

Measuring Burnout: A Validation Study of The Oldenburg Burnout Inventory for The Sri-Lankan IT Sector

Udara de Silva

University of Peradeniya, Sri Lanka

Shamala Kumar

University of Peradeniya, Sri Lanka

ABSTRACT

Burnout is a psychological syndrome emerging as a prolonged response to chronic interpersonal stressors on the job. WHO defines burnout as an “occupational phenomenon” and is included in the 11th revision of the International Classification of Diseases (ICD-11). Research reveals the existence of this burnout phenomenon across a range of occupations, such as healthcare professionals, teachers, athletes, pilots, IT professionals etc. A study conducted by Yerbo, a mental wellbeing platform revealed that 2 in 5 of the workers in the IT industry show a high risk of burnout.

At present, there are few tools available to measure burnout. After the Maslach Burnout Inventory (MBI), the Oldenburg Burnout Inventory (OLBI) is considered the most widely used measure of burnout and is also freely available. The current study is aimed at determining the measurement validity of the OLBI in the local context based on IT professionals.

To determine the content validity of the OLBI, an expert panel was employed. In order to examine the construct validity and concurrent criterion validity, a questionnaire-based study was conducted among 161 (n = 161) randomly chosen IT professionals. MBI and DASS-21 were used to explore the convergent and divergent validity of the OLBI.

Four items were deemed not essential to measure burnout based on content validation. The MTMM analysis revealed adequate evidence of the existence of both convergent and divergent validity of the OLBI.

The current study was able to provide evidence of content, concurrent criterion and construct related validity of the OLBI in the Sri Lankan context based on IT professionals. These findings suggest that OLBI can be used as a reasonable tool to measure burnout among IT professionals in Sri Lanka. Availability of such a tool will undoubtedly help organizations in ensuring their workforce is healthy and productive.

KEYWORDS: *Occupational burnout, Content validity, Construct validity, Criterion validity, Oldenburg Burnout Inventory, Multi Trait Multi Method Matrix*

1 INTRODUCTION

Burnout is a commonly used metaphor to describe a state or process of mental exhaustion, similar to the smothering of a fire or the extinguishing of a candle (Schaufeli & Buunk, 2003). The APA dictionary of psychology (n.d.) defines burnout as physical, emotional or mental exhaustion accompanied by decreased motivation, lowered performance and negative attitudes towards oneself and others. Herbert Freudenberger (1974) is considered to be the father of the Burnout Syndrome (Schaufeli & Buunk, 2003). Freudenberger, working as a psychiatrist at a New York clinic for drug addicts stated that burnout manifests in many different symptomatic ways which vary in symptoms and degree from person to person (Freudenberger, 1974). He further explored physical and behavioral signs of burnout which included feelings of exhaustion and fatigue, suffering from frequent headaches, sleeplessness and shortness of breath etc. Subsequently, other scholars began to define this phenomenon of burnout in a more structured manner. The most often cited definition of burnout is, “Burnout is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do ‘people work’ of some kind” (Maslach & Jackson, 1986, p. 1). Another definition of burnout emerged including physical symptoms and not restricting burnout to the helping professions as the previously cited definition did, which defined burnout as “a state of physical, emotional, and

mental exhaustion caused by long-term involvement in situations that are emotionally demanding” (Pines & Aronson, 1988, p. 9). Burnout consists of a sense of disengagement with which, exhaustion and a belief of not being able to do their job role and other work-related activities.

1.1 Burnout among IT professionals

A study conducted by Yerbo (2022), a mental wellbeing platform revealed that 2 in 5 of the workers in the IT industry show a high risk of burnout. According to the same study, 42% of IT professionals with high levels of burnout-risk are considering quitting their company in the next six months while 62% indicated they feel physically and emotionally drained. The report goes on to point towards a possible burnout crisis in the IT industry, with poor outcomes for workers and companies (Yerbo, 2022). Having to work late hours, imbalance between work and personal life, workers being forced to adhere to anti-patterns, mounting work pressure and many other factors account for burnout among professionals in the IT industry (Yerbo, 2022).

Although the IT workforce has a strong sense of personal pride and accomplishment (Cook, 2015), they feel the strain in terms of feeling physically and emotionally drained (Yerbo, 2022). Not being able to relax after the workday is over and feeling physically and emotionally drained. (Yerbo, 2022) seem to capture the exhaustion that constitutes burnout among IT professionals. The feelings of being less competent and achieving less than required at work also contribute to burnout among IT professionals (Cook, 2015; Yerbo, 2022). Further, being less engaged in work and not seeing the value or purpose in what they do, also seem to contribute towards burnout in IT professionals (Yerbo, 2022). A sense of “limitless jobs” among IT professionals which is primarily caused by the ever-increasing number of interactions at work where communication leads to more communication and the role conflicts between tasks also contribute to burnout (Evenstad, 2018).

