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# Validity and Reliability of the Spence and Robbins Workaholism Battery: A Study in Malaysian Employees

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## Abstract

This psychometric study aims to contribute to the evolving cross-cultural definition of workaholism by exploring the reliability and validity of using the Workaholism Battery (WorkBAT; Spence & Robbins, 1992) in a sample of 183 full-time white-collar workers in Malaysia. Using data from online surveys, collected from full-time white-collar workers in the private and public sectors, factor analysis was used to indicate factor solutions contributing to the definition of workaholism based on the Spence and Robbins (1992) model of high work involvement, high work drive, and low work enjoyment. The study identified three factors and reassigned the items between them into work enjoyment, work drive, and work withdrawal. A 2-step cluster analysis identified four profiles of work adaptability as workaholics, enthusiastic workaholics, anxious workers, and moderate workers. Criterion validity with working hours was not established indicating workaholism as a distinct construct as suggested by previous studies. Our analysis produced a 3-factor solution suggesting a further syndromic view of the addiction to work. The addition of the third factor of work withdrawal indicates a further shift into looking at workaholism with a clinical lens.

## Keywords

Workaholism, WorkBAT, workplace counselling, working hours, addiction

**A**round thirty years ago, studies from scholars like Fassel (1990) predicted that workaholism prevalence would be on the rise. Recent studies have claimed that at least 10 percent of the United States population were workaholics (Sussman et al., 2011; Andreassen et al., 2012). Moreover, urbanization is associated with higher levels of white-collar employment, which in turn is associated with adverse health effects (Atkinson et al., 2016). It has also been noted in past studies that urban workers may have worse mental health than rural workers (Li et al., 2007).

There is a lack of consensus on the definition

of workaholism (Kim, 2019). However, workaholism is regarded as an addiction to work by most scholars (Clark et al., 2016) with many definitions proposed over the past fifty years (Oates, 1971; Machlowitz, 1980; Mosier, 1983; Spence & Robbins, 1992; Porter, 2001; McMillan & O'Driscoll, 2006; Andreassen et al., 2012). Kim (2019) proposed that the multitude of definitions that exist share a characteristic of excessive habitual working behaviour, and diverge into the traditional, positive, instrumental, and combined perspectives.

The traditional perspective adopted by the Spence and Robbins model suggests an addicted condition whereby not working causes a dysphoric state only avoided by returning to work (Kim, 2019). Work is then accompanied by feelings of compulsion to work, lack of enjoyment of work, and excessive time allocation to work (Kim, 2019; Porter, 2001; Spence & Robbins, 1992). In contrast, the positive perspective sug-

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gests an intense passion driven by motivation to work manifesting itself in enthusiasm about rewards or accomplishment or self-driven ethics and values (Kim, 2019; Baruch, 2011; McMillan & O'Driscoll, 2006). Other perspectives also include the instrumental perspective concerned with the lack of work engagement, the existence of certain personality traits, and inner drive (Kim 2019; Van Beek et al., 2012; Stoeber et al., 2013). Finally, the combined perspective attributed workaholism to an uncontrollable work drive due to internal or external factors resulting in a devotion to work that can either be engaged or unenthusiastic (similar to the Traditional approach) (Kim, 2019; Douglas & Morris, 2006; Andreassen et al. 2012, Mazzetti, et al., 2014). While having different perspectives can be seen as enriching, not having a clear definition can lead to diverse implications on practice in the workplace (Kim, 2019). Future research may be hindered due to the possible overlap with other concepts such as work engagement, commitment or passion for work that are not associated with negative consequences (Burke, 2000; Kim, 2019; Andreassen, 2014; Aziz & Zickar, 2006).

Workaholism has been positively associated with job dissatisfaction (Burke, 2001), job stress (Aziz & Zickar, 2006; Spence & Robbins 1992), and familial troubles (Bayhan Karapinar et al., 2019). It has also been linked to emotional exhaustion (Sandrin et al., 2019; Van Beek et al., 2012) which has been related to lower performance by Demerouti et al. (2014). Due to the many negative physical consequences associated with workaholism and the recent developments in behavioural addiction models, it has been recommended that clinical frameworks are put in place to address this issue (Atroszko et al., 2020). Other scholars have also suggested the conceptualization of workaholism as a syndrome (Aziz & Zickar, 2006) after gambling which was adopted in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (American Psychiatric Association, 2000).

The rapid proliferation of research on workaholism has been captured by the authors in a search analysis of the Web of Science database at the beginning of 2020. This analysis reflected an increase of approximately 150% in the number of publications on the issue in the past five years as suggested by other papers (Morkevičiūtė et al., 2021). Furthermore, there has been signifi-

cant interest in popular sources in the public to talk about workaholism reflecting its intuitive appeal and urging for a more systematic inquiry into the issue (Burke, 2001). This further denotes the importance of the topic and the need for a robust definition of terms.

