MEASURING THE VALIDITY AND RELIABILITY OF THE WORK ABILITY-PERSONAL RADAR QUESTIONNAIRE USING MALAY LANGUAGE VERSION

ANISAH ABAS HAMDAN[1]
FADILAH PUTEH[2]
ALIZA ABU HASSIM[3]
Faculty of Administrative Science & Policy Studies,
Universiti Teknologi MARA, 40450 Shah Alam, Selangor

ABSTRACT

The rising number of older workers in the global workforce has become a new challenge while at the same time triggering anxiety among employers with the question "how well will the workers in the near future perform concerning work demand, health and mental resources?". Previous studies have shown the influence of age in the late phases of an individual's work and conflict between ageing workers and the workplace. While age may not be considered a constraint in performing job task in most jobs, it is contrary when it comes to firefighting. The ageing process may indirectly increase the prevalence of work-limiting disabilities and affect work capacity and performance especially in a physically demanding job like firefighters. Thus, measuring their workability is pivotal. In this study, the Work Ability-Personal Radar (WA-PR) instrument adopted using a newly revised and modified Malay language version to assess the workability among Malaysian firefighters. As such, this paper aimed at examining the validity and reliability of WA-PR as an instrument using the Exploratory Factor Analysis (EFA) and Cronbach's Alpha. Results from the study of WA-PR in Malay version, which have been translated and tested known as *Keupayaan Kerja-Radar Peribadi (KK-RP)*, suggests that it can be employed and has paved the way for future studies on workability in the Malaysian context. The WA-PR instruments validated among the respondents. *KK-RP* showed an adequate psychometric property, making it suitable to be employed in investigating the workability level in the Malaysian context. The finding significantly can be applied in public and private sectors in Malaysia to investigate work ability among employees at the workplace.

Keywords: Aging workforce; Workability; Work Ability Personal-Radar (WA-PR); Firefighters.

INTRODUCTION

The increasing number of ageing populations across the continents has a significant effect on the rising number of older workers in the global workforce (Kulik et al., 2014; Phillips & Sui, 2012; UN, 2015; Zacher & Griffin, 2015). This megatrend has become a new challenge for most countries (Beehr & Bennett, 2014; Martin & Xiang, 2015) and triggered anxiety among employers. The questions on "how good the workers are at present and in the near future, and how they are able to perform their work with respect to work demands, health and mental resources" have been asked by Ilmarinen et al. (1997), triggering another question on how to measure human abilities to perform work during ageing process (Gould et al., 2008).

Studies have shown that age influences the late phases of an individual's work (Schooler et al., 1999; Solem, 2008) as it is an ongoing process in human development during the entire life-span; thus, changes in growth and decline of physical and mental capacity are to be expected (Baltes and Baltes, 1990). These effects will create a conflict between ageing workers and the workplace demands, as ageing affects all parts of the body and is related to a variety of changes in work functions (Rineer, 2015). A review on ageing and capacity by Kenny et al. (2008) revealed an average of 20% deterioration in individual physical capacity between the ages 40 to 60 years due to the decrease in aerobic and muscular functions. Likewise, an older person is unable to perform on the same level as compared to when they were young (Ilmarinen, 2001). Furthermore, a study by Koolhaas et al. (2012) on general working population revealed a decrease in working ability scores among employees aged above 50 years, suggesting a decline in job-related capacities associated with the ageing process (McDaniel et al., 2010). The balance between individual resources and work demands is crucial and is probably the main reason why workability seems to decline during the ageing process (Ilmarinen, 2019).

While age may not be considered a constraint in performing job tasks in most jobs, it is opposite when it comes to firefighting. Distinct from other blue-collar jobs, firefighting is a "high-demand" profession that requires excellent physical fitness. Their working hours are more than 50 hours per week in varied schedules, far from ordinary workers. With higher hazard potentials exposing them to trauma and heat and a variety of toxic or harmful substance, these conditions may affect the increase of overall health risk for fighter fighters (Anthony et al., 2013), which can be associated with the increasing incidence of acute conditions with age and may affect the ability of firefighters. Moreover, an age-related physiological decline expected during the occupational period of firefighters, and the success of job performance may depend on the ability to support intense physical activity (Perroni et al., 2014). Other studies have also demonstrated that most indicators of workability in firefighters are inter-related with their age (Anthony et al., 2013; Sluiter & Frings-Dresen, 2007).

