

Construct and Criterion-related validation of the Bifactor Engagement Scale

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The roots of employee (sometimes aka work, e.g., [Schaufeli & Bakker, 2010a](#)) engagement research likely started with theoretical expansions of forms of employee participation (see, for example, [Ferris & Hellier, 1984](#)) and job involvement (e.g., [Elloy et al., 1991](#)). This exploration extended into broader considerations of attitudes and emotions ([Staw et al., 1994](#)) and were informed by further exploration of the dimensionality of constructs such as organizational commitment ([Meyer & Allen, 1991](#)). The 1990’s saw focused development and refinement. [Staw et al. \(1994\)](#) investigated the relationships between *positive emotions* and favorable work outcomes, and although they do not use the word, “engagement”, their distinction between felt and expressed emotion likely held influence upon the burgeoning interest in the engagement construct.

Our Measure of Engagement

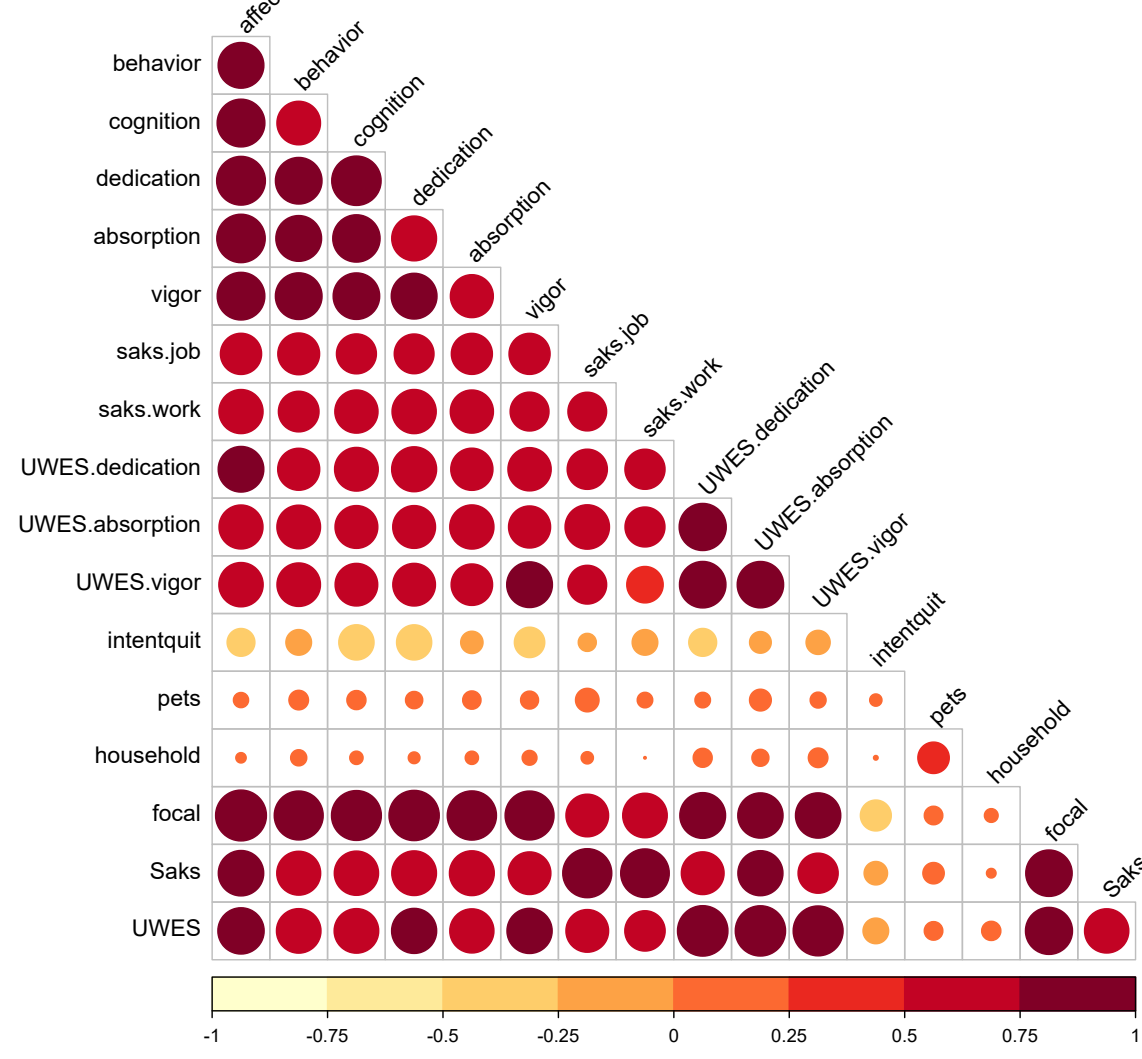
Our theoretical conceptualization of work engagement is primarily informed by [Schaufeli & Bakker \(2003\)](#) and [Rosenberg \(1960\)](#). Through the lens of our framework, engagement is a mental state wherein employees: a) feel energized (*Vigor*), b) are enthusiastic about the content of their work and the things they do (*Dedication*), and c) are so immersed in their work activities that time seems compressed (*Absorption*). We further decompose each of these facets into three attitudinal components: d) feeling (e.g., affect), e) thought (e.g., cognition), and f) action (e.g., behavior).

