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Psychometric validation of the Flourishing-at-Work Scale – Short Form (FWS-SF): Results and implications of a South African study

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The aim of this study was to validate the Flourishing-at-Work Scale Short Form (FWS-SF) in a South African fast-moving consumable goods industry. Participants were a stratified random sample of 779 employees of an alcoholic beverage company (female = 40.4%, black = 33.4%). The FWS-SF and a biographical questionnaire were administered. Latent variable modelling was applied to assess the psychometric properties of the FWS-SF. The results supported the three-factor structure of FWS-SF. Scores from the FWS-SM showed acceptable reliability. A total of 8% of participants were languishing, while 35.9% were flourishing. The FWS-SF appears valid for research use in assessing the work-related well-being of individuals in organisations.

Keywords: advancement, authentic leadership, flourishing, job insecurity, negative work-home interaction, well-being, work, workload, salary

Introduction

Mental health in the workplace is on a continuum, varying from flourishing to languishing. Flourishing refers to a sense that one's life at work is going well and that one is functioning well (Rautenbach, 2015). Languishing, which is opposite to flourishing, refers to the absence of mental health. However, the concept *flourishing* has been used to typify and investigate subjective well-being in the workplace without proper clarification of the term (e.g. Cameron & Spreitzer, 2012; Rothmann, 2013). Furthermore, previous research regarding flourishing (e.g. Diedericks & Rothmann, 2013) has been conducted with an instrument which was not tailored to work contexts. This study sought to validate an existing measure of flourishing in a South African work setting.

A multidimensional perspective of flourishing which include the dimensions of feeling good (emotional well-being) and functioning well (psychological and social well-being) appears to be broadly accepted (Keyes, 2013; Keyes & Annas, 2009). Emotional well-being consists of two elements; namely job satisfaction, and positive-negative affect balance. Job satisfaction, a relative enduring assessment of one's job, results from individuals' perceptions of all aspects of their current jobs in terms of the realisation of their wants (Rojas & Veenhoven, 2013). Positive-negative affect balance reflects pleasant and unpleasant affects in one's immediate experiences at work (Schwarz & Strack, 1991). Positive affect refers to pleasant responses to work events, such as joy, gratitude, pride, and amusement. Negative affect refers to unpleasant emotions, such as anger, sadness, anxiety, boredom, frustration, and guilt. Positive and negative affect are linked to need gratification (Rojas & Veenhoven, 2013).

Psychological well-being as a dimension of workplace flourishing comprises six elements; namely autonomy, competence, relatedness, meaningfulness, engagement, and learning (Rothmann, 2013). Satisfaction of the psychological needs for autonomy, competence, and relatedness are key to workplace well-being (Deci & Ryan, 2011). The need for autonomy refers to the experience of having choices and freedom when work activities are carried out. The need for competence refers to effectiveness in carrying out work tasks. Relatedness refers to the need to experience a sense of belonging, connectedness, caring and love or being loved by others. This is satisfied when a sense of closeness and intimate relationships with others exists. Meaningfulness refers to the significance of work to people where they experience their jobs as valuable and worthwhile (Rosso, Dekas, & Wrzesniewski, 2010; Steger, Dik, & Duffy, 2012). Work engagement refers to "… an employee's psychological presence in a role" (Rothbard & Patil, 2012, p. 59). It comprises three components (Kahn & Heaphy, 2014): (i) physical (vigour – being physically involved in a task and investing energy), (ii) cognitive (absorption – being alert at work and experiencing involvement), and (iii) emotional (dedication – being connected and committed to the job and others). Learning refers to "the sense that one is acquiring and can apply knowledge and skills to one's work" (Spreitzer, Lam, & Fritz, 2010, p. 132).

Social well-being in organisations is defined as the evaluation of one's circumstance and functioning in an organisation (Keyes, 1998). It involves five elements:

1. Social acceptance (a positive attitude towards and acceptance of diversity in the organisation).
2. Social growth (believing in the potential of development of fellow employees, groups, and organisations).
3. Social contribution (whether individuals believe that their daily actions add value to the organisation and others).
4. Social coherence (whether employees find their organisations and social lives meaningful and understandable).
5. Social integration (whether individuals experience a sense of relatedness, comfort and support from the organisation).

