

Scholastic Incentives and Educational Perceived Value; the Role of Religion in Muslim Students' Achievement Strivings. A Rasch Model Analysis

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Abstract

This paper attempts to investigate the Perceived Value Factors and the role of religion in the Muslim students' achievement strivings among the matriculation students of the International Islamic University Malaysia. The perceived value means the student's instrumental judgments about the potential benefit of an academic task or academic program. The researcher postulates that the attributed value would directly affect students' involvement and their intrinsic motivation. The study also investigated the most determinant factor of students' perceived value while hypothesized that the reason attributed into involvement would affect the level of involvement and outcome of academic exercise. Rasch analysis was employed to examine the endorsibility of perceived value scale through benchmarking. Due to the significance of the scale reliability in academic exercises especially in quantitative research, the study also investigated the scale psychometric properties through investigation of scale dimensionality, construct validity, and estimation of item and person score reliability. The total of 471 2nd year students randomly selected from matriculation center of the International Islamic University participated in the study. The Rasch analysis revealed that the religious factor was the easiest factor to endorse by respondents which suggested that it was the major determinant of the Muslim students' involvement in academic exercises followed by instrumentality (long-term benefit) and then utility factor (short-term benefit). This finding is expected to contribute to developing holistic concepts of the role of religiosity in learning and teaching exercises.

Introduction

Many theorists have offered broader definitions of task value. Battle (1966) defined task value in terms of the subjective attainment value (the importance of attaining a goal or achieving an objective). Value belief according to Pintrich, Marx & Boyle (1993) means "the student's instrumental judgments about the potential usefulness of the content or task for helping him or her to achieve some goals such as getting into college or getting a job" (p.183).

In relation to the motivational consequences of this value system, it is suggested that value affects the valence of specific activities or situations for an individual and, therefore, is linked to action whether by approaching or avoiding (Eccles, and Wigfield, 1995). Task value reflects students' beliefs about whether the materials or skills they are learning or acquiring are useful, important or intrinsically fascinating. Although it was believed that perceived value was a relatively individualistic and extrinsic motive, it is a very crucial determinant of involvement, intrinsic motivation and also success or failure in a task partly depends on it. "The degree to which a particular task is able to fulfill needs, confirm central aspects of one's self-schema, facilitate reaching goals, affirm personal values and/ or elicit positive versus negative affective association and anticipated states is assumed to influence the value a person attaches to engaging in that task" (Eccles and Wigfield, 1995, p.216)

On the other hand, the overall classroom structure and school environment can influence students' perceptions of what can be considered as unique and useful for them whether instant value or future career, such as getting admission to high school or a good job. In relation to the nature of a task, Eccles and Wigfield (1995) argued that task value could be conceptualized in terms of four main factors; attainment of value, intrinsic value or interest, utility value, and cost.

While the first three factors were positive traits related to the benefit of engaging in a specific task, the cost factor was the loss that was associated to tasks such as anticipated anxiety and expected cost of failure. Nevertheless, Husman, Derryberry, Crowson & Lomax (2004) divided perceived value into two categories. The first category was referred to as utility or exogenous instrumentality. According to them “it relates to a task that is useful for jumping hurdles but not necessarily useful for fully realizing a long-term goal” (p.5). An example of utility value is a student who is intrinsically motivated in a course because it is a requirement to enter the college or any other higher institution. The second category of perceived value was instrumentality or endogenous instrumentality. A learner adopts this type of perceived value when involvement in a task is due to a long-term benefit and goal such as being intrinsically motivated to learn maths because a learner wants to be an engineer (Human et al., 2004).

Perceived value firmly relates to a student’s self-worth or self-schema. This means that “if a student sees him or herself as becoming a scientist – that is, a scientist is one of his/her possible selves, then the science content and tasks may be perceived as being more important, regardless of his or her mastery or performance orientation to learning” (Pintrich, et. al., 1993, p.183). Moreover, perceived task value and self-efficacy are positively correlated, and they influence learners’ self perception, enhance their self-esteem and promote their intrinsic motivation towards deep involvement in learning activities. As Eccles and Wigfield (1995) predicted in their study, adolescents’ perceptions of ability related more strongly to the attainment value (instrumentality) and intrinsic motivation in a task rather than to its perceived utility value. According to the researchers (Eccles and Wigfield, 1995), the perceived utility value of a task or an activity may be influenced by more than mere individual competence assessment or instant enjoyment, but comprehensively encompasses a broader cultural value, gender-role stereotyping, and so on. Moreover, utility value is determined by the individual learner’s belief in the usefulness of the task mainly for immediate usefulness, (e.g. help them cope with college) or in their major (e.g. for course improvement) or even for career and life in general (Pintrich, 1999). The studies (Husman & Lens, 1999; Zaleski, 1987; De Volder and Lens, 1982) found that long time benefit (instrumentality) in enhancing intrinsic motivation, persistence than utility. Moreover, De Volder and Lens (1982) found that highly motivated students in grade 11 (17 to 18 years old) attribute significantly more value to goals in the rather distant future (instrumentality) than do less motivated students.

