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3. Commentary article on theories and models – Issues on previous theories and models are acceptable.

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Achievement Goals, Implicit Theories and Behavioral Regulation among Polytechnic Engineering Students

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Abstract

This study examined the relationships between the approach-avoidance dimension, as well as the mastery-performance dimension of achievement goals, implicit theory of intelligence, and behavioral regulations among engineering students in a polytechnic in the academic domain. Polytechnic students (n = 1359) from Singapore participated in the survey. They were assessed on achievement goal orientations, implicit beliefs, behavioral regulations, values, effort and enjoyment towards their course of study using questionnaires. Cluster analysis was conducted and the results showed that five distinct clusters could differentiate the students in terms of their achievement goals profiles. Follow-up tests between the clusters showed that the five clusters had differing psychological characteristics, and differing values, effort, and enjoyment towards their course of study. Taken together, the present study offers some insights into intraindividual’s differences in achievement goals and its impact and offers some useful implications for interventions.

Keywords: cluster analysis, motivation, implicit theories, self-determination theory, achievement goals

Introduction

One of the most critical influences on students’ level of cognitive engagement in school work or their choice of cognitive strategies is their motivation to learn. For years, motivation has been a central topic in educational and psychological research. Researchers are interested to find out why and how some students strive and excel in schools, while others struggle and drop out of the academic world. To understand these complex behaviors in achievement setting, many researchers advocate the adoption of a theoretical stance to advance our understanding beyond descriptive data. However, with so many theories being proposed and debated, motivational research may appear to be diffused and fragmented. No one single theory has yet to claim the ability to explain motivated behavior in its entirety. Therefore, there is a need to use a combination of theories to understand complex human motivation (Roberts, 1992; Weiner, 1992). The purpose of this study was to examine the motivational profiles using a combination of achievement goal theory, implicit theories of intelligence, and self-determination theory at an intraindividual level (within person).
Achievement Goal Theory

The achievement goal approach to achievement motivation has been tremendously helpful in acquiring an understanding of affect, cognition, and behavior in academic setting. This approach has not only been fruitful on the conceptual level, but has also produced clear guidelines for application and intervention. The traditional achievement goal theory was proposed by Nicholls (1989). This theory proposes that individuals’ goal orientation and perceived ability contribute to affective outcomes in a given achievement setting. A key assumption of this approach is that the goal of action is the demonstration of competence. Therefore, the perception of ability becomes a central variable. Two major achievement goals interact with perceived competence in determining different cognitive, affective and behavioral outcomes. The first goal is mastery goal which focuses on self-referenced mastery or learning how to improve on the task. The second goal perspective is performance goal which emphasizes on normative comparison of ability or performance relative to others. It was hypothesized that mastery-oriented individuals, regardless of their levels of perceived competence, would tend to exhibit positive or adaptive motivated behavior. Similarly, performance-oriented individuals with high perceived competence should also have adaptive motivational patterns (Dweck, 1986; Nicholls, 1984, 1989). However, those with low perceived competence are likely to be motivationally fragile and would exhibit maladaptive motivational responses.

Recently, Elliot and his colleagues (Elliot, 1997; Elliot & Harackiewicz, 1996) have argued that a full account of achievement goals requires attention to the approach-avoidance distinction in addition to the traditional mastery-performance distinction. In the achievement domain, approach goals focus on attaining competence, whereas avoidance goals focus on avoiding showing incompetence. Elliot conducted a few laboratory experiments and found that it was possible to distinguish performance goals into approach and avoidance tendencies. He later found the same results for mastery goals. As a result, Elliot & McGregor (2001) proposed a 2 x 2 achievement goal framework that fully incorporates the mastery-performance and approach-avoidance distinctions. Crossing these two dimensions yields four achievement goals: mastery-approach (focused on task-based or intrapersonal competence, e.g. “I want to learn as much as possible from this class”), mastery-avoidance (focused on task-based or intrapersonal incompetence, e.g., “I am often concerned that I may not learn all that there is to learn in this class”), performance-approach (focused on normative competence, e.g., “It is important for me to do better than other students”), and performance-avoidance (focused on normative incompetence, e.g., “My goal in this class is to avoid performing poorly”)

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Recent studies using the 2 x 2 achievement goal framework provide some evidence that each achievement goal predicted a different pattern of achievement-relevant process and outcomes. In general, it was found that mastery-approach and performance-approach goals contribute to positive effects and consequences, while mastery-avoidance and performance-avoidance goals predict and produce less adaptive motivational patterns (Elliot & McGregor, 2001; McGregor & Elliot, 2002). In the physical education context, Wang and his colleagues (Wang, Biddle, & Elliot, 2007; Wang et al., 2008) found that a person may endorse multiple goal perspectives, therefore, looking at the independent effect of each goal may not reveal a complete picture of the person’s achievement motivation. For example, Wang et al. (2007) found four clusters of students with homogenous characteristics based on their achievement goals. The first cluster was a “moderate achievement goals” profile with all four achievement goals close to a standard score of zero. The second cluster consisted of students with a “low achievement goals” profile, in which the achievement goal scores are consistently around $Z = -1.00$. The third cluster was a “high achievement goals” profile with scores of mastery-approach, performance-approach, and performance-avoidance goals above $Z = 1.00$, and mastery-approach goal scores above $Z = 0.50$. Finally, a fourth cluster was labeled as “mastery achievement goals,” as it consisted of students with high mastery-approach and mastery-avoidance goal scores, and moderate performance-approach and performance-avoidance goal scores.

**Implicit Theory of Intelligence**

In the academic domain, Dweck and her colleagues (Dweck, 1986, 1999; Dweck & Leggett, 1988) suggest that the development of different goal orientations in academic achievement may be due to the beliefs about the nature of intelligence. Two types of implicit theories of intelligence exist underpin the types of goals adopted. An entity belief – a belief that intelligence is fixed and uncontrollable trait may foster an ego or performance orientation because pursuing such a goal favors positive judgment of ability or prevents negative judgment of it (Dweck & Leggett, 1988). An incremental belief – a belief that intelligence is malleable and controllable quality fosters a task or mastery orientation because it provides the opportunity for learning and improvement. A few studies have provided supporting evidence for such proposals (see Dweck, 1999; Spray, Wang, Biddle, Chatzisarantis, & Warburton, 2006). In terms of achievement behaviors, studies have showed that when challenged, those with entity beliefs showed detrimental performance, negative affects and cognitions. On the other hand, those with incremental beliefs tend to show more adaptive motivational patterns, such as persistence, positive affect and effective problem solving strategies (Dweck, 1986; Mueller & Dweck, 1998; Wang & Biddle, 2001). Mastery and
performance achievement goals have typically been conceptualized as “approach” motivation. With the recent addition of avoidance dimension to achievement goals, the relationships between implicit theories of intelligence with the new addition approach-avoidance dimension of achievement goals are still not clear. In the present study, we attempt to examine these relationships as the information could be useful in understand a range of negative processes and outcomes associated with the avoidance dimension.

**Self-Determination Theory**

In an attempt to understand motivated behavior, Deci and Ryan (1985; Ryan & Deci, 2000a, 2000b) propose that motivation should be viewed as a multidimensional construct, and not a simple dichotomous concept. They present a more differentiated view of motivation in the self-determination theory (SDT) to explain the perceived forces that regulate behavior in various settings. In general, there are three categories of motivation along a self-determination continuum. Intrinsic motivation represents the motivation when one is doing something for its own sake and not for external rewards. Extrinsic motivation involves doing something as a means to an end. A state of amotivation also exists as one of the regulatory processes in the self-determination continuum. It refers to the relative lack of motivation where an absence of contingency between actions and outcomes is perceived, and reasons for continual involvements cannot be found (Pelletier et al., 1995; Vallerand & Fortier, 1998). According to Deci and Ryan (1985), amotivation is labelled as the ‘external boundary’ of extrinsic motivation, and is somewhat similar to feelings of helplessness.

There are at least three main types of regulatory processes within extrinsic motivation: external regulation, introjected regulation, and identified regulation. External regulation is characterized by behavior that is controlled by external forces, such as rewards or punishments. Introjected regulation pertains to behavior controlled by internal pressure to act, such as avoidance of guilt and shame. Identified regulation involves acting out because the behavior is seen as personally important.

Research has shown motivational benefits of more self-determined behavioral regulations in the classroom (e.g., Liu, Wang, Tan, Ee, & Koh, 2009; Ryan & Connell, 1989), as well as in physical activity contexts with young people (e.g., Chatzisarantis, Biddle, & Meek, 1997; Goudas, Biddle, & Fox, 1994; Wang & Biddle, 2001). In Ryan and Connell’s (1989) study, external and introjected regulations in school children were related to anxiety and maladaptive behavior when faced with failures. On the other hand, identified regulation and intrinsic regulation were positively related to enjoyment and effort. More self-determined regulations were found to be related to mastery-approach and incremental beliefs and more controlled regulations were associated with performance-approach and entity beliefs.
(Biddle, Wang, Chatzisarantis, & Spray, 2003; Spray et al., 2006; Wang & Liu, 2007). Given the empirical links between achievement goals, implicit beliefs, and behavioral regulations, it is important to validate the multivariate relationships between these theories to further our understanding of human motivation, particularly with the inclusion of the approach-avoidance dimension of the achievement goal theory.

**Purpose of Study**

The main purpose of the present study is to examine the relationships between the 2 x 2 achievement goals, implicit theories of intelligence, behavioral regulations, and motivational outcomes among polytechnic engineering students using a cluster analytic approach. Cluster analysis is a multivariate approach which allows the identification of subgroups of sample with homogenous characteristics based on the contemporary indicators of motivation. It may provide insights to the extent in which these motivational constructs are interrelated in a person, therefore, offers a way for conceptual convergence. Specifically, three research questions were formulated:

1) Are there subgroups of polytechnic engineering students with distinct profiles based on achievement goals? What are the characteristics of each goal profile?
2) What are the relationships between the different profiles in terms of their implicit theories and behavioral regulation?
3) What are the related motivational outcomes in terms of effort, value, and enjoyment among students in the different goal profiles?

**Method**

**Participants and Procedure**

A total of 1359 polytechnic students in Singapore took part in the study. These students (n = 1197 males, n = 128 females, 34 missing) were attending a three year diploma course in engineering. They were aged between 18 to 28 years old (mean = 20.18, sd = 0.48). Participants were informed that there were no right or wrong answers, assured of the confidentiality of their responses, and encouraged to ask questions if necessary. Completion of questionnaires took about thirty minutes. Permission for the study was granted by the director of the school, and no students refused to take part.
Measures

2 X 2 Achievement Goal Questionnaires (AGQ). Elliot and McGregor’s (2001) 12-item AGQ was used to measure achievement goals in the classroom context. This questionnaire comprises four subscales (mastery-approach, mastery-avoidance, performance-approach, and performance avoidance). Examples of items are as follows: ‘I want to learn as much as possible from my course’ (mastery-approach), ‘I am often concerned that I may not learn all that there is to learn in this course’ (mastery-avoidance), ‘It is important for me to do better than other students in my course’ (performance-approach), ‘My goal in this course is to avoid performing poorly’ (performance-avoidance). Participants responded on 5-point Likert-type scale ranging from ‘not at all true for me’ (1) to ‘very true for me’ (5). The internal consistency coefficients of the mastery-approach goal (α = .79), performance-approach goal (α = .88), mastery-avoidance goal (α = .79), and performance-avoidance goal (α = .73) were satisfactory.