Recent research in Malaysia points to the distressing consequences of the existing workaholism problem (Yulita et al., 2020). Moreover, the International Labour Organization reported that in 2021, the average working hours per week per employed person in Malaysia were 45.1 hours, with 16% of employees working more than 49 hours (ILOSTAT, 2021). Working hours in Malaysia were regulated to 48 hours per week according to s. 60A of the Malaysian Employment Act of 1955. Yet these numbers are likely to underestimate the realities of the Malaysian labour experience considering the ubiquity and conditions of undocumented and migrant labour (Santos et al., 2015; Piper, 2006). Therefore, in order to enhance the tools of research in this context and promote informed exploration of the topic, we propose this study of psychometric validation of the WorkBAT test as encouraged by the prevailing guidelines (Yasir, 2016). Previous studies in different countries suggested varying factor structures of the Spence and Robbins (1992) model while asserting its overall reliability and practicality (Erkmen et al., 2010; Shkoler et al., 2017), we therefore aim to propose our validation of the WorkBAT in the Malaysian context.

### *Workaholism and the Malaysian Workforce*

The national culture in Malaysia has been described as high in power distance and uncertainty avoidance (Ting & Ying, 2013), both of which have been hypothesized to normalize workaholism (Baruch, 2011). Hard work is observed to be an admirable value in itself in both local Malay and Chinese cultures in Malaysia (Richardson et al., 2017). Malaysian Islamic scholars suggested that work can be a way of devoting oneself to God, and connected work to monotheism (Tauhid) despite their recognition of the urge in Islam to retire earthly riches (Husin, 2012).

Other scholars have observed that the culture around work has changed with time in varying periods of economic growth to be less collectivistic, e.g., rising focus on competition, while

on the other hand, there were scholars who noted the persistence of concepts such as self-sacrifice and family integrity (Lim, 2001; Noordin & Jusoff, 2010). The conversation about adaptation to work demands in Malaysia becomes even more pressing with recent reports of economic slowdowns, even before the COVID-19 pandemic, which affects youth financial resilience and indebtedness and may push more people to take up more paid work (World Bank, 2019). The combination of work values, economic slowdown, and self-sacrifice culture may be reasons for Malaysians to place more focus on work.

### ***The Spence and Robbins Model and the Workaholism Battery (Hypothesis I & II)***

Spence and Robbins (1992) defined workaholism following an extensive review of the literature in terms of three dimensions: work involvement, work drive, and enjoyment of work. They viewed workaholism as a stable personality characteristic (Burke, 2000) defined by high work involvement, high work drive but with low enjoyment of work. The original study involved sending out a mail survey to a sample of social workers with academic positions in the United States (N=291; Spence & Robbins, 1992). Subscales related to the defining characteristics of work involvement, work drive, and work enjoyment yielded alpha coefficients of .69-.67, .81-.67, and .86 respectively. Moreover, they found a significant positive correlation between work involvement and work drive subscales, work involvement, and work enjoyment, but no correlation between work enjoyment and work drive (Spence & Robbins, 1992).

The survey included several subscales that captured different aspects that the researchers thought would be defining or correlating with workaholism. Persons identified as workaholics predictably scored higher than others on non-delegation, job stress, perfectionism, and health complaints (Spence & Robbins, 1992). The model borrows a metaphor from substance addiction to make the key assumption that the workaholic feels compelled to work because of intrinsic pressure manifesting in guilt or distress over not working (Spence & Robbins, 1992). Overworking in the context of the Spence and Robbins model is assumed to be due to intrinsic

pressures and a low enjoyment of work (Burke, 2000).

Workaholism and work addiction are sometimes used interchangeably (Clark et al., 2016). However, Griffiths et al. (2018) suggest that the Spence and Robbins (1992) empirical model and Ng et al. (2007) theoretical model represent workaholism and not work addiction since they do not focus explicitly on the maladaptive aspects of the phenomenon. Our paper may contribute further to this debate as we add the withdrawal factor, traditionally found in addiction models, to the Spence and Robbins (1992) scale and thus further integrating workaholism and work addiction.

Other popular models have been suggested to conceptualize and measure the addiction to work. One such model is the Bergen Work Addiction Scale (BWAS; Andreassen et al., 2012). The BWAS is a symptom-based conceptualization based on the substance use disorders found in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013). Another definition was suggested by Robinson (1999) in his Work Addiction Risk Test (WART) which was a unidimensional measure of work addiction and thus may lack the advantages for use as a research tool capable of showing different subscale relations with different variables (Clark et al., 2016). In contrast, the Spence and Robbins (1992) model is a multidimensional measure of workaholism, rooted in the experience of employees at work rather than personality-driven symptoms. It is also a relevant measure today used in many recent studies around the world (Khalidi et al., 2016; Laurence et al., 2020). However, the psychometric properties of this model have been under debate following replication studies in different countries, especially surrounding the validity of the work involvement dimension (Kanai et al., 1996; McMillan et al., 2002). Additionally, this psychometric study is part of a still limited effort to validate the Workaholism Battery (WorkBAT) in a Southeast Asian country.

