

THE INFLUENCE OF MULTIPLE INTELLIGENCE ON CAREER ORIENTATION: THE VALIDATION OF HAMBА MULTIPLE INTELLIGENCE SCALE

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Abstract: Establishing a good match between abilities and career, there is a need to accurately measure the individual's abilities and career orientation. To date, the existing measures of individual multiple intelligences are lacking of psychometric properties that make them less reliable in measuring the intended constructs. Therefore, HAMBА MI Scale was developed and tested in order to overcome the weaknesses in the existing measures. The results of factor analysis using 857 sets of responses from students of one public university in Malaysia indicate the existence of nine factors, which are consistent with the original conceptualization, signifying construct validity. The nine factors were then regressed on Career Orientation variables that comprise Pure Challenge, Security/ Stability Autonomy, Entrepreneurial/ Creativity, General Managerial Competencies, and Work-Life Balance. The results indicate that different MI dimensions contribute to the explanation of variance in different Career Orientations variables, indicating criterion validity of the instrument. The implications of the study are discussed.

Keywords: Multiple Intelligence, HAMBА MI Scale, career orientation, students

In recent years, the competition in the job market is highly intensified due to increased education levels among job applicants. Therefore, to increase the possibility for hiring, graduates should possess specific skills and abilities and find a good match between abilities and their career orientation. In order to do so, they need to assess their career tendency and abilities that they possess so that they are able to find the most suitable job. Current multiple intelligence measures are lacking of psychometric properties. Most of them are meant for commercial purpose. Therefore, there is an urgent need to develop a highly reliable and valid instrument to measure multiple intelligence among students or graduates so that they can identify their strengths and weaknesses and apply these knowledge in finding the most appropriate career. HAMBА MI Scale was developed to achieve this objective. The purpose of this paper is to describe the development of HAMBА MI Scale and investigate its psychometric properties so that the issue of insufficiency of a sound multiple intelligence measure can be reduced, if not totally overcome.

This paper addresses four research questions that are highlighted to investigate the reliability and validity of HAMBА MI Scale. First, to what extent do the items for HAMBА MI Scale form the structure as conceptualized by its original theory? Second, to what extent do the items for each dimension of HAMBА MI Scale measure what they are supposed to measure? Third, to what extent does each dimension of HAMBА MI Scale correlate with the dimensions of career orientation? And fourth, to what extent does HAMBА MI Scale explain the variance in Career Orientation dimensions?

Multiple Intelligences Dimensions

The theory of intelligence has started with the early work of Stanford-Binet in early 1900s. The concept of intelligence during this period was highly practical and theoretical, concerning cognitive aspect of human being. However, in 1920s, the approach has shifted from solely focusing on the brain to other aspects of human intelligences. Thorndike (1920) has proposed three types of intelligences known as mechanical, abstract and social intelligences. Mechanical intelligence refers to the ability to manage things and mechanisms, abstract

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intelligence refers to the ability to manage and understand ideas and symbols, and social intelligence refers to the ability to understand and manage people to act wisely in human relations (Thorndike, 1920). Years after the first attempt to highlight the concept of multiple intelligences, Sternberg (1985) has suggested the triarchic theory of intellect that encompasses a component that deals with computational skills, a component that is sensitive to contextual factors, and a component that deals with novelty. He asserted that one's ability to achieve success in depending on the ability to capitalize on strengths and to compensate for weaknesses.

Meanwhile, Gardner who was working on two different projects; adults with brain damaged and developmentally challenged children, noted that people with brain damaged in a particular part of the brain could function well on the other parts of the brain. These findings were similar for the developmentally challenged children. This phenomenon is recognized as savant syndrome in which people with mental handicapped exhibit extreme genius in areas such as music, art or math. Based on the findings, multiple intelligence theory has been proposed, which initially contains seven intelligences (Gardner, 1983). Eventually, he added an eighth intelligence (Gardner, 1999). Gardner's eight intelligences are (a) Linguistic Intelligence, (b) Logical-Mathematical Intelligence, (c) Musical Intelligence, (d) Spatial Intelligence, (e) Bodily-Kinesthetic Intelligence, (f) Naturalist Intelligence, (g) Interpersonal Intelligence, and (h) Intrapersonal Intelligence. He later added the ninth intelligence known as Existential Intelligence or Spiritual Intelligence. The table below highlights the definition of each type of intelligences as proposed by Gardner (1983, 1999).