Implicit theory of Intelligence. The implicit theories of intelligence scale from Dweck (1999) was used to measure entity and incremental theory of intelligence. Incremental beliefs were assessed through 4 items (e.g., ‘No matter who you are, you can significantly change your intelligence level’). Entity beliefs were also measured through 4 items (e.g., ‘you have a certain amount of intelligence, and you can’t really do much to change it’). All responses were made on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The internal reliability coefficients for incremental beliefs (α = .88) and entity beliefs (α = .86) were satisfactory for the present sample.

Perceived Locus of Causality. The Perceived Locus of Causality (PLOC) scale developed by Ryan and Connell’s (1989) was adapted to assess four types of regulation in academic setting. The stem for all items was ‘I do my work in my course...’. Four items were used to assess both external regulation (e.g., ‘... because I’ll get into trouble if I don’t’) and introjected regulation (e.g., ‘... because I’ll feel bad about myself if I didn’t’). Identification (e.g., ‘... because I want to improve in my course’) and intrinsic regulation (e.g., ‘... because my course is fun’) were measured using three items each. The alpha coefficients were .76 for external regulation, .64 for introjection, .73 for identification, and .79 for intrinsic motivation. An overall relative autonomy index (RAI) was calculated by weighting each subscale to indicate the level of autonomy in the following way: external regulation (-2) + introjection (-1) + identification (+1) + intrinsic regulation (+2). The final RAI measure serves as an indicator of a person’s overall motivational regulation with positive scores representing more autonomous regulation and negative scores representing more controlled regulation.
Motivational outcome variables. Three subscales of the Intrinsic Motivation Inventory were selected to assess enjoyment, effort and value (McAuley, Duncan, & Tammen, 1989). There were seven items for enjoyment, e.g., ‘I would describe my course as very interesting’), five items measures effort, e.g., ‘I put a lot of effort into my course’, and seven items for value, e.g., ‘I believe doing this course could be beneficial to me’. A 5-point scale was used, similar to all the above measures. The internal consistency coefficient for enjoyment was .87, for effort was .77 and for value was .79.

Data Analysis

Cluster analysis was used to identify homogenous groupings of participants with distinct patterns of achievement goals. Following that, we examined the cluster profiles related to implicit theory of intelligence, and behavioral regulations. To further test the concurrent validity of the clusters, we examined the cluster differences in value, effort and enjoyment. One-way MANOVA and follow-up ANOVAs were conducted, followed by post-hoc tests using Tukey’s HSD.

Results

Descriptive Statistics

The means, standard deviations, internal consistency and Pearson product-moment correlations coefficients of the key variables of the overall sample are presented in Table 1. Overall, the participants held high mastery-approach and performance-avoidance goals. They had high incremental beliefs, and low entity beliefs. They also had positive RAI scores towards their course of study. The value, effort exerted and enjoyment for the course were relatively high among the participants. Mastery-approach goals had a positive relationship with performance-approach goal, both types of avoidance goals, incremental beliefs, RAI, value, effort and enjoyment. Performance-approach goal had a moderate and positive relationship with performance-avoidance goals, value, enjoyment, and effort. Mastery-avoidance goals were correlated with performance-avoidance and entity beliefs. Finally, performance-avoidance goals had a small association with incremental beliefs and value.
To examine whether there were main gender and year main effects on the main clustering variables, a two-way MANOVA were conducted. The results of the MANOVA showed that there were no significant multivariate effects on gender, as well as age effect ($\text{Wilk's } \lambda = .985$, $F(4, 673) = .76$, $p = .55$, $\eta^2 = .005$, for sex, and Wilk's $\lambda = .979$, $F(12, 1780) = 1.20$, $p = .27$, $\eta^2 = .007$, for age). No interaction effects were found too. Therefore, further analyses were conducted with the combined sample.

Cluster Analysis

A hierarchical cluster analysis was conducted using SPSS for Windows (Version 18.0). The four achievement goals were used to classify students into homogenous groups. Before the analysis, all the main variables were converted to standardized Z scores ($m = 0$, $sd = 1$). This will prevent variables measured in larger units from contributing more towards the distance measured than the variables utilizing smaller units (Everitt, 1993). For example, RAI has a range of $-12$ to $12$, compared to other measures with range from $1$ to $5$.

Ward’s method was chosen as the clustering method as this method minimizes the within-cluster differences and to avoid problems with forming
long, snake-like chains found in other methods (Aldenderfer & Blashfield, 1984). The agglomeration schedule and dendrogram were used to identify the number of clusters. Table 2 shows the agglomeration schedule for the last seven stages and percentage changes in coefficient to the next level. The clustering coefficient shows the first large increase (10.9%) when five clusters merged to four clusters. This implies that two dissimilar clusters are joined (Hair, Anderson, Tatham, & Black, 1998). Therefore, a five-cluster solution was found suitable.

**Table 2**

*Analysis of Agglomeration Coefficients for Hierarchical Cluster Analysis*

<table>
<thead>
<tr>
<th>No. of Clusters</th>
<th>Agglomeration coefficient</th>
<th>% change in coefficient to next level</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>2733.1</td>
<td>6.4</td>
</tr>
<tr>
<td>6</td>
<td>2907.3</td>
<td>6.1</td>
</tr>
<tr>
<td>5</td>
<td>3086.2</td>
<td>10.9</td>
</tr>
<tr>
<td>4</td>
<td>3422.6</td>
<td>10.5</td>
</tr>
<tr>
<td>3</td>
<td>3783.3</td>
<td>12.0</td>
</tr>
<tr>
<td>2</td>
<td>4237.3</td>
<td>27.1</td>
</tr>
<tr>
<td>1</td>
<td>5384.0</td>
<td></td>
</tr>
</tbody>
</table>

The cluster size, means, standard deviations, and z-scores of the five clusters are shown in Table 3. Figure 1 shows the graphical representation of the five cluster profiles. Z scores of +/-0.5 or greater were used as criteria to describe whether a group scored relatively ‘high’ or ‘low’ in comparison to their peers.

**Table 3**

*Cluster Means, Standard Deviations, and z Scores for the Five-Cluster Solution of the Cluster Analysis*

<table>
<thead>
<tr>
<th>Cluster</th>
<th>MastApp / perf perf (N = 264)</th>
<th>MastApp / low perf (N = 122)</th>
<th>Low mast / high perf (N = 357)</th>
<th>High mast / high perf (N = 257)</th>
<th>Low mast / low perf (N = 347)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>.439</td>
<td>.49</td>
<td>.66</td>
<td>4.31</td>
<td>.51</td>
</tr>
<tr>
<td>SD</td>
<td>.56</td>
<td>.56</td>
<td>.56</td>
<td>.55</td>
<td>.38</td>
</tr>
<tr>
<td>Z</td>
<td>.56</td>
<td>.56</td>
<td>.56</td>
<td>.56</td>
<td>.38</td>
</tr>
</tbody>
</table>

1. MastApp
2. PerfApp
3. MastAvo
4. PerfAvo

Note. mastApp = mastery-approach, perf = performance, mast = mastery
Profiles of the Achievement Goal Cluster

The first cluster can be labeled as the ‘High Mastery-approach/moderate performance’ group. There were 264 participants in this cluster (19.6%). The characteristics of this cluster were that they had high mastery-approach and very low mastery-avoidance goals, with moderate levels of performance goals (both approach and avoidance). The second cluster had high mastery-approach goals and moderate mastery-avoidance goals, and very low performance-approach and performance-avoidance goals. This cluster was labeled as ‘high mastery-approach/low performance’ group and consisted of 122 participants (9.1%). The third cluster had the highest proportion of the sample (26.5%, n = 357). This cluster had ‘low mastery-approach/high performance’. Mastery-approach goal was relatively low among this cluster. The fourth cluster consists of 257 students (19.1%). The unique characteristics were distinctly high levels of performance and mastery goals, in both approach and avoidance dimensions. This cluster was labeled as ‘high mastery/high performance’. The final cluster can be labeled as the ‘low mastery/low performance’ (Cluster 5). There were 347 participants in this cluster (25.8%). The characteristics of this cluster were that they had very low master and performance goals, in both approach and avoidance dimensions.
Cluster Differences in Implicit theories of Intelligence and Behavioral Regulation

In order to check the differences between the five clusters in terms of their implicit beliefs and behavioral regulations, a one-way MANOVA was conducted. The results showed that the five clusters differed significantly in incremental beliefs, entity beliefs, and RAI, Pillai’s Trace = .231, $F(12, 4026) = 27.98, p < .001, \eta^2 = .08$. Test of between-subjects effects indicated significant differences existed for all three dependent variables (all ps < .001). The results are presented in Table 4 with the means and standard deviations of the dependent variables for the five clusters.

Post-hoc tests using Tukey’s Honestly Significant Difference (HSD) were conducted to examine the pairwise comparison between the five clusters. Results showed that clusters 1, 2, and 4 had significant higher scores in their incremental beliefs compared to clusters 3 and 5 (all ps < .01). In terms of entity beliefs, clusters 3 and 4 had much higher scores than clusters 1, 2, and 5 (all ps < .01). No differences exist between clusters 2 and 5. It seems that incremental beliefs are aligned to mastery-approach goals, while no apparent patterns exist between entity beliefs and achievement goals. Clusters 3 and 5 had significantly lower scores in RAI, than clusters 1, 2 and 4 (all ps < .01) (see Table 4).

Table 4
Cluster Differences in Beliefs and Behavioral Regulation

<table>
<thead>
<tr>
<th></th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
<th>Cluster 5</th>
<th>$F(4, 1342)$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increm</td>
<td>3.82 (.78$a$)</td>
<td>3.60 (.95$ab$)</td>
<td>3.35 (.79$b$)</td>
<td>3.67 (.99$a$)</td>
<td>3.15 (.80$c$)</td>
<td>29.51 **</td>
<td>.08</td>
</tr>
<tr>
<td>Entity</td>
<td>2.10 (.84$a$)</td>
<td>2.24 (1.04$a$)</td>
<td>2.72 (.96$b$)</td>
<td>2.68 (1.18$b$)</td>
<td>2.35 (.84$a$)</td>
<td>21.84 **</td>
<td>.06</td>
</tr>
<tr>
<td>RAI</td>
<td>3.75 (2.90$a$)</td>
<td>4.19 (2.93$a$)</td>
<td>1.80 (2.88$b$)</td>
<td>3.18 (2.92$a$)</td>
<td>1.89 (2.63$b$)</td>
<td>35.39 **</td>
<td>.10</td>
</tr>
</tbody>
</table>

Note. ** $p < .001$, Increm = Incremental, means in the same row that do not share superscripts differ at $p < .01$ using Tukey’s HSD

Cluster Differences in Motivational Outcome Variables

A second one-way MANOVA was conducted to further test the concurrent validity of the five clusters. The results showed that the five clusters differed significantly in all the three dependent variables, Pillai’s Trace = .243, $F(12, 4008) = 29.42, p < .001, \eta^2 = .08$. Follow-up ANOVAs showed that significant differences existed (all ps < .001). Table 5 presents
the means and standard deviations of the dependent variables for the five clusters.