Spence and Robbins (1992) used the WorkBAT to identify several profiles of workers including (1) workaholics that scored high on involvement and drive but low on enjoyment; (2) work enthusiasts that scored high on involvement and enjoyment but low on drive; (3) enthusiastic workaholics that scored high on all di-

mensions; (4) unengaged workers scored low on all the measures ;(5) relaxed workers scored high on enjoyment but low on involvement and drive; (6) disenchanted workers that scored high on drive but low on involvement and enjoyment.

### **Construct Validity (Hypothesis I)**

Following the study, many other authors have tried to re-examine the results in different countries (Kanai et al., 1996; McMillan et al., 2002; Ersoy-Kart, 2005; Huang et al., 2010; Erkmen et al., 2010). Here we will review results from six countries in different geographical regions. Kanai et al., (1996) translated and analysed the WorkBAT in Japan in a sample of 1,072 full-time workers in private enterprises including only 110 female respondents with somewhat ambiguous inclusion criteria (i.e., undefined sectors and organizational levels). Factor analyses and reliability tests resulted in dropping work involvement as one of the three defining dimensions proposed by the original American study and integrating some of its most significant items into other subscales (Kanai et al., 1996).

In New Zealand, McMillan et al. (2002) examined the test in its original language to investigate its construct validity. The study sample (N=320) included employees that represent the census in New Zealand and confirmed the results of the Japanese study by dropping the work involvement dimension out of the definition (McMillan et al., 2002; Kanai et al., 1996). The same was observed in a Turkish study, when the test was translated into the Turkish language and administered to a sample of 175 working graduates (Ersoy-Kart, 2005). A later study in Turkey (Erkmen et al., 2010) confirmed the original three dimensions but it is noteworthy that the sample was small (N=109), comprised of only students with jobs, and still had a relatively lower alpha coefficient for the work involvement dimension (.59 whereby the cut-off was .40).

Psychometric results from South Korea also confirmed the original three-factor model in a sample of 328 female airline workers, however, the questionnaire was shortened to only 14 items (Lee, 2019). The study found all three factors to be enjoying an Eigenvalue higher than 1.3, with reliability coefficients of .82 on work

enjoyment, .8 on work drive, and .64 on work involvement (Lee, 2019). In Portugal, a study of 407 participants confirmed the three-factor structure as well but retained all of the items from the original scales (Santos et al., 2018). However, the sample was skewed towards the female gender as in the Lee (2019) study (76.9%) and people with higher education degrees (56.8%) (Santos et al., 2018).

Additionally, a study in China included 1,235 participants using snow-ball sampling of full-time workers but could not yield any factor solution based on the previous 3-factor or 2-factor definition. Instead, the authors proposed a five-factor solution which was the result of mixing and matching items from the original dimensions. It is noteworthy that no strict inclusion and exclusion criteria were used for this study as well (Huang et al., 2010).

### **Concurrent Validity (Hypothesis III)**

Amid the debate on defining workaholism, it is likely that it should present concurrent validity with working hours since both the Spence and Robbins (1992) model (especially when it comes to work involvement) and others (e.g. Scottl et al., 1997) have stressed its defining role, with even an early definition of workaholism as working over fifty hours per week (Mosier, 1983). However, other results have concluded in the past that it is the attitude towards work that makes a workaholic and not the number of hours (Machlowitz, 1980; McMillan et al, 2002). More recently, researchers have been taking the stand that workaholism is not defined by the number of hours worked (Salanova et al., 2016), while others suggest that workaholism may be related to workplaces that have a culture of long working hours such as in academia (Hogan et al., 2016). This discussion is further emphasized when we examine the result reproductions of the Spence and Robbins (1992) model whereby the work involvement factor was dropped (Kanai et al., 1996; McMillan et al, 2002; Ersoy-Kart, 2005). Consequently, although the relationship between working hours and workaholism is not yet completely lucid, it is reasonable to expect a moderately positive correlation between weekly hours worked and the WorkBAT scales.

## **Hypotheses**

### Hypothesis I:

Factor analysis leads to a three-factor definition of workaholism comprising of work involvement, work drive and work enjoyment.

### Hypothesis II:

Cluster analysis produces a set of distinct profiles based on the WorkBAT scales, including a workaholics profile and an enthusiastic workers profile.

### Hypothesis III:

There is a significant positive relation between workaholism and weekly working hours.