Table 1: Multiple Intelligences Construct Description

Multiple Intelligences	Descriptions
Interpersonal Intelligence	The ability to understand another person, to empathize and recognize distinctions among people and to appreciate their perspectives with sensitivity to their motives, moods and intentions
Intrapersonal Intelligence	The ability to understand one's self, to be aware of one's strengths and weaknesses and to plan effectively to achieve personal goals by reflecting on and monitoring one's thoughts and feelings and regulating them effectively.
Kinesthetic Intelligence	The ability to think in movements and to use the body in skilled and complicated ways for expressive and goal directed activities. It relates to a sense of timing, coordination for whole body movement and the use of hands in manipulating objects.
Linguistic Intelligence	The ability to think in words and to use language to express and understand complex meanings. It involves sensitivity to the meaning of words and the order among words, sounds, rhythms, inflections.
Logical Intelligence	The ability to think of cause and effect connections and to understand relationships among actions, objects or ideas. It involves inductive and deductive reasoning skills as well as critical and creative problem solving.
Musical Intelligence	The ability to think in sounds, rhythms, melodies and rhymes, to recognize, create and reproduce music by using an instrument or voice and to connect music with emotions.
Naturalist Intelligence	The ability to understand the natural world including plants, animals and scientific studies, to recognize individuals, species and ecological relationships, and to interact effectively with living creatures and discern patterns of life and natural forces.
Spatial Intelligence	The ability to think in pictures and to perceive the visual world accurately in three-dimensions and to transform one's perceptions and re-create aspects of one's visual experience via imagination.
Spiritual Intelligence	The ability to think that there is an ultimate power that determines our destiny, which influences our attitudes and behaviors in order to achieve harmony and piece and God's blessings.

Career Orientation

The literature in career orientation is as abundance as that can be found in other fields of studies. However, the area has attracted the interest of many researchers as the outcomes of these studies benefit individuals and organizations in general. Obviously, the work of De Long (1982) and Schein (1978, 1987, 1990) has become the source of reference by these studies. The table below highlights the selected six dimensions of career orientation from the original seven dimensions due to unclear factor loadings during the pilot testing.

Table 2: Career Orientation Construct Description

Dimensions	Definition
Pure Challenge	Career decision that relates to daily combat or competition in which winning is the whole thing such as solving almost unsolvable problems, or to win out over extremely tough opponents.
Security/ Stability	Career decision that is based on security or stability, which reflects on job security and long term attachment to one organization.
Autonomy	Career decision that seeks work situations which are maximally free of organizational constraints that enable the employees to set own schedule and pace of work.
Entrepreneurial/ Creativity	Career decision that leads to the creation of a business owned by the individuals who are technically competent, have the appropriate managerial skills, and a desire to be independent.
General Managerial Competence	Career decision that leads to integrating the work of others and being responsible for the total output and it is well reflected when analyzing and solving problems under conditions of incomplete information and uncertainty.
Work-Life balance	Career decision that tends to find ways to balancing career with personal and family.

The Relationship between MI dimensions and Career Orientation

In general, some MI dimensions are significantly related to some of career orientation dimensions. Interpersonal intelligence reflects the individuals' ability to recognize, understand, empathize with others' motives, moods and intentions, and build successful relationship with them (Gardner, 1983, 1999). Those with this ability is likely to work well with others, therefore, is expected to choose career that requires pure challenge, security/stability, autonomy, entrepreneurial/creativity, general managerial competence and work-life balance. This is because most jobs require involvement of others in its accomplishment. Intrapersonal intelligence, on the other hand, concerns the ability to understand the individual's strengths and weaknesses and devise strategies to manipulate them (Gardner, 1983, 1999). It reflects the individuals' ability to inculcate confidence and manage stress. Therefore, it is expected to contribute to all careers characterized as pure challenge, security/stability, autonomy, entrepreneurial/creativity, general managerial competence and work-life balance.

Kinesthetic intelligence involves the intelligent use of body movement to accomplish certain tasks (Gardner, 1983, 1999). People with this ability are expected to choose career with certain elements of pure challenge, autonomy, entrepreneurial/creativity because jobs with these characteristics do not constrain individuals from using their bodily movement. Linguistic intelligence refers to the ability to use words and languages effectively (Gardner, 1983, 1999). This ability is perfect for the individuals who choose careers with pure challenge, autonomy, entrepreneurial/creativity, and general managerial competence because these careers expect the individuals to use words and languages to express their ideas and convince others to accept them.

Logical intelligence concerns the ability to think critically and find probable connection among elements (Gardner, 1983, 1999). This intelligence is assumed to be related to careers with certain traits such as pure challenge, autonomy, entrepreneurial/creativity, and general managerial competence. These types of career assume individuals to engage in a lot thinking

activities such as problem solving. Musical intelligence, in contrast, requires individuals to think and act by having certain elements of musical connotation (Gardner, 1983, 1999). People with this intelligence always look for careers that promote security/security and work-life balance.

Naturalist intelligence involves connection with living creatures and recognition of patterns of life and natural forces (Gardner, 1983, 1999). This ability relates to the careers with such attributes as security/stability, autonomy, entrepreneurial/creativity and work-life balance. Spatial intelligence reflects the ability to function effectively according to visual patterns and mental imaginary (Gardner, 1983, 1999) and those with this ability are expected to do well on jobs that have certain elements of autonomy, entrepreneurial/creativity, general managerial competence and work-life balance. Spiritual intelligence concerns the ability to think and act according to God's blessings (Gardner, 1983, 1999). People with this intelligence can work effectively with jobs that feature pure challenge, security/stability, autonomy, entrepreneurial/creativity, general managerial competence and work-life balance.

