerouti, 2014; Demerouti et al., 2001), organizational commitment and work enjoyment (Bakker, Van Veldhoven, & Xanthopoulou, 2010) and work engagement (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). Using the JD-R Model, variables like burnout, health, motivation and work engagement can be predicted, as well as the employees' performance (Bakker & Demerouti, 2014). Autonomy represents a valuable job resource that acts as a buffer against the strain induced by a series of job demands such as mental, emotional and physical demands (Bakker & Demerouti, 2007; Demerouti et al., 2001). The subscale comprises 3 items which investigate the autonomy of the employees in the work environment. The item responses vary on a 5-point scale where 1 means never and 5 means very often.

Results

Reliability and validity analyses

The preliminary analysis of the data revealed the lack of missing values. The first statistical procedure performed with SPSS was the reliability analysis. The internal consistency

was investigated for each subscale of the instrument (absorption, work enjoyment, and intrinsic work motivation). As illustrated in Table 1, Cronbach's alpha indices have high values (.84, .95, .86), being similar to those obtained in the initial validation of the instrument.

Table 1. Cronbach's alpha coefficients for flow dimensions at work

Flow dimensions	Items	Romanian sample (N = 224)		Original samples (N = 1346)						
		Alfa	95% CI	Insurance company (N = 275)	TV Station (N = 84)	Heterogenous sample (N = 137)	Heterogenous sample (N = 118)	Agency for temporary work (N = 405)	Self-employed trainers (N = 181)	Human service professionals (N = 146)
Absorption	4	.84	.80-.87	.79	.82	.86	.85	.75	.82	.78
Work enjoyment	4	.95	.94-.96	.90	.93	.91	.96	.92	.93	.88
Intrinsic work motivation	5	.86	.83-.89	.75	.74	.78	.82	.63	.76	.77

As far as the validity of the scale is concerned, the first form investigated was the construct validity (with its two forms, convergent and discriminative). The discriminative validity was tested by correlating the three dimensions of flow with the general description of the flow state at work. The correlation coefficients show a high association between flow and absorption ($r = .75, p < .001$), work enjoyment ($r = .90, p < .001$), and intrinsic work motivation ($r = .91, p < .001$). The high values of these correlations call into question the discriminative validity of the instrument. In other words, the scale does not succeed in making a clear distinction between two of the dimensions of the work-related flow – work enjoyment and intrinsic work motivation.

To test the convergent validity of the scale, four constructs were introduced (internal locus of control, self-efficacy, autonomy, and job performance). Table 2 shows the results of Pearson's correlation. In this way, the results revealed that autonomy is positively associated with absorption ($r = .38$), work enjoyment ($r = .48$), and intrinsic work motivation ($r = .47$). The link between the

general description of flow and autonomy was also significant ($r = .51$).

Moreover, the results showed a positive and statistically significant correlation between internal locus of control and work enjoyment ($r = .25$) and between internal locus of control and intrinsic work motivation ($r = .20$). The association between internal locus of control and absorption was not statistically significant ($r = .12$), meaning that the employees who take responsibility for their actions experience pleasure and are internally motivated towards their work, but they do not necessarily manage to become fully immersed in their tasks. However, the link between internal locus of control and the general description of flow was significant ($r = .22$).

Self-efficacy positively correlated with absorption ($r = .33$), work enjoyment ($r = .43$), and intrinsic work motivation ($r = .37$). It is also positively and significantly associated with the general description of flow ($r = .44$), indicating that the employees who perceive themselves as being capable to perform in their work also feel pleasure, motivation, and absorption when working on their tasks.

The relationship between job performance and flow at work is significant ($r = .51$), showing that the employees who enter the flow state at work are more likely to be performant in their activity. Additionally, job performance correlated with absorption ($r = .41$), work enjoyment ($r = .48$), and intrinsic work motivation ($r = .43$). The results revealed stronger associations between task performance and absorption ($r = .41$) and work enjoyment ($r = .45$), whereas contextual performance had a stronger correlation with

intrinsic work motivation ($r = .40$) than task performance. However, regarding the general description of flow, its correlation was higher with task performance ($r = .47$).

The internal consistency coefficients are presented in Table 2 on diagonal, between brackets. The values vary from .92 for flow, .84 for autonomy, .90 for self-efficacy, .80 for internal locus of control to .90 for job performance. These values indicate a good internal consistency for each of the scales.