## **Methods**

The study used a quantitative cross-sectional survey design by collecting data once from several organizations based on pre-set inclusion criteria. This design is used to find patterns of association between variables, in addition to providing good reliability and measurement validity (Bryman, 2012).

## **Participants**

The participants were selected purposively through snowball sampling, whereby a sample of individuals was drawn from the population, and each was asked to recruit different individuals from the population according to certain criteria from both the private and public sector (Goodman, 1961). All the targeted white-collar workers residing in Malaysia were surveyed subject to specific inclusion criteria. Participants needed to have at least one year of full-time work experience in their company. They also needed to work mainly in the daytime in an office and indicate that they have a range of responsibilities rather than a singular repetitive task. The absence of any of these inclusion criteria is thus a basis for exclusion from the sample. The survey software recorded 266 responses, of which only 183 (78 males and 105 females) were used due to missing data or the exclusion criteria. The median age was 40 years old with an average experience of approximately 11 years. 71% of the participants reported that they supervise at least one subordinate while the average working hours per week were 45.85 hours. The

sample size is seen as statistically adequate for conducting Exploratory Factor Analysis as it is well above 50 participants (de Winter et al., 2009). It is also similar to previous studies carried out on the WorkBAT that produced statistical significance.

## **Equipment and Materials**

The study used an anonymized standard consent form, and a demographic form including questions concerning age, sex, number of years in the company, status of work (full-time or else), whether the participant works in the daytime on-site, whether the participant works in an office setting, the ability to work from home, number of hours worked weekly on average, and whether the participant's responsibilities include management or supervision of other individuals.

The study used the Spence and Robbins (1992) Workaholism Battery (WorkBAT) that is comprising of 25 items on a 5-point Likert scale that constitute three subscales corresponding to work involvement, work drive, and work enjoyment. The alpha coefficients according to the authors of the afore-mentioned scales were .69-.67, .81-.67, and .86 respectively (Spence & Robbins, 1992). This test was also used to determine six profiles of workers in relation to workaholism ranging from workaholic to disenchanted worker (Spence & Robbins, 1992).

## **Procedure**

Due to the study's cross-sectional design and the circumstances related to the Coronavirus outbreak, data collection was carried out online by disseminating the questionnaire to key individuals that were able to send it to their colleagues in the organization. The data was collected through Qualtrics software to ensure confidentiality. The interface presented potential participants with the consent form first, demographic form second, and finally the Workaholism Battery.

## **Data Analysis**

The study used the Statistical Product and Service Solutions (SPSS) 26th edition. In accordance with similar analyses from previous studies, Ex-

ploratory Factor Analysis (EFA by Principal Components Analysis) was used to generate solutions for a multi-factor model. EFA is recommended by statistics experts to reproduce already existing psychometric tests in different conditions (Hair et al., 2014). The study also used Cronbach's alpha to test the internal reliability of the items in the original factor model and after the application of the factor solution. Afterwards, a cluster analysis was carried out using 2-step clustering as this method combines some of the desired qualities of both hierarchical and non-hierarchical clustering techniques (Hair et al., 2014). The cluster analysis is used to mathematically identify similar profiles of participants on the used scales. Visual inspection of the data's histogram confirmed normal distribution as per Field (2013). Parametric tests were hence used such as Pearson's correlations and One-way ANOVA to explore relationships between scales, demographic variables, and working hours.

### *Ethical Considerations*

In accordance with principles on ethics in research, this study considered several aspects related to the procedure, participants, and equipment used. The WorkBAT (Spence & Robbins, 1992) is available in the public domain and thus does not require permission to use. No compensation was used to incentivize participation in this study. Anonymity and confidentiality of participants were ensured by assigning non-identifying numbers to participants. Finally, Consent was obtained using an electronic form prior to participation.

### **Results**

#### *Exploratory Factor Analysis (Hypothesis 1)*

To ascertain the eligibility of the data for EFA, Bartlett's test of sphericity was conducted and found significant (at  $p < .001$ ) as well as a Kaiser-Meyer-Olkin measure for sampling adequacy (.797). EFA was used as per the recommendation by Hair et al. (2014) using Principal Components Analysis with Varimax rotation and Kaiser normalization. Using the Scree test, the analysis yielded a seven-factor solution at an eigenvalue  $> 1$ . However, a 3-factor solution was chosen

because the percentage of variance explained starts to fall rapidly after the third-factor solution and because previous findings support a 3-factor structure (Spence & Robbins, 1992; Erkmen et al., 2010). The selected factors had eigenvalues of 4.97; 3.18 and 2.13 respectively and explained 41.16% of the variance in the data. Please consult Table 1 for details on the proposed factor structure.