Hayes (2003) reports that 71% of managers working in Information Technology (IT) believe that burnout is a serious problem for their company. Interestingly, Pawlowski et al. (2007) conducted a study in which an “overwhelming majority” (p. 622) of the participants saw ineffective IT management and supervision as a root cause of burnout. Further, Hayes (2003) uncovered a range of deficiencies in management which contributes to burnout in the IT workforce which includes inability to manage internal politics effectively, poor project planning / management skills, lack of communication and lack of supervisor support. Cook (2015) also revealed that organizational politics plays a role in causing burnout among IT professionals. In the interest of how leadership can have an impact on burnout among IT employees, Hetland et al. (2007) suggest that the leadership style (passive-avoidant leadership , transformational leadership, etc.) is associated with the levels of vulnerability for burnout among IT employees. It has to be noted that while these causes of burnout may not be unique to the IT profession, it certainly has an impact on burnout in the IT workforce.

1.2 Effects of burnout in the workplace

Suñer-Soler et al. (2014) conducted a study based on 11,530 Spanish speaking healthcare professionals from Spain and Latin America which revealed a considerable prevalence of adverse professional consequences associated with burnout. The study identifies a significant association of burnout with absenteeism and turnover intention. The same study reveals the process of withdrawal, otherwise known as depersonalization which constitutes burnout, is also significantly associated with committing mistakes (Suñer-Soler et al., 2014). It has also been reported that feelings of personal accomplishment influenced absenteeism. In comparison to job satisfaction, absenteeism is increased by high role stress and decreased by high personal accomplishment, workload, peer support etc. (Iverson et al., 1998). Another study based on 142 nuclear physics institute employees revealed that absenteeism was not only related to feelings of personal accomplishment but positively associated with feelings of exhaustion (Petitta & Vecchione, 2011).

Madigan and Kim (2021) presented that burnout is negatively associated with job satisfaction while burnout is positively associated with the teachers’ intention to quit. It has been reported that burnout and job satisfaction together explained about 27% of the variance in teachers’ intentions to quit and that burnout accounted for the majority of this explained variance (Madigan & Kim, 2021). Iverson et al. (1998) also revealed significant evidence where burnout is negatively associated with job satisfaction.

Thomas and Douglas (1997) were among the first authors who found empirical support for the relationship between burnout and performance, in which a negative relationship between burnout and performance was observed. Further, a study conducted based on nurses and police officers found that the relationship between burnout and in-role performance was negative and significant (Bakker & Heuven, 2006). However, there is still speculation regarding the relationship of burnout with self-rated performance, subjectively and objectively assessed performance; the general argument is that burnout is differentially related to the above three forms of performance measurements (Shirom, 2003). According to Shirom (2003), the negative relationship between burnout and job performance is likely to be explained by burned-out individuals' impaired coping ability and their reduced level of motivation to perform.

1.3 Effects of burnout on personal health

Research suggests that employees who are chronically fatigued and cynical about their work report more psychological and physical health problems (Schaufeli & Enzmann 1998, Shirom et al. 2005). Several studies also revealed that burnout was associated with a variety of somatic symptoms or otherwise known as subjectively reported health related problems including sleep disturbances, recurrent headaches, gastrointestinal problems, circulatory and heart problems, musculoskeletal pains and excessive sweating (Kahill, 1988; Gorter & Eijkman, 2000; Shirom et al., 2005).

A study conducted on a nationally representative sample of 3,000 Finnish employees revealed that burnout was related to an increased prevalence of depressive and anxiety disorders and alcohol dependence among male and female employees (Ahola, 2007). Burnout may overlap with anxiety since high levels of emotional exhaustion may raise an individual's level of anxiety in stressful situations and may weaken their ability to cope with anxiety (Winnubst, 1993). Hakanen and Schaufeli (2012) reported that burnout predicted depressive symptoms and life dissatisfaction in their three wave, seven year prospective study of almost 2,000 Finnish dentists. According to Peterson et al. (2008) self-reported depression, anxiety, sleep disturbance, memory impairment and neck and back pain most clearly discriminated between burnout groups from non-burnout groups.

Further, Burnout has been found to be an independent risk factor for infections such as common cold (Mohren et al., 2003) and type 2 diabetes (Melamed et al., 2003). In addition, studies have found relationships between burnout and dependence on alcohol (Cunradi et al., 2003; Winwood et al. 2003) and suicidal ideation (Sonneck & Wagner, 1996). It is also argued that people often distract themselves from situations that may cause distress, like burnout, by engaging in health impairing activities such as smoking and consuming alcohol with the intention of alleviating distress in the short term, but at the expense of deteriorating the state of health in the long run. (Schwarzer & Fuchs, 1995).

2. BURNOUT CONCEPTUALIZATION

Burnout is a psychological syndrome emerging as a prolonged response to chronic interpersonal stressors on the job (Maslach & Leiter, 2016). The World Health Organization (WHO) defines burnout as an "occupational phenomenon" and is included in the 11th revision of the International Classification of Diseases (ICD-11) and it goes on to note that it is not classified as a medical condition. According to WHO (n.d.), burnout is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed.

The problem of burnout first surfaced in the caregiving and human service occupations such as health care, mental care, mental health, social services, the criminal justice system, religious professions, counseling and education (Maslach, 1982/2003). At the early stages of burnout related research, a more qualitative approach and an exploratory nature could be observed (Freudenberger, 1974). However, work attitudes and behavioral aspects were emphasized by the subsequent researchers who came from an industrial-organizational psychology background (Maslach & Pines, 1978). This descriptive and exploratory work established the three dimensions of burnout experience; exhaustion, cynicism and inefficacy. (Maslach & Leiter, 2016)

Several self-report tools are available to measure burnout. However, there are few tools that are more commonly used to measure burnout. This section focuses on two such self-report burnout assessment tools : Maslach Burnout Inventory (MBI) and the Oldenburg Burnout Inventory (OLBI).