According to Cordova & Leeper (1996), presenting learning activities with even abstract information in meaningful and interesting contexts will have significant positive effects on children’s interest, increase the value of the topic and foster their intrinsic motivation. In consensus with Cordova & Leeper’s findings, Krapp (2000) found that in the class where physics was taught as a scientific endeavour (providing the validity of physical laws) neither boys nor girls were enthusiastically motivated or attracted to the subject. However, both genders showed very strong motivation and curiosity when it was taught in relation to their lively environment and their world of experience. With respect to students’ effort or level of cognitive engagement, Pintrich & DeGroot (1990) found a positive relation between students’ valuing of academic tasks and their use of cognitive and self-regulatory strategies.

Moreover, psychologists also consider that making sense of the environment, overcoming challenges, enjoying individual self-efficacy, exercising control and valuing the learning outcomes are major predictors of intrinsic motivation and involvement (Hidi, 2000; Deci & Ryan, 1985). In accordance with this view, Ainley (1998) found two major variables as directors of student involvement in learning activities; these variables were satisfaction (positive effect) and opportunity (being value for their future life). Eccles and Wigfield (1995) found in their study of the high school adolescents that both their intrinsic motivation and the perceived task value and utility of the subject area predicted their future enrolment plan. Moreover, Miller, Behrens & Greene (1993) found that perceived value was moderately correlated with persistence and effort expenditure $F(1, 87) = 10.78$ $p < .01$, $MSE = .809$. This finding suggested that to get students deeply involved in learning activities, instructors must create learning materials that would fulfill these two criteria; feeling and value (Ainley, 1998).

Religious Motives

Islam considers education as fundamental to Islamic teaching and practice. This is explicitly understood from the first verses of the Quran, revealed to Prophet Mohammad that commanded him to seek and acquire knowledge. Allah says “Read! In the Name of your Lord, who has created (all that exists). Has created man from a clot. Read! And your Lord is the most generous, Who has taught (the writing) by the pen, Has taught man that which he know not” (Quran, 96, 1-5).

Semantically, this command does not connote the seeking of revealed knowledge alone, that is the reason Allah does not say (Read the name of your Lord), but rather it comprehensively encompasses both types of knowledge; revealed knowledge as well as acquired or contemporary knowledge. The act of reading, thus, according to the Arabic semantic of the Verses- should be general and comprehensive but with the belief that whether revealed or acquired knowledge, they are all from Allah, the Merciful (God). It simply means read everything but in the name of your Lord.

Furthermore, Allah also shows the importance of knowledge by praising intellectuality and learned people; He says “Are those who know equal to those who know not? But only those of understanding will pay heed” (Quran, 39, 9), “Allah will exalt in degree those of you who believe, and those who have been granted knowledge” (Quran, 58, 11). In a Hadith, on the authority of Abu-Umama (may Allah be pleased with him) who reported that Allah’s messenger (May peace and blessings of Allah be upon him) had said: The superiority of the learned one over the worshipper is like my superiority over the most contemptible among you. He added: Allah, his angels, the dwellers of heaven and the earth, even the ant in its hole and the fish (in water) invoke blessings on those who impart good knowledge to the people. Also, on the authority of Abu Ad-Darda’ (may Allah be pleased with him) who reported that he heard Allah’s messenger (May peace and blessings of Allah be upon him) saying: That who travels on a road in quest of knowledge, Allah will cause him to travel on one of the roads of paradise. The angels will lower their wings over the seeker of knowledge, being pleased with his occupation. The inhabitants of the heaven and the earth and the fish in the depth of water will seek forgiveness for him. The superiority of the learned man to the worshipper is like the moon over the rest of the stars. The learned are the heirs of the prophets who leave no inheritance of neither dinars nor dirhams but only of knowledge, and that who acquires it, acquires an abundant portion. These spiritual rewards motivated and inspired earlier Muslim scholars to be deeply involved in learning activities and use all their cognitive resources and metacognitive strategies to comprehend superb knowledge.