Students from clusters 3 and 5 seem to value their course of study much lower than their counterparts in clusters 1, 2, and 4 (all ps < .01). However, cluster 5 had significant lower scores in value compared to cluster 3. Similarly, the students from these two clusters (3 and 5) reported significantly lower enjoyment and lower effort exertion. Again, students from cluster 5 reported much lower effort exertion compared to students from cluster 3 (see Table 5).

Table 5
Cluster Differences in Value, Effort and Intrinsic Motivation

<table>
<thead>
<tr>
<th>Cluster</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>F(4, 1336)</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>3.98</td>
<td>3.88</td>
<td>3.54</td>
<td>4.05</td>
<td>3.27</td>
<td>60.99**</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td>(.70)a</td>
<td>(.75)a</td>
<td>(.70)b</td>
<td>(.77)a</td>
<td>(.73)c</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enjoyment</td>
<td>3.53</td>
<td>3.40</td>
<td>3.02</td>
<td>3.47</td>
<td>2.90</td>
<td>40.95**</td>
<td>.11</td>
</tr>
<tr>
<td></td>
<td>(.78)a</td>
<td>(.84)a</td>
<td>(.74)b</td>
<td>(.85)a</td>
<td>(.66)b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effort</td>
<td>3.84</td>
<td>3.76</td>
<td>3.47</td>
<td>3.84</td>
<td>3.10</td>
<td>68.72**</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>(.69)a</td>
<td>(.71)a</td>
<td>(.66)b</td>
<td>(.73)a</td>
<td>(.73)c</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. ** p < .001, means in the same column that do not share superscripts differ at p < .01 using Tukey’s HSD

Discussion

The purpose of the present study was to examine the relationships between the 2 x 2 achievement goals, implicit theories, behavioral regulations and motivational outcomes among a group of polytechnic engineering students in Singapore using cluster analysis.

In terms of research question (1), the results of the present study showed that there were five groups of polytechnic engineering students with distinct achievement goal profiles. The five clusters were labeled as ‘High Mastery-approach/moderate performance’ (Cluster 1), ‘high mastery-approach/low performance’ (Cluster 2), ‘low mastery-approach/high performance’ (Cluster 3), ‘high mastery/high performance’ (Cluster 4) and ‘low mastery/low performance’ (Cluster 5). The results are consistent with a recent study by Liu and her colleagues (Liu et al., 2009) in terms of the ‘high mastery-approach/low performance’, ‘high mastery/high performance’ and ‘low mastery/low performance’ groups in the context of project work. Wang and his colleagues (Wang et al., 2007) also found similar profiles of ‘high mastery/high performance’ and ‘low mastery/low performance’. However, the ‘low mastery-approach/high performance’ profile was not evident in previous
In this study, the ‘low mastery-approach/high performance’ profile (Cluster 3) made up of 26.5% of the sample and this can be a worrying trend given the positive association of mastery-approach goal with more motivationally adaptive cognition, affect, and behavior as well as the negative consequences of high performance goals (Elliot & McGregor, 2001; McGregor & Elliot, 2002; Middleton & Midgley, 1997; Wang et al., 2007).

The second and third research questions examined the relationships between the different profiles in terms of their implicit beliefs and behavioral regulations and related outcomes. In essence, the clusters with high mastery-approach goals (Clusters 1, 2 and 4) had corresponding incremental beliefs. The students in these clusters also displayed relatively higher value of the course; they tended to enjoy the course more and exerted more effort in their study. On the contrary, the two clusters labeled as ‘low mastery-approach/high performance’ and ‘low mastery/low performance’ had the most maladaptive profile, as they has low incremental beliefs, low autonomy, low value, enjoyment and effort. The findings on the ‘low mastery/low performance’ are consistent with Liu et al. (2009) and Wang et al. (2007). However, the ‘low mastery-approach/high performance’ cluster (Cluster 3) is a new discovery. The psychological characteristic of this cluster had relative low incremental beliefs, high entity beliefs and very low feeling of autonomy. This cluster could be a reflection of the profile of a group of engineering students in the polytechnic. The reason may be these students did not have very good academic results from their General Cambridge Examination ‘O’ level and thus did not get the course of their choice. Dweck and her colleagues (Dweck, 1999; Dweck & Leggett, 1988) show that implicit theories determine goal adoption, the intervention for this group of students could be in cultivating an incremental belief and provide them with a more autonomy-supportive learning environment to enhance their autonomous regulation.

Previous studies (Liu et al., 2009; Wang et al., 2007) found gender differences among the clusters but this was not found in this study. The reason is because engineering courses are male dominated in Singapore. There were less than 10% of female in all the engineering courses. Earlier analysis of age effect was not found among the clusters; however, we observed that a higher percentage of the first year engineering students are in the more adaptive clusters. For example, there were 39% of first year students in the ‘high mastery-approach/moderate performance’ cluster and 40% of first year students in the ‘high mastery/performance’ cluster. As the students advance to their final year of study (Year 3), a higher proportion (37.2%) was found in the ‘low mastery/low performance’ and a lower proportion was found in the ‘high mastery-approach/moderate performance (25%), ‘high mastery-approach/low performance’ (27%), although the age effect was not significant. It is possible that the students’ beliefs and achievement goals be shaped by the environment as they progress through their course although this is not
tested in the current study. Future research should use a longitudinal approach to study the change in motivational profiles of the students.

The findings of the present study provide support that having high mastery-approach goals is the key to optimal motivation for learning. Students with high mastery-approach goals had relatively higher incremental beliefs, feeling of autonomy, value, exert more effort and enjoy learning. There are some practical suggestions using the TARGET principles, originally proposed by Epstein (1988) and Ames (1992) to increase the mastery goal structures in the classroom (Liu et al., 2009). TARGET is an acronym for Task, Authority, Recognition, Grouping, Evaluation and Time (see Deemer, 2004) for more details).

The present study advances the understanding of motivation in achievement settings in a few ways. First, this study examined the 2 x 2 achievement goals profiles of polytechnic engineering students and provided insight into the variations of achievement goals in determining different cognition, affection and behavior. Second, the findings show that different theoretical frameworks (achievement goals, implicit theories, and self-determination theory) can be examined concurrently to provide a more complete understanding of human motivation.

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Factors Contributing to Academic Achievement and Moral Development: A Qualitative study

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Abstract
This study investigated factors that contribute to children’s academic achievement and high moral values from parents’ perspectives. Parents whose children are high achievers and show high religious commitment were interviewed. Analysis indicated that are “genetic”, “commitment”, “positive perception”, and “religiosity” contribute to children’s academic achievement. Implications for research are discussed.

Introduction

Many studies have been conducted to examine and understand the family factors that affect on how a child develops. This is not surprising because family is the first source for teaching children on how to behave and how to make decisions in life. One of the aspects that have received attention by many researchers is children’s academic achievement (Bradley & Corwyn, 2002). In a study by Christenson, Rounds, and Gorney (1992), family and environmental factors were found to affect students’ achievement. The factors are parents’ expectation and attribution, structure and learning, home effective environment, discipline, and parent involvement. Snowden and Christian (1999) investigated parenting behaviors that facilitate child development. Quantitative and qualitative methods were used to determine the role played by parents. Their study shows that the parents who practiced authoritative parenting and fostered creativity, showed low levels of frustration, showed willingness to share control, recognized the value of play, and felt capable to teach their children efficiently and effectively. A longitudinal study that involved children at ages 9 and 10 years by Gottfried, Fleming, and Gottfried (1994) revealed that parental motivational practices have significant direct effects on academic intrinsic motivation, and indirect effects on subsequent motivation and achievement. The findings of these studies show the importance of parent’s role in fostering their children development. In other words, positive parenting style is considered the most effective style for supporting children’s academic achievement. Positive style has been associated with authoritative or democratic styles. Research shows that adolescents who describe their parents as warmth, fairness, and control are more likely to form positive attitudes towards school (Steinberg, Elmen, & Mounts, 1989).
Besides academic achievement, children’s moral development is also influenced by their parents. As shown in previous studies (Grusec, Goodnow & Kuczynski, 2000; White, 2000; White & Matawie, 2004), parents play a significant role in their children’s moral thinking. Smetana (1999) asserted that parents’ communications with their children are one aspect of children’s social experiences that the children may use as a basis for developing moral knowledge. Smetana suggested that parents’ explanation of rules and their responses towards moral violations facilitates children to think about their misbehaviors. Although parents are not the only source of influence on children’s moral development, but usually are the first because they interact significantly with their children in contrast to other people.

Parents may influence their children’s moral through a number of pathways. One of them is through teaching and instilling religiosity. Studies show that parents’ moral and religious values that transmitted to their children enhance the children’s morality. In a study by King and Furrow (2004), the researchers found that the influences of religious importance and participation on moral outcomes are mediated through interactions with adults, friends, and parents. The findings show that the crucial role that parents must play in instilling religiousness, which in turns will promote positive moral development. Thus, the goal of this study was to identify factors that contribute to their children’s achievement and high religious commitment. Parents whose children achieve academically and show high religiosity were interviewed to explore their perspectives on what contribute to their children’s achievement and high moral values. Our intention is to provide recommendations for practice to educators.

Method

A qualitative research involving interview was selected to gather the data. The method was chosen to understand parenting styles from naturalistic point of view.

Participants

Twenty parents were interviewed. They were chosen based on their children’s academic achievement. High achiever children are characterized by their achievement in public examination. They are top scorers with at least 4A’s. Children’s morality and religiosity are characterized by their commitment to perform religious teachings and follow high level of morality.

Procedures

The data collection began by identifying the students who excel academically. Once they were identified, their parents were contacted.
Parents were asked whether they were interested to participate in the study. A number of 30 parents indicated that they were interested. The researchers made several visits to their home before the interview to make sure that they fulfill the criteria. As a result, only 20 parents were chosen. The qualitative data were coded based on the themes identified from the interviewed.

Results

A number of five themes based on the commonalities that appeared from the interviews. The themes are “diet”, “genetic”, “commitment”, “positive perception”, and “religiosity”. The themes that emerged from the study are explained in detail and supported by participants’ words.

**Diet.** All participants mentioned diet as one of the important factors that contribute to their children’s development. A participant said: “I really take care of my children’s diet. I won’t allow them to take junk food; I also rarely buy readymade food because I prefer to cook at home. I also believe that raisins are good for their intellectual development”.

**Genetic.** Participants also believe that genetic factor influenced their children’s achievement and morality. One participant said: “all my siblings achieve in their studies, I believe this contribute to my children’s success”. Another participant said: “I have 10 siblings and all of them are university graduates. My children also achieve like my siblings.” Although genetic may not be a direct influential factor, it is undeniable that through modeling, the children learn to follow the suit.

**Commitment.** Parental commitment was found to be a crucial aspect that contributes to children’s achievement and their morality. Parents show their commitment towards their children’s education through many ways. Some parents said they must spend their time with the children for at least 10 hours a day. Parents also reported that they will check the children’s school begs every day. The parents hope that by doing this they ensure that the children did not leave homework undone or did not bring home prohibited materials. Apart from that, attending Parent-Teacher Association meeting is also considered important to show commitments.