Methodology

Questionnaire with refined items for Multiple Intelligences and Career Orientation were used during the data collection process. Multiple Intelligences consist of nine dimensions represented by Musical Intelligence (5 items), Kinesthetic Intelligence (7 items), Logical Intelligence (4 items), Spatial Intelligence (5 items), Linguistic Intelligence (9 items), Interpersonal Intelligence (8 items), Intrapersonal Intelligence (7 items), Naturalist Intelligence (8 items), and Spiritual Intelligence (6 items). Career Orientation, on the other hand, comprise six dimensions represented by Pure Challenge (5 items), Security/Stability (4 items), Autonomy/Independence (4 items), Entrepreneurial/Creativity (5 items), General Managerial Competence (4 items), and Work-life Balance (4 items).

Sample item for each Multiple Intelligences dimension is as follows; Musical Intelligence – I can concentrate better when listening to music, Kinesthetic Intelligence- I enjoy physical activities, Logical Intelligence – I enjoy solving logic puzzles, Spatial Intelligence – I enjoy visiting and exploring new places, Linguistic Intelligence- I always participate in discussion and debate, Interpersonal Intelligence- I often have people coming to me to talk over personal matters or to ask for advice, Intrapersonal Intelligence – I use my emotions to think of possible consequences of my actions, Naturalist Intelligence – I read articles, books, or magazines about nature, and Spiritual Intelligence – I often respect other people. All these items were measured by using 5-point Likert scale, ranging from 1 – low agreement to 5 – high agreement with the given statements.

Sample item for each Career Orientation dimension is as follows; Pure Challenge – Working on problems that are almost unsolvable is more important to me than achieving a high level managerial position, Security/Stability – I dream of having a career that will allow me to feel a sense of security and stability, Autonomy/Independence – I will feel successful in my career only if I achieve complete autonomy and freedom, Entrepreneurial/Creativity – I will feel successful in my career only if I have succeeded in creating or building something that is entirely my own product or idea, General Managerial Competence – Becoming a general manager is more attractive to me than becoming a senior functional manager in my current area of expertise, and Work-life Balance – Balancing the demands of personal and professional life is more important to me than achieving a high level managerial position. All these items were measured by using 5-point Likert scale, ranging from 1 – low agreement to 5 – high agreement with the given statements.

The Cronbach's alphas for each Multiple Intelligence dimensions are as follows; Musical Intelligence (.814), Kinesthetic Intelligence (.877), Logical Intelligence (.854), Spatial Intelligence (.769), Linguistic Intelligence (.890), Interpersonal Intelligence (.898) , Intrapersonal Intelligence (.863), Naturalist Intelligence (.844), and Spiritual Intelligence (.842). On the other hand, the Cronbach's alphas for each Career Orientation dimensions are as follows; Pure Challenge (.851), Security/Stability (.813), Autonomy/Independence (.809), Entrepreneurial/Creativity (.857), General Managerial Competence (.833), and Work-life Balance (.788).

A total of 1000 sets of questionnaire were personally distributed to UiTM students from various faculties (19 faculties in the main campus) using a purposive sampling technique. The utilization of this technique is to ensure that the sample is representative of all UiTM students in the main campus. Out of 1000 sets of questionnaire, 857 sets were returned, yielding a response rate of 85.7%. Data were collected within the period of one month in June 2011.

Table 3: Respondents' Profile

		Frequency	Percentage
Gender	Male	297	34.7
	Female	560	65.3
Program	Office Management and Technology	50	5.8
	Business Management	48	5.5
	Hotel and Tourism Management	50	5.8
	Accountancy	50	5.8
	Chemical Engineering	50	5.8
	Architecture, Planning and Surveying	50	5.8
	Administrative Sciences and Policy Studies	50	5.8
	Sport Sciences and Recreation	50	5.8
	Pharmacy	50	5.8
	Communication and Media Studies	50	5.8
	Health Sciences	50	5.8
	Artistic and Creative Technology	50	5.8
	Electrical Engineering	48	5.5
	Art and Design	47	5.4
	Dentistry	44	5.1
	Law	43	5.0
	Applied Sciences	30	3.5
	Information Management	37	4.3
	Plantation and Agro technology	19	2.2
CGPA	2.0 – 2.5	21	2.5
	2.51 – 3.0	194	23.3
	3.1 – 3.5	382	45.8
	3.51 – 4.0	235	28.2

Respondents were asked about their age, program of study attended, and Cumulative Grade Point Average (CGPA). From the responses as displayed in Table 3, 297 or 34.7% of the respondents are male and 560 or 65% of the respondents are female. These figures represent the actual distribution of UiTM students in the main campus. Regarding the program of study attended by the students, 19 faculties were included and the questionnaires were almost equally distributed to the students (50 sets of questionnaire for each faculty). Looking at the students' CGPA distribution, the majority of the students had CGPA in the range of 3.1 to 3.5

(382 respondents). 382 students had CGPA between 3.51 and 4.0 while 194 students had CGPA in the range of 2.51 – 3.0. The rest of the respondents had CGPA lower than 2.5.

Factor Analysis

Principal Component Factor Analyses with oblique rotation were utilized to identify the underlying structure or dimensions in the independent and dependent variables in this study. Factor analysis can recognize whether a common factor or more than a single factor is present in the responses to the items. In essence, factor analysis was used to understand the underlying structure in the data matrix, to identify the most parsimonious set of variables, and to establish the goodness of measures for testing the hypotheses (Hair, Black, Babin, Anderson, & Tatham, 2006).