In general, firefighters may consider as a healthy group of workers compared to the general working population; however, their aerobic capacity decreases from the increasing age and work-related ill health issues (Sluiter & Frings-Dresen, 2007). A cross-sectional study on firefighters by Cady et al. (1985) indicated a constant decrease

in age-related aerobic capacity among the incumbents between the age groups of 50 to 59 years. Traditionally, fitness testing in the fire service includes the assessments of strength, flexibility and joint range, torso endurance and physiological variables such as heart rate and blood pressure (Cady et al., 1979; Findley et al., 1995; Hilyer et al., 1990; Michaelides et al., 2011). Moreover, evidence suggests that efforts to improve fitness alone cannot guarantee peak performance or injury resilience (Herman et al., 2008). Correspondingly, studies have discovered that age was the most contributing indicator related to workability among firefighters with findings indicated insufficient workability that was more often among older firefighters (56-59 age cohort) compared to their younger group (Kiss et al., 2002; Sluiter & Frings-Dresen, 2007; Plat et al., 2012). The scientific review on how capabilities change with age among UK firefighters found that health problems such as heart disease, stroke, cancers, respiratory disease, hip osteoarthritis and knee osteoarthritis expected for firefighters aged beyond 55 years old (Anthony et al., 2013). Besides, the effects of chronic health conditions on workability among ageing firefighters indicated the presence of chronic diseases increase along with age (Plat et al., 2012), and those with chronic health conditions were less likely to have excellent workability (Koolhaas et al., 2012) especially for those aged above 50 years.

Generally, the declining health and body functions associated with the ageing process that may indirectly increase the prevalence of work-limiting disabilities and affect work capacity and performance (Kenny et al., 2016; Silverstein, 2008), especially in physically demanding jobs like firefighters. Furthermore, the age-related physiological decline expected during the occupational period of firefighters and the success of job performance may depend on the ability to support intense physical activity (Perroni et al., 2014). Other studies also indicated that most indicators of workability in firefighters were inter-related with their age (Sluiter & Frings-Dresen, 2007). Also, it has found that the workability scores among firefighters aged above 50 years decreased as a result of having chronic diseases (Plat et al., 2012), and this group was less likely to have an excellent workability compared to other age groups (Koolhaas et al., 2012; Plat et al., 2012). Other studies confirmed that the disability was significantly higher among older people, indicating the positive relationship between impairments and age (Ahmad et al., 2017; Mactaggart et al., 2016; Mahmood et al., 2015; Moniruzzaman et al., 2016).

Scholars acknowledged that firefighting is one of the most physically demanding occupations that require incumbents to prepare for the unexpected (McGill et al., 2013; O'Connell et al., 1986; Sluiter, 2006; Plat et al., 2012; Storer et al., 2014; Plat, 2017). As such, poor physical fitness and inappropriate compositions are among the factors linked to cardiac failure (Storer et al., 2014), and identified factor responsible for over than 50% of duty injury and deaths among firefighters worldwide. Hence, the incumbents need to have good physical endurance and complex strategy during fighting fires and in attending emergencies. The inability of the incumbents to meet the high demands of this job puts their safety and health in danger and at the same time may jeopardise other parties such as their colleagues or the public (Sluiter,

2006). Therefore, acknowledging the level of their workability is essential to ensure their peak performance.

LITERATURE REVIEW

Workability Concept

The changes in population demographics that affected the number of the ageing workforce were the main reason for the workability (WA) research followed by the development of a comprehensive concept of workability for occupational health in Finland in the early 1980s. This concept introduced by the Finnish Institute of Occupational and Health (FIOH) (Ilmarinen, 2009) triggered by the question on how to measure human abilities to work during the ageing process (Gould et al., 2008; Ilmarinen et al., 2005; van den Berg et al., 2009). WA is a vital organisational concept strongly related to various employees' issues such as performance, well-being and work-life quality, physical and mental capability, absenteeism, pre-retirement or early retirement (Lavasani, 2015). The definition of WA was developed chronologically and has progressively shifted from the simple concept that includes only individual health and work demands, to the holistic concept of workability wherein workability includes various dimensions (Ilmarinen & Mikaela, 2016). In one of the earlier definitions, it described from how good the worker is at present and in the near future, and how a person can perform his/her work concerning work demands, health and mental resources (Ilmarinen et al., 1997). Meanwhile, others defined it as the employees' ability to fulfil the work that requires them to have the health and functional capacity as well as occupational competence that includes related skills and education, and finally individual virtue of performing the job properly (Tengland, 2011). There were other similar conceptualisations of workability presented in occupational health literature such as demand-control (Karasek, 1979), effort-reward imbalance (Siegrist, 1996) and job-demand-resources (Demerouti et al., 2001) models, each dealing with the equilibrium of various work-related phenomena (Ilmarinen et al., 2015). Nevertheless, one of the most comprehensive studies on workability conducted by Gould et al. (2008) suggested that employees' workability can be affected by various factors, including personal resources, work-related and socio-environmental factors. A study by Gould et al. (2008) supported the multi-dimensional model of WA by Ilmarinen et al. (2005) in which health and functional capacity, competency, value and attitudes, work as well as family and close community considered as the central dimensions of WA (Ilmarinen et al., 2015; Lavasani, 2015). The established multidimensional model of workability, also known as the House of Work Ability Model (Figure 1) by Gould et al. (2008), was used as a framework for this study. This core structure was developed based on the broad research of workability (Gould et al., 2008) and visualised as a house, giving a straightforward and practical reminder of relevant dimensions (Ilmarinen et al., 2015).