Measures of flourishing

Huppert and So (2013) developed a framework to assess flourishing based on the European Social Survey (Jowell and the Central Co-ordinating Team, 2003). The framework addresses positive mental health on three dimensions; namely positive characteristics (emotional stability, vitality, optimism, resilience, and self-esteem), positive functioning (engagement, competence, meaning, and positive relationships), and positive appraisal (life satisfaction and positive emotion). Individuals flourish when they strongly confirm positive emotion; at least four positive characteristics, and three features of positive functioning (Huppert & So, 2013).

Diener et al. (2010) developed a measure of psychosocial flourishing (The Flourishing Scale) that complements other dimensions of well-being (e.g. Deci & Ryan, 2011; Ryff, 1989). In a single well-being score, the Flourishing Scale consists of eight items that measure respondents' self-perceived success in areas such as relationships, self-esteem, purpose, and optimism in life (Diener et al., 2010). The authors provide evidence for the reliability and convergent validity of this one-dimensional scale.

The Mental Health Continuum – Short Form (MHC-SF; Keyes, 2005, 2007) uses 14 items to measure three dimensions of flourishing; namely emotional, psychological, and social well-being. Research confirmed the three-factor structure and internal consistency of the MHC-SF in the different countries (Keyes, 2013; Rothmann, 2013). However, the MHC-SF does not measure flourishing specifically in work contexts.

Rautenbach (2015) reported on the psychometric properties of an extended version of the FWS. Nonetheless, a need exists for a short measure which can be used to assess the dimension of flourishing.

Goals of the study

The aim of this study was to validate FWS-SF in the fast-moving consumable goods industry in South Africa. The following hypotheses were set for this study:

*   Hypothesis 1: A short form of the scale that measures flourishing at work consists of three separate but related factors; namely emotional, psychological, and social well-being.
*   Hypothesis 2: The dimensions of a short form of the scale that measures flourishing in work contexts are reliable.

Method

Participants and setting

Data regarding flourishing of employees were gathered in an alcoholic beverage company in the fast-moving consumable goods industry in South Africa. A total sample of 779 participants was identified through stratified random sampling. individuals from four racial groups participated in the study; namely black (33.4%), white (41.3%), coloured (12.1%), and Indian (13.2%). Table 1 shows the biographical characteristics of the participants.

Measuring instruments

The employees completed the FWS-SF (Rautenbach, 2015), a measure of workplace emotional, psychological, and social well-being during the past month.

*   *Emotional well-being* was measured by three items indicating two dimensions; namely job satisfaction ("During the past month at work, how often did you experience satisfaction with your job?"), and positive affect "During the past month at work, how often did you do you feel happy?").
*   *Psychological well-being* was measured by nine items indicating autonomy ("During the past month at work, how often did you feel confident to think or express your own ideas and opinions?"), competence ("During the past month at work, how often did you feel good at managing the responsibilities of your job?"), relatedness ("During the past month at work, how often did you feel really connected with other people at your job?"), meaning ("During the past month at work, how often did you feel your work is meaningful?"), purpose ("During the past month at work, how often did you feel that the work you do serves a greater purpose?"), cognitive engagement ("During the past month at work, how often did you focus a great deal of attention on your work?"), emotional engagement ("During the past month at work, how often did you get excited when you perform well on your job?"), physical engagement ("During the past month at work, how often did you feel energised when you work?"), and learning ("During the past month at work, how often did you find yourself learning?").
*   *Social well-being* was measured by five items indicating social contribution ("During the past month at work, how often did you feel you had something important to contribute to your organisation?"), social acceptance ("During the past month at work, how often did you feel that you really belong to your organisation?"), social growth ("During the past month at work, how often did you feel that your organisation is becoming a better place for people like you?"), social integration ("During the past month at work, how often did you feel that people in your organisation are basically good?"), and social comprehension ("During the past month at work, how often did you feel that the way your organisation works, makes sense to you?").