Conducting factor analysis, several statistical values are observed to establish whether the items are suitable to be factor analyzed. This is accomplished by examining the values of Measure of Sampling Adequacy (MSA), Kaiser-Meyer-Olkin (KMO) and the Bartlett’s test of Sphericity. The MSA value for the individual items was set to be above .50 and the KMO (overall items) value to be above .60. The Bartlett’s test of Sphericity is observed to detect the presence of significant correlations among variables. It is appropriate to proceed with the factor analysis if the value of the test is large and significant ($p < .05$) (Hair et al., 2006).

Overall, two (2) factor analyses were performed independently for each scale concerning Multiple Intelligences and Career Orientation. Two criteria were used to determine the number of factors to be extracted: (1) the absolute magnitude of the eigenvalues of factors (eigenvalue greater than one criterion), and (2) the relative magnitude of the eigenvalues (scree test plot) (Hair et al., 2006). The eigenvalue of a factor represents the amount of total variance accounted by the factor. The total amount of variance explained by the factor(s) was set at 60.0 % and above (Hair et al., 2006). In addition, the scree test plot was also inspected to find a point at which the shape of the curve changed direction and became horizontal. All factors above the elbow, or a break in the plot, were retained as these factors contributed the most to the variance in the data set. In interpreting the factors, only items with a loading of .40 or greater on one factor were considered. In the case of cross-loadings (an item that loads at .32 or higher on two or more factors (Tabachnick & Fidell, 2001) or the difference between and among factors is less than .10 (Youndt, Snell, Dean, & Lepak, 1996)), the items were considered for deletion. The clean factors were then interpreted or named by examining the largest values linking the factors to the items in the rotated factor matrix. Reliability tests were subsequently carried out after factor analyses.

Table 4: The Results of Factor Analysis for Multiple Intelligences

	Component								
	1	2	3	4	5	6	7	8	9
	Interpersonal	Intrapersonal	Kinesthetic	Naturalist	Logical	Spiritual	Musical	Linguistic	Spatial
MI1							.759		
MI2							.824		
MI3							.722		
MI4							.669		
MI5							.584		
MI6			.619						
MI7			.723						
MI8			.550						
MI9			.695						
MI10			.744						

MI11			.846						
MI12			.687						
MI13					.836				
MI14					.874				
MI15					.805				
MI16					.510				
MI17									-.629
MI18									-.638
MI19									-.671
MI20									-.628
MI21									-.583
MI22								.752	
MI23								.404	
MI24								.589	
MI25								.567	
MI26								.773	
MI27								.739	
MI28								.694	
MI29								.753	
MI30								.774	
MI31	.461							.451	
MI32		.544							
MI33		.561							
MI34		.592							
MI35		.722							
MI36		.725							
MI37		.530							
MI38		.540							
MI39		.671							
MI40		.699							
MI41		.708							
MI42		.657							
MI43		.828							
MI44		.670							
MI45		.551							
MI46				-.715					
MI47				-.601					
MI48				-.558					
MI49				-.767					
MI50				-.774					
MI51				-.772					
MI52				-.715					
MI53				-.626					
MI54						-.747			
MI55						-.768			
MI56						-.596			
MI57						-.738			
MI58						-.735			
MI59						-.708			
Total Variance Explained							61.761		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.							.933		
MSA							.852 - .967		
Bartlett's Test of Sphericity				Approx. Chi-Square			26190.816		
				Df			1711		
				Sig.			.000		

Multiple Intelligences Scale

Assessing the validity of the Multiple Intelligences Scale, Principle Component Factor Analysis was conducted. There were initially 59 items for the scale with different number of items for the nine dimensions; Musical Intelligence (5 items), Kinesthetic Intelligence (7 items), Logical Intelligence (4 items), Spatial Intelligence (5 items), Linguistic Intelligence (9 items), Interpersonal Intelligence (8 items), Intrapersonal Intelligence (7 items), Naturalist Intelligence (8 items), and Spiritual Intelligence (6 items). Factor analysis with oblique rotation was used to determine factors' dimensionality. The results of the analysis revealed that the 59 items formed 9 structures equivalent to the original structures.

The results are shown in Table 4. The KMO measure of sampling adequacy for the Multiple Intelligences scale is .933 indicating that the items were interrelated. Bartlett's Test of Sphericity shows a significant value (Approx. Chi-Square = 26190.816, $p < .001$) indicating the significance of the correlation matrix and appropriateness for factor analysis. Moreover, the individual MSA values range from .852 to .967, indicating that the data matrix was suitable to be factor analyzed.

Results of factor analysis with oblique rotation indicated the existence of nine factors with initial eigenvalues greater than one that explained 61.761 % of total variance. The results of a scree test also provided support for a nine-factor solution. The first factor comprised eight items with loadings range from .461 to .725. This factor mainly embraced respondents' ability to appreciate the relationship with others; therefore, the original name of Interpersonal Intelligence was retained. The second factor loadings ranged from .551 to .828. This factor consisted of seven items which reflected students' perceptions on the ability to manage their emotions; therefore, the original name of Intrapersonal Intelligence was retained.