As visualised in Figure 1, the four floors of the house and its environment represent five inter-related dimensions underlying workability. The three bottom floors represent the individual's resources affecting workability. The first-floor

concerns on health and functional capacity (HF) and considered as the grounding element. It demonstrates the fundamental role of workability; at least some HF required for a person to be able to work (Ilmarinen et al., 2015). Occupational competence (CO) is ranked at the second floor, referring to the work ability-related skills, expertise and knowledge (Gould et al., 2008), and represents highly relevant personal resources in which without any skills or "know-how", coping with the job would be impossible (Ilmarinen et al., 2015). Next, the third floor is attitude and motivation (AM), representing attitudinal factors affecting workability (Gould et al., 2008). Placed in the centre location of the house, AM describes its strong interrelations with the other dimensions. As emphasised by Tengland (2011), although HF and CO are necessary, they are not sufficient for an employee to be able to work.

The fourth floor is described as "the work" factors by Sturesson et al. (2013), referring to working conditions, organisation of work, work community and management (WM). The floor illustrates the physical, psychological and organisation in working context encountered by employees (Tengland, 2011). Since workability is always defined concerning the current job and task, this fourth floor has a predictable effect on individual's ability to work (Gould et al., 2008; Ilmarinen et al., 2015). Scholars agreed that one way to comprehend workability within the house model is by examining the balance between personal resources (first three-floor) and the demand for work (Ilmarinen et al., 2005). If there is a balance between resources and work demands, the workability can be considered good; however, if the resources are not sufficient to deal with the demands, the ability to work will decline. Therefore, to assess employees' workability, the first four floors of the house need to be considered (Ilmarinen et al., 2015). In this model, the surrounding environment and societal factors also incorporated. The building structure in the yard represents the relationship between individual resources, work, family and close community known as work, family and spare-time activities (FS). The structure is conceptually related to the domain of work-family interface; a two-way framework with the potential to produce positive or negative spill-over from work to home and or vice versa (Grzywacz & Marks, 2000). Therefore, FS can be said to have an influence on workability and need to be measured collectively (Ilmarinen et al., 2015). Although there are other conceptual models of workability proposed by other scholars such as Karasek (1979), Siegrist (1996) and Demerouti et al. (2001), this study has chosen the house of workability by Gould et al. (2008) since it is one of the most comprehensive studies on workability conducted, suggesting that employees' workability can be affected by various factors including individual resources, work-related and socio-environmental factors.
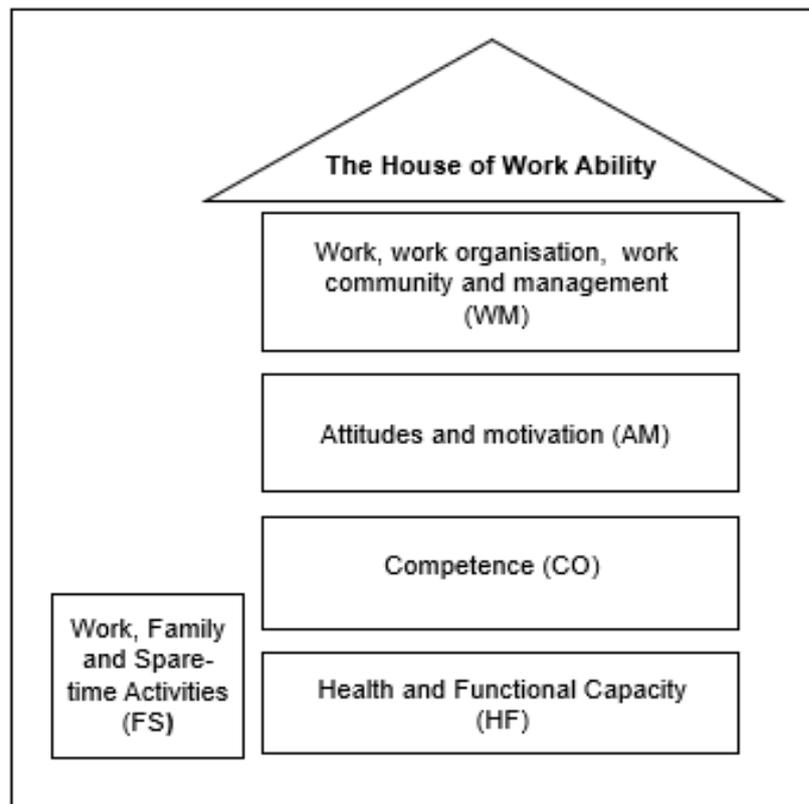
Figure 1: The Core Structure of the House of Work Ability (*Source: Gould et al. (2008).*