For more elaboration, Islam views education as a religious duty and an obligatory act in which its ultimate goal is cultivation of the mind or intellectuality that enlightens human beings on how to enjoy this life and the hereafter. It is also considered as holistic in nature; in which it concerns all aspects of the human being, “spiritual, intellectual, imaginative, physical, scientific, linguistic, both individually and collectively and should motivate these aspects toward goodness and attainment of perfection” (Muhammad Ahsan, 1999, p.8).

There is a strong relationship, based on Muslims’ understanding and perception, between piousness and intellectual ability. Earlier Islamic scholars considered seeking knowledge as an obligation of Islam in which their worships were not completed without it. That was the reason why great Islamic scholars such as Ibn Sina, Al-Gazali, Ibn Khaldoun, Al-Farabi and others were the most knowledgeable and among the most pious in their time. Moreover, many were involved in academic activities (teaching or acquiring) to seek Allah’s forgiveness, blessing and contentment since the Prophet (peace and blessings be upon him) equalized knowledge seekers and warriors in reward. Thus, their incentive knowledge seeking and piousness can be partially understood from their great contributions to the body of knowledge without external encouragement, prods and rewards. It can also be argued that religiosity is one of the numerous incentives of Muslims towards knowledge seeking. Unfortunately, research shows that Islamic nations are where the rate of the educated and research expenditures are very low compared to non-Islamic countries (nationmaster.com).

Although it was supported empirically that students’ perceived value and utility (Eccles & Wigfield, 1995; Pintrich & DeGroot, 1990; Pintrich, Marx & Boyle, 1993), were among the major incentive towards academic activities, little has been discovered about the role of religiosity in knowledge seeking. The researcher hypothesized, therefore, that when Muslim learners considered learning processes as an Islamic obligation, they would be more intrinsically motivated, perform better and contribute significantly to the body of knowledge. On the other hand, when the learning processes were performed as a means to an end (such as prestige, approval, admission to higher education and grades) they would be less intrinsically motivated, less persistent in the face of academic obstacles, and achieve little.

Therefore, this present study will examine the benchmark of perceived value’s factors to determine major determinants of Muslims’ incentive towards their academic exercise. The Rasch analysis was also employed evaluate the endorsibility, dimensionality and scale reliability of the perceived value scale.

Method

Instrumentation

The instrument was constructed to examine the predetermined perceived value factors such as utility, instrumentality and religiosity. The construction of utility and instrumentality's items was based on self-determination theory and was obtained from literature and related studies, while religiosity was mainly distracted from Islamic resources such as the Holy Qur'an and Sunnah. The first draft of scale led initially to 28 items and was validated by using various methods such as expert comment, data reduction (Principal Component Analysis), and by using Cronbach's alpha through SPSS program. The Cronbach's alpha which indicate the internal consistency of the scale for these three factors; utility, instrumentality and religiosity were .67, .78 and .66 respectively.

Sample

The total of 471 2nd year students from Matriculation center of International Islamic University Malaysia responded to the items by indicating the degree of agreement or disagreement with the content of the items. All participants completed the questionnaires with short demographic variables which requested on information regarding age, gender, previous school, year of study and CGPA. The items in the instrument were rated on a 7-interval scale ranging from (1) very strongly disagree to (7) strongly agree. Moreover, to evaluate the internal consistency of the items, Crobanch's alpha method, means and standard deviations were employed.

Principal Component Analysis

A principal component analysis with varimax was conducted for the perceived value construct. The analysis strategy involved an iterative process, whereby the items that did not contribute significantly and practically (i.e. those with loadings $<|.50|$ and those with factorial complexity) were automatically eliminated from the list (Hair, Anderson, Tatham & Black, 1998). These processes were repeated several times before the satisfactory factors were extracted and obtained. Based on rule of thumb, the factors with eigenvalues of 1 or greater were only considered as good factors and, therefore, had been retained. This criterion is meant to enhance the reliability and interpretability of the factors.

The analysis yielded a total of 3 interpretable factors with eigenvalues greater than one, which accounted for 68.99% of proportion variance in perceived value scores. Furthermore, the degree of intercorrelation among the items also reached the acceptable level, Barlett's test of Sphericity was statistically significant, $\chi^2(66) = 721.467$, $p = .001$, $KMO = .852$. The individual MSA indicated that correlation within the items ranged between .635 and .937 (see table for detail). Five items (items 1, 2, 3, 4, 5) loaded on the Utility factor, while six items (6, 7, 8, 9, 10, and 11) loaded on the Instrumentality factor. Moreover, another five items (12, 13, 14, 15, and 16) loaded on the Religiosity factor. The internal consistency of the items ranged from .807 to .843.