The third factor contained seven items with loadings ranged from .550 to .846. The factor involved respondents' perceptions on their ability to involve in physical activities; therefore, the original name of Kinesthetic Intelligence was preserved. The fourth factor was represented by eight items with loadings ranged from .558 to .774. This factor reflected the students' perceptions on the ability to appreciate the nature; thus, the original name of Naturalist Intelligence was upheld. The fifth factor comprised four items with loadings range from .510 to .874. This factor mainly embraced respondents' ability to rely on logical thought; therefore, the original name of Logical Intelligence was retained. The sixth factor emerged with loadings ranged from .596 to .768. This factor consisted of six items which reflected students' perceptions on the ability to engage in spiritual tendency; therefore, the original name of Spiritual Intelligence was retained.

The seventh factor contained five items with loadings ranged from .584 to .824. The factor involved respondents' perceptions on their ability to appreciate musical endeavors; therefore, the original name of Musical Intelligence was preserved. The eighth factor was represented by eight items with loadings ranged from .558 to .774. This factor reflected the students' perceptions on the ability to have linguistic propensity; thus, the original name of Linguistic Intelligence was upheld. The ninth factor comprised five items with loadings range from .583 to .671. This factor mainly embraced respondents' ability to rely on spatial propensity; therefore, the original name of Spatial Intelligence was retained.

Table 5: The Results of Factor Analysis for Career Orientation

Component						
	1	2	3	4	5	6
Items	Pure Challenge	Security/ Stability	Autonomy	Work-life Balance	Entrepreneurial/ Creativity	General Managerial
CO1						.726
CO2						.853
CO3						.763
CO4						.701
CO5			.792			
CO6			.842			
CO7			.804			
CO8						
CO9		.537				
CO10		.883				
CO11		.821				
CO12		.827				
CO13					-.687	
CO14					-.749	
CO15					-.855	
CO16					-.751	
CO17					-.686	
CO18					-.420	
CO19	.458					
CO20	.482					
CO21	.638					
CO22	.629					
CO23	.773					
CO24	.750					
CO25	.801					
CO26				.759		
CO27				.789		
CO28				.781		
CO29				.682		
Total Variance Explained				65.719		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				.931		
MSA				.872 - .957		
Bartlett's Test of Sphericity		Approx. Chi-Square		11143.447		
		df		406		
		Sig.		.000		

To determine the validity of Career Orientation scale, again, Principle Component Factor Analysis was performed. Initially, there were 29 items and seven dimensions of Career Orientation; 4 items for General Managerial Competence, 4 items for Security/Stability, five items for Entrepreneurial/Creativity, 3 items for Service/Dedication, 5 items for Pure Challenge, and 4 items for Work-life Balance. The results of factor analysis revealed that six factors emerged and most of the items for each dimension held together to form factors identical to the original structures. Service/Dedication factor was excluded since only it contained only one item.

The results are displayed in Table 5. The KMO measure of sampling adequacy for the Career Orientation scale is .931 indicating that the items are interrelated. Bartlett's Test of Sphericity

shows a significant value (Approx. Chi-Square = 11143.447 $p < .001$) indicating the significance of the correlation matrix and appropriateness for factor analysis. Moreover, the individual MSA values range from .872 to .957, indicating that the data matrix was suitable to be factor analyzed.

Results of factor analysis with oblique rotation indicated the existence of seven factors with initial eigenvalues greater than one that explained 65.719% of total variance. However, one factor was excluded since it contained only one item, therefore, the six factor solution was assumed. Factor 1 comprised five items with loadings range from .629 to .801. This factor is mainly concerned with respondents' perceptions on the tendency to involve in pure challenging career; therefore, the original name of Pure Challenge was retained. Factor 2 comprised items with factor loadings ranged from .537 to .883. The factor consisted of four items which reflects students' perceptions on the security and stability aspect of their career; thus the original name of Security/Stability was maintained. The third factor was represented by three items with factor loadings ranged from .792 to .842. This factor was regarding the respondents' tendency on engaging in autonomous career; therefore, the original name of Autonomy was preserved.

The fourth factor was represented by four items with loadings ranged from .682 to .789. The factor was related to the students' preferred work-life balance; thus, the name of Work-life Balance was chosen. The fifth factor contained items with loadings ranged from -.686 to -.855. This five-item-factor concerned the students' perceptions on engaging in entrepreneurial and creative career; thus, the original name of Entrepreneurial/Creativity was maintained. The sixth factor was represented by four items with factor loadings ranged from .701 to .853. This factor was regarding the students' preference on the career that involves managerial Competence; therefore, the original name of General Managerial Competence was preserved.

Reliability Analysis

The reliability analysis was conducted by computing the Cronbach's alpha for each measure. The reliability of a measure indicates the stability and consistency of the instrument in measuring a concept and helps to assess the goodness of a measure (Sekaran, 2010). Nunnally (1978) suggested that the minimum acceptable reliability be set at .70.