Workability Personal Radar (Wa-Pr) Questionnaire

Conventionally, Work Ability Index (WAI) has been used by scholars and researchers to measure the employees' workability (Ilmarinen et al., 2015; Martus et al., 2010; Radkiewich & Widerszal-Bazyl, 2005). While WAI has proven a simple, powerful and reliable method to assess workability across different culture and working conditions (Lundin et al., 2017), none of the dimensions in WA was emphasised over the others in WAI as the constructs were assumed to be one-dimensional although some have studied in detail (Van Den Berg et al., 2009), albeit this postulation has recently been questioned (Martus et al., 2010). Furthermore, WAI has a very challenging outcome for interventions, especially among older workers, the group that quickly face the age-related changes in personal resources and health (Ilmarinen, 2019) as broader measurements of outcomes are often necessary (Ilmarinen et al., 1997).

Until recently, a new measure known as Work Ability-Personal Radar (WA-PR) introduced to provide an efficient multifaceted instrument to perform work ability assessment. WA-PR is a new, improved instrument measuring subjective experiences of workability according to the dimensions depicted in the house model (Ilmarinen et al., 2015). The instrument focuses on the aspects of the workability house model, covering four dimensions within the house and dimension of work, family and spare-time activities (Ilmarinen, 2019; Ilmarinen et al., 2015) by implicit workability as a multidimensional based on the theoretical framework. In WA-PR, the assessment of

the weight on impairment, symptoms, diagnoses and other health-related issues affecting workability diminished since these factors may have overemphasised in the past at the cost of other relevant factors (Ilmarinen et al., 2015).

The new instrument is to provide a versatile assessment based on more accurate allocations of intervention and promotion of workability may execute (Ilmarinen et al., 2015) without ignoring the primary objective the assessment whereby four items initially from WAI included in the WA-PR (Ilmarinen, 2019). The instrument consists of 18 items to be scored on five different subscales based on the theoretical framework of the workability house. These items developed to reflect an individual's subjective experience based on the workability components (Ilmarinen et al., 2015). Each subscale covers one element of the model and measured with three to five items. The establishment and selection of the items built based on the previous report, as the core components within each of the workability house structures designed to reflect an individual's subjective experience on these components. Also, the confirmatory factor analysis (CFA) conducted has shown satisfying psychometric properties in which the WA-PR questionnaire was fitted and accepted as reflected in the five interrelated dimensions of workability in the house model (Ilmarinen et al., 2015). All the items scored on the 11-point rating scale (0 to 10), where high scores indicate a positive experience. Since the WA-PR approach based on self-assessment of the subjective experiences of personal resources, working contact and work-life interface, it does not require examination by occupational physician or other health care professionals (Ilmarinen et al., 2015). Moreover, the WA-PR developed to provide an efficient multifaceted instrument for workability assessment with relatively low implementation costs (Ilmarinen et al., 2015).

This study adapted the WA-PR as an instrument to assess workability among Malaysian firefighters based on the indication that the self-reported WA-PR instrument has shown associations with the workability conceptualisation. Nonetheless, to date, the newly introduced WA-PR has never been tested in any occupation in the Malaysian context. Furthermore, the Malay language version of WA-PR is not yet available at the time of this study. Thus, no empirical evidence can use to justify the workability of hazardous occupations, including firefighters in the context of public service employees in Malaysia. As such, this paper aimed to examine the validity and reliability of WA-PR as an instrument in Malay language context using the Exploratory Factor Analysis (EFA) and Cronbach's alpha (CA) methods, respectively, based on the preliminary study conducted. The significant contribution of this paper is it offers the Malay language version of WA-PR that can be applied in the public and private sectors in Malaysia to investigate the workability among employees at the workplace. The next section discusses the methods employed in this preliminary study.