Table 1: Factor loading for perceived value items, Anti image, Means and Standard Deviations

| Item no | Items | Factor loading | | | MSA | M | SD |
|------------|---|----------------|-----------------|-------------|------|------|------|
| | | Utility | Instrumentality | Religiosity | | | |
| 1 | I think I will be able to use what I have gained in FKM courses in other courses. | .759 | | | .881 | 5.53 | 1.08 |
| 2 | It is important for me to learn the course materials in FKM classes to gain admission to the degree program | .824 | | | .848 | 6.38 | 4.89 |
| 3 | I think the course material in FKM classes is useful for me for the future of my academic endeavours. | .786 | | | .881 | 6.07 | 1.05 |
| 4 | I think doing my FKM courses will help me gain knowledge that is useful in my degree programme. | .623 | | | .856 | 6.20 | .93 |
| 5 | I am intrinsically motivated in my FKM courses when I learn things that can be applied to real life. | .525 | | | .893 | 5.92 | .96 |
| 6 | I like to engage in my FKM course activities when I believe they are valuable. | | .528 | | .937 | 5.78 | 1.11 |
| 7 | I think doing my FKM academic activities is useful for my future career. | | .780 | | .875 | 5.58 | 1.13 |
| 8 | I like to engage in my FKM course activities when they are useful for my future career. | | .764 | | .791 | 5.39 | 1.31 |
| 9 | I think my FKM courses are important because they can be related to my life experiences | | .568 | | .876 | 5.97 | 1.06 |
| 10 | I am motivated about a subject if it can give me practical skill that is useful for my life. | | .624 | | .861 | 5.98 | 1.01 |
| 11 | I believe commitment to my FKM learning activities will be beneficial to me. | | .613 | | .912 | 5.97 | .96 |
| 12 | I believe learning is commanded by Allah, thus when I am studying I am fulfilling the obligation. | | | .638 | .781 | 6.24 | 1.09 |
| 13 | By learning I will prepare myself for high-level academic standards that Islam requires of me. | | | .761 | .742 | 6.05 | 1.15 |
| 14 | As a Muslim, I view learning as compulsory regardless of whether I can get a job or not. | | | .529 | .635 | 5.52 | 1.53 |
| 15 | I would like to further my studies even after I have completed my first degree because Islam requires me to seek knowledge. | | | .719 | .708 | 6.15 | 1.18 |
| 16 | As a Muslim, I believe I should seek knowledge continuously. | | | .632 | .709 | 5.93 | 1.56 |
| Eigenvalue | | 5.20 | 1.34 | 1.10 | | | |
| Alpha | | .67 | .78 | .66 | | | |

Assessment of Scale Dimensionality and Construct Validity

The main purpose of using the Rasch analysis in this study is to extend the evidence of construct validity (Messick, 1995), to explore dimensionality, endorsibility and produce estimates of item and person score reliability. The Rasch model, unlike other conventional statistical techniques, emanates from the principle of items and person invariance. This means that the Rasch model has an enormous ability to deal with and assess the ability and difficulty of items and respondents simultaneously (Bond, 2003). Researchers (Harwell and Gatti, 2001; Bond and Fox, 2001) proved empirically that conventional test theory failed to take into account the features of items or to provide information about the reliability of the estimated scores considering the characteristics of the item and the ability of the persons together.

Traditionally, the sum of squared would be observed and the highest mark would be judged as the most able to endorse a specific item or test. They also fail to provide the standard errors for every person and items to estimate the overall accuracy of the measurement. The errors, according to Stone (2002), can be aggregated, squared and summed to produce a correct average error variance for the sample or any subset of persons and for the items or any subset of items. “With Rasch measurement analysis, we are able to obtain the standard error calibration for each individual item as well as the standard error of measurement of each person ability. With traditional methods, a single standard error of measurement is provided and only for measures at the group mean of person ability. The standard error specific to each item and person statistics is far useful than any single sample or test average” (Stone, 2003, p.18).