The Cronbach's alphas for independent variables are in the range of .769 to .898. The figures indicate that the measure had high internal consistency and stability. The analyses also produced high reliability coefficients for all the dependent variables with Cronbach's alphas exceeding .70. The lowest alpha was .788 (Work-life Balance) and the highest alphas was .857 (Entrepreneurial/Creativity). Hence, based on the reliability analyses, the measures used in the study were highly reliable, thus, suggested its readiness for further analyses.

Table 6: The Results of Correlation Analysis

No	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Musical Intelligence	3.99	.70	(.814)														
2	Kinesthetic Int.	3.74	.74	.470**	(.877)													
3	Logical Intelligence	3.75	.78	.180**	.431**	(.854)												
4	Spatial Intelligence	4.02	.59	.307**	.353**	.424**	(.769)											
5	Linguistic Intelligence	3.46	.89	.293**	.508**	.404**	.348**	(.890)										
6	Interpersonal Int.	3.84	.69	.270**	.358**	.299**	.400**	.594**	(.898)									
7	Intrapersonal Int.	3.91	.64	.303**	.316**	.274**	.437**	.369**	.548**	(.863)								
8	Naturalist Intelligence	3.71	.79	.282**	.374**	.307**	.410**	.457**	.432**	.524**	(.844)							
9	Spiritual Intelligence	4.14	.60	.265**	.285**	.260**	.388**	.254**	.349**	.376**	.397**	(.842)						
10	General Managerial	3.77	.73	.249**	.387**	.323**	.372**	.573**	.564**	.374**	.373**	.275**	(.833)					
11	Autonomy	3.97	.73	.245**	.325**	.239**	.329**	.356**	.487**	.329**	.300**	.287**	.587**	(.809)				
12	Security/Stability	3.89	.68	.275**	.282**	.220**	.319**	.287**	.432**	.496**	.406**	.400**	.367**	.361**	(.813)			
13	Entrepreneurial	3.87	.69	.226**	.340**	.329**	.355**	.411**	.450**	.337**	.323**	.329**	.512**	.422**	.462**	(.857)		
14	Pure Challenge	3.89	.67	.266**	.364**	.390**	.350**	.473**	.486**	.337**	.348**	.306**	.557**	.457**	.415**	.608**	(.851)	
15	Work-Life balance	4.09	.65	.199**	.236**	.233**	.385**	.256**	.436**	.341**	.272**	.400**	.321**	.396**	.437**	.438**	.430**	(.788)

Notes: * significant at 0.05 level; ** significant at 0.01 level; Cronbach's alpha values are shown in the parentheses.

Results of correlation analysis (as shown in Table 6) indicate that all variables are highly correlated with each other. The highly correlated variables indicate significant relationships among them which should be highly considered in explaining the phenomena. All Multiple Intelligences variables are significantly correlated with each other with the lowest correlation is between Logical and Musical Intelligences ($r = .180, p < .01$) and the highest is between Linguistic and Interpersonal Intelligences ($r = .594, p < .01$). These significant values indicate the convergent validity of the measures. Besides, all variables for Career Orientation were significantly correlated with each other, indicating convergent validity of the measures. The highest correlation was represented by Entrepreneurial/ Creativity and Pure Challenge ($r = .608, p < .01$) while the lowest correlation was observed between General Managerial Competence and Work-life Balance variables ($r = .321, p < .01$, respectively).

The significant correlations are also observed between Multiple Intelligences variables and the dependent variables. Musical Intelligence is significantly but lowly correlated with Career Orientation variables with the highest correlation is with Security/Stability ($r = .275, p < .01$) and the lowest correlation is with Work-life Balance ($r = .199, p < .01$). Kinesthetic Intelligence is significantly correlated with Career Orientation variables with the highest correlation is with General Managerial Competence variable ($r = .387, p < .01$) and the lowest correlation is

with Work-life Balance ($r = .236, p < .01$). A significant correlation is also found between Logical Intelligence Career Orientation variables with the highest correlation is with Pure Challenge ($r = .390, p < .01$) and the lowest correlation is with Security/Stability ($r = .220, p < .01$). Spatial Intelligence is significantly correlated with Career Orientation variables with the highest correlation is with Work-life Balance ($r = .385, p < .01$) and the lowest correlation is with Security/Stability ($r = .319, p < .01$).

A significant correlation is also observed between Linguistic Intelligence and Career Orientation variables with the highest correlation is with General Managerial Competence ($r = .573, p < .01$) and the lowest correlation with Entrepreneurial/ Creativity ($r = .411, p < .01$). Interpersonal Intelligence is also significantly correlated with Career Orientation variables with the highest correlation is with General Managerial Competence ($r = .564, p < .01$) and the lowest correlation is with Security/Stability ($r = .432, p < .01$). Besides, Intrapersonal Intelligence is significantly correlated with Career Orientation variables with the highest correlation is with Security/Stability ($r = .496, p < .01$) and the lowest correlation is with Autonomy ($r = .329, p < .01$). Naturalist Intelligence, on the other hand, is significantly correlated with Career Orientation variables with the highest correlation is with Security/Stability ($r = .406, p < .01$) and the lowest correlation is with Work-life Balance ($r = .272, p < .01$). A last but not least observation is a significant correlation between Spiritual Intelligence and Career Orientation variables with the highest correlations are with Security/Stability and Work-life Balance ($r = .400, p < .01$) and the lowest correlation is with General Managerial Competence ($r = .275, p < .01$).