2.1 Maslach Burnout Inventory

The Maslach Burnout Inventory (MBI) is considered to be the primary burnout measure which continues to be the most widely used and is considered the “gold standard” for work on burnout (Schaufeli et al., 2009). The MBI was initially published in 1981, at a time when the burnout phenomenon was attracting a significant amount of interest but had minimal guidance in-terms of theory or empirical research (Maslach & Jackson, 1986). Following the initial publication, different versions of MBI surfaced which catered to different user groups. However, there are three well-established primary versions of MBI namely, MBI-Human Services Survey (MBI-HSS: Maslach & Jackson, 1981), MBI-Educators survey (MBI-ES: Maslach et al., 1986) and MBI-General Survey (MBI-GS: Schaufeli et al., 1996)

MBI measures burnout based on 3 dimensions. They are namely; exhaustion, cynicism or otherwise known as disengagement and inefficacy (Maslach & Jackson, 1981). The following section discusses these three dimensions related to burnout in detail.

2.1.1 Exhaustion

Exhaustion is the first dimension of burnout. The individual stress component which often leads to feelings of being overextended and depleted of one’s emotional and physical resources is depicted via the exhaustion dimension (Maslach & Jackson, 1981). Work overload and personal conflict are major sources of exhaustion (International Stress Management Association. Conference, 2006). Work overload is the single best predictor of the exhaustion dimension in burnout (Maslach et al., 2006). The clean imbalance between job demands and the individual’s capacity to fulfill those demands cause work overload which leads to exhaustion (Maslach, 2006).

2.1.2 Cynicism

The interpersonal context component is represented by the cynicism dimension. It refers to a negative, indifferent or excessively detached response to various aspects of the job. According to Maslach and Jackson (1981), cynicism is often a product of overload of emotional exhaustion. As cynicism develops people tend to move away from doing their best at work to doing the bare minimum. Gradually the quality of work and performance decline as cynicism towards work increases (Andersson & Bateman, 1997).

2.1.3 Inefficacy

Inefficacy represents the self-evaluation component of burnout (Cordes and Dougherty, 1993; Maslach, Schaufeli and Leiter, 2001). The feelings of lack of accomplishment, incompetence, and lack of productivity at work are generally considered to influence lowered sense of self efficacy (Bandura, 1997). The lack of job resources, social support and growth opportunities generally intensify the feelings of inefficacy. (Maslach, Schaufeli and Leiter, 2001).

2.2 Oldenburg Burnout Inventory

According to Demerouti et al. (2001) The MBI has one important psychometric shortcoming namely, the items within each subscale being all framed in the same direction. In the MBI, all items measuring exhaustion and cynicism are phrased negatively, whereas all professional efficacy items are phrased positively. It has been argued that such one-sided scales are inferior to scales that include both positively and negatively worded items in which such subscales might yield an artificial clustering of factors (Lee & Ashforth, 1990; Demerouti & Nachreiner, 1996; Bouman, Brake & Hoogstraten, 2002).

Further, there are arguments against the three-factor model used in the MBI. While emotional exhaustion and depersonalization generally show consistent relationships with burnout (Demerouti & Halbesleben, 2007), personal accomplishment (efficacy) is far less consistent in these relationships (Cordes & Dougherty, 1993). It is suggested that efficacy / personal accomplishment could be less consistent because personal accomplishment is perhaps more appropriately conceptualized as a personality trait rather than as a component of burnout (Cordes & Dougherty, 1993).

In order to overcome these shortcomings of the MBI, an alternative measure of burnout was introduced, The Oldenburg Burnout Inventory (Demerouti, 1999; Demerouti & Nachreiner, 1998). The OLBI, which includes positively and negatively framed items to assess the two core dimensions of burnout: exhaustion and disengagement from work, is based on a model similar to that of the MBI but without the inefficacy dimension. The OLBI also includes questions that assess cognitive and physical components of exhaustion consistent with past suggestions in literature (Pines et al., 1981; Shinn, 1982).

The most current version of the OLBI (Halbesleben & Demerouti, 2005) consists of 16 items measuring burnout in terms of exhaustion and disengagement. The exhaustion dimension is measured using 8 items related to feelings of emptiness, work overload, the need to rest and physical, cognitive and emotional exhaustion (Demerouti et al., 2003). Disengagement dimension is also measured using 8 items which includes distancing oneself from the work, together with negative and cynical behaviors and attitudes in relation to one's job (Demerouti & Bakker, 2008). Initial construct validity evidence for the OLBI was offered by Demerouti, Bakker, Kantas, and Vardakou (2002) while the validity of the OLBI is also proven and demonstrated by numerous studies across multiple occupational groups in different countries (Halbesleben & Demerouti, 2005; Schuster & Dias, 2018; Rosnah et al., 2017). Further, the OLBI is considered the most prominent alternative to the MBI (Demerouti et al., 2000).