Moreover, it was suggested that the problem of inconsistency of the findings in human sciences, psychology, and especially in education research could be resolved by paying more attention to items measurement (Waugh, 2002; Bond & Fox, 2001)

By using this measurement technique, the researcher wants to achieve many goals. First, an interval scale would be created in which both items and respondents would be calibrated on the same scale. Second, the conceptualization of the construct validity would be extended beyond the conventional perception to be more flexible and more comprehensive in which features of items and characteristics of respondents would simultaneously be taken into consideration. In addition, the study would provide adequate information about each person and each item’s standard error as well as the overall standard error for persons and items. Bond and Fox (2001) suggested that the same attention that researchers gave to the literature review, statistical techniques, and hypotheses testing should also be given to the item measurement if inferences were to be applied on their studies. Thus, this study aims to examine whether the items and respondents show the same underlying latent trait, the validity of each construct, and endorsibility of the items.

In other words, to obtain statistical information to assess the extent to which each construct of the data fits a unidimensional model. Thus, by employing the Rasch model, two fundamental item examinations would be achieved. First, item difficulty, “which represents the point of the proficiency scale as which the probability of a correct response is one half” (Harwell and Gatti, 2001, p.7). The items average difficulties, therefore, have a difficulty parameter near zero and the items that are more difficult would be located in positive logits, while the relatively easier would be positioned in the negative logits. Second, the reliability of items as well as persons, because determination of scale reliability should go beyond the traditional assessment of reliability which operationally would encompass the contribution from the items and contribution from the persons. This consideration of items’ and persons’ contributions is a unique opportunity to assess the general reliability of the scale, an opportunity that is not available in conventional statistical methods (Harwell & Gatti, 2001; Stone, 2002).

Rasch calibration was carried out by using the WINSTEPS program version 3.54.1 developed by Linacre (1991-2004). WINSTEPS provides two mean square fit statistics; infit and outfit. The infit statistics “is an information-weight sum” and outfit “is based on conventional sum of squared standardized residuals” (Bond & Fox, 2001, p.176). Both infit and outfit are means square divided by their respective degrees of freedom, with an expected value of +1 and a range from 0 to positive infinity (Bond & Fox, 2001; Silver, Smith & Greene, 2001). The infit statistics are insensitive to unexpected responses to items far from a person’s ability, while outfit is sensitive to unexpected ratings far from a person’s ability. According to Silver et al. (2001), mean square statistics less than one (<1) suggested redundancy, dependency or constraint of data, while mean squares greater than one (>1) evidenced unexpected variability, inconsistency or extremism. Bond & Fox (2001) demonstrated that by saying infit e.g. 1.30 indicated 30% variation between the actual score and Rasch predicted score, while an outfit means square value of say 0.78 ($1 - 0.22 = .78$) showed 22% less variation in the observed score than modeled. Thus, the test of infit evaluates the consistency of item parameters across the person measured for each item. Data is combined across all items to provide an overall test of fit. On the other hand, the test of outfit shows the collective agreement for all items across persons. This is to support that item difficulties are consistent and stable (Waugh, 2001). It is worth noticing that the less variation between the actual score and the expected by the Rasch model is more desirable.

An acceptable range for both infit and outfit mean square fit statistics is .60 to 1.40 (Wright & Linacre, 1994). The values within this range are considered relatively close enough to the perfect fit of the Rasch model.

It is worth mentioning that the more the infit mean square and outfit mean square are further from an accepted range, the more other aspects are believed to play a role in determining the pattern of responses (Bond, 2001). Furthermore, in addition to infit and outfit means square, an index of reliability, and error estimation was also provided.

Result of the Analysis

Calibration of the 16 perceived value items found an appropriate fit to the Rasch model for all. The mean square infit square ranged between .73 to 1.34, and the outfit mean square ranged between .61 to 1.37. The average person measure was 1.33 logits with Standard Deviation of .72. The person separation reliability of .84 indicated that the perceived value estimates were well dispersed along the perceived value continuum. Items separation reliability was .99, indicating high reliability of items and that the items were well spread out long the perceived value continuum. The Standard Deviation (SD) of the item calibration was .43