Regression analysis

This part of hypotheses testing is to examine the influence of the Multiple Intelligences variables, which consist of Musical, Kinesthetic, Logical, Spatial, Linguistic, Interpersonal, Intrapersonal, Naturalist and Spiritual Intelligences, on the Career Orientation variables, which consist of Pure Challenge, Security/ Stability, Autonomy, Entrepreneurial/ Creativity, General Managerial, and Work-life Balance. To test the influence of the Multiple Intelligences variables on the Career Orientation variables, a series of multiple regression analyses were performed.

Table 7: The Results of Regression Analysis

	Pure Challenge	Security/ Stability	Autonomy	Entrepreneurial/ Creativity	General Managerial	Work-life Balance
Musical	.057*	.067**	.039	.007	.001	.006
Kinesthetic	.038	.034	.106***	.072*	.065*	.016
Logical	.171***	.008	.010	.100***	.031	.026
Spatial	.046	.002	.091**	.089**	.091***	.171***
Linguistic	.171***	-.051	.016	.122***	.302***	-.060
Interpersonal	.247***	.176***	.354***	.221***	.291***	.294***
Intrapersonal	-.003	.257***	.004	.026	.015	.039
Naturalist	.032	.111***	.017	.013	.022	-.026
Spiritual	.077**	.180***	.072**	.123***	.020	.225***
R ²	.345	.337	.282	.293	.426	.283
Adjusted R ²	.338	.330	.274	.286	.420	.276
F Value	49.831	47.909	37.067	39.171	69.901	37.671
Significance F Value	.000	.000	.000	.000	.000	.000
Durbin-Watson	1.996	1.945	1.792	1.939	1.762	1.690

Notes: * significant at 0.1; ** significant at 0.05; *** significant at 0.01

Table 7 summarizes the results of multiple regression analyses between the Multiple Intelligences variables and the Career Orientation variables. Pertaining to Pure Challenge variable, the regression model is significant with R^2 of 0.245, indicating that 24.5% of the variance was explained by the Multiple Intelligences variables ($F(8, 848) = 49.831, p = 0.000$). With regard to Security/Stability variable, the significant regression model indicates that a substantial amount of variance in the model ($R^2 = .337$ or 33.7%) was explained by the Multiple Intelligences variables ($F(8, 848) = 47.909, p = 0.000$). Besides, the total variance in the Autonomy variable was partly explained by the Multiple Intelligences variables ($R^2 = .274$ or 27.4%) and the model is highly significant ($F(8, 848) = 37.067, p = 0.000$). With reference to Entrepreneurial/Creativity variable, the regression model is also significant ($F(8, 848) = 39.171, p = 0.000$) with 29.3% ($R^2 = .293$) of the variance in the model was explained by the independent variables. Concerning General Managerial Competence variable, a portion of the variance in the regression model was explained by the Multiple Intelligences variables ($R^2 = .426$, or 42.6% of the variance) and the model shows a highly significant value ($F(8, 848) = 69.901, p = 0.000$). Lastly, relating to Work-life Balance variable, the regression model is significant with R^2 of 0.276, indicating that 27.6% of the variance was explained by the Multiple Intelligences variables ($F(8, 848) = 37.671, p = 0.000$).

Investigating the contribution of the individual independent variable in explaining one of the dependent variable (Pure Challenge), Musical ($\beta = .057, p < .1$), Logical ($\beta = .171, p < .01$), Linguistic ($\beta = .171, p < .01$), Interpersonal ($\beta = .247, p < .01$), and Spiritual Intelligences ($\beta = .077, p < .05$) are found to significantly influence Pure Challenge. With reference to Security/Stability, Musical ($\beta = .067, p < .05$), Interpersonal ($\beta = .176, p < .01$), Intrapersonal ($\beta = .257, p < .01$), Naturalist ($\beta = .111, p < .01$), and Spiritual Intelligences ($\beta = .180, p < .01$) are the significant predictors of the criterion variable. Pertaining to Autonomy, a number of the independent variables are observed to significantly influence the dependent variable. They are Kinesthetic ($\beta = .106, p < .01$), Spatial ($\beta = .091, p < .05$), Interpersonal ($\beta = .354, p < .01$), and Spiritual Intelligences ($\beta = .072, p < .05$). With regards to Entrepreneurial/Creativity variable, Kinesthetic ($\beta = .072, p < .1$), Logical ($\beta = .100, p < .01$), Spatial ($\beta = .089, p < .05$), Linguistic ($\beta = .122, p < .01$), Interpersonal ($\beta = .221, p < .01$), and Spiritual Intelligences ($\beta = .123, p < .01$) serve as significant predictors of the dependent variable. Concerning General Managerial Competence variable, Kinesthetic ($\beta = .065, p < .1$), Spatial ($\beta = .091, p < .01$), Linguistic ($\beta = .302, p < .01$), and Interpersonal ($\beta = .291, p < .01$) are discovered to significantly influence the outcome variable. In connection with Work-life Balance, Spatial ($\beta = .171, p < .01$), Interpersonal ($\beta = .294, p < .01$), and Spiritual Intelligences ($\beta = .225, p < .01$) are established to be significant predictors of the criterion variable.