**Positive Perception.** Parents indicated that they trust and maintain positive perceptions towards their children. Statements like "I am proud of all my children” and "I am very satisfied with the achievement of children ..." indicate that parents trust and have confidence in their children’s ability to succeed.
Religiosity. Parents in this study believe that religiosity is an important determinant of academic success and high morality. Most of them admitted that they are religious and they want their children to be religious too. Since participants of this study are Muslims, they indicated that daily prayer is a routine they impose on their children. Children are trained to perform prayers five times daily since the age of seven. Parents indicated that religiosity can be instilled in children before they were born. Some mothers said that they read verses of Quran every day, and fast on certain days during pregnancy. Parents also emphasize their children to read verses of Quran. “I encourage my children to read Quran every day. My children have finished reading the holy book at the age of 8”.

Discussion

The findings of this qualitative study show that there are five themes that contribute to children’s academic achievement and moral development. The themes are diet, genetic, commitment, positive perceptions, and religiosity. Although limited in scope due to nature of the research, these results generally support previous findings that show the crucial role of parents in their child development. During school age, children are still depending on their parents emotionally and financially. It is during this stage that parents may play their role to ensure their children’s achievement. In Muslim society, good parents are expected to know what their children eat. Homemade food is generally better than food cooked outside or readymade food. Thus, good parents usually prepare the food and choose what to eat or not to eat. The results of the interviews suggested that if parents provide good food for their children, their children will excel academically and have high level of morality.

The results also show that parents believe that genetic has an impact on their children’s academic achievement. Parents indicated that most of their extended family members also achieved in their studies. It may not be genetic factor that play a role, however, through imitation and role modeling, the children learn the importance of academic success. However, further research is needed to determine whether genetic contributes to success.

The influence of commitment and positive perception show the crucial role of parents in the educational development of their children. These two characteristics can only be achieved in functional families. Perhaps, a well function family is able to provide a positive climate to its members. According to Diaz (2003), the dynamic of communication and affective relationship determine family educational climate, which in turn influence academic results. Positive climate may also be influenced by parenting styles (democratic, authoritarian, or permissive), which in turn may or may not encourage parents to demonstrate positive perception and commitment.
Children who grew up in positive family environment not only achieve academically, they may also show high morality compared to children in less functional family.

The last determining factor is religiosity. As mentioned earlier, participants in this study are Muslims. According to their religious teaching, religious daily practices contribute to moral development as well as academic achievement. Therefore, the findings of this study need to be examined further in order to understand the relationship among moral development, religious practice, and academic achievement.

The findings of this study show the crucial roles that parents must play to help their children achieve academically and have high moral ground. This implies that educators and counselors need to work closely with parents in matters involving children development. Parents are the primary source of reference because they spend most of the times with the children in comparison to others. However, it is also importance for educators and counselors to consider children’s family background because children, who were raised in single parent’ family or remarriage family, may differ with children who grew up in intact families.

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Healing Experience of a Woman Survivor of Childhood Sexual Abuse

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Abstract
This qualitative case study aimed to understand the healing experience encountered by a woman survivor who had gone through childhood sexual abuse experiences and who made the active decision to recover. A total of four themes were identified from the analysis. The themes are “experience of suffering”, “God as savior”, “children as savior”, and “reaching out to help others”.

Introduction

Childhood sexual abuse (CSA) affects the women’s sense of self and relationship with others. Several studies had been done related to the field of trauma indicate that childhood sexual abuse affects the developing sense of self (Crowley, 2000; Matsakis, 1996; Roche, 1999). Other study had revealed women with history of childhood sexual abuse required more medical attention than those without this history (Farley & Patsalides, 2001). The study revealed women with childhood sexual abuse indicated more chronic physical symptoms, prescriptions, frequent medical and emergency room visits and suffer with severe Post Traumatic Stress Disorder (PTSD) (Farley & Patsalides, 2001). Harper and Steadman (2003) reported that survivors who had a history of childhood sexual abuse was a unique group of clients that required sensitive attention from their therapist to ensure the survivors well being. Unfortunately, this isn’t reflected in reality. Several studies have revealed that women survivors come across poor quality services from therapists whom they asked for professional help (Armsworth, 1989; Campbell & Carson, 1995; Stenius and Versey, 2005). The study conducted by Stenius and Veysey (2005) revealed that therapists lack trauma sensitivity and had poor attitudes. Furthermore, in the study carried out by Campbell and Carlson (1995), the survivors revealed the mistakes done by therapists such as being a passive therapist, misunderstanding the meaning expressed by survivors, and expressing anger towards them.

The occurrence of insensitive, passive, negative, and angry therapists all continue to haunt and limit women survivors to obtain deserved recovery from their childhood sexual abuse. This occurrence might interrelate with limitation of available training for therapists that covers issues of childhood sexual abuse. Study unveiled, eighty five percent courses that connected with treatment for survivors of childhood sexual abuse was just a topic that was taught in general courses (Winkelspectht & Singg, 1998). In conclusion, there
is a significant need to enhance the helping profession in understanding issues of childhood sexual abuse particularly from a women survivors’ perspective. Therefore, the outcome of this study aims to provide a deeper understanding of the healing journey defined by the survivor to the group of helping practitioners (counselors, psychologists, social workers, therapists, and other helping professionals) to ensure sensitivity and quality services are provided to the survivors. For the purposes of this study, one central research question was used as a guideline to gather information from the woman survivor, which was “How does a woman survivor experience healing from childhood sexual abuse?”

Method

A qualitative research involving a descriptive case study using a phenomenological lens to explore the experience of a woman survivor was considered as the most appropriate approach for this study. This descriptive case study method is used to explain a phenomenon that happens in a real life situation (Yin, 2003). In addition, a phenomenological study was chosen to “determine what an experience means for a person who has had the experience and is able to provide a comprehensive description of it” (Moustakas, 1994). The combination of both approaches enables the study to capture the essence of the recovery experienced by the woman survivor through her journey of healing.

Participants

In this study, one female survivor in her forties was identified to be the participant for the study. She was a single mother with two daughters and had identified herself in process of healing from childhood sexual abuse. In this study, participant was named as “Anne” (not her real name). The name of “Anne” was used to describe the participant healing experiences.

Procedures

The process of collecting data started with the observation session which was followed up with the interview session, continued on with self-reflection writing by the researcher. A total of two observation sessions, two structured interview sessions, and two self-reflection writing sessions were conducted for this study. An informed consent was obtained from the participant before the first observation session took place. Both verbal and written consent were obtained from the participant.
Analysis

This study involved three levels of data analysis. In the first level, the collected data from the interviews, observations and the researcher’s self-reflection writing were transformed into verbatim transcription. In the second level of analysis, the relevant statements were identified from the verbatim transcription and were grouped into several meaningful categories. Finally, in the third level of analysis, all the meaningful categories were grouped into wider categories and supported with verbatim examples expressed by Anne to provide a better description.

Results

A total of four themes emerged from the analysis expressed by the participant who experienced healing from childhood sexual abuse. All four themes were based on the commonalities that appeared from the collected data from the participant. There were ‘experience of suffering’, ‘God as savior’, ‘children as savior’ and ‘reaching out to help others’. The themes that emerged from the study are explained in detail and supported by the participant’s words.

Experience of Suffering

In this study, Anne reflected a lot on the suffering she went through in her journey of healing. Anne expressed helplessness and admitted herself that the suffering was so unbearable that she reached the stage where she intended to end her life together with her two children. Anne recalled back her attempted suicidal experience: “I was in a stage of intention to bring both of my daughters to the 8th floor of the apartment so that we can all end our life without going through all this suffering”.

God as Savior

The element of ‘God’ as one of the healing elements appeared consistently and frequently throughout the interview process with Anne. Anne perceived God as the determinant of her live, not others and not even herself. Anne consistently expressed: “My life is not for me to determine, it is HIM. I really believe in HIS existence. When I need help, HE reaches out to help me (Anne referred to HIM, HIS and HE as GOD)”.
Children as Savior

Throughout all the sessions of observations and interviews, the element of Anne’s children kept appearing consistently. Both children had given Anne a sense of hope to continue in her life. Anne expressed strongly that it was her children that took her out from her suicidal thoughts. Anne reflected an incident in which she attempted to end her life: “Both my children were pulling my hand, my youngest said, ‘Mummy, don’t do that, we need you, and we love you’. It was their voices that pulled me out from the thoughts. They saved me from that”.

Reaching out to Help Others

The final element of healing that emerged from this study was the aspect of reaching out to help others. In this study, Anne had identified a few incidents of reaching out to others that contributed to her personal healing from childhood sexual abuse. Anne described one of her experiences of reaching out by helping to take care of other young children: “I am not willing to charge high fees (to the parents) because I am concerned that people cannot afford it and let their children stay alone at home. I am more willing to help them to look after the children”.

In her journey of healing, Anne also managed to reach out to a Chinese lady who was having her own relationship difficulties with her husband and who intended to commit suicide. Anne recalled back her advice to this lady: “She said she wanted to jump from the building. I told her to be strong. You have only one child, I have two children, you are so much better than me, you have a house, you have a car, I don’t have anything, you must be strong”.

Discussion

The findings revealed that the participant experienced difficulties throughout her journey of healing and it was consistent with previous studies. As reported by Philip & Daniluk (2004), women survivors in their studies experienced the journey of recovery as a difficult process as they encountered a sense of sadness, and loss of the energies they spent to cope and survive from the trauma. Furthermore, a study conducted by Glaister and Abel (2001) had similar findings in that women survivors of childhood sexual abuse reported the recovery process to be difficult and painful. Thus, it is important for helping professionals to be sensitive and be accepting of the suffering experienced by survivors as part of their journey towards healing. The outcome of the study also revealed how the element of spirituality played a significant role in the process of healing. Bogar and Hulse-Kilacky (2006) reported that a relationship with God was helpful to women in their recovery
experience. Therefore the spiritual coping of survivors is worthwhile to be
discovered by therapists to find out the possibility of this element in
becoming one of the key resources in assisting survivors’ recovery.

The study outcome revealed one of the strongest support systems for
the participant in her journey of healing was her own daughters. In parallel
with previous studies, a support system was one of the important elements
that contributed to healing for survivors of childhood sexual abuse (Banyard
& William, 2007; Godbey & Hutchinson, 1996). Hence, it is important for
helping practitioners to look into the aspect of building a support system for
the survivor to enhance the healing process. Finally, the finding of the study
indicated that the survivor gained personal healing by reaching out to help
others. A study by Elon (2000) revealed that survivors gained personal
strengths and skills through reaching out to others. This element reflects a
very unique cycle of empowerment that takes place in the journey of healing.
Therefore it is important for helping professionals to be aware of this
powerful element which might be a valuable source for women survivors in
their recovery from childhood sexual abuse.

The finding of the study has its own limitation because it was
conducted based on one woman survivor’s participation. However, outcome of
this study hopes to act like a channel for women survivor’s voice to be heard
by other especially helping profession. Finally, more studies are required to
find out the detail of the healing experience encountered by the women
survivors of childhood sexual abuse with the hope to enhance the quality of
the counseling services for women survivors now and future.