METHODOLOGY

This pilot study is to evaluate the feasibility of time and cost, also to help the researcher to improve the study design before the full-scale survey undertakes, and to reduce the construct errors during the actual stage of study (Pett et al., 2003). In this study, the questionnaire adopted is in the English version; therefore, a translation process conducted since most of the respondents using the Malay language in their daily communication.

Forward and backward translation approach

Data was collected using a bilingual questionnaire; both Malay and English languages for a better understanding and to ensure a reasonable response rate from the respondents. The items used in WA-PR translated from English to the Malay language based on the guideline by Beaton et al. (2000). The items were translated in verbatim independently by the local experts namely Faradzilla Ghazali (FG) and Azlul Adilah Zaghlol (AAG) using the forward and backward approach. Both translators were native Malay speakers with a good command of English and spoke multiple dialects of the Malay language. The process started with the forward translation performed by FG. To verify then idiomatic, conceptual and cross-cultural equivalence to English language version, the forward translated questionnaire then reviewed by academicians and Human Resources (HR) practitioners namely Chandrakantan Subramaniam (CS), Sharifah Mastura Syed Abu Bakar (SMSA), Rusnita Alimun (RA), Nur Nazihah Mohd Nazir (NNMN), Zainal Sharir (ZS), Norazuana Amer (NA), Mastura Razak (MR), Putri Noorafedah Megat Tajudin (PNMT) and Zanawiah Hassan (ZH). Moreover, the researcher has sought an opinion from FRDM representative, Shamsul Nizar Zubir (SNZ) on the translated version of the instruments to avoid any misleading or misinterpretation on the questions and to reduce data inconsistency.

The forward translation was then translated backwards into the English language by AAZ, who was unaware of the concept and purpose of the questionnaire or the nature of this study. Then, the panel committees from academician group named Aliza Abu Hasim (AAH) and Fadilah Puteh (FP) reviewed the forward and backward translated versions to produce the robust and sound Malay language version based on the items of WA-PR in English language version (Table 1). The translation of WA-PR in the Malay language was known as *Keupayaan Kerja-Radar Peribadi (KK-RP)* as revealed in Table 2.

Table 1: *Items of WA-PR in English Language Version*

Items

Health and Functional Capacity (HF)

HF1	How is your state of health in relation to your work?
HF2	How is your functional capacity in relation to your work?
HF3	How do you rate your current workability in respect to the physical demands of your work?

Competence (CO)

CO1	Do you receive enough training to support your work?
CO2	How is your professional competence?
CO3	In your own work, is it possible to learn new things and skills?

Attitudes and Motivation (AM)

AM1	Are you appreciated in your workplace?
AM2	Do you trust your employer?
AM3	Are you committed to your work?
AM4	Are you motivated to your work?
AM5	Are you treated fair in your workplace?

Work, Work Organisation, Work Community and Management (WM)

WM1	How well is your work organised?
WM2	Do you get support from your supervisor in difficult and challenging work situations?
WM3	Do you get feedback from your supervisor about your work performance?
WM4	Do you get support from your colleagues in difficult and challenging work situations?

Work, Family and Spare-time Activities (FS)

FS1	How well do you combine your work and your family life?
FS2	Do you have enough time and resources for your friends and hobbies?
FS3	Is your present working time organisation suitable for you?

Table 2: *Items of KK-RP in Malay Language Version*

Items	
KK	**Kesihatan dan Keupayaan Fungsian (KK)**
KK1	*Bagaimanakah keadaan kesihatan anda dalam hubungan dengan kerja anda?*
KK2	*Bagaimanakah keupayaan fungsian anda dalam hubungan dengan kerja anda?*
KK3	*Apakah penarafan anda terhadap keupayaan kerja anda pada masa ini dari segi tuntutan fizikal kerja anda?*
K	**Kecekapan (K)**
K1	*Adakah anda menerima latihan secukupnya untuk menyokong kerja anda?*
K2	*Bagaimanakah kecekapan profesional anda?*
K3	*Dalam kerja anda sendiri, adakah anda boleh mempelajari perkara dan kemahiran baru?*
SM	**Sikap dan Motivasi (SM)**
SM1	*Adakah anda dihargai di tempat kerja anda?*
SM2	*Adakah anda mempercayai majikan anda?*
SM3	*Adakah anda komited dengan kerja anda?*
SM4	*Adakah anda bermotivasi untuk melakukan kerja anda?*
SM5	*Adakah anda dilayan dengan adil di tempat kerja anda?*
KOK	**Kerja, Organisasi Kerja, Komuniti Kerja dan pihak Pengurusan (KOK)**
KOK1	*Sejauh manakah kerja anda teratur?*
KOK2	*Adakah anda mendapat sokongan dari penyelia anda dalam situasi-situasi kerja yang sukar dan mencabar?*
KOK3	*Adakah anda mendapat maklum balas daripada penyelia tentang prestasi kerja anda?*
KOK4	*Adakah anda mendapat sokongan dari rakan sekerja anda dalam situasi-situasi kerja yang sukar dan mencabar?*