3. VALIDITY

The evidence of validity and reliability are prerequisites to assure the integrity and quality of a measurement instrument (Kimberlin & Winterstein, 2008). In a quantitative study, validity refers to the extent to which a concept is measured accurately (Heale, 2015). In quantitative research, validity is the extent to which any measuring instrument measures what it is intended to measure (Thatcher, 2010). According to Ghauri and Gronhaug (2015) validity explains how well the collected data covers the actual area of investigation.

3.1 Face validity

Face validity refers to a subjective judgment on the operationalization of a construct (Drost, 2011). A test / instrument is said to have face validity if its content looks relevant to the person who is taking the test or using the instrument (Taherdoost, 2016). In other words, face validity refers to researchers' subjective assessments of the presentation and relevance of the measuring instrument as to whether the items in the instrument appear to be relevant, reasonable, unambiguous and clear (Oluwatayo, 2012). It is worth noting that some authors believe face validity is not a correct indicator of validity and should not be considered as a way of validating a tool or an instrument (Anastasi, 1988; Bornstein, Rossner, Hill, & Stepanian, 1994).

3.2 Content Validity

Content validity shows the degree to which a measure covers the range of meanings included within a concept (Babbie, 2007). Further, according to Straub et al. (2004) content validity is "the degree to which items in an instrument reflect the content universe to which the instrument will be generalized" (p. 424). Generally, content validation will ensure the tool in question includes all the items that are essential and eliminates any undesirable items representing a particular domain.

The content validation process usually entails the following steps; formulation of the instrument / tool via an exhaustive review of literature, generating the content validity survey, forwarding the survey to experts in the field of the research, calculating the Content Validity Ratio for each item using Lawshe's method (Lawshe, 1975) and finally items that are not significant at the critical level are eliminated. CVR refers to Content Validity Ratio as proposed by Lawshe (1975). It is a linear transformation of a proportional level of agreement on how many "experts" within a panel rate an item as "essential" calculated in the following way:

$$\text{CVR} = (ne - (N / 2)) / (N / 2) \quad (1)$$

'CVR' is the content validity ratio, 'ne' is the number of panel members indicating an item as "essential" and 'N' is the total number of panel members. (Lawshe, 1975).

A study conducted on a sample of Portuguese students explored the content validity of the OLBI by way of an experts panel which consisted of 13 psychology professors (Campos et al., 2012). In the opinion of these experts, only 4 items were deemed essential in measuring burnout. However, a different study conducted in Malaysia deemed all items were necessary in assessing burnout (Mahadi et al., 2018).

3.3 Construct Validity

According to Walden (2012), construct validity refers to whether the operational definition of a variable reflects the theoretical meanings of a concept. In other words, construct validity shows the degree to which inferences are legitimately made from the operationalisations in one's study to the theoretical constructs on which those operationalisations are based (Oluwatayo, 2012). There are two types of construct validity; Discriminant validity and Convergent validity.

3.3.1 Discriminant validity

The discriminant validity suggests that using similar methods for researching different constructs should yield relatively low inter-correlations. That is, the construct in question is different from other potentially similar constructs (Oluwatayo, 2012). In simpler terms, discriminant validity is the extent to which latent variable A discriminates from other latent variables (e.g., B, C, D) (Taherdoost, 2016). Further, discriminant validity means that a latent variable is able to account for more variance in the observed variables associated with it than measurement error or similar external, unmeasured influences; or other constructs within the conceptual framework (Farrell, 2010).

3.3.2 Convergent validity

Convergent validity requires that the scores derived from the measuring instrument correlate with the scores derived from similar variables (Campbell & Fiske, 1959; Brock-Utme, 1996; Cooper & Schindler, 2001). Campbell and Fiske (1959) advocate a validation process utilizing a matrix of intercorrelations among tests representing at least two traits, each measured by at least two methods, introduced as the MTMM Matrix. Convergent validity can be achieved by correlating scores obtained between the scale and subscales together. The inter-correlations from the multitrait-multimethod matrix are used to support convergence validity as well as discriminant validity (Campbell & Fiske, 1959). In line with these methods of construct validity, Halbesleben & Demerouti (2005) found convergent and divergent validity of the OLBI by employing the MTMM matrix. Another study conducted across several occupational groups found evidence of both convergent and divergent validity of OLBI (Halbesleben, 2003).

3.4 Criterion validity

Criterion or concrete validity is the extent to which a measure is related to an outcome (Brunner, 2009). It measures how well one measure predicts an outcome for another measure. A test has this type of validity if it is useful for predicting performance or behavior in another situation (past, present, or future) (Taherdoost, 2016).

Thomas and Douglas (1998) explored the contribution of burnout to work performance. They concluded that disengagement, otherwise known as cynicism and emotional exhaustion, are negatively related to job performance. Further, Maslach and Jackson (1985) revealed burnout is associated with decreases in the quality and quantity of job performance. Burnout is also argued to be a significant predictor of hypercholesterolemia and type 2 diabetes (Shirom et al., 2005) along with spells of sickness absence (Schaufeli et al., 2009).

4 METHODS

In order to investigate the content validity, the steps outlined by Taherdoost (2016) were followed and Lawshe's CVR (1975) method was employed to determine the relevance of each item in the OLBI to the measured domain, burnout.

The panel of experts consisted of content experts as well as lay experts. As proposed by Zamanzadeh et al., (2015), lay experts who are potential research subjects were included in the panel of experts as using subjects of the target group as experts ensures that the population for whom the instrument is being developed is represented (Rubio et al., 2003).