The three-factor solution proposed by this study is close to the original solution on the first and second dimensions but proposes a redefinition of the third factor. Using a cut-off of .3 (Merenda, 1997) for factor loadings, all items of the WorkBAT were retained with only two items showing significant cross-loadings. The first factor corresponded highly with items from the original 'work enjoyment' scale with the eight items being part of the original ten-item scale. The second factor comprised of 12 items including all but one of the original 'work drive' scale (six out of seven), with the rest of the items also suggesting a similar meaning of being committed to work and having inner values or compulsions to be involved with work. Therefore, the two scales retained their names in this proposed factor structure.

The third factor was named 'work withdrawal'. This new scale derives most of its items from the original work involvement scale however, the items specified here were concerned with how the participants felt during their time off or during weekends or vacations. Factor loadings for this scale were relatively high at  $> .5$  which begs for an explanation of this meaningful convergence. The name was chosen after the phenomenon of the symptoms arising from the deprivation of the subject of addiction whether it be a drug or a behaviour (Piper, 2015). Consequently, the scales would measure three observable variables related to the pleasure obtained from working by work enjoyment (J), the participant's inherent drive to work during work times by the work drive scale (D), and the displeasure or anxiety experienced during times off by the work withdrawal scale (W).

#### *Internal Reliability*

Table 1 also shows the Cronbach's alpha coefficients using the original configuration of dimensions and the new proposed configuration. Ac-

Table 1. Results from Exploratory Factor Analysis

No <sup>a</sup>	Original Factor Designation <sup>a</sup>	Question content	Factor 1: J	Factor 2: D	Factor 3: W	Proposed Factor Designation	Alpha Coefficient
7	work enjoyment	I like my work more than most people do	.808	-.002	-.051	work enjoyment	
10	work enjoyment	My job is more like fun than work	.791	.023	-.060	work enjoyment	
4	work enjoyment	My job is so interesting that it often does not seem like work	.742	-.016	.150	work enjoyment	
2	work enjoyment	Most of the time my work is very pleasurable	.656	.203	.125	work enjoyment	.828
17	work enjoyment	Sometimes when I get up in the morning I can hardly wait to get to work	.626	.119	.249	work enjoyment	
9	work enjoyment	I do more work than is expected of me strictly for the fun of it.	.559	.331	.149	work enjoyment	
23	work enjoyment	Sometimes I enjoy my work so much I have a hard time stopping.	.485	.279	.456	work enjoyment	
11	work enjoyment	I seldom find anything to enjoy about my work <sup>b</sup>	.454	-.052	-.053	work enjoyment	
5	driven	I often wish I was not so committed to my work	-.379	.351	-.256	work drive	
22	driven	I often that feel there is something inside me that drives me to work hard	.162	.696	.049	work drive	
25	driven	I seem to have an inner compulsion to work hard	.159	.687	.134	work drive	
18	driven	It is important to me to work hard, even when I don't enjoy what I'm doing	-.154	.611	-.177	work drive	
14	driven	I feel obliged to work hard even when it is not enjoyable	-.075	.603	-.104	work drive	
21	work involvement	Between my job and other activities I'm involved in, I don't have much free time	-.174	.568	.175	work drive	.752
15	work involvement	I like to use my time constructively both on and off the job	.244	.522	.076	work drive	
19	work enjoyment	When I get involved in an interesting project it's hard to describe how exhilarated I feel	.291	.519	-.042	work drive	
16	work enjoyment	I lose track of time when I am involved on a project	.013	.495	-.283	work drive	
20	driven	I often find myself thinking about work, even when I want to get away from it for a while	-.031	.432	.179	work drive	
12	work involvement	Wasting time is as bad as wasting money	.269	.356	.096	work drive	
13	work involvement	I spend my free time on projects and other activities	.225	.343	.011	work drive	
6	work involvement	I like to relax and enjoy myself as often as possible <sup>b</sup>	-.049	-.115	.689	work withdrawal	
24	work involvement	I get bored and restless on vacations when I haven't anything productive to do	.004	.264	.678	work withdrawal	
8	work involvement	I really look forward to the weekend - all fun and no work <sup>b</sup>	.200	-.117	.640	work withdrawal	.645
1	work involvement	When I have free time I like to relax and do nothing serious <sup>b</sup>	.051	-.090	.565	work withdrawal	
3	driven	I feel guilty when I take time off work	.096	.207	.515	work withdrawal	
Eigenvalue			4.974	3.181	2.135		
% of variance			19.897	12.725	8.539		
Cumulative %			19.897	32.621	41.160		
Measure of Sampling Adequacy.							
Bartlett's Test of Sphericity's significance						.797	
Note. Statistics that load > .3 are in bold. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.							
*Spence and Robbins (1992) subscale classification; <sup>b</sup> Item was reverse scored.							



cording to Hinton et al. (2014), a cut-off of .5 for alpha coefficients was acceptable as it signifies moderate reliability. On the original dimensions, work enjoyment yielded ( $\alpha = .8$ ), work drive yielded ( $\alpha = .61$ ) and work involvement ( $\alpha = .58$ ). The present study with the proposed dimensions showed an improvement in all subscales with ( $\alpha = .82$ ) on work enjoyment, ( $\alpha = .75$ ) on work drive, and ( $\alpha = .64$ ) on the work withdrawal scales.