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The Predisposition to Help of Filipino and Chinese-Filipino Firefighters

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**Abstract**

The concept of predisposition to help was studied using Filipino traits among Filipino and Chinese-Filipino firefighters. A scale was constructed that measures predisposition to help using Filipino psychology models. Five factors were extracted after conducting an exploratory factor analysis: heroism (*pagkabayani*), sensitivity (*pakikiramdam*), relational kinship (*makapamilya*), reciprocity (*utang-na-loob*), and social justice (*pananagutan*). The overall scale obtained a Cronbach’s alpha of .93 and alpha coefficients of .87, .93, .91, .84, and .72, respectively for each factor. Convergent validity was also evidenced where the five factors are all significantly correlated. Discriminant validity was only evident for the factor on heroism (*pagkabayani*) where significant difference was found for Filipino and Chinese-Filipino firefighters. The final items were calibrated using the Partial Credit Rasch Model. Person and item reliabilities were high (.93 and .97 respectively) using the IRT approach. There is high probability of observance for the 5-point scale with step functions: 3.14, -1.94, -.68, 1.11, and 2.90. Majority of the items were responsive which attained adequate fit (MNSQ within 0.8 to 1.2) to the Partial Credit Model.

**Keywords:** Predisposition to help, Chinese-Filipino, Firefighters

**Introduction**

The most dangerous act of helping happens in the scene of firefighting. It is common that firemen were trapped and died in situations to save people, or the local firefighters in communities doing everything they can to the point of endangering their own safety just to save and help others. Reasons for doing these acts are often vague and are assumed that they are just good people offering to lend a hand. The real causes of helping are almost always never questioned. Oftentimes it is speculated that these acts are actually “altruism” or something else. One characteristic manifesting this behavior among firefighters is their predisposition to help. Firefighters vary in their helping behavior based on individual differences. Helping is done as a function of one’s cultural orientation.

The concept of altruism is very western since it is explained by models that does not fully reflect the Filipino behavior of helping. Most commonly, altruistic behavior is explained by foreign models such as the social exchange theory, relational theory, and social norms theory (Aronson, Wilson, & Ackert, 1999; Harrison, 1976; Brehm, Kasin, & Fein, 1999). These theories are typically western explanations of why people help. The current study addresses the need to contextualize predisposition to help among the Filipinos since they have a different way of manifesting the characteristic. One of the advancement proposed in this study is the construction of a
measure of predisposition to help that is appropriate for Filipino and Chinese-Filipino firefighters. The measure is composed of factors derived from studies on Filipino psychology. The items were further analyzed using the item response theory specifically a Partial Credit Rasch Model. The factor structure, convergence, divergence, and internal consistency of the scale were also obtained.

**Firefighting in the Philippines**

In the Philippines, there are volunteers and government employed Chinese-Filipino and Filipinos firefighters. This combination had a long history which started as life in the Philippines became urbanized. As the country is slowly developing, the need for basic government services became a necessity, aside from the policemen and the military, firefighters were also important to ensure public safety. Eventually, the Filipino government hired local Filipinos to serve as firefighters. During the 60’s and 70’s the frequent occurrence of unexpected fire events triggered the formation of volunteer fire brigades, originally created to help fellow Chinese-Filipino from fires and other disasters. From the 1960’s to the 1970’s, groups of civic-minded Chinese-Filipino established their own fire prevention associations, usually segregated only by geographic location. Since then, the volunteer brigades improved, its members started becoming more proficient in firefighting and rescue operations, upgrading their skills and capabilities through self-education, training and actual experience (Businessworl, 1997). Eventually, Filipinos also started volunteering for these brigades, that presently, there is a good mixture of Chinese-Filipino and Filipinos in volunteer brigades around the country. Volunteer firefighters are ordinary people who are willing to give a portion of their time to the community (Brevern, 1988).

**Constructs of Helping**

Based on existing Filipino values, a number of hypothetical factors can be arrived at and can be used as possible factors of predispositions to help among Filipino and Chinese-Filipino firefighters. Helping behavior among Filipinos is considered as a trait of interpersonal characteristic. This was shown ub the study by Katigbak, Church, Guanzon-Lapena, Carlotta, & DelPilar (2002) where they conducted a factor analysis of a personality measure for Filipinos and helpfulness was clustered under interpersonal characteristics. The present study came up with specific behavioral manifestations of helping that describes firefighters to measure their predisposition to help. The factors of helping are also studied in line with the social exchange, kin selection, and social norms theory to fully explain the construction of one’s predisposition to help. The factors derived in the present study is based on what is culturally present and Filipino psychology taking
into consideration its western counterparts to establish a more solid basis in explaining the construct of helping behavior.

Typically, helping is explained in a three part process: First, the potential aide has to perceive the help seeker to be “trapped” in an emergency situation and could not possibly solve the whole situation. Next is for the aid to view himself or herself as having the ability to provide assistance to the victim. Lastly, if the aide happens to have a lot of helping options to choose from, he or she has to make a decision on which one to use (Valentine & Ehrlichman, 1979).

Helping can be due to intrinsic reasons and neither because of rewards being offered nor some threat imposed on the person if he or she did not do a certain task. This kind of intrinsic motivation could be due to avoidance of feeling some guilt of not doing something, or for the sake of increasing one’s self-esteem. Experiments were conducted and the results showed that individuals are likely to become helpful when they are able to put themselves on the shoes of other people (Declerck & Bogaert, 2008). They would also view themselves as being helped whenever they are put into that same problematic situation.

Another possible cause for a person to become helpful towards others is when he witnessed a person voluntarily helping another person (Reeve, Reeve, Townsend, & Poulson, 2007). Thus, this would reinforce his or her likelihood to offer help to those who are in need. Aside from exhibiting one’s volunteerism to lend a hand due to imitation, helping would also be elicited if a person has already experienced the problem of the victim. Since he or she already has full knowledge of the problem at hand and thus, knows, more or less, how to surpass the problematic situation (Corsini, 1994).

In the Philippine context, helping is known as “pagtulong.” The Filipino people are known for being helpful people because it is part of their value system (Magno, 2010). According to Andres and Ilada-Andres (1986) the Filipino people are naturally born to be tender and loving, companion-oriented, sympathetic or kindhearted, “utang-na-loob” oriented (reciprocity), bayani-oriented (heroic), hospitable, “makatao” (humane) and harmony-oriented. They are said to be sensitive and loving because they are overprotective to those people who are close to their heart. They worry when their family members are in trouble and they find ways to help. These traits and values explain why Filipinos are helpful.

Helping behavior for Filipinos is usually associated with the kinship structure or relationship within the family. Filipinos give a lot of importance to filial piety as part if their values (Magno, 2010). Aganon and David (1985) explained that the Filipino children learn to become helpful at an early age because they have been brought up to give importance and show their respects to their nuclear-family members like helping out in the farm work. The children still help out willingly even if they are not paid by their parents to do farm work. Aside from the nuclear-family, this kinship relationship is
also extended to include the grandparents of the children, siblings of the children’s parents, the children’s own siblings, godparents at marriages and confirmations as well as neighbors. The neighbors are also included in the circle of kinsmen that strengthens the worth of social relationships. Helping behaviors were always exhibited during the planting and harvesting periods of the year because they all voluntarily help out in these activities to be part of the kinship (in provinces). And in return, the kinsmen who were offered assistance during these two seasons were also expected to reciprocate the favor in the future.

Another reason for the kinship relation as a helping behavior is the hope of maintaining the interpersonal relationships of the people with one another (Aganon & David, 1985). This was proven in the study by Kaut (1961) where he found that the Tagalog society’s criteria of maintaining social interaction is to be able to fulfill their needs, be it economic issues, political issues, or social issues. By social interaction, it means that helping one another and returning the favor depending on the needs of each person would definitely prolong the interpersonal relationships. This reciprocal helping behavior is the result of the value of pakikipag-kapwa (mutual trust). According to Enriquez (1994) pakikipag-kapwa is illustrated in the following statement:

The value commitment which emerges from the interpersonal context of the kinship structure is that of kapwa. Pakikipag-kapwa incorporates these prescribed rules of reciprocal privileges and obligations between kindred members. Kapwa (shared identity) is the cognitive image of these relationships, and becomes generalized in experience to include all acceptable forms of social relationships.

The “acceptable forms of social relationships” mentioned by Enriquez (1994) are based on two concepts which are principles of reciprocal obligation and hiya (propriety) is considered as the emotional accompaniment of kapwa (shared identity). The reciprocal obligation states that each person should be sensitive enough to maintain the fulfillment of the interests of each other (Aganon & David, 1985). On the other hand, if one’s reciprocal obligation is not accomplished, then the person will automatically feel hiya (propriety), which, according to Bulatao (1979), is a “painful emotion” expressed in interpersonal situations perceived as “dangerous to one’s ego” resulting to the withdrawal behavior of the person experiencing it.

Volunteerism

One of the manifestations of helping is volunteerism. The concept also carries the manifestations responsible for helping. Volunteerism is the act of doing a favor for other people who are in need without expecting anything in return (Pilliavin, 2009). Self-interest is still the heart of volunteering. This is because through volunteering, a person gains full knowledge of what he or
she wants and who he or she is; therefore, giving more meaning to one’s life (Wilson & Janoski, 1995). According to Kushner (2004), a number of people engage themselves in volunteer work because their interests were not satisfied by their working hours. Jamison (2003) further explains that in order for people to enjoy their job in the workplace, it should have the factors of achievement, recognition, job fulfillment, responsibility, creativity and growth, economic benefits, companionship, supervision, and good working conditions. On the other hand, according to Burns (1974), the characteristics of a volunteer who does not ask for incentives are distinct from those who do volunteer and expects to have incentives, as well as, from those who do not volunteer. Individuals who volunteer without asking anything in return are those who are already independent in their lives. He or she views one’s self as not a perfect being; therefore, the person is more willing to accept flaws in their lives. As compared to the non-volunteers and those who volunteer for incentives, volunteers are an extravert type of people who are more outgoing and confident.

Volunteerism occurs in different settings. It can be join an organization, such as Red Cross to give aid. This is known as “formal volunteer work” (Zweigenhaft, Armstrong & Quintis, 1996). On the other hand, there are also other volunteers who do volunteer work without joining organizations, such as people who donate goods for instance to an orphanage, or people who help the elderly cross the street. This simple act of volunteering is referred to as informal volunteer work (Zweigenhaft et al., 1996).

In the Philippines, volunteerism could easily be seen in the different non-government organizations (Montelibano, 2010). An example is the volunteer firefighters’ associations that were organized by the Chinese-Filipino people a few years back.

**Chinese-Filipino Fire Brigades**

A long time ago in the Binondo area, a fire broke out and not one of the local firefighters in the area wanted to take action unless they first get paid. The property of the person who bids the highest amount will be saved immediately and if you happened to have no money then you would have to pray that the fire stops before it reaches your house (Brevern, 1988). In the early 1900’s, it was common to hear about people bribing firemen in order to save their properties during fires. Despite these incidents, nobody did anything about it. In 1963, when a big fire almost destroyed the whole of Gandara Street in Manila, the community suddenly became aware of the importance of fire prevention. Since then, several volunteer fire brigades and associations were formed and have been in existence up to this day.