The expert opinion of psychology and IT professionals was sought via a content validity questionnaire. This questionnaire included all 16 items of the OLBI and the experts were asked to rate the relevance of each item to the measured domain, “burnout”.

In order to measure the construct validity of the OLBI, the Multi-Trait Multi-Method (MTMM) technique was used. Since MBI is considered the gold standard in work related to burnout and since it is a validated tool in the Sri Lankan context (eg. Wickramasinghe et al., 2018) and also due to both MBI and OLBI measuring the same underlying construct (burnout), MBI-GS version was used to measure the convergent validity of OLBI in the MTMM matrix. Figure 1 depicts the instruments and traits of the MTMM matrix.

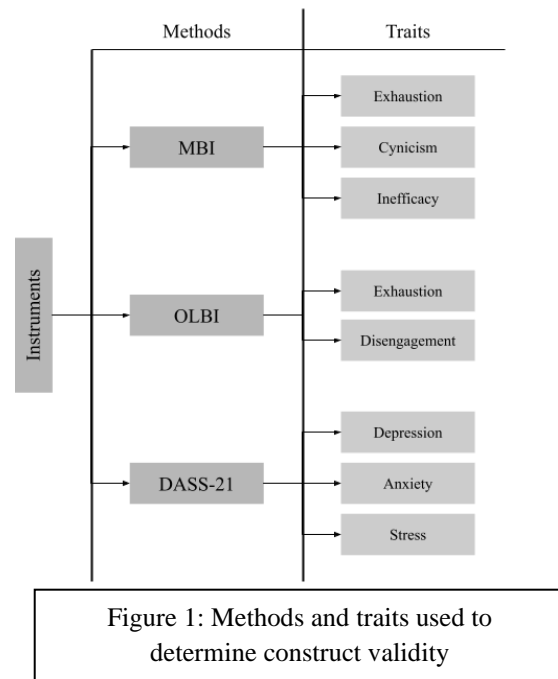
It is argued that the experience of burnout may be nothing more than occupational stress (Maslach, 2018). DASS-21 (Depression, Anxiety and Stress Scale with 21 items) was used to measure the discriminant validity of the OLBI. The DASS-21 is the shortened version of the DASS developed by Lovibond and Lovibond (1995) to assess symptoms of depression, anxiety, and stress among adults. This tool has also been validated in the Sri Lankan context among students at the University of Colombo (Rekha, 2012). In terms of criterion related validity, the respondents’ performance, health and absenteeism was measured along with performance by way of self-rated items.

A questionnaire was distributed electronically among 500 randomly selected members of the Computer Society of Sri Lanka (CSSL). The CSSL as mentioned in their website, is the nation’s association that represents all IT professionals. This institute was established in 1976 and is the apex body representing Information and Communications Technology professionals in Sri Lanka (The Computer Society of Sri Lanka, n.d.). In order to avoid sensitization to “burnout”, this study was introduced as a job attitudes assessment and the anonymity of their response was guaranteed. Each invitee was presented with a choice to opt out of this study if they do not wish to participate.

5 RESULTS ANALYSIS

5.1 Content validity

The expert panel consisted of eight (8) subject matter experts and four (4) lay experts. The subject matter expert panel consisted of a professor in psychology, three senior lecturers in psychology, one psychology lecturer, one clinical psychologist and two psychiatrists. The lay expert panel consisted of a Chief Operating Officer (COO), a Chief Technology Officer (CTO), an associate tech lead and a software architect, all representing the IT profession. The panel consisted of six female and male experts. Based on their responses to the content validity questionnaire, the CVR was calculated. According to Lawshe’s (1975) method, a minimum CVR of 0.56 (N = 12 panel members) is required in-order to retain an item. According to Lawshe’s method, only 12 items were deemed necessary to measure burnout out of the 16 items in the original OLBI. Therefore, a modified version of the OLBI with only 12 items (OLBI-12) was also tested in the subsequent validity measurements.



5.2 Construct validity

The questionnaire which consisted of all three items (MBI, OLBI and DASS) was distributed among 500 randomly selected IT professionals via email. 161 complete responses were collected. Out of the 161 respondents, 30 were female and 131 were male respondents. The age range of the respondents were between 25 and 64.

The majority of the respondents were senior level IT professionals. In terms of the job category, most of the respondents were software engineers. Among other job categories were system analyst, QA analyst, network engineer, web developer, IT support, hardware engineer, software architect etc.

The average burnout reported by each job category is between 37 and 41. QA analysts reported a slightly lower burnout level (31) compared to the other professions while IT support reported the highest level of burnout (41). In terms of the service line, the respondents well represented the local IT industry in which the majority of the respondents were employed in the software engineering service line followed by software quality assurance (software QA) and IT & Technical Support.

The Multi-Trait Multi-Method matrix proposed by Campbell and Fiske (1959) was used to analyze the construct validity of the OLBI. To ensure validity, correlations between the same trait assessed with different methods must be sufficiently large and larger than those between different traits assessed with either the same or different methods.