### ***Pearson's Correlations***

Correlations between the three scales, weekly working hours, and demographic information were calculated. The work enjoyment and drive scales showed significant - positive correlation,  $r(181) = .18$ ,  $p < .05$ , and so did the work withdrawal scale with the work enjoyment scale,  $r(181) = .26$ ,  $p < .01$ . However, the work drive scale did not show a significant correlation with the withdrawal scale.

Work enjoyment was negatively correlated with the participant's increase of years of experience at the same company,  $r(181) = -.18$ ,  $p < .05$ , and the increase in the number of subordinates managed by the participant,  $r(181) = -.22$ ,  $p < .01$ . Interestingly, the participant's inability to perform their job duties from their home was positively correlated with the number of hours worked per week  $r(181) = .17$ ,  $p < .05$ .

### ***Cluster Analysis (Hypothesis II)***

Cluster analysis was used to identify separate profiles using the standardized data on the three scales. Two-step clustering using log-likelihood as the distance measure was used to identify three, four, five, six, and seven cluster solutions. The cluster solution including four profiles was chosen due to its fair quality on the silhouette measure of cohesion and separation (average silhouette = .3), as well as it being the most easily interpreted and conceptually distinct.

The workaholics profile centroid corresponded with individuals with lower than average work enjoyment ( $M = 2.23$ ,  $SD = 0.49$ ), while being higher than average on both the work drive ( $M = 3.06$ ,  $SD = 0.35$ ) and the work withdrawal ( $M = 3.56$ ,  $SD = 0.65$ ) scales. The enthusiastic workaholics centroid was higher than average on enjoyment ( $M = 3.15$ ,  $SD = 0.55$ ), drive ( $M =$

$2.56$ ,  $SD = 0.34$ ) and withdrawal ( $M = 3.84$ ,  $SD = 0.50$ ). The moderate workers centroid was slightly lower than average on work enjoyment ( $M = 2.40$ ,  $SD = 0.51$ ), almost average on work drive ( $M = 2.36$ ,  $SD = 0.32$ ) and significantly lower on the work withdrawal ( $M = 2.56$ ,  $SD = 0.22$ ) scale. Whereas, the anxious workers centroid was slightly lower than average on work enjoyment ( $M = 2.40$ ,  $SD = 0.51$ ), significantly lower on work drive ( $M = 1.93$ ,  $SD = 0.28$ ), and slightly higher than average on the work withdrawal scale ( $M = 3.57$ ,  $SD = 0.56$ ).

### ***Concurrent Validity (Hypothesis III)***

A one-way between-subjects ANOVA was conducted to compare the effect of weekly working hours on workaholism components when hours are under 40 hours per week, 40 hours through 45 hours, and 46 hours and above. The category cut-offs were chosen based on a 40-hour workweek and below and above the average working hours in the sample ( $M = 45.85$ ,  $SD = 8.5$ ). Only a significant effect of working hours on the work enjoyment scale was observed,  $F(2,180) = 3.23$ ,  $p = .04$ . Post-hoc comparisons using the Tukey HSD test indicated that the mean work enjoyment score for the under 40 hours per week condition ( $M = 2.38$ ,  $SD = .51$ ) was significantly different than the 40-45 ( $M = 2.78$ ,  $SD = .55$ ), and the 46+ hours ( $M = 2.77$ ,  $SD = .74$ ) conditions. However, the latter two conditions showed no significant differences from each other. The analysis results suggest that having lower working hours (under 40 working hours per week) has a negative effect on work enjoyment which contributes to an increase in the likelihood of workaholism in accordance with the proposed definition. The results also suggest the lack of concurrent criterion validity for workaholism and longer hours worked per week.

### ***Discussion***

The current findings partially supported the first hypothesis and supported the second but not the third hypothesis. As suggested in previous studies from Japan, Turkey, and New Zealand (Kanai et al., 1996; McMillan et al., 2002; Ersoy-Kart, 2005) the work involvement component had the lowest validity and reliability (Refer to table 2 for details). However, instead of doing