Responses to FWS-SF items are scored on a six-point scale ranging from 1 (*never*) to 6 (*every day*), indicating the frequency with which respondents experienced each identified symptom of well-being. This response option allows for the categorisation of levels of well-being, similar to the three classes used to assess positive mental health (Keyes, 2002, 2005, 2007). Individuals who are neither flourishing nor languishing are diagnosed with moderate well-being.

Research procedure

Permission was obtained from the management of the participating organisation. Ethical clearance for this study was obtained from the Ethics Committee at the North West University (Ethics number: NWU-00095-14-a8). The lead researcher administered the questionnaire (in English)

Table 1. Characteristics of participants (*N* = 779)

Item	Category	Frequency	Percentage
Gender	Male	464	59.6
	Female	315	40.4
Age	Below 25	33	4.2
	25 – 34	310	39.8
	35 – 44	255	32.7
	45 – 54	134	17.2
	Over 55	47	6.0
Years in role	Less than 6 months	101	13.0
	6-12 months	99	12.7
	13-24 months	155	19.9
	25-36 months	61	7.8
	3.01-5 years	160	20.5
	5.01-10 years	108	13.9
	10.01-15 years	50	6.4
	15.01-20 years	28	3.6
	More than 20.01 years	17	2.2
Years in company	Less than 1 year	52	6.7
	1.01-3 years	123	15.8
	3.01-5 years	132	16.9
	5.01-10 years	198	25.4
	10.01-15 years	99	12.7
	15.01-20 years	80	10.3
	More than 20.01 years	95	12.2
Manage people	Yes	321	51.2
	No	458	58.8
Job level	Staff member	145	18.6
	Skilled worker	265	34.0
	Supervisor	105	13.5
	Manager	200	25.7
	Executive	57	7.3
	Senior executive	7	0.9

electronically in the environment where the participants were working. A cover letter explaining the purpose of the study and emphasising the confidentiality of participation in the research accompanied the questionnaire. Participation in the survey was anonymous and voluntary. Respondents gave consent that the researchers could use the information obtained from the survey for research purposes only. Between mid-August 2014 and end-September 2014, the questions were made available electronically. The completed raw data was converted to Excel, and then an SPSS dataset was developed. The data was then prepared for analysis with the Mplus software program.

Data analysis
The data were analysed using Mplus 7.4 (Muthén & Muthén, 1998-2016) and SPSS24 (IBM Corp., 2017). Confirmatory factor analyses were used to test a higher-order model, a correlated factors model, and a unidimensional model of flourishing. The maximum likelihood estimation with robust standard errors (MLR) was used. The advantage of the MLR estimator is that it is suitable for multivariate skew and/or kurtotic data.

To assess model fit, the chi-square statistic (the test of absolute fit of the model), the Standardised Root Mean Residual (SRMR), the Root Mean Square Error of Approximation (RMSEA), the Tucker-Lewis Index (TLI), and the Comparative Fit Index (CFI) were used (Hair, Black, Babin, & Anderson, 2010). For TLI and CFI values to be acceptable, scores higher than 0.90 are required. Both RMSEA and SRMR values lower than 0.08 indicate a close fit between the model and the data. Two fit statistics; namely the Akaike Information Criterion (AIC) and Bayes Information Criterion (BIC), were used in addition to other fit indices to compare alternative measurement models. The AIC, which is a comparative measure of fit, is meaningful when one estimates different models. The lowest AIC is the best fitting model. The BIC provides an indication of model parsimony (Kline, 2016). Analyses of descriptive statistics were carried out with the SPSS24 program (IBM Corp, 2017). Raykov's (2009) confirmatory factor analysis-based estimate of scale reliability (ρ) was computed for each scale using Mplus 7.4 (Wang & Wang, 2012). Pearson correlations were computed to assess the relations between the latent variables.

To determine whether an association exists between flourishing statuses and biographical variables, cross-tabulations were computed. The Pearson's chi-square (χ^2) test was used to determine whether associations between the flourishing statuses and biographical variables were significant (Field, 2013). Cramer's V provides a measure of the strength of the association between the variables.