Discussion

The study found that Musical, Logical, Linguistic, Interpersonal and Spiritual Intelligences significantly contribute to explain the variance in Pure Challenge. People who have high inclination towards challenging jobs should possess these intelligences. Since challenging jobs are stressful, require working with others and involve emotional discharge, musical intelligence can neutralize the level of stress originated from the job, logical intelligence is useful in assisting the individuals to engage in analytical thinking to solve complex problems, interpersonal intelligence enhances the relationship with others (Rapisarda, 2002) while spiritual intelligence is beneficial to keep the individuals stay composed even in extremely difficult situations (Yang & Mao, 2007).

The results also indicate that Musical, Interpersonal, Intrapersonal, Naturalist and Spiritual Intelligences are the significant predictors of Security/Stability. Those who choose careers

that promote stability and harmony such as singers, musicians, actors, public relations officers, biologist, farmers, teachers and preachers, normally should possess these intelligences (Gardner, 1999). Interestingly, the study found that Kinesthetic, Spatial, Interpersonal and Spiritual Intelligences significantly lead to Autonomy. People who seek careers with element of autonomy usually prefer jobs that allow them freedom to set their own schedule, therefore, those with these intelligences are the perfect match; abilities to use bodily movement, mental imaginary, to relate with others, to achieve God's blessings. The careers that might fall under this category are engineers, architects, researchers, consultants, preachers, and others (Gardner, 1999).

Similarly, Kinesthetic, Logical, Spatial, Linguistic, Interpersonal and Spiritual Intelligences are found to significantly explain the variance in Entrepreneurial/ Creativity as similarly found by Demirel, Dusukcan & Olmez (2012). Entrepreneurial/creativity reflects those who are independent and most likely seeking jobs with high extent of autonomy such as business owners, consultants, preachers and entrepreneurs (Gardner, 1999). The only different is that those who prefer entrepreneurial/creativity must possess logical and linguistic abilities to enable them to critically think and observe the relationships among existing elements to guide them in problem solving activities and to express their ideas for others' consideration and acceptance.

Besides, the present study also found that Kinesthetic, Spatial, Linguistic and Interpersonal Intelligences are the significant predictors of General Managerial Competence similar to the findings of Hoffman and Frost's study (2006). Careers that require general managerial competence such as planning, organizing, leading and controlling organizational elements and activities require individuals who are physically active, able to foresee directions of the organization, able to articulate the vision and mission of the organization and able to relate with the subordinates and other related parties. These intelligences are the rudiments for those who prefer career with general managerial competence.

The findings also signify that Spatial, Interpersonal and Spiritual Intelligences significantly contribute to explaining the variance in Work-life Balance. Those who prefer careers that provide a balance approach toward work and family normally possess spatial, interpersonal and spiritual intelligences. Spatial intelligence provides them with the ability to visualize the needs and requirements to balance up between job and family matters (Gardner, 1983, 1993). Interpersonal intelligence allows them to understand others while spiritual intelligence guides their undertakings towards those established in their religious beliefs (Gardner, 1999).

Conclusion

The development of the HAMBAMA MI Scale has enriched of the literature regarding the valid and reliable measure of MI. This newly developed measure has been rigorously tested using factor analysis to identify and explain the underlying structure of the items measuring MI dimensions. The results of factor analysis signify the construct validity of the instrument. Besides, the internal consistency of the measure has also been tested and verified using reliability analysis. The HAMBAMA Scale has also shown good convergent validity through moderate to high inter-correlation among the MI dimensions. Besides, a series of regression analysis were conducted to establish the criterion validity of the measure and the results indicate that the measure predicts different criterion variables demonstrating that different combination of MI variables might contribute to distinct Career Orientation variables.

Managerial Implication

The study has empirically proven that individuals have different intelligences that contribute in determining their career orientation. These differences should be seriously considered because the misfit between individuals and their career choice might contribute to failure in achieving the organizational objectives. The HAMBAMI Scale can be used as a tool to distinguish employees or potential employees for recruitment. Using the instrument, managers can screen the candidates for the job position and find the best fit between intelligences or abilities and job descriptions. Potential employees can use the instrument to recognize their strengths and weaknesses, and identify the most suitable career orientation that truly reflects their capabilities.

Suggestion for Future Research

The HAMBAMI Scale has been empirically tested in terms of its validity and reliability. However, the scale is still in its infancy stage. Future research is needed to further validate the instrument so that its psychometric property can be improved. Besides, the present study was using students sample to reflect on their career orientation that might overestimate or underestimate the actual career undertakings. Therefore, future studies are suggested to use the actual job incumbents to reflect on career orientation variables so that the results might truly manifest factual phenomena.

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Acknowledgment: This paper is based on the research conducted using the Fundamental Research Grant Scheme, Ministry of Higher Education, Malaysia.