**Table 2.** Factor solutions from previous international studies

Study	Country	Language	Sample	Subscale Reliability	Identified Factors
Spence and Robbins, 1992	United States	English	Social workers with Academic Postions (n=291)	I = .69 - .67 D = .81 - .67 J = .86	work enjoyment, involvement, and drive
Kanai, Wakabayashi, and Fling, 1996	Japan	Japanese	Full-time workers in 10 private enterprises (962 male and 110 female n=1,072)	D = .70 J = .85	work enjoyment and drive
McMillan et al., 2002	New Zealand	English	Employed participants relatively representative of the census n=320	J = .85 D = .75	work enjoyment and drive
Ersoy-Kart, 2005	Turkey	Turkish	Working graduates (n=175)	J & D = .83	work enjoyment and drive
Erkmen et al., 2010	Turkey	Not mentioned	MBA students with jobs (n=109)	I = .59 J = .82 D = .80	work enjoyment, involvement, and drive
Huang, Hu, and Wu, 2010	China	Chinese	Full time workers in Taiwan (n=1,235)	Range from .58 to .88	enjoyment-7, involvement-enjoyment, drive-work involvement, drive-3, work-involvement-3
Study findings	Malaysia	English	Full time white collar workers (n=183)	J = .82 D = .75 W = .64	work enjoyment, drive and withdrawal

away with the work involvement scale and its items in this study, the items were either transferred to the work drive scale or transformed into a new third factor, work withdrawal. The work withdrawal factor grouped the items inquiring on the discomfort resulting from being away from work. Withdrawal is a well-described phenomenon and a defining feature of addiction whereby the individual experiences negative effects after he/she stops using the addictive substance or behaviour (Piper, 2015). Problem gambling patients, an established behavioural addiction (American Psychiatric Association, 2013), present symptoms of withdrawal as a defining element of addiction which include depression, agitation, general discomfort, and restlessness (Blaszczynski et al., 2008). The items included in our third scale indicate similar symptoms such as discomfort, restlessness, and defining features of depression such as guilt and anhedonia. This modification is also supported by the results of the factor analysis since items 6, 24, 8, 1, and 3 are all grouped around one factor

with no significant cross-loadings with other factors (please consult table 1).

The second factor named 'work drive' included items from the three original scales. However, it is worthy of note that all of the items seemed to imply both the mental and behavioural manifestations of being driven to work as if there was no distinction between the two constructs for the participants. For example, both items 25 'I seem to have an inner compulsion to work hard' and item 21 'Between my job and other activities I'm involved in, I don't have much free time' were included in this factor. This could possibly explain the lack of support for the work involvement factor in previous studies as the participants may not have paid much attention to the difference (McMillan et al., 2002; Kanai et al., 1996). Items 21, 15, 19, 16, 12, and 13 were reworked from the enjoyment and involvement subscales into the drive scale because they had significant factor loadings for work drive and no significant cross-loadings with their original factors.

Concurrent criterion validity of workaholism with long working hours was not established, neither by Pearson's correlation nor One-way ANOVA, and thus the third hypothesis is rejected. This result asserts the suggestion by previous findings (McMillan et al., 2002) that workaholism is a construct distinct from working hours and cannot be explained by a certain number of hours worked per week as suggested by earlier definitions (Mosier, 1983). This is further corroborated by dropping the work involvement factor as it denotes a certain temporal commitment. The correlation matrix is reported in table 3.

Our results indicated that work enjoyment was negatively correlated with tenure in the company and with the number of subordinates that the participant manages. Research by Zakay (2014) suggested that the passing of time may raise a feeling of boredom which can be associated with job dissatisfaction. Additionally, having a large number of subordinates may indicate higher qualifications such that some managers may feel that they are over-qualified which has been linked to job dissatisfaction in the literature (Arvan et al., 2019). We also found that the inability to perform duties from home were positively correlated with longer working hours.

Many factors may be involved in this association such as commute time, work breaks, conversations with co-workers, or even a workplace culture that emphasizes longer working hours (Chatzitheochari & Arber, 2009).

The psychological resource model for addiction proposed by Eysenck (1997) suggests that certain behaviours, such as work, may confer benefits on the person in spite of having somewhat clear disadvantages that may worsen over time. Eysenck (1997) also suggests that a dependence forms due to a mixture of personality and biological reasons that starts out with the individual perceiving some benefit accrued from the behaviour. The resource model informs workaholism due to benefits of pay and prestige clearly seen in the case of work while being described, from a clinical perspective, as having addiction's negative phenomena of tolerance, craving, and withdrawal (Robinson, 2007).

In the Spence and Robbins (1992) model, the authors identified six profiles of adaptation to work demands including workaholics, work enthusiasts, enthusiastic workaholics, unengaged workers, relaxed workers, and disenchanting workers. However, our cluster analysis resulted in adopting four clusters of work adaptability including anxious workers, moderate workers,

**Table 3.** Correlation Matrix (Pearson's Correlation), N = 183

Variables	M	SD	Work enjoyment	Work drive	Withdrawal	Experience in company (in years)	Hours worked per week	n of subordinates	Inability to work from home
Work enjoyment	2.73	.65	1						
Work drive	2.35	.45	.18*	1					
Withdrawal	3.53	.66	.26**	.04	1				
Experience in company (in years)	11.88	8.18	-.18*	.05	-.08	1			
Hours worked per week	45.85	8.50	.11	-.08	.07	-.06	1		
Number of subordinates	1.91	15.49	-.22**	-.08	-.07	.36**	.10	1	
Inability to work from home	1.89	.76	.03	.06	.04	.04	.17*	.06	1

Notes. \*. Correlation is significant at the .05 level (2-tailed).