The MTMM was applied to both the original 16-item OLBI (OLBI-16) and the 12-item modified version of the OLBI (OLBI-12) based on the opinion of the subject matter experts, as depicted in Table 1 and Table 2 below. MBI exhaustion showed higher positive correlation with the exhaustion dimension of both versions of the OLBI, while the cynicism dimension also showed highly positive correlation with the corresponding disengagement dimension of both versions of the OLBI. These correlations were significant at $p < 0.05$. These values provide evidence of the existence of convergent validity. It is also noteworthy that OLBI-12 showed slightly higher correlations with the MBI compared to the OLBI-16.

Both OLBI-16 and OLBI-12 were tested against DASS-21 to investigate its divergent validity. Both exhaustion and disengagement dimensions showed feeble correlations with depression, anxiety and stress scales in both versions of the OLBI. Depression showed a slight positive correlation to exhaustion and disengagement while the correlations were not significant. At the same time anxiety showed a similar pattern of correlations with the same two scales of both OLBI versions with correlations of 0.048 and 0.068, and these correlations too were not significant. On the other hand, stress showed a minor negative relationship to exhaustion and disengagement but not significant. These correlations suggest even though depression, anxiety and stress are related to burnout, they are not the same phenomena. This consequently provides evidence of the existence of divergent validity.

Traits within each method also demonstrated a similar pattern where exhaustion and cynicism in MBI showed higher positive correlations with each other and exhaustion and disengagement in OLBI (both versions) showed higher positive correlations with each other. Further, depression, anxiety and stress showed higher positive and significant correlations with their own traits as expected. All these correlations were significant.

Table 1: Multi Trait Multi Method Matrix: OLBI-16

Methods	MBI			OLBI-16			DASS		
	Traits	Ex	Cy	Ex	De	Dp	Ax	St	
MBI	Ex								
	Cy	.797*							
OLBI-16	Ex	.809*	.778*						
	De	.763*	.780*	.882*					
DASS	Dp	-.004	.064	.065	.041				
	Ax	-.065	.012	.048	.068	.761*			
	St	-.075	-.021	-.042	-.021	.760*	.752*		

Note: * Significant at .05 level; OLBI-16= Original OLBI

Table 2: Multi Trait Multi Method Matrix: OLBI-12

Methods	MBI			OLBI-12			DASS		
	Traits	Ex	Cy	Ex	De	Dp	Ax	St	
MBI	Ex								
	Cy	.797*							
OLBI-12	Ex	.817*	.780*						
	De	.782*	.777*	.890*					
DASS	Dp	-.004	.064	.065	.031				
	Ax	-.065	.012	.048	.075	.761*			
	St	-.075	-.021	-.040	-.041	.760*	.752*		

Note: * Significant at .05 level; OLBI-12: Modified OLBI

5.3 Criterion Validity

In order to test concurrent criterion validity, a self-rated item on job performance was added to the same questionnaire along with two other questions to measure the respondents' health. The health-related question was to identify whether the respondent is currently diagnosed with type 2 diabetes and hypercholesterolemia. Followed by another question to determine whether the respondent has been taking time off work more frequently.

A spearman correlation test was performed to determine the correlation between burnout and performance. A negative 0.70 and 0.71 correlation was observed respectively in both OLBI-16 and OLBI-12. This value was also significant at $p < 0.001$.

Independent sample t-tests were carried out to measure the effects of burnout on health and absenteeism. It was revealed that those who were having type 2 diabetes and / or hypercholesterolemia reported slightly higher burnout than those who did not have diabetes or hypercholesterolemia. A similar effect was observed between burnout and absenteeism. Those who reported higher absenteeism rates also reported higher burnout levels. The observations were similar between both OLBI-16 and OLBI-12.

6 DISCUSSION AND CONCLUSION

As stated in the previous section, both versions of OLBI provided reliable and valid results in the Sri Lankan context based on IT professionals. As previously outlined, the first objective of the current study was to determine the content validity of the OLBI. Accordingly, the content validity study revealed that four (4) of the sixteen (16) items were not essential to measure burnout. Out of the four items that were deemed not essential to measure burnout, three items were from the disengagement dimension while only one item was from the exhaustion dimension. The items are as follows;

“Lately, I tend to think less at work and do my job almost mechanically” (disengagement), “Over time, one can become disconnected from this type of work” (disengagement), “This is the only type of work that I can imagine myself doing” (disengagement) and “There are days when I feel tired before I arrive at work” (exhaustion).

The above four items reported CVR values less than 0.56 which was the cut off rate in-order to recognize an item as essential to measure their respective constructs, disengagement and exhaustion. Therefore, according to the content and lay experts, the OLBI is a better fit with only twelve (12) items. Therefore, a new version of the OLBI was introduced with only 12-items as opposed to the original 16-item scale.

The MTMM analysis for construct validity yielded acceptable results in favor of convergent and divergent validity for both versions of the OLBI. According to the MTMM analysis, exhaustion and disengagement constructs showed significant positive relationships with its counterparts of the MBI. This suggested the existence of convergent validity. Accordingly, both MBI and OLBI were found to measure exhaustion and cynicism / disengagement in a similar manner which would result in similar outcomes. A similar result to that of this study has been observed in the initial English translation of the OLBI, where the correlations between factors of MBI and OLBI reported correlations higher than .70 (Halbesleben & Demerouti, 2005).