Table 2: Summary of 489 Measured (Non-Extreme) Persons

| | RAW SCORE | COUNT | MEASURE | MODEL ERROR | INFIT | | OUTFIT | |
|---------------------------|-----------|--------|---------|-------------|-------|--------------------|--------|------|
| | | | | | MNSQ | ZSTD | MNSQ | ZSTD |
| MEAN | 95.4 | 15.9 | 1.33 | .28 | 1.02 | .0 | 1.06 | .0 |
| S.D. | 12.8 | .6 | .72 | .09 | .51 | 1.4 | .84 | 1.4 |
| MAX. | 110.0 | 16.0 | 2.48 | .53 | 5.22 | 6.6 | 9.90 | 6.5 |
| MIN. | 33.0 | 5.0 | -2.09 | .21 | .11 | -4.3 | .11 | -4.2 |
| REAL RMSE | .31 | ADJ.SD | .65 | SEPARATION | 2.08 | PERSON RELIABILITY | .81 | |
| MODEL RMSE | .29 | ADJ.SD | .66 | SEPARATION | 2.26 | PERSON RELIABILITY | .84 | |
| S.E. OF PERSON MEAN = .03 | | | | | | | | |

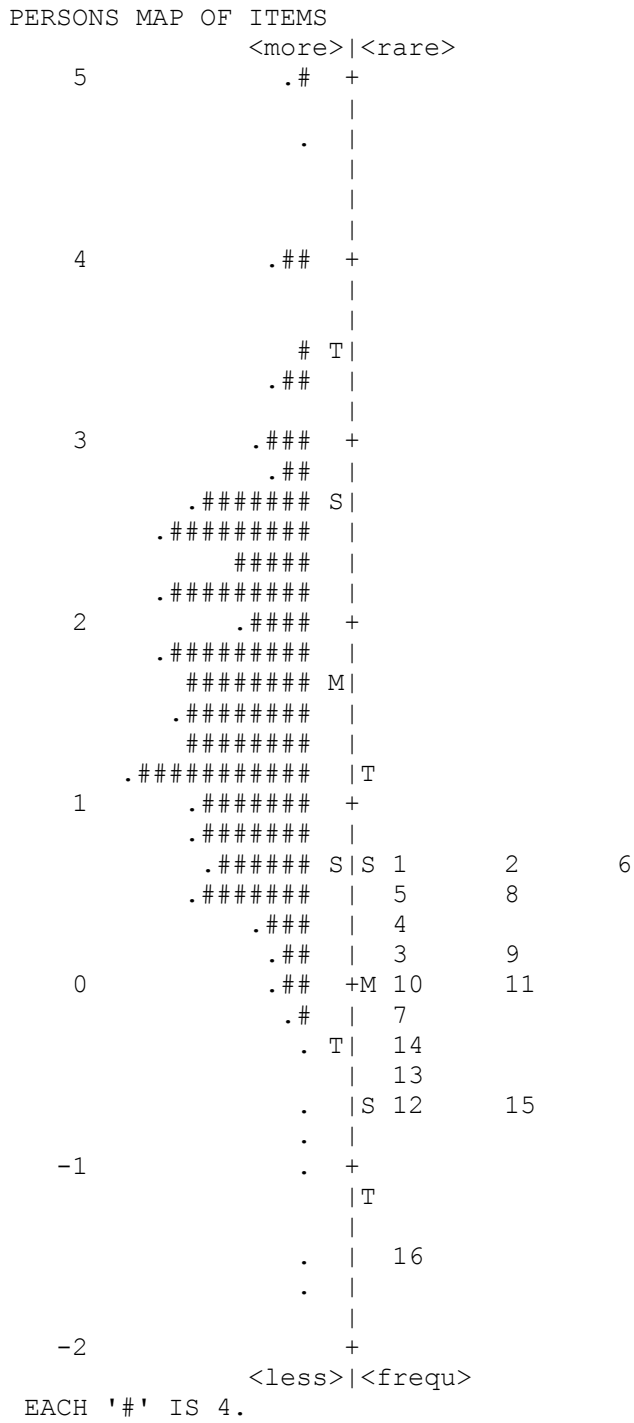
However, the rating scale (1-7) did not perform accordingly and the respondents haphazardly answered the questionnaires. Therefore, the researcher collapsed categories that did not act appropriately. Categories one and two were collapsed together (very strong disagree + strongly disagree) and categories six and seven (strongly agree + very strongly agree) also formed one scale. As a result, the item and person reliability slightly increased and the infit and outfit means square showed better fit.