\*\* . Correlation is significant at the .01 level (2-tailed).

workaholics, and enthusiastic workaholics. While this clustering is beneficial in creating a distinct classification for further study, it should be noted that the percentages represented by the clusters obtained by cluster analysis do not suggest inferential information about the incidence of workaholism or other profiles in the population from which they were taken (Hair et al., 2014).

### ***Workaholism and Malaysia's Urban Workforce Culture***

The findings of this study not only suggest the occurrence of workaholism in the Malaysian context but may also help elucidate some of its nuances in the Malaysian urban white-collar context. The study shows a significant positive correlation between work enjoyment and work drive as well as work enjoyment and work withdrawal. A similar finding was found by Kanai et al., (1996) in Japan between work enjoyment and work drive which was attributed to cultural and economic factors (Matsuoka & Shimazu, 2014). In the Malaysian context, some changing attitudes toward work were attributed to the rising competition which erodes collectivist values (Lim, 2001; Noordin & Jusoff, 2010). The correlation of work enjoyment with work drive and work withdrawal may be the result of the cultural reverence of work (Husin, 2012). Whereas, workaholism itself, as defined by lower work enjoyment while still maintaining higher drive and withdrawal, may be exacerbated by the culture of self-sacrifice and the economic slowdown which may lead to more competition (Noordin & Jusoff, 2010; World Bank, 2019).

### **Limitations**

The study used the original English language scales instead of translating the scales to the local language since English is widely spoken as a second language in Malaysia. Another limitation is that the study does not evaluate the convergent validity of the WorkBAT with another test. Future studies should include purposive sampling in specific industries since our sample included people from different industries in both the public and private sectors. Lastly, the cross-sectional design only permits data collection and analysis at one point in time.

### **Implications and Future Research**

The study has provided preliminary evidence to suggest the use of the measure in Malaysian white-collar workers. Research in the future should recruit larger purposive samples in specific sectors and professions for cross-validation (i.e., using Confirmatory Factor Analysis), as well as produce qualitative evidence to help understand the nuances of the Malaysian context. Guidelines suggest that cross-cultural validation of tools and concepts is of great importance for both research and practice (American Psychological Association, 2017; Matsumo & Juang, 2017; Hooper et al., 2020). There are three important implications for this study from a clinical perspective. First, to our knowledge, there is still very limited effort attempting to adapt a workaholism assessment in Malaysia. Second, the study contributes to a growing discussion on workaholism as a mental health condition with many detrimental correlates to human health such as psychological distress and psychosomatic complaints (Schaufeli et al., 2008) as well as implications for social adjustment and life satisfaction (Bonebright et al., 2000). Third, understanding workaholism as an addiction causing a withdrawal reinforces previous calls to using techniques used in other addictions that support the client's perceived self-worth and self-esteem such as Rational Emotive Behavior Therapy and coaching (Chen, 2006; Maxwell & Bachkirova, 2010)

Taking work home and working on the weekends have been suggested to be a sign of workaholism (Schaufeli et al., 2006). Therefore, studying workaholism can contribute to the expanding discussion on the future of work as the circumstances of the COVID-19 pandemic force a significant proportion of businesses to institute working from home and flexible working hours (Brynjolfsson et al., 2020). The proposed scale of work withdrawal as measured by discomfort when outside of work can inform HR professionals making decisions related to instituting remote work. Further studies are recommended to explore the potential cultural elements from different countries and from global workaholism research teams.

## Conclusions

The key findings of this study suggest a definition of workaholism based on the enjoyment brought by work, the drive to work, and the presence of withdrawal. The addition of work withdrawal to the definition suggests a further syndromic view of workaholism as suggested by (Aziz & Zickar, 2006). It also underscores the importance of respecting time off and business hours on behalf of the employers and HR personnel deciding on policies.

The study further denotes the effects that work can have on health, as work adaptability can take different forms that are possibly harmful to individuals. Anxious workers as a profile reported by this study suggests that there are individuals who have low work drive but are actually preoccupied with work in and outside of business hours. This reveals an important inefficiency whereby people who obviously care about the work often find themselves not having the drive to do it. Therefore, regulators, mental health professionals, and business leaders are invited to collaborate to address workaholism and work adaptability in general as a systemic issue and from a wider perspective.

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