In terms of the divergent validity of the OLBI, both constructs; exhaustion and disengagement reported insignificant feeble correlations with the constructs of the DASS-21. This finding supports evidence of divergent validity for both versions of the OLBI. As mentioned before, it has been argued that the experience of burnout may be nothing more than occupational stress. Therefore, a relationship among these two constructs could be observed, but it should not be so high as to suggest that burnout and stress are in fact the same phenomenon (Maslach, 2018). Similarly, the findings of the current study support the argument that even though some of the burnout symptoms appear to resemble the ones of depression as it is characterized by anhedonia it has been found that depression and anxiety are in fact different and robust constructs compared to burnout (Koutsimani et al., 2019).

The current study also demonstrated the existence of concurrent criterion validity of both versions of the OLBI. The respondents' health and absenteeism as predictors of burnout were tested. Shirom et al. (2005) revealed that burnout was a significant predictor of hypercholesterolemia and type 2 diabetes. Supporting this statement, the respondents of the current study who were diagnosed as type

2 diabetes patients also reported slightly higher levels of burnout compared to those respondents who did not identify as type 2 diabetes patients. However, the current study did not observe significant evidence between burnout and type 2 diabetes or hypercholesterolemia to suggest an association.

In another study, it has been revealed that burnout was prospectively associated with sickness absence days and absence spells (Schaufeli et al., 2009). The same finding was supported by the current study as well. The analysis revealed a significant difference between the number of absences taken between those who reported higher levels of burnout and those who did not. Those who reported higher burnout also reported a higher level of absence. This finding was similar for both versions of the OLBI.

6.1 Managerial implications

Delgadillo et al. (2018) reported “Therapists are identified as having low, medium or high OLBI-D scores, based on scores above or below 1 standard deviation of the mean ($m = 2.15$, $SD = 0.52$; $\leq 1.62 = \text{low}$, $1.63 \text{ to } 2.67 = \text{medium}$, $\geq 2.68 = \text{high}$)”. Looking at the average scores of burnouts within each occupation category, it becomes evident that at present, the local IT industry is experiencing a medium level of burnout and in turn it gives opportunity to undesirable outcomes in the workplace. It is imperative that organizations take necessary measures to address and mitigate occupational burnout. Further, as stated above, Sri Lanka is becoming a global hub in providing IT services and it is only timely that organizations pay more attention towards the mental and physical wellbeing of IT professionals.

Further, organizations can take measures to ensure their employees are of better mental and physical wellbeing. Organizations can provide stress management and interventions by way of offering cognitive behavioral training and mindfulness meditation groups. There is evidence that stress management interventions can help employees adapt to stressful situations, mitigate emotional exhaustion, and develop distress tolerance skills in their work and home lives (Gabriel & Aguinis, 2022). It is also suggested that allowing employees to be active crafters at their work help reduce burnout (Gabriel & Aguinis, 2022). Employers must ensure autonomy and flexibility to negotiate job content, allow employees to choose tasks that play to their strengths but are also challenging, and provide opportunities for development are few methods that employers can implement so that employees can become active crafters at their job (Tims et al., 2012).

As previously stated, employee burnout is pervasive, fosters an unhealthy work culture and creates a toxic working environment which will ultimately lead to adverse effects on firm profits (Gabriel & Aguinis, 2022). Therefore, organizations can implement aforementioned mechanisms to eliminate or mitigate burnout in the workplace.

7 FUTURE RESEARCH

The current study focused on validating the OLBI in the local context based on IT professionals. The field of IT covers a huge spectrum of different professions. It can only be assumed that different professions within the field of IT experience varying levels of burnout without proper evidence. Future research can focus on exploring how different professions within the field of IT and other fields experience burnout. Future research can also replicate the current study with a more generalizable sample over the sample used in the current study. Also, the current study does not go to the extent of exploring the correlates of burnout, therefore future research can focus on exploring the correlates of burnout in the local context. The construct validity of the OLBI was studied in depth, however due to the resource constraints, a significant focus on criterion validity was not placed. Concurrent criterion validity was explored but the predictive and postdictive validity of the tool remains unknown. Future research can also explore these types of validity of the OLBI.

Finally, as pointed out by other authors (Halbesleben & Demerouti, 2005) one of the issues not resolved nor addressed by OLBI is the clinical cut-off scores for burnout. Future research can focus on determining the clinical cut-off scores which will add immense value to knowledge on burnout.

In conclusion, the current study provided successful initial validation evidence of the OLBI in the Sri Lankan context. While further validation is justifiable, the current study provided evidence of content validity, convergent and divergent validity and concurrent criterion validity of the OLBI.