Table 2. Means, standard deviations, reliabilities, and correlations among study variables

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Absorption	15.53	5.61	-									
2. Work enjoyment	20.15	6.02	.52**	-								
3. Intrinsic work motivation	19.92	7.62	.50**	.81**	-							
4. Flow at work	55.60	16.70	.75**	.90**	.91**	(.92)						
5. Autonomy	11.85	2.76	.38**	.48**	.47**	.51**	(.84)					
6. Self-efficacy	34.34	4.86	.33**	.43**	.37**	.44**	.54**	(.90)				
7. Internal locus of control	67.16	11.30	.12	.25**	.20**	.22**	.35**	.27**	(.80)			
8. Contextual performance	22.30	4.30	.31**	.41**	.40**	.44**	.30**	.46**	.17*	(.87)		
9. Task performance	30.35	4.38	.41**	.45**	.37**	.47**	.41**	.67**	.17**	.57**	(.88)	
10. Job performance	52.65	7.71	.41**	.48**	.43**	.51**	.40**	.63**	.19**	.88**	.89**	(.90)

Note: Cronbach's alpha coefficients are presented on diagonal, between brackets. *correlation is significant at .05 **correlation is significant at .01.

Exploratory factor analysis

The exploratory factor analysis was conducted to determine the underlying structure of the scale for the Romanian population. The extraction method that we used was *principal components* and the rotation method was *Varimax* (in line with the initial validation study; Bakker, 2008). The solution for the Romanian population was a structure with two factors. The first four items present high loadings (.70, .81, .87 and .74) on the first factor (*absorption*), whereas the next nine items tend to group in only one factor (*intrinsic work motivation*). These results are different from the ones obtained by Bakker

(2008), where these nine items load two distinct factors (*work enjoyment* and *intrinsic work motivation*). The factor loadings are high, ranging between .65 and .88. However, these results are in line with more recent studies showing that the two-factor solution is better since work enjoyment and intrinsic work motivation are two overlapping dimensions (Happell, Gaskin, & Platania-Phung, 2015). Also, research has shown that work enjoyment represents a main component of intrinsic work motivation (Ryan & Deci, 2000).

Confirmatory factor analysis

The confirmatory factor analysis was conducted to determine which model (3-factor, 2-factor, and 1-factor) fits better the data. The results are presented in Table 3. As it can be noticed, χ^2 has high values for all the proposed models, indicating the discrepancy between the sample and the fitted covariance

matrices (Hu & Bentler, 1999). However, since χ^2 goodness-of-fit is sensitive to sample size (Hu & Bentler, 1999), other indexes were assessed (*RMSEA*, *CFI*, and *TLI*). For the three-factor model, the indexes of fit meet the regularly used cut-off values (*RMSEA* = .08, *CFI* = .96, and *TLI* = .95) and indicate that the model initially suggested by Bakker (2008) presents a good fit to the data.

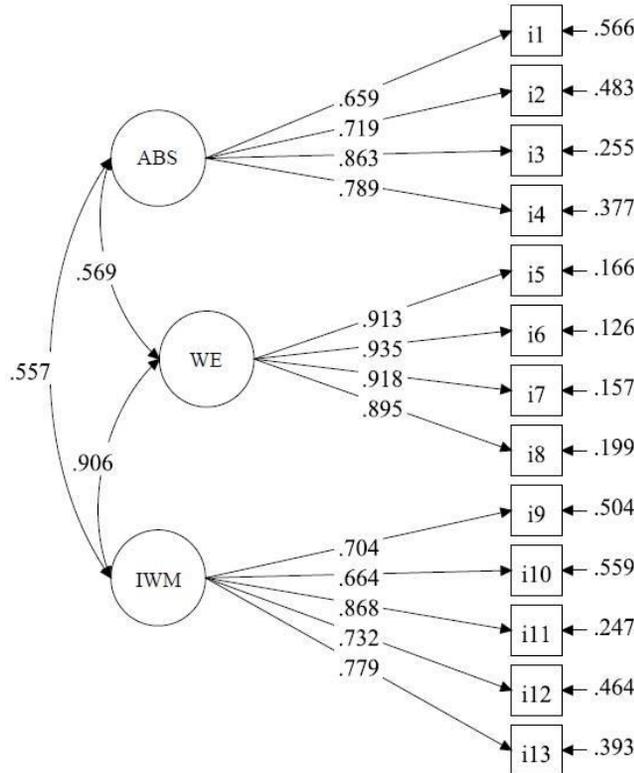


Figure 1. Standardized estimates for the structural model with 224 employees. ABS = absorption; WE = work enjoyment; IWM = intrinsic work motivation.

Table 3. Confirmatory factor analysis

Model	χ^2	df	RMSEA	CFI	TLI
Model 1: 3-Factor Model	159.35	62	.08	.96	.95
Model 2: 2-Factor Model (A+WE, IWM)	389.88	64	.15	.85	.82
Model 3: 2-Factor Model (A+IWM, WE)	373.35	64	.15	.86	.83
Model 4: 2-Factor Model (WE+IWM, A)	212.03	64	.10	.93	.92
Model 5: 1-Factor Model	440.34	62	.16	.83	.80

Note: A = absorption; WE = work enjoyment; IWM = intrinsic work motivation; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker-Lewis index.

Discussion

The main purpose of this study was represented by the adaptation of the Work-related Flow Inventory on a sample of Romanian employees. Considering the results attained from the analyses that we conducted, it can be asserted that the WOLF Inventory has good psychometric properties, therefore it can be used both in research and in practice.