Results

Structural coherence of the FWS-SF

Five competing measurement models were tested by using confirmatory factor analysis with Mplus 7.4. This was done to evaluate the distinctness of the measured variables.

Model 1 consisted of three first-order latent variables; namely emotional well-being (measured by three observed variables), psychological well-being (measured by nine observed variables), and social well-being (measured by five observed variables); and one second-order latent variable (consisting of emotional, psychological, and social well-being). The other models followed the same template as model 1. However, in Model 2 flourishing was specified with two correlated latent variables; namely feeling well (measured by three variables), and functioning well (measured by 14 variables). In model 3, flourishing was specified with 17 observed variables. Table 2 presents the fit statistics for the competing measurement models.

Two fit statistics, namely the AIC and BIC, were used (in addition to other fit indices in this study) to compare alternative measurement models. The AIC, which is a comparative measure of fit, is useful when different models are estimated. The lowest AIC is the best fitting model. The BIC provides an indication of model parsimony (Kline, 2010). Comparison of the fit indices indicates that model 1 best fitted the data and was the most parsimonious.

The results in Table 2 showed that a χ^2 = 311.60, (df = 116, p < 0.0001) was obtained for model 1. Model 1 fitted the data the best and was the most parsimonious of all the models (AIC = 19 047.32, BIC = 19 260.99). The fit statistics on all the fit indices (except χ^2) were acceptable: TLI = 0.91, CFI = 0.92, RMSEA = 0.07, p < 0.01, and SRMR = 0.05.

Next, model 1 was tested in the calibration sample (n = 393). A χ^2 value of 306.69 (df = 116, p < 0.001) was obtained for the hypothesised measurement model. The fit statistics on the four fit indices were acceptable: TLI = 0.92, CFI = 0.93, RMSEA = 0.07, p < 0.01 [0.056, 0.074], and SRMR = 0.05. All the standardised loadings of the items on the latent variables were higher than 0.46 (see Table 3). Based on this analysis, hypothesis 1 can be accepted.

Descriptive statistics: Flourishing statuses, reliabilities of scores and correlations

The means, reliabilities, and correlations of the three dimensions of work-related well-being are reported in Figure 1 and Table 4. The reliability coefficients of all the scales were acceptable ($\rho \geq 0.70$). Scale reliabilities were ranging from 0.75 to 0.95, which indicates acceptable internal consistency of all the scales (Raykov, 2009). Hypothesis 2 is therefore accepted.

Table 2. Fit statistics of competing measurement models

Model	χ^2	df	TLI	CFI	RMSEA Est	RMSEA 90% CI	SRMR	AIC	BIC
1	311.60*	116	0.91	0.92	0.07	[0.057; 0.075]	0.05	19 047.32	19 260.99
3	379.62*	119	0.88	0.89	0.08	[0.067; 0.084]	0.05	19 146.62	19 348.37
5	353.75*	118	0.80	0.89	0.07*	[0.063; 0.081]	0.05	19 108.73	19 314.43

χ^2 = chi-square statistic; *df* = degrees of freedom; TLI = Tucker-Lewis Index; CFI = Comparative Fit Index; RMSEA = root mean square error of approximation; SRMR = standardised root mean square residual; AIC = Akaike Information Criterion; BIC = Bayes Information Criterion
*p < 0.01

Table 3. Standardised regression coefficients of the items and subscales of the FWS-SF

Item	β	SE	Estimate/SE	p
Emotional well-being				
Happy	0.74	0.03	22.22	p < 0.00
Interested	0.65	0.04	14.83	p < 0.00
Satisfied	0.82	0.03	25.98	p < 0.00
Psychological well-being				
Autonomy	0.59	0.04	13.86	p < 0.00
Competence	0.55	0.05	11.41	p < 0.00
Relatedness	0.64	0.04	16.35	p < 0.00
Learning	0.70	0.04	19.97	p < 0.00
Purpose	0.72	0.03	23.11	p < 0.00
Meaning	0.80	0.03	27.68	p < 0.00
Cognitive engagement	0.46	0.05	9.06	p < 0.00
Emotional engagement	0.78	0.03	29.76	p < 0.00
Physical engagement	0.75	0.03	23.08	p < 0.00
Social well-being				
Social contribution	0.67	0.04	17.07	p < 0.00
Social acceptance	0.86	0.02	52.41	p < 0.00
Social growth	0.83	0.02	42.90	p < 0.00
Social integration	0.72	0.04	20.70	p < 0.00
Social coherence	0.81	0.03	29.11	p < 0.00