Volunteer firefighters are those that are (1) retired and have the extra time, (2) have full-time job and only be able to respond at night or on
weekends, (3) self-employed and have some flexibility in the time they commit, or (4) students, who can only respond when there are no classes. The reasons for wanting to be a volunteer fireman can vary from the thrill of it, a desire to give something back to the community, as a hobby, or as an assurance for their own home’s safety (Perkins & Metz, 1988).

From being small fire prevention organizations, volunteer firefighters rose to become the best fire fighting groups in the Philippines (Brevern, 1988). These brigades are civic organizations that are mostly financed or sponsored by businessmen and several other organizations (Brevern, 1988). They are considered to be non-traditional, modern “Chinese” organizations because its membership is composed mainly of people with Chinese background, language and unifying principles that refer to the Chinese society because it is based upon models of modern organizations, where there is a democratic internal environment, and functions are more specific and limited. It also provides social service to non-members, and actively serves neighborhoods that include both Filipinos and Chinese (Wickerberg, 1992).

These brigades help increase the interaction with non-Chinese people and act as bridges from the traditional Chinese organizations, which may lead to the transcendence of the Chinese community (Wickerberg, 1992).

As a volunteer organization, volunteer firefighting is also an association of people organized to meet the needs of a section or of the whole of that community. It originates in the spontaneous, altruistic, humanitarian feelings of a few leaders in the community, who are concerned for the welfare of the disadvantaged among their fellow human beings (Pathak, 1979).

Knowing that the volunteer brigades also help out the non-Chinese community, the members of these associations are also not exclusively of Chinese descents. There are also Filipino people who are members of these brigades (Cordon, 2010).

The Chinese-Filipino

The Chinese people are said to be the most ethnocentric, clannish and traditional people among others (Ang-See, 1997). They believe in sayings like “fallen leaves return to their roots,” “when drinking water remember its source” as well as disapproval of the saying “denying your roots and forgetting your ancestors”. All of these sayings explain why the Chinese people wanted to preserve the purity of their bloodlines as well as their customs and traditions. Due to several reasons, this group of people started to migrate to the Philippines and other parts of the world. Most of the common reason was to be able to find jobs abroad and earn more money through their hardwork and perseverance. Eventually, due to the favorable environment that they have lived in, these Chinese people began to love the new country that has “taken good care” of them. According to Ang-See (1997), these Chinese people began to “drink the water of their new countries.
and thought of their new sources” and eventually evolved into “new roots planted into new grounds.” Thus, the Chinese people living here in the Philippines gradually began to identify with the Filipinos but not intentionally. This was made possible by several reasons. One was because of the diplomatic recognition of the People’s Republic of China where it does not recognize the Chinese people as part of the country if they have dual citizenship. Second reason was because of the mass naturalization decree passed into law by former President Marcos allowing the Chinese living in the Philippines to acquire Filipino citizenship (Ang-See, 1997; Cooper, Baker, Polichar, & Welsh, 1983).

Filipino Personality and Values

Filipinos are known as lovers of peace and order, courteous and kind. Admires the Christian values and is a God-fearing person. Filipino population is predominantly Catholic (Osteria & Sullivan, 1991). They tend to exclaim the philosophy of “bahala na” (determination) in moments of stress, anger or difficulty. It is like trusting God will help them do the last step or “God will take care” or “Let fate have its way” (San Juan, 2006). One of the greatest assets of the Philippines is the institution of the family or filial piety (Magno, 2010). The Filipino’s concept of home is more of peace and neighborhood. Foreign writers and observers have always noted the Filipino’s hospitality (Church & Loner, 1998).

In many crises and emergencies, Filipinos respond to the needs of people who have become afflicted by the injury of disease, fire, earthquake, typhoon, or other great calamity (Osias, 1940). Despite of the so many years that Philippines was under regime, Filipinos have very well developed a strength of solidity, and has achieved it’s independence in the greatest of Philippine Revolution during 1896 (Osias, 1940). The idea of close family ties, friendship, fellowship, and neighborhood, warm and care has been Filipinos’ way of life (Osias, 1940). These traits or values do not only apply to the Filipino people exclusively. Although according to See (1997) the characteristics mentioned do also apply to the Chinese-Filipino population, which is a result of the integration of the Filipino and the Chinese cultures. The Filipino-Chinese people are also being thought of as Filipino people based on their citizenship.

Constructs that Shape Helping Behavior of Filipinos

Heroism (Pagka-bayani). One value that Filipino people give importance to is pagka-bayani (heroism) (Andres & Ilada-Andres, 1986). The term pagka-bayani (heroism) is derived from the root word bayani (hero) which means hero or a person who freely contributes his or her labor or effort to another (Chua & Nazareno, 1992). From this root word comes the term
bayanihan which is defined as engaging oneself in services without asking any payments in return (Andres & Ilada-Andres, 1987; Chua & Nazareno, 1992). Based on these two terms, this study uses the concept pagka-bayani (heroism) which also signifies the essence of being a hero in terms of offering assistance to help seekers without asking anything in return either in material form or service form. This value became incorporated in the value system of the Filipinos because they give a lot of importance to establishing personal relationships (Andres & Ilada-Andres, 1987). In pagka-bayani (heroism) people ignores the social hierarchy, structures, leadership roles and authority relationships towards the elders (Andres & Ilada-Andres, 1987). If the person felt that he or she has the right decision, he or she can act immediately even if it meant that his or her elders have to follow or agree with the decision also (Andres & Ilada-Andres, 1987). This also made the Filipinos patient and tolerant people but still do not accept defeat (Andres & Ilada-Andres, 1986). They are ready to defend the weak no matter what could be the consequence of it (Andres & Ilada-Andres, 1986). Thus, this shows the meaning of camaraderie and cooperation that Filipinos exhibit when they are set to do a certain task (Church & Katigbak, 2000).

Sensitivity (Pakikiramdam). One of the values that Filipinos give importance to is the value of pakikiramdam (sensitivity) which refers to the high level of awareness and sensitivity of a person towards another’s feeling or situation. It is characterized as “feeling for another” (Mataragnon, 1987). It is also an act wherein great care is shown and reflection or thoughts were exhibited in hesitation to react, inattention to cues, and non-verbal behavior in mental role-playing “if I were in the other’s situation, how would I feel” (Mataragnon, 1987). Related to this would be paghaum (assistance), which is the Visayan term for the Tagalog term “alalay” (assistance) that means “moving together with another person.” This refers to the ability of a person to empathize and guide another without owning the other person’s problem (Decenteceo, 1999). This showed the caring ability of the Filipino people to their fellow Filipinos whenever they have problems.

Relational kindship (Pagiging makapamilya). One important values of the Filipinos is their sense of pagiging maka-pamilya (family-centered). It has been stated by Andres and Ilada-Andres (1986) that Filipinos are family-oriented people. Each Filipino has a childlike connection to his or her parents even if he or she was already married, he or she will still visit his or her parents every now and then. Also, it has been said that the terms nanay (mother), tatay (father), ama (father), itay (father), ina (mother) all have cultural connotations which actually made it possible to bind the children and parents together (Andres & Ilada-Andres, 1986). Kinship originated from the agricultural socioeconomic structure of their livelihood before the industrial revolution (Torres, 1985). The Filipinos live their lives through
farming and the parents always require their children to help them out during harvest seasons. Aside from their own family working together, their extended family members also help out. Therefore, they were able to develop a sense of kindred relationship (Torres, 1985). This ensures psychological security among its members by means of giving love, showing affection, and intimacy, and companionship. Thus, the family usually serves as the main source of emotional support. The sense of security given by the family comes from the mutual help and support it renders. Whenever there are crises and emergencies that arise, such as typhoons, fires and other disasters, other relatives would also run to and seek for help even before asking agencies, like red cross and the like (Medina, 1991). But as time had passed, outsiders were also included in the circle of kinship by the Filipinos. For example, their neighborhood that was once an acquaintance only with the family became close to its members. This is because he or she was able to develop a sense of deep social relationship with each member and their outlook in life – the way they do things, the way they judge certain situations and the like was the same (Torres, 1985). Even the ninongs (god father) and ninangs (god mother) as well as kinakapatid (bothers/sisters) were also considered as part of the family because of the spiritual relationship (Andres & Ilada-Andres, 1986).

**Reciprocity (Pagtanaw ng utang-na-loob).** Pagtanaw ng Utang-na-loob is also a Filipino value. It is a term that is usually translated as debt of gratitude in many Western oriented studies. However, if taken in its Filipino context, the meaning is much deeper wherein there is no certain English word that could put into words its real meaning (Tiandis, & Suh, 2002). It actually involves an emotional component when viewed together with the Filipino concept of loob (shared inner self). This concept also promotes an image of colonizer and benefactor, hence, it continues to be “perpetuated as an important aspect of the Filipino national self-image” (Enriquez, 1994). According to Andres and Ilada-Andres (1986), this is a behavior being exhibited by people whenever assistance was offered to them and they would always automatically have to return those favors. Also, since Filipinos do not want to be identified as walang utang-na-loob, this value becomes a relationship that may have no end. Upon returning these favors, they could actually show it in different ways. Some people would offer gifts or tokens, offer services, and many more in return for the helper’s good-heartedness. Aside from this casual every day life exchange of favors, the value of utang-na-loob also plays a role in the world of politics. If, for example, the person who offered a helping hand to a Filipino happened to be running for a position in the government office, this Filipino would definitely vote him or her for that certain position regardless of whether or not this person has good credentials. A lot of times, the reason for voting a person into office was because of payment for their gratitude. Thus, the Filipinos’ sense of utang-
na-loob could actually result to a bad outcome if it defeats other factors that should be the ones important and that should be taken into consideration when certain decisions have to be made where the helper is involved. On the other hand, if utang-na-loob was taken into consideration in a more positive way, it could actually reveal the beauty of this Filipino value.

**Social Justice (Pagtugon sa pananagutan).** Pagtugon sa pananagutan was defined by Chua and Nazareno (1992) as a duty that a person has towards another and is considered as a Filipino value (Ang-See, 1997). It is said to be a duty in a sense that a person is simply obliged to do something for the good of the other. This is usually evident in the larger community setting (Ang-See, 1997). According to Ang-See (1997), the person views their obligations not only in the personal level or in the smaller society level but in the larger scale like the whole Filipino society. Example, in the case of building bridges and houses by some wealthy Chinese-Filipino people, they are contributing it to the Philippine society and not just the small Chinese community (Ang-See, 1997). These people have come to realize that they are also part of the larger society and thus they have a responsibility to contribute something in terms of infrastructures or businesses for improving the society and economy.

**Western Conceptualizations of Helping**

**Social exchange theory.** The theory formulated by Thibaut and Kelley is called the social exchange theory. It shares the view that altruistic behavior is exhibited due to self-interest (Aronson, et al., 1999). The social exchange theory states that people weigh the costs and benefits that they will acquire whenever they decide to help other people who are in need (Aronson, et al., 1999). It also states that people will base their helping decision on the maximum benefit that they can possibly get from the situation (Brehm et al., 1999). In this theory, egoism and empathy altruism are the factors of altruism.