REFERENCES

- Andersson, L. M., & Bateman, T. S. (1997). Cynicism in the workplace: Some causes and effects. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 18(5), 449-469.
- Bakker, A., Demerouti, E., & Sanz-Vergel, A. (2014). Burnout and Work Engagement: The JD–R Approach. *The Annual Review of Organizational Psychology and Organizational Behavior*, 1, 389-411. [10.1146/annurev-orgpsych-031413-091235](https://doi.org/10.1146/annurev-orgpsych-031413-091235)
- Bong, M., & Hong, S. (2010). Multitrait-multimethod designs. In *International Encyclopedia of Education (Third edition ed., pp. 111-119)*. Elsevier.
- Campos, J. A. D. B., Carlotto, M. S., & Marôco, J. (2012). Oldenburg Burnout Inventory-student version: cultural adaptation and validation into Portuguese. *Psicologia: Reflexão e Crítica*, 25(1), 709-718.
- Cook, S. (2015). Job Burnout of Information Technology Workers. *International Journal of Business, Humanities and Technology*, 5(3), 1-12. http://www.ijbhtnet.com/journals/Vol_5_No_3_June_2015/1.pdf
- Freudenberger, H. (1974). Staff Burn-Out. *Journal of Social Issues*, 30(1), 159-165. <https://doi.org/10.1111/j.1540-4560.1974.tb00706.x>
- Gabriel, K., & Aguinis, H. (2022). How to prevent and combat employee burnout and create healthier workplaces during crises and beyond. *Business Horizons*, 65(2), 183-192. <https://doi.org/10.1016/j.bushor.2021.02.037>
- Halbesleben, J. (2006). Sources of social support and burnout: A meta-analytic test of the conservation of resources model. *Journal of Applied Psychology*, 91(5), 1134-1145.
- Iverson, R., Olekalns, M., & Erwin, P. (1998). Affectivity, Organizational Stressors, and Absenteeism: A Causal Model of Burnout and Its Consequences. *Journal of Vocational behavior*, 52(1), 1-23.
- Lovibond, S., & Lovibond, P. (1995). *Manual for the Depression Anxiety Stress Scale*. Sydney: Psychology Foundation.
- Mahadi, N.F., Chin, R.W.A., Chua, Y.Y., Chu, M.N., Wong, M.S., Yusoff, M.S.B., & Lee, Y.Y. (2018). Malay Language Translation and Validation of the Oldenburg Burnout Inventory Measuring Burnout. *Education in Medicine Journal*, 10(2), 27-40.
- Maslach, C., & Pines, A. (1978). Characteristics of Staff Burnout in Mental Health Settings. *Hospital and community psychiatry*, 29(4), 233-237.
- Oluwatayo, A. (2012). Validity and Reliability Issues in Educational Research. *Journal of Educational and Social Research*, 2(2), 391-400. [10.5901/jesr.2012.v2n2.391](https://doi.org/10.5901/jesr.2012.v2n2.391)
- Pawlowski, S., Kaganer, E., & Cater, J. (2007). Focusing the research agenda on burnout in IT: social representations of burnout in the profession. *European Journal of Information Systems*, 16(1), 612-627.
- Pines, A., & Aronson, E. (1988). *Career burnout: Causes and cures*. American Psychological Association.
- Rudolph, C., Katz, I., Lavigne, K., & Zacher, H. (2017). Job crafting: A meta-analysis of relationships with individual differences, job characteristics, and work outcomes. *Journal of Vocational Behavior*, 102, 112-138.
- Samaranayake, D.B.D.L., & Seneviratne, S.R. (2012). Validity of the Maslach Burnout Inventory – Human Services Survey among Sri Lankan Nursing Officers. *Psychological Studies*, 57(1), 101-111. [10.1007/s12646-011-0135-5](https://doi.org/10.1007/s12646-011-0135-5)
- Schaufeli, Wilmar, B., Bakker, A., & Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 30(7), 893-917.
- Shirom, A., Melamed, S., Toker, S., Berliner, S., & Shapira, I. (2005). Burnout, mental and physical health: A review of the evidence and a proposed explanatory model. *International Review of Industrial and Organizational*, 20, 269-309.
- Sister Nuala, D. (1987). The relationship between burnout and job satisfaction in nurses. *Journal of Advanced Nursing*, 12(1), 3-12. <https://doi.org/10.1111/j.1365-2648.1987.tb01297.x>

- Suganya, A., Pavithra, R., Pavani, B., & Anu, V. (2019). *Work Related Burnout among Software Professionals in India: A Questionnaire Study Using Maslach's Burnout Inventory*. *Indian Journal of Public Health Research and Development*, 739-743.
- Taherdoost, H. (2016). *Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research*. *International Journal of Academic Research in Management*, 5(3), 28-36.
- Tims, M., Bakker, A., & Derks, D. (2012). *The development and validation of the job crafting scale*. *Journal of Vocational Behavior*, 80(1), 173-186.
- Ulla, P., Evangelia, D., Gunnar, B., Mats, S., Marie, Å., & Åke, N. (2008). *Burnout and physical and mental health among Swedish healthcare workers*. *Journal of Advanced Nursing*, 62(1), 84-95. <https://doi.org/10.1111/j.1365-2648.2007.04580.x>
- Wickramasinghe, N., Dissanayake, D., & Abeywardena, G. (2018). *Validity and reliability of the Maslach Burnout Inventory-Student Survey in Sri Lanka*. *BMC Psychology*, 52(6). <https://doi.org/10.1186/s40359-018-0267-7>
- Yerbo. (2022). *Burnout index by Yerbo*. In *The state of burnout in tech*. <https://report.yerbo.co/>
- Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Majd, H., & Nikanfar, A.-R. (2015). *Design and Implementation Content Validity Study: Development of an instrument for measuring Patient-Centered Communication*. *Journal of Caring Sciences*, 4(2), 165-178. [doi:10.15171/jcs.2015.017](https://doi.org/10.15171/jcs.2015.017)