Items
KML *Aktiviti Kerja, Keluarga dan Masa Lapang (KML)*
KML1 *Sejauh manakah anda mampu menggabungkan kerja anda dan kehidupan berkeluarga anda?*
KML2 *Adakah anda mempunyai masa dan sumber yang mencukupi untuk rakan-rakan dan hobi anda?*
KM3 *Adakah pengaturan waktu kerja anda pada masa ini sesuai buat anda?*

The process of the forward and backward translations from WA-PR to KK-RP exhibited in Figure 2. Upon completion of the forward and backward translation process, the bilanguage of WA-PR questionnaire for this study established.
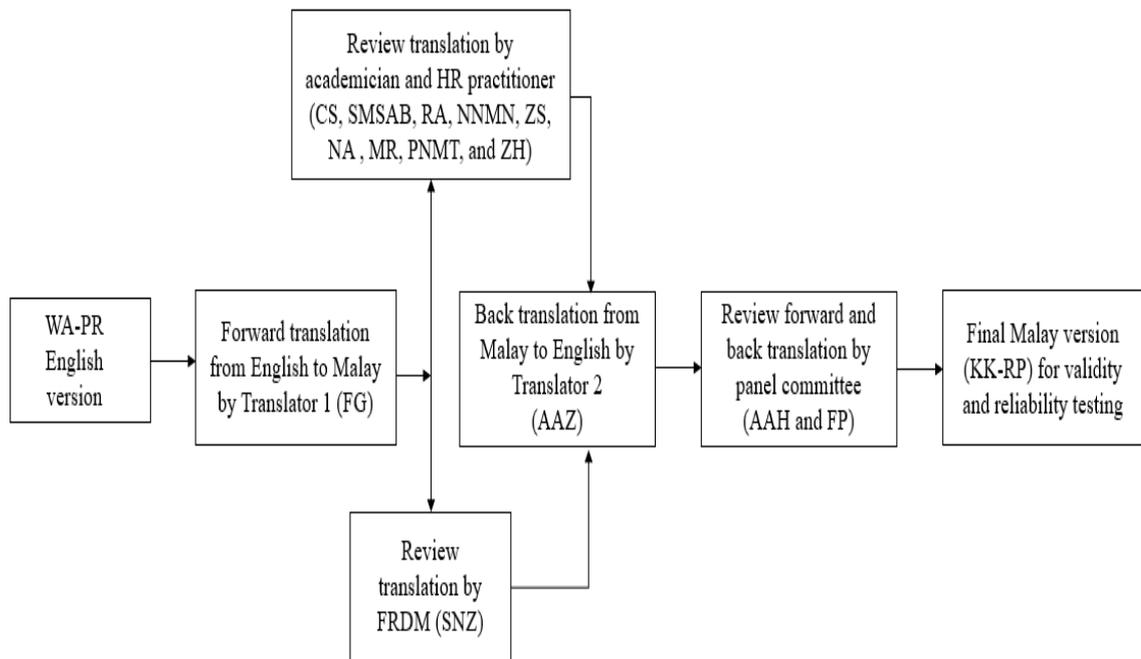

Figure 2: Forward and backward translations of the WA-PR questionnaire to KK-RP questionnaire

Legend:

FG; Faradzillla Ghazali, CS; Chandrakantan Subramaniam, SMSA; Sharifah Mastura Syed Abu Bakar, RA; Rusnita Alimun, NNMN; Nur Nazihah Mohd Nazir, ZS; Zainal Shahrir, NA; Norazuana Amer, MR; Mastura Razak, PNMT; Putri Noorafedah Megat Tajudin, ZH; Zanawiah Hassan, SNZ.; Shamsul Nizar Zubir, AAZ; Azlul Adilah Zaghlol, AAH; Aliza Abu Hasim, FP; Fadilah Puteh.