Egoism points out that there is no such thing as helping other people without even thinking about one’s own welfare or benefit from the situation. It also illustrates that when a person helps another who is in need and it made him or her feel good then, that feeling automatically becomes a gain (Brehm et al., 1999; Sober & Wilson, 1999). It can be noticed that egoism argues in the psychological level regarding why human beings help other people who are in need (Sober & Wilson, 1999). It refers to the helping attitude of people based on what they can get in return with that simple act of volunteerism (Guenther et al., 1995). Empathy altruism, on the other hand, was proposed by Batson (1997). It was formulated to explain how altruism is elicited by empathy. This model states that empathy is made up of two components, which are the cognitive component and emotional
component. It explains that the helper will first view himself or herself in the situation of the help seeker – cognitive perspective taking – then, he or she will feel the way the victim is feeling in that problematic situation – emotional perspective taking. As a result, the aide will voluntarily provide assistance to the victim (Brehm et al., 1999).

**Evolutionary psychology.** Another perspective is the evolutionary psychology that explains helping as relational altruism. It follows the principles of evolution proposed by Charles Darwin. This theory suggests that evolution favors those who are naturally selfish, in that this person will only help in order to ensure the survival of his own genes (Brehm, et al., 1999). Under this theory are kin selection or inclusive fitness and reciprocal helping (Brehm, 1999).

Kin selection or inclusive fitness states that help is given more to genetic relatives so that even if one is to risk his life, his line will still continue through that of the genetic relative they saved (Aronson, et al., 1999). According to Brehm et al. (1999), this factor prefers people who share the same genes so that the genes will survive. It actually contributes to the reproductive success and that on the outside it might seem as self-sacrificing but in reality it is a way to spread the genes so it becomes immortal. Some researchers also suggest that the past and current conflicts between ethnic groups might have started out from this idea, that there might be a genetic basis for this because people only help those who can pass on their genes.

Another concept under evolutionary psychology is reciprocal helping formulated by Trivers (1971). This explains that people expect each and every member of a society to return the favor of helping one another in times of crisis (Franzoi, 1996). This sub-factor explains that people do something good like helping other people if they perceive themselves being helped in the near future (Harrison, 1976; Aronson et al., 1999; Brehm et al., 1999). Trivers (1971) states that in order for this reciprocal helping to occur, a certain situation should be present. This means that the advantage that the help seeker will acquire from the helper should be high and the cost that the helper will exert when he or she offers assistance will be low. This is in preparation for the future in case it is the helper who will need help (Franzoi, 1996).

An experiment was conducted by Burnstein, Crandall, and Kitayama (1994) based on evolutionary psychology theory. In this study he used both American and Japanese students and assessed whether the students would help people who were closer to them when there are emergencies and when it is a simple helping need. He found out that students in both cultures were most likely to help those who were closer to them rather than those who were not related to them and more help is given when it is a life-threatening situation. Another finding was that they helped more based on the
reproductive capacity of the person to be helped. If the one who needs help is younger and more capable of reproducing then more help is given.

**Social norms.** Social norms as proposed by Herbert Simon, states that the helping behavior of a person is exhibited because it is taught and expected by society (Aronson et al., 1999). Therefore, whenever a person perceives another person as having trouble, he or she will automatically offer assistance to that person (Aronson et al., 1999; Brehm et al., 1999; Gintis, Bowles, Boyd, & Fehr, 2003). Under this theory are the social justice and social responsibility norm (Harrison, 1974).

The expectation in a social norm is explained by social justice. According to Lerner and Meindl (1981), social justice is the time that the helper will offer assistance to the victim if and only if the victim deserves it. Lerner (1982) also pointed out that in order for the help seeker to be worthy of help he or she should do good deeds to other people or possess good and favorable personalities. A study conducted by Oswald (1996) demonstrated helping using social norms theory. In the study, a number of participants 65 working adults, 55 women, and 10 men were asked to view videotapes. The subjects were asked to observe the thoughts and emotions of the character in the videotape while the rest will observe other irrelevant details of the videotape aside from the character. Results showed that those subjects who observed the character in the videotape using their cognitive and affective perspective taking of analysis offered more help when compared to those participants who only observed the irrelevant details.

The individual helps within the norm because they have social responsibility. It is the rule stated by the society that each and every citizen should and is obligated to help other people who are in need of assistance (Harrison, 1974; Brehm et al., 1999). The results in the study of Taylor, Deane, and Podd (2007) showed that once a person perceived that another individual is dependent and in need of assistance, he or she will be more determined to help out.

Social responsibility in helping was studied using a cross-cultural perspective by Levine et al. (2001) and Bern (1999).

Levine et al. (2001) conducted a study to find out the answers to three main issues on helping. The first main issue was that if helping people, especially strangers, vary from culture to culture. The second main issue was about whether or not helping is important across different cultures. The last issue was to find out what are the community characteristics that different cultures have that contribute to the social behavior of helping strangers. The results yielded from the sample of large cities in each of twenty-three countries that were elected, showed that the countries that have residents earning high income have lesser possibilities of helping strangers. The results also showed that those countries having friendly cultures tend to have citizens who are willing to help strangers. The traditional view that
individualistic-cultured people are less helpful and collectivistic-cultured people are more willing to help was not fully supported by the results of the research conducted. Therefore, the researchers of the study concluded that there are some individualistic-cultured people who are more willing to help and there are also some collectivistic-cultured people who are less likely to help out.

Another study was conducted in Amato (1983), in Switzerland. The researchers wanted to test if the participants in Bern would be more willing to offer some help to heterosexual males than homosexual males. They also wanted to see if the results that will be obtained in the first hypothesis would be affected by the gender or sexuality of the participants themselves. And they also wanted to find out if the help offered to female homosexuals would be different from those offered to male homosexuals. The researchers got a confederate who’s going to make the phone calls and record the responses of the participants to the request. The results obtained showed that whether or not the caller is a homosexual male or female who’s seeking help, the participants still helped him or her out. The explanation behind this could either be because of the social norms that all Bernese are obliged to help other people who are in need or it is simply because of the attitude of Bernese to help people who are in need (Gabriel et. al., 2001).

Several Filipino values were described that are somewhat related to the Western concepts of helping. The literature showed that there are several factors that influence the helping behaviors that people exhibit. However, there are few studies where volunteer firefighters have been used as participants. There has also been little research done on proposed Filipino constructs as factors that constitute their predisposition to help. The present study first constructed a measure to determine predisposition to help using concepts of Filipino values and traits. The factor structure and item calibration of the instrument is established. This measure is then administered among Filipino and Chinese Filipino to determine if the derived factors can be discriminated.

Method

Participants

There were two sets of samples used in the present study. The first set of participants was composed of 150 firefighters from the National Capital Region (NCR) in the Philippines. These participants were gathered using convenient sampling. These participants all agreed to participate in the study through informed consent. This sample was used to establish the scales initial factor structure.

The second set of participants was composed of 200 firefighters also from the NCR in the Philippines. In this sample 75 were Chinese-Filipino
volunteer firefighters and 125 Filipino firefighters that were conveniently sampled. This sample was used to determine the discrimination of the factors of the predisposition to help scale.

Instrument

A predisposition to help scale was constructed in the present study. The factors were established based on Filipino personality theories including the Filipino and Chinese-Filipino cultural values. The items were based on an initial interview with volunteer forefighters. The responses were used as a guide in the construction of the items for the test on predisposition to help for the general population. Additional items were also constructed based on the review of related literature. Certain statements mentioned by the participants such as, “It makes me feel good when I help,” were extracted and were placed on certain hypothesized factors. The items in the scale were written in Filipino language since a great number of the participants could understand items better that are stated in the local language.

The responses of the participants were measured using a Likert scale. The responses were based on their agreement and disagreement of the ideas or situations presented. The scales include strongly agree (*lubos na sumsangayon*), agree (*sumasangayon*), neutral (*di-tiyak*), disagree (*di-sumasangayon*), and strongly disagree (*lubos na di-sumasangayon*).

Three experts checked and reviewed the items that were constructed where they all have backgrounds in teaching a course in scale development. After retrieving the questionnaires, the necessary corrections were made and the final draft of the items was reconstructed. A total of 115 items were constructed and was reduced to 111 after item review: Heroism (25 items), sensitivity (21 items), reciprocity (22 items), relational kinship (22 items), and social justice (21 items).

Procedure

During the pretesting of the instrument, the participants were asked to choose a comfortable place to answer the scale. They were also given five-minutes briefing on what the scale is all about. Then, the directions on how to go about in answering the questionnaires was provided. Verbal instructions were given to the respondents upon administration. The respondents are instructed to take their time in answering each item and there were no right or wrong answers. There is no time limit in answering the scale. The respondents were reminded to answer the test as honestly as possible based on how they would really respond when they are placed in the situation as presented for each item. The first part of the questionnaire includes instructions that were provided for the respondents to read and follow. Participants were asked to encircle the corresponding number for their answer. They were told that they will answer a test composed of 111 items.
Lastly, they were asked if they are able to understand the instructions given. Once there are no questions and the participants are able to settle themselves, the questionnaires were distributed for them to answer.

**Data Analysis**

Both the classical test theory and the item response theory were used to establish the scale in the present study. In the classical test theory, the measurement error of the test predisposition to help will be obtained through the difference of the true score and observed test score. The standard deviation of the distribution of random errors for each individual tells about the magnitude of measurement error. The standard deviation of the observed score and the reliability of the test are used to estimate the standard error of measurement. The accuracy of predisposition to help being measured is determined by the amount of the standard error of measurement. In applying the item response theory, an item’s characteristic is determined through its curve that described the probability of getting an extreme score in the test predisposition to help. The Rasch model is used to arrive at the logistic item characteristic curve which is a function of possessing the characteristic helping. It forms the boundary between the probability areas of answering an item in high and low extremes.

**Reliability analysis.** The internal consistency of the items was determined using the Cronbach’s alpha. The score of each item was also intercorrelated to determine its internal consistency and to see the items that are highly correlated. Item and person reliability estimates using the Rasch model was as obtained.

**Construct validity.** To determine the factor structure of the scale, the items have undergone factors analysis by reducing the number of subscales from the initial five factors hypothesized to new common factors where the items highly load on. The number of factors was determined using the eigenvalues extracted. The eigenvalues are the sum of squared correlations between a factor variate and the number of original variables. It reflects the overall relationship between that factor and the original variables. The scree test was used to assess the eigenvalues where the factors with eigenvalues of 1.0 and above are considered to be stable. The factorial composition of the test was established whether the items that belong in one cluster would measure the same characteristic. Items having a value of .30 and above were the ones accepted in the pool of items for the final form of the test. The factors extracted were also rotated using varimax raw to show all strong and weak loadings. The varimax rotation was conducted to minimize the number of variables that load strongly on a factor.
and a low loading of other factors. In the process, the factors extracted tend to equalize the proportion of variances explained by each factor.