Figure 1 provides insights into the specific items and dimensions regarding where the sample group was doing well or falling short. All components of flourishing, excluding social growth ("During the past month at work, how often did you feel your organisation is becoming a better place for people like you?"), were experienced at least once a week in the past month. Three other items showed somewhat lower mean scores; namely social coherence ("During the past month at work? How often did you feel that the way your organisation works, makes sense to you?") and job satisfaction ("During the past month at work, how often did you experience satisfaction with your job?").

A three-category diagnosis of positive mental health was investigated (see Keyes, 2007). To be classified as *flourishing*, individuals must experience at least one of the three symptoms of emotional well-being and at least eight of the 14 signs of positive functioning (psychological and social well-being) "every day" or "almost every day". To be classified as *languishing*, individuals must experience at least one of the symptoms of emotional well-being and at least eight of the signs of positive functioning (psychological and social well-being) "never" or "once or twice" during the last month. Using this categorisation, 8% (62) of the participants were languishing, 56.1% (437) were moderately healthy, and 35.9% (280) were flourishing.

Frequency analysis revealed that 36% of females were flourishing and 6% were languishing, compared to 35.2% males flourishing and 10.8% languishing. A total of 36% of employees under the age of 34 were flourishing and 7% were languishing. A total of 45% of employees with long company tenure (more than 15 years) were flourishing and 4.5% were languishing, compared to 34% of employees with a tenure lower than 15 years that were flourishing and 7.8% that were languishing. Tenure in role reveals that 41% of employees less than two years in their role were flourishing, and 5.3% were languishing, compared to 30.2% of employees with a tenure between two and 15 years flourishing, and 8.8% languishing. A total of 53% of employees with a role tenure or more than 20 years were flourishing, and 6% were languishing. Of those employees who manage others, 10% were languishing, and 33% were flourishing. Of all non-managers who participated in the study, 5% were languishing and 40% were flourishing.

The results of the cross-tabulation showed that four biographic variables were significantly associated with flourishing statuses. The relation between flourishing status and job level [χ^2 (df = 8, N = 779) = 19.36, p < 0.01, V = 0.11)], flourishing status and gender [χ^2 (df = 2, N = 779) = 5.84, p < 0.05, V = 0.09)], and flourishing status and race [χ^2 (df = 3, N = 779) = 13.89, p < 0.01, V = 0.09)] were statistically significant. Flourishing people were in managerial and executive jobs, while non-flourishing people were in skilled and semi-skilled non-managerial jobs. More males than females were languishing in their work. Fewer black participants than expected were flourishing, while more white participants than expected were flourishing.

Discussion

The aims of this study were to validate the FWS-SF in a South African work setting. The analysis conducted supported a three-factor structure of flourishing at

Table 4. Descriptive statistics, reliability coefficients, and correlations of the scales (N = 779)