Sample and Data Collection

The preliminary study conducted between November and December 2018. The questionnaires distributed to 160 firefighters aged 20 to 59 years from various fire and rescue stations in Kuala Lumpur, Selangor and Putrajaya. Before the survey, permission has been obtained from the Fire and Rescue Department of Malaysia (FRDM) to enter the selected fire stations. A brief explanation was given on the purpose of this study to the authority as well as to the respondents before distributing the questionnaire. All respondents informed that their answers used for only research purposes and anonymity kept as no non-essential personal information identified during data collection. The respondents were required to answer the questionnaires individually and given approximately 45 minutes to complete the survey. This step was essential to ensure the quality of the survey and acquire proper feedback from the respondents. Respondents asked to raise any difficulties in understanding the translated version and any challenges in understanding the questions noted for further action.

DATA ANALYSIS

The reliability and validity of the KK-RP questionnaire were tested via Cronbach's alpha (CA) and Exploratory Factor Analysis (EFA) methods, respectively, by the Statistical Package for the Social Science (SPSS) software version 23. Before that, some tests conducted to examine the adequacy of the sample and the suitability of the data for FA. Whereby, sampling adequacy provides the researcher with information regarding the group of survey items. The measurement of sampling adequacy evaluates how strong an item correlated with other items in the EFA correlation matrix (Burton & Mazerolle, 2011). Thus, grouping items into a set of the interpretable factors can better explain the constructs under investigation. The assessment of sampling adequacy performed by examining the Kaiser-Meyer-Okin (KMO), since KMO signals in advance whether or not the sample size is enough to reliably extract the factors of the study (Field, 2009). Hair et al. (1995), as well as Tabachnick and Fidell (2001), suggested that the cases to variable ration are less than 1:5. It ranges from 0 to 1, where KMO of .05 is considered suitable for FA.

On the other hand, KMO correlation above .06 – .70 is deemed adequate for analysing the EFA output at a later stage (Natemeyer et al., 2003). Another prerequisite test is Bartlett's test of Sphericity to provide a chi-square output that must be significant (Bartlett, 1950). The output indicates that the matrix is not an identity matrix (multicollinearity) and that it should be significant (p<.05) for FA to be suitably performed (Hair et al., 1995; Tabachnick & Fidell, 2001). In brief, if the KMO and Bartlett's test indicated that the items correlation matrix is not multicollinearity, the researcher may proceed with the FA (Natemeyer et al., 2003).

RESULT AND DISCUSSION

Determination of Numbers of Extracted Factors

In this study, the number of factors to be extracted accessed through a parallel analysis where the eigenvalues from the factor analysis (i.e. Kaiser's Criteria) compared with eigenvalues from Monte-Carlo simulation. The number of factors retained if the eigenvalues from factor analysis exceed the simulated eigenvalues (Watkins, 2006). Cumulative percentage of variance is another area of disagreement in the factor analysis approach. In this study, the cumulative explained variance extracted percentage thresholds of 60%, which was acceptable (Meyers et al., 2006). The results of the numbers of factors to obtain through parallel analysis and their comparison with eigenvalues from Monte-Carlo simulation exhibited in Table 3 below.

Table 3. *Multiple Criteria for Factors to be Extracted*

Variable Structure	Component Number	Initial Eigenvalue (Kaiser's Criteria)	Parallel Analysis Simulation Eigenvalue	Cumulative % Variance Explains	Decision
	1	6.327	1.721	38.709	*Accept*
Keupayaan Bekerja (Work Ability)	2	3.311	1.566	53.432	*Accept*
	3	2.076	1.453	65.855	*Accept*
	4	1.623	1.358	74.925	*Accept*
	5	1.321	1.276	81.986	*Accept*
	6	0.631	1.203	-	*Reject*

As shown in Table 3 above, it indicated that by comparing the initial eigenvalues (i.e. Kaiser's Criteria) with the stimulated eigenvalues from the parallel analysis, the dimensions reflecting the workability constructs maintained the original number of structures, which are five factors. Besides, by referring to the percentage of the cumulative variance explaining criteria, the analysis confirmed that the workability construct was extracted into five factors structure since the percentages for variables have exceeded 60% (i.e. 81.986%). Another simple method for determining factors to be retained is by inspecting the Kaiser's eigenvalue; if the value exceeds 1.0, the construct should be kept and if the value is lesser than 1.0, the construct should be excluded.

Exploratory Factor Analysis (EFA) and Cronbach's Alpha for KK-RP (WA-PR) instrument

The results of the EFA analysis for the KK-RP (WA-PR) instrument using the Principal Component (i.e. PC) extraction method with Varimax rotation method shown in Table 4 below.