The reliability analysis revealed high values for the Cronbach's alpha indices, reaching the conclusion that the instrument has a good internal consistency. To explore the validity of the instrument, four other psychological constructs were assessed (autonomy, self-efficacy, internal locus of control, and job performance) and correlated with the work-related flow. Most of the correlations were moderate and statistically significant. The values attained by correlating work-related flow with job performance, locus of control, self-efficacy and autonomy serve as evidence with regard to the convergent validity of the scale, meaning that the investigated construct is positively associated with other similar psychological constructs. Overall, these results indicate good psychometric properties of the instrument. The low discriminative validity of the scale represents the main weakness of the current study, meaning that it fails to clearly differentiate between two of its main dimensions – work enjoyment and intrinsic work motivation. Therefore, researchers are advised to conduct more studies in this area in order to collect further evidence to support this conclusion.

The results of the exploratory factor analysis yielded a two-factor structure (*absorption* and *intrinsic work motivation*). The discrepancies between this study's results and the results obtained by Bakker (2008) could have their source in the specific cultural ways of interpreting the meaning of some of the items, but the conduction of several studies in this area is required to draw a certain conclusion. However, these results are congruent with more recent studies which assert that work enjoyment and intrinsic work motivation are two overlapping dimensions (Happell et al., 2015). The confirmatory factor

analysis revealed that, for the three-factor model, the indexes of fit meet the regularly used cut-off criteria. However, taking into consideration the results of the EFA, the low discriminative validity of the scale, as well as the results attained by recent studies, we are inclined to assert that a two-factor model would fit better the data. Further studies in this area are required in order to validate this conclusion.

Limitations

First of all, the sample of employees involved in this study was moderate ($N = 224$), which makes it difficult to extrapolate the conclusions. The retrospective way of measuring work-related flow (flow can be measured only after it has appeared, and this makes it difficult to identify the precise prevalence of this experience) could represent another limitation of this study, but it is used in investigating a series of psychological constructs such as well-being, work engagement, or job burnout (Bakker, 2008). Additionally, common method variance could be the cause of some distortions in results since it represents one of the main sources of measurement error and it can affect the validity of the study's conclusions (Podsakoff, MacKenzie, & Podsakoff, 2003). In order to investigate whether common method bias affected the results we obtained, we applied the Harman method to investigate the percentage of variance explained by one factor. It appears that one factor explains 52,68% of variance, therefore the current study is affected by the common method bias. Hence, future researchers are also advised to use multiple sources of information.

Future directions

The Romanian adaptation of the WOLF has a series of theoretical implications since it could encourage further research in this area. We recommend the conduction of several studies to investigate the traits of personality of the employees who are prone to enter the flow state at work, as well as the job characteristics that allow employees to enter this state. Also, by exploring the causal relationship between

flow and performance at work, major progress for theory and practice could be registered. Bakker (2008) recommends the analysis of the occupational situations where intense flow experiences could appear (intense flow experiences occur to employees who score highly on each of the work-related flow dimensions). Additionally, the way that flow at work is related to work engagement (as a long-term positive experience at work) represents another research question (Schaufeli, Salanova, González-Romá, & Bakker, 2002).

Practical implications

As far as the practical implications of this adaptation are concerned, it is worth mentioning that a greater number of studies conducted in this area could raise the interest among managers and human resources departments who might take actions to encourage and promote this construct emerged from positive psychology which, in turn, could lead to increasing job performance, not only for the individual, but for the organization itself.

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Appendix

Scala pentru flux la locul de muncă

Următoarele afirmații se referă la felul în care ați resimțit munca pe parcursul ultimelor două săptămâni. Vă rugăm să indicați cât de des ați resimțit fiecare dintre aceste afirmații (1 = niciodată, 2 = aproape niciodată, 3 = câteodată, 4 = în mod regulat, 5 = des, 6 = foarte des, 7 = mereu).

Nr.	Item
<i>Absorbire</i>	
1	Atunci când muncesc, nu mă gândesc la nimic altceva.
2	Când muncesc, parcă intru în transă.
3	Când muncesc, uit de tot ceea ce este în jurul meu.
4	Sunt total cufundat(ă) în munca mea.
<i>Plăcerea muncii</i>	
5	Munca mea îmi dă un sentiment plăcut.
6	Îmi fac munca cu multă plăcere.
7	Mă simt fericit(ă) în timpul muncii mele.
8	Sunt bine dispus(ă) atunci când muncesc.
<i>Motivația intrinsecă de a munci</i>	
9	Aș face munca aceasta și dacă aș fi plătit(ă) mai puțin.
10	Îmi dau seama că vreau să muncesc și în timpul meu liber.
11	Muncesc pentru că îmi place.
12	Când lucrez la ceva, o fac pentru mine.
13	Sunt motivat(ă) de munca în sine, și nu de recompensa pe care o primesc.