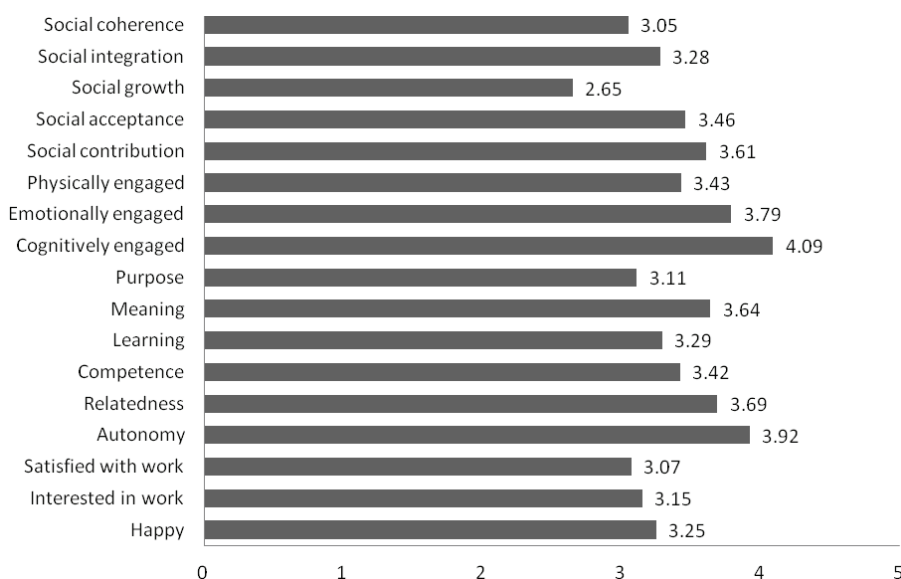| Variable	Mean	SD		1	2
1. Emotional well-being	4.16	1.03	0.77	–	–
2. Psychological well-being	4.58	0.94	0.89	0.88**	–
3. Social well-being	4.21	1.21	0.89	0.84**	0.90**

**p < 0.01

Figure 1. Mean frequency of each component of flourishing at work in the past month

work. The three dimensions were emotional well-being, psychological well-being, and social well-being. The reliabilities of the three scales were highly acceptable. This aligns to Keyes's theoretical model of well-being (Keyes, 2002) and confirms the flourishing model of Rothmann (2013).

As previously stated, the study showed that 8% of the sample were languishing (i.e. experiencing low levels of mental health). A total of 65.15% of the employees demonstrated moderate levels of flourishing, while the remaining 34.9% were flourishing. When comparing these results to other studies of flourishing of the general population in South Africa (Rothmann, 2013), fewer individuals are languishing and more are flourishing. When comparing different gender groups, very similar levels of flourishing were reported between males (35.2%) and females (36%). However, more females were languishing (10.8%) compared to males (6%). Results also show that a higher percentage of employees with a longer tenure in both role and organisation are flourishing and a smaller percentage are languishing. Lower level employees (staff members) reported more languishing and less flourishing than any of the other levels (e.g. 12.4% languishing and 31% flourishing). As the job level increased, the percentage of flourishing employees increased and the percentage of languishing employees decreased.

Social growth, social coherence, and job satisfaction were the less experienced components of flourishing. Social growth refers to the individual's belief in the potential of the organisation, whereas social coherence indicates whether employees find their organisation meaningful and understandable. The organisation has been through numerous restructuring during the past few years. This could potentially result in lower levels of social well-being. All the dimensions of flourishing were also experienced about two to three times a week.

Implications for research and practice on workplace flourishing assessments

The results of this study imply that the FWS-SF can be used to assess the well-being of individuals in work contexts in terms of three dimensions (namely emotional, psychological, and social well-being), as well as a total score (varying from languishing to flourishing). Moreover, by analysing the responses on the 17 indicator items a diagnosis can be made regarding the flourishing or languishing of employees.

Limitations of the study and suggestions for further research

This study had various limitations. First, the short version of the FWS which measured flourishing at work is a newly developed questionnaire. More research is needed regarding the test-retest reliability, internal consistency, and convergent and divergent validity of this measurement. Second, this study only included the one organisation in the fast-moving consumable goods environment. Future studies, especially in other industries, should be conducted.

Conclusion

The findings of this study support the construct validity and internal consistency of the FWS-SF in a fast-moving consumer goods company in South Africa. While almost 36% of the participants in the sample were flourishing, the other 64% were not flourishing, and even languishing. Job satisfaction (an indicator of emotional well-being), purpose (an indicator of psychological well-being), and social growth (an indicator of social well-being) showed the lowest mean frequencies in the sample. Individuals who were in managerial positions were more inclined to flourish than those in non-managerial jobs. More males than females were languishing, while more black than non-black participants were not flourishing in their work. It can be concluded that the FWS-SF is a valuable research tool, but more validity and reliability information about the measure is needed.

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