Table 3: Summary of 16 Measured (Non-Extreme) Items

| | RAW SCORE | COUNT | MEASURE | MODEL ERROR | INFIT | | OUTFIT | |
|-------------------------|-----------|--------|---------|-------------|-------|------------------|--------|------|
| | | | | | MNSQ | ZSTD | MNSQ | ZSTD |
| MEAN | 2914.3 | 487.1 | .00 | .05 | 1.01 | .0 | 1.06 | .2 |
| S.D. | 194.7 | .9 | .43 | .01 | .16 | 2.2 | .29 | 2.3 |
| MAX. | 3279.0 | 488.0 | .53 | .07 | 1.34 | 4.5 | 1.82 | 5.5 |
| MIN. | 2631.0 | 485.0 | -.98 | .04 | .73 | -4.3 | .59 | -4.2 |
| REAL RMSE | .05 | ADJ.SD | .42 | SEPARATION | 8.61 | ITEM RELIABILITY | .99 | |
| MODEL RMSE | .05 | ADJ.SD | .42 | SEPARATION | 8.95 | ITEM RELIABILITY | .99 | |
| S.E. OF ITEM MEAN = .11 | | | | | | | | |

However, Figure 1 of the map variable showed that the extreme of perceived value distribution did not have parallel items in the same relative location. This lack of interaction contributed to less measurement precision for the extreme of the person distribution. This means that the range of item difficulties does not cover the range of perceived value scores at the high end of the scale (Waugh, 2003). It is strongly recommended that items need to be developed to assess the insufficiency of the perceived value continuum, that correspond more directly to the scale values of those with high perceived value.

Figure 1: variable map of person measures and items calibrations for perceived value