**Discriminant validity.** To establish the scale’s discriminant validity, the scores on the predisposition to help among the Filipino and Chinese-Filipino firefighters were categorized and they were compared. The differences in their overall scale score for each factor were tested for significance using the t-test for two independent samples. Factors that have significant differences on means show that the factor has the ability to discriminate. But when no significant difference is found, it means that the factor converge across the groups.

**Partial credit Rasch model.** To establish a uniform sample free scale of measurement for the predisposition to help that is applicable to individuals and groups of widely varying characteristics, the Graded Response Rasch model is used. The method incorporates item performance in the standard-setting process by graphically presenting item difficulties in this case the extreme scores. The process involves item mapping where all the items ordered in columns, with each column in the graph representing a different item difficulty/extreme scores. The columns of items are ordered from easy to difficult (extreme low scores to extreme high scores in this study) on a histogram-type graph, with very easy items toward the left end of the graph, and very hard items toward the right end of the graph. Item difficulties in log odds unit are estimated through application of the Rasch IRT model (Wright & Stone, 1979). Logit difficulties are computed to obtain a characteristic curve for each item. The abscissa of the graph represents the rescaled item difficulty. Any one column has items within two points of each other. The goal of this item mapping procedure is to locate a column of items on the histogram where the researcher can reach consensus that the predisposition to help measure has a 50% chance answering the items correctly.

**Results**

**Reliability**

Based on the item analysis done on the test instrument’s descriptive profile, the total item mean was 396.94, and the standard deviation was 32.56. The analysis also showed that the distribution of scores tends to be normal and symmetrical based on its skewness since the value obtained was 0.1907, which is a score close to 0. The value of kurtosis that was obtained was 0.171, which indicates that the distribution of the scores is normal since the value is close to 0. The minimum value of the scores was 317 and the maximum was 498.
For the reliability analysis, the Cronbach’s alpha obtained is .93 indicating high internal consistency among the 111 items. The average inter-item correlation resulted to a value of .32. The item total correlation and the mean and standard deviation for each item were also obtained.

**Factor Structure**

To test the homogeneity of the items in the scale, the raw data was analyzed using the factor analysis. The principal components or eigenvalues, which indicate the amount of common variance accounted for by the respective number of factors that were obtained. A five factor structure explains 38.63 percent of the total variance.

The varimax rotation was used to analyze the raw data in order to maximize the variances of the squared raw factor loadings across variables for each factor. Lastly, the analysis of factor loadings for the whole scale showed that 71 items had factor loadings above .30. Five of the original factors were retained: Social justice (29 items), heroism (13 items), reciprocity (12 items), sensitivity (6 items), and relational kinship (12 items).

The 71 items were administered to 200 firefighters. The confidence interval for means for each factor was used to determine the region of the scores where it approximates the true score that is free of error.

**Table 1**

**Mean and Standard Deviation for the Factors Predisposition to Help**

<table>
<thead>
<tr>
<th>Factors</th>
<th>M</th>
<th>SD</th>
<th>CI (95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroism (Pagka-bayani)</td>
<td>3.43</td>
<td>0.65</td>
<td>3.38-3.52</td>
</tr>
<tr>
<td>Sensitivity (Pakikiramdam)</td>
<td>3.98</td>
<td>0.58</td>
<td>3.94-4.02</td>
</tr>
<tr>
<td>Relational kinship (Pagiging Maka-pamilya)</td>
<td>3.45</td>
<td>0.42</td>
<td>3.42-3.47</td>
</tr>
<tr>
<td>Reciprocity (Pagtanaw ng utang-ng-loob)</td>
<td>3.33</td>
<td>0.39</td>
<td>3.30-3.36</td>
</tr>
<tr>
<td>Social justice (Pagtugon sa pananagutan)</td>
<td>3.78</td>
<td>0.52</td>
<td>3.74-3.82</td>
</tr>
</tbody>
</table>

The factors on pakikiramdam, pagiging maka-pamilya, and pagtanaw ng utang ng lobb shows more accurate means since constricted intervals were obtained.

**Discriminant and Convergent Validity**

The data is obtained from 75 Chinese-Filipino Volunteer Firefighters and another set of 125 Filipino Firefighters on their predisposition to help.
In comparing between Filipino and Chinese-Filipino firefighters on the five factors of predisposition to help, significant difference was only found for heroism. Mean scores for the Chinese-Filipino on heroism was significantly higher than the Filipino firefighters. All other factors were not significantly different for the two groups.

**Correlation among the Factors**

The intercorrelations among the factors of heroism, sensitivity, relational kinship, reciprocity, and social justice are established to determine whether they converge with each other. The results show that all the factors have significant relationship. The magnitude of the relationship is positive providing evidence that the test have attained convergent validity. This means that as the score form one factors increases, the scores on other factors also increases.

**Table 2**  
*Comparing Filipino and Chinese Filipino Firefighters*

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>M Filipino</th>
<th>M Chinese-Filipino</th>
<th>t value</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroism (<em>Pagka-bayani</em>)</td>
<td>3.57</td>
<td>3.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity (<em>Pakikiramdam</em>)</td>
<td>3.95</td>
<td>4.04</td>
<td>2.94*</td>
<td>8</td>
<td>.004</td>
</tr>
<tr>
<td>Relational kinship (<em>Pagiging Maka-pamilya</em>)</td>
<td>3.40</td>
<td>3.55</td>
<td>1.06</td>
<td>8</td>
<td>.291</td>
</tr>
<tr>
<td>Reciprocity (<em>Pagtanaw ng utang-ng-loob</em>)</td>
<td>3.26</td>
<td>3.29</td>
<td>1.89</td>
<td>8</td>
<td>.060</td>
</tr>
<tr>
<td>Social justice (<em>Pagtugon sa pananagutan</em>)</td>
<td>3.76</td>
<td>3.77</td>
<td>-0.22</td>
<td>8</td>
<td>.825</td>
</tr>
</tbody>
</table>

* p< .05

**Table 3**  
*Correlation Matrix For the Factors of Predisposition to Help*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pagkabayani</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 pakikiramdam</td>
<td>.61*</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 makapamilya</td>
<td>.18*</td>
<td>.33*</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 utang-na-loob</td>
<td>.18*</td>
<td>.27*</td>
<td>.16*</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>5 pananagutan</td>
<td>.72*</td>
<td>.73*</td>
<td>.39*</td>
<td>.28*</td>
<td>---</td>
</tr>
</tbody>
</table>

* p< .05
The correlation coefficients obtained range from moderate to high. This shows that the factors are not multicollinear with each other. It further supports that the measure on predisposition to help is truly composed of the five factors.

**Rasch Model**

In performing the Rasch Model, the scores of 200 respondents from the 71 items were included in the analysis for the Rasch model. The person reliability for the entire scale was .93 and the item reliability was .97. High internal consistencies were obtained for both person and item responses.

The scale categories (5-point scale) were first analyzed in the process to determine the threshold. Higher scale categories must reflect higher measures and low values for lower scales, thereby producing a monotonic increase in threshold values. The average step calibrations are, -3.14, -1.94, - .68, 1.11, and 2.90. All average step functions are increasing monotonically indicating that a 5-point scale for each factor attained “scale ordering” where there is a high probability of observance of certain scale categories.

To determine if the items under each domain has a unidimensional structure, item fit mean square (MNSQ) was computed. MNSQ INFIT values within 1.2 and 0.8 are acceptable. High values of item MNSQ indicate a “lack of construct homogeneity” with other items in a scale, whereas low values indicate “redundancy” with other items (Linacre & Wright 1998). Two Rasch analyses were conducted separately for each rating provided by the primary and secondary raters.

For the heroism, four items lacks constructs homogeneity which means that they are not measuring the same construct as to other factors. On the other hand, five items are redundant with other items. For sensitivity, two items lacks constructs homogeneity while two items are redundant with other items. For relational kinship only 2 items lacks construct homogeneity and none of the items are redundant. For reciprocity, none of the items lacks construct homogeneity and only are redundant. For social justice, only one item lacks construct homogeneity and two items are redundant. The fit indices shows that there are several misfitting items for heroism and sensitivity.
Figure 1
Item and Person Map of the 111 items of the Predisposition to Help Scale

The person and item map showed that there is appropriate ematching of person characteristics and item difficulty especially at higher logits (above 0). High characteristics of predisposition to help are characterized firefighters high on this trait. This indicates the appropriateness of the scale for the study’s sample.

Discussion

In the factor analysis with 150 cases, the measure was able to yield five factors that include social justice, heroism, reciprocity, sensitivity, and relational kinship. The content of the factors were maintained in the exploratory factor analysis with reduction of some items. In the correlation matrix, sensitivity was highly correlated with all the factors. This explains that the items for this factor are immersed in all other factors especially with heroism and social justice. In the concept of helping, one is able to help because he/she is sensitive to others needs. The predisposition to help in
general requires the feeling of sensitivity in order to execute the process of helping (Andres & Ilada-Andres, 1986). Enriquez (1994) explains that sensitivity is an interpersonal pivotal value. The nature of sensitivity as a central behavior provides evidence that runs through every value structure of the Filipinos especially in helping others. In another perspective, Mataragnon (1987) and Decenteceo (1999) explains that sensitivity is helping in itself since its Tagalog correspondence is captured in the concept of “alalay” (assistance). This entails the ability of the person to empathize and guide another without owing the other persons problem which is typical of helping.

Social justice as a factor is not highly correlated with reciprocity, heroism, and relational kinship, although the items for this measure formed separately with the rest in the factor analysis creating a factor on its own. Social justice does not capture the rest of the factors such as reciprocity, heroism, and relational kinship because it is conceptualized as duty. Being heroic, reciprocal, and centering on kin relationship is not performed out of duty because of the sense of gratitude (Chua & Nazareno, 1982). Social justice differs with the rest of the factors in terms of its scope. Reciprocity, heroism, and relational kinship are in the personal level while social justice is beyond personal because it contains and obligation to a macro level (Ang-See, 1997).

Heroism, reciprocity, and relational kinship are relational in their nature. These factors of helping are completed based on others. In heroism, one executes an action even if the elders would disagree (Andres & Ilada-Andres, 1986). In relational kinship, one is connected to his keen and ones orientaion is build upon others. Reciprocity is shown in order to maintain a smooth interpersonal relationship. The four factors that compose the predisposition to help captures the nature of helping in a Filipino way.

The Chinese-Filipino and Filipinos are compared in the five factors and only heroism discriminates the two groups. The Chinese-Filipino volunteer group significantly tends to be more heroic than the Filipino firefighters. This result contradicted the belief that Filipino people are known for their heroic nature which was taken from the word “bayanihan.” According to Chua and Nazareno (1992), as well as to Andres and Ilada-Andres (1987), the term bayanihan denotes that Filipino people like to help each other out voluntarily without asking anything in return. Heroism, on the other hand, was defined almost in the same way but the only difference is that it is in the light of a hero where assistance is offered to victims even though there will be a risk involved in the part of the helper. Although this has been incorporated in the Philippine setting and in the Filipino culture, there is no proof that only the Filipino people exhibit this type of value. The Chinese-Filipino people having lived here in the Philippines for centuries have also come to adopt the lifestyle and culture of the Filipinos. According to Ang-See (1997), there is an integration of the culture between the Chinese-
Filipino and the Filipino people. The Chinese-Filipino people have also learned the