Participants

Of the 743 total Qualtrics panel respondents, roughly half were excluded based on conservative indices of carelessness across the larger survey. These screens included respondents with more than 50% missing responses, those who provided consistently non-differentiating responses across more than 12 consecutive items, and those who completed the survey in less than 300 seconds. These conservative screens resulted in a retained validation sample of 377. All analyses were derived from this *n* of 377.

Data analysis

I am testing this out



We used R ([Version 4.2.0](#); [R Core Team, 2022](#)) and the R-packages *careless* ([Version 1.2.1](#); [Yentes & Wilhelm, 2021](#)), *corrplot2021* ([Wei & Simko, 2021](#)), *papaja* ([Version 0.1.0.9999](#); [Aust & Barth, 2022](#)), *psych* ([Version 2.1.9](#); [Revelle, 2022](#)), and *tinylabels* ([Version 0.2.3](#); [Barth, 2022](#)) for all our analyses. As a straightforward validation study, our analyses consisted predominantly of Pearsons product-moment correlations.

Results

Table 1:

Suggested final scale definitions.

Substantive	Attitudinal	Item.Number	Item.Stem
Absorption	Cognitive	1	I am able to concentrate on my work without getting distracted
Absorption	Cognitive	3	Time passes quickly while I’m working
Absorption	Affective	5	I enjoy thinking about work even when I’m not at work
Absorption	Affective	8	I love starting my workday
Absorption	Behavioral	10	I have to be reminded to take breaks while I’m at work
Absorption	Behavioral	11	I never miss a work deadline
Vigor	Cognitive	14	Thinking about work saps my energy
Vigor	Cognitive	16	I’m able to maintain good levels of energy throughout the workday
Vigor	Affective	17	I enjoy spending time completing my job tasks
Vigor	Affective	19	I feek motivated to go beyond what is asked of me at work
Vigor	Behavioral	21	When work is slow I find ways to be productive
Vigor	Behavioral	22	I express enthusiasm for my job while at work
Dedication	Cognitive	25	I plan to stay with this company as my career advances
Dedication	Cognitive	26	I believe this company cares about my career goals
Dedication	Affective	31	I feel proud of my accomplishments within this organization
Dedication	Affective	32	My job makes me feel like I’m part of something meaningful
Dedication	Behavioral	34	I embrace challenging situations at work
Dedication	Behavioral	35	I speak positively about this organization to others

Note. The recommended response scale is ‘Strongly Disagree’, ‘Disagree’, ‘Somewhat Disagree’, ‘Somewhat Agree’, ‘Agree’, and ‘Strongly Agree’. TAKE THE ITEM # COLUMN OUT BEFORE FINAL POSTER

The items comprising the focal measure along with their scale associations and recommended administered response scale are located in Table 1. The current sample internal consistency estimates for our three substantive

subscales were: 1) Absorption ($\alpha = 0.86$), Work Engagement Scale ([Schaufeli et al., 2010b](#)) as well as [Saks \(2006\)](#)’s 12-item version of the UWES may actually be a better measure of the focal measure, so we aggregated the UWES into a single scale. Dedication ($\alpha = 0.87$), and Vigor ($\alpha = 0.88$) estimates for the Saks scale were also included. A third version of the UWES may actually be a better measure for sure, as the test manual states that the UWES, although the manual is written in English, the English version may be a translation of the original (for example, “I am proud on */sic/* my accomplishments”).

Construct validation

For convergent validity indices, we calculated the mean variances extracted for the Work Engagement Scale ([Schaufeli et al., 2010b](#)) as well as [Saks \(2006\)](#)’s 12-item version of the UWES. For example item from the [Saks \(2006\)](#)’s 12-item version of the UWES into my job that I lose track of time. The [Schaufeli et al. \(2002\)](#) measure of the focal measure, so we aggregated the UWES into a single scale. Dedication ($\alpha = 0.87$), and Vigor ($\alpha = 0.88$) estimates for the Saks scale were also included. A third version of the UWES may actually be a better measure for sure, as the test manual states that the UWES, although the manual is written in English, the English version may be a translation of the original (for example, “I am proud on */sic/* my accomplishments”).

Two short scales from the [Goldberg, 2010](#)) were retained: a 5-item “Pets” and 5-item “Household Activity” item is, “Cleaning the house” (Cronbach’s $\alpha = 0.72$) and an example Pets item is, “My pet is very cute” ($\alpha = 0.88$).

Criterion-related validation

We administered a short 4-item version of the [Kelloway et al. \(1999\)](#). An example item is, “I would like to work for this organization much longer” (Cronbach’s $\alpha = 0.77$).

Table 2:

Unit-weighted scale intercorrelations

	1	2
1. affect	–	
2. behavior	.74***	–
3. cognition	.82***	.68***
4. dedication	.87***	.78***
5. absorption	.84***	.78***
6. vigor	.82***	.77***
7. saks.job	.61***	.60***
8. saks.work	.72***	.59***
9. UWES.dedication	.77***	.65***
10. UWES.absorption	.69***	.66***
11. UWES.vigor	.70***	.67***
12. intentquit	–.36***	–.24***
13. pets	.05	.15**
14. household	.10	.15*