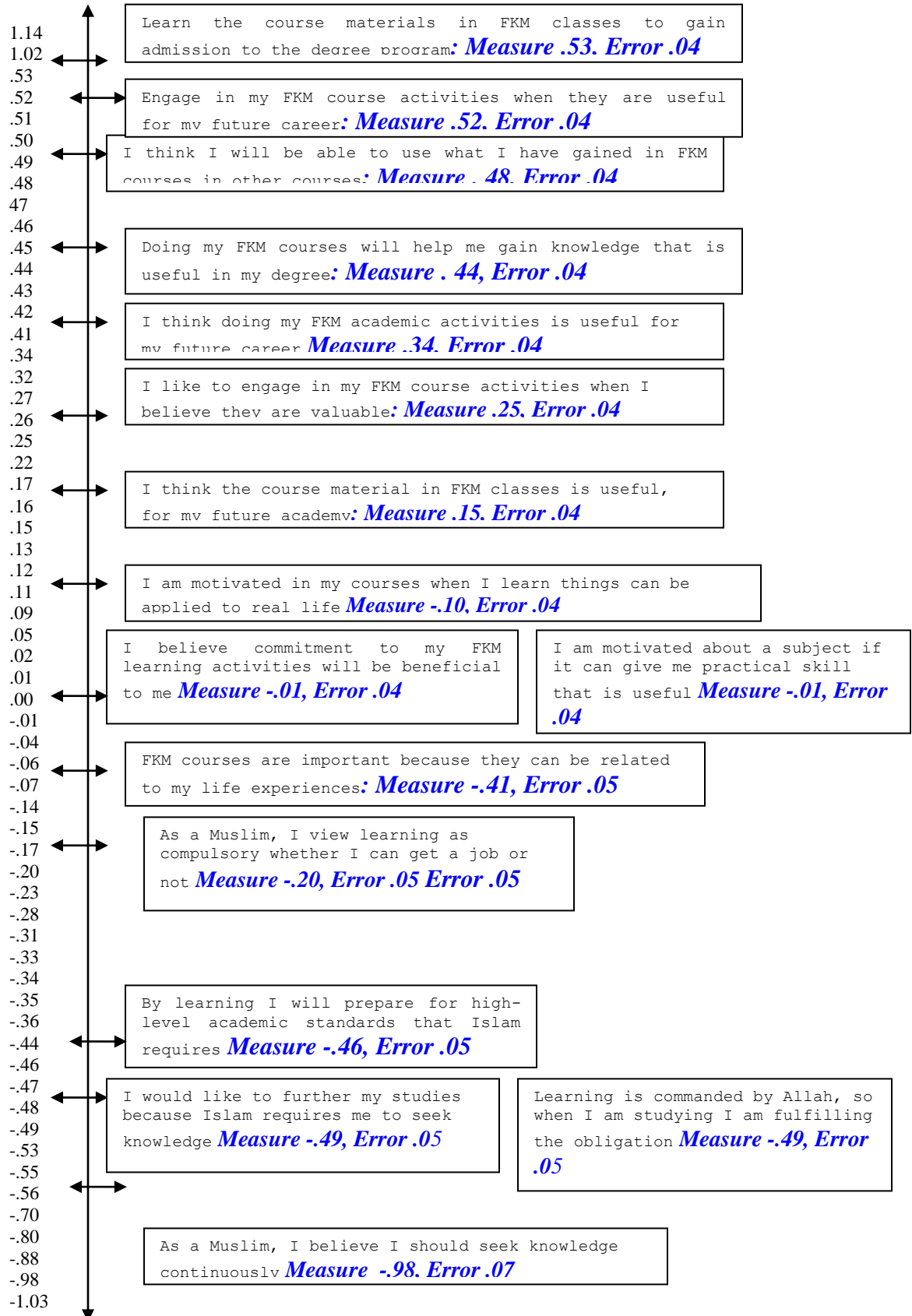


Benchmark Analysis

Diagram1 represents the degree to which of each item has been endorsed by students. According to the diagram, item 16 “As a Muslim, I believe I should seek knowledge continuously”, item15 “I would like to further my studies even after I have completed my first degree because Islam requires me to seek knowledge”, item12 “I believe learning is commanded by Allah, thus when I am studying I am fulfilling the obligation” item13 “By learning I will prepare myself for high-level academic standards that Islam requires of me” and item 14 “As a Muslim, I view learning as compulsory regardless of whether I can get a job or not” were the easiest items to endorse by the students. These items were representing religiosity factor.

The measure and error for each of these items were (E -.98, error .07, E -.49, error .05, E -.49, error .05, E-.45, error .05, E -.20 error .05) respectively. Interestingly, utility items were considered relatively as the most difficult items to endorse by respondents. For example, item 2 “It is important for me to learn the course materials in FKM classes to gain admission to the degree program”, item1 “I think I will be able to use what I have gained in FKM courses in other courses” item 4 “I think doing my FKM courses will help me gain knowledge that is useful in my degree programme” with measures and errors of (E .53, error .04, E.48, error .04, and E .44, error .04) correspondingly. However, instrumentality items were reasonably easier to endorse compared to utility items. The analysis revealed that item 9 “I think my FKM courses are important because they can be related to my life experiences” item 10 “I am motivated about a subject if it can give me practical skill that is useful for my life” and item 11 “I believe commitment to my FKM learning activities will be beneficial to me” were moderately easy to endorse with measures and errors of -.41, error .05, -.01, error .04 respectively

Diagram1: Rasch Rating Scale Analysis: Map of Factors Defining with Means and Errors



Discussion

This study found three distinguishable factors for the perceived value construct as previously hypothesized. These factors were utility, instrumentality and religiosity. This suggested that the underlying factors of perceived value were obtained as previously hypothesized. The measurement model analysis also indicated that the three factors were well fitted to the model since there was a lack of evidence of any offending estimates, such as negative variance in the results. The Rasch analysis suggested that religiosity item were considered the easiest items to endorse by respondents followed by instrumentality items and then utility items. This result indicated that religion factors was the major incentive of Muslim students towards academic exercises, followed by long-term benefit. This finding was in accordance with previous studies that the long-term benefits (instrumentality) promote intrinsic motivation more than short-term benefits (utility). Zaleski (1987) in his comparison between utility and instrumentality found that an individual with instrumentality is more persistent in working for a targeted goal and has more satisfaction from such present goal oriented actions.

Moreover, De Volder and Lens (1982) found that highly motivated students in grade 11 (17 to 18 years old) attribute significantly more value to goals in the rather distant future (instrumentality) than do less motivated students. It was also empirically supported that students in grade 11 (age 17 to 18) who perceived their education as important for their future are significantly more motivated than their counterparts who do not share the same perception (Van Calster et al., 1987). Studies also asserted that task value is an important incentive towards learning (Eccles, Adler & Meece, 1984) and it is associated with adaptive behaviour and positive motivation toward learning activities (Husman & Lens, 1999). This means that when a learner struggles to be successful in the academic arena, it does not mean he/she is only intrinsically motivated and satisfied but rather because the task is giving him/her hope for the future and creating an opportunity for his/her future career.

However, caution should be exercised not to overemphasize the significance of the perceived value. According to Husman and Lens (1999) utility and instrumentality factors are insufficient factors to motivate students, because goal setting, autonomy, self efficacy and feeling of relatedness play significant roles in students' motivation towards academic endeavours. Nevertheless, although Husman and Lens (1999) contended that perceived value can be extended beyond the life span, they did not examine empirically or even elaborate the position of the religiosity factor in the perceived value construct.

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