Table 4. *Summary Results of EFA and Cronbach's Alpha for KK-RP (WA-PR) instrument*

Factors and Items Included	Original Factor	Factor Loading	Communalities
Kesihatan dan Keupayaan Fungsian (KK) Health and Functional Capacity (HF)	*KK2*/HF2	.814	.884
	KK3/HF3	.721	.800
	KK1/HF1	.692	.737
Eigenvalue = 3.311, % variance explained = 14.723%, Cronbach's alpha = .879			
Kecekapan (K) Competence (CO)	*K2*/CO2	.828	.887
	K1/CO1	.783	.868
	K3/CO3	.683	.821
Eigenvalue = 1.623, % variance explained = 9.070%, Cronbach's alpha = .898			
Sikap dan Motivasi (SM) Attitudes and Motivation (AM)	*SM4*/AM4	.805	.907
	SM3/AM3	.799	.884
	SM2/AM2	.676	.827
Eigenvalue = 2.076, % variance explained = 12.423%, Cronbach's alpha = .913			
Kerja, Organisasi Kerja, Komuniti Kerja dan Pihak Pengurusan (KOK) Work, Work Organization, Work Community, and Management (WM)	*KOK3*/WM3	.840	.924
	KOK2/WM2	.800	.863
	KOK4/WM4	.758	.844
	SM5/AM5	.640	.714
	SM1/AM1	.615	.734
	KOK1/WM1	.469	.663
Eigenvalue = 6.327, % variance explained = 38.709%, Cronbach's alpha = .929			
Aktiviti Kerja, Keluarga dan Masa Lapang (KML) Work, Family and Spare-time Activities (FS)	*KML2*/FS2	.903	.922
	KML3/FS3	.732	.830
	KML1/FS1	.485	.648
Eigenvalue = 1.321, % variance explained = 7.061%, Cronbach's alpha = .840			

The EFA results in Table 4 above, indicated the KMO index for this analysis was .914, which was above the acceptable limit of .50 and that Bartlett's test for Sphericity for items was highly significant (X^2 (153) = 2258.68, p <.01). Therefore, it concluded the

correlation matrices for the items were not an identity matrix (no multicollinearity issues detected) as well as the correlation matrices sufficiently met the threshold value to use for EFA analysis purpose (Field, 2009; Pallant, 2010).

Additionally, the result also indicated that all 18 items of the KK-RP (WA-PR) for measuring the workability (*keupayaan berkerja*) have exceeded the threshold value of .40 (Range: .469 to .903) factor loading and explained 81.986% of Work Ability theoretical construct (refer Table 3). Besides, all items showed commonality values for at least .40 (Range: .648 to .924). Hence, it stated that all items had passed the minimum validity assessment based on the factor loading and communality values (Field, 2009). However, based on the analysis, it was indicated that two items from the *Sikap dan Motivasi (SM)*/Attitudes and Motivation (AM) dimension (i.e. *SM*/AM5 and *SM*/AM1) were highly loaded and specified under *Kerja, Organisasi Kerja, Komuniti Kerja dan Pihak Pengurusan (KOK)*/Work, Work Organisation, Work Community and Management (i.e. *KOK*/WM) dimension. Based on the results, these two items maintained under the KOK/WM dimension. These two questions (i.e. *KOK*/AM5 and *KOK*/AM1) mostly reflected working factors instead of attitudes and motivations.

On the other hand, all other items were highly and correctly loaded based on their construct, as suggested by the previous study. All the items met the requirement for the definition of individual constructs. The reliability analysis also confirmed that each extracted dimension met the minimum requirement of the Cronbach's Alpha value ranging from .840 to .929, which was above the threshold value of .70 (Pallant, 2010). Hence, each extracted dimension can consider having an adequate level of reliability result, and that the name of the dimensions remained similar to the previous research.

CONCLUSION

The primary purpose for conducting a pilot study is to evaluate the theoretical construct validity as well as examine the structure of variables in the theoretical construct (Thompson, 2004; William et al., 2010). By performing the pilot study will hence reduce the construct or variable errors during the actual stage of research (Pett et al., 2003). Based on the results from the Cronbach's Alpha and the EFA value of KK-RP (WA-PR) questionnaire, it suggested that the Malay language version can be employed and has paved the way for future studies on workability in the Malaysian context since it has been successfully administrated in the preliminary study. The KK-RP (WA-PR) instruments have been validated among the respondents and has shown an adequate psychometric property has made it suitable to be employed in investigating the work ability level in Malaysia context. Furthermore, this indicated that the translated WA-PR in Malay language version known as KK-RP has been easily understood and well accepted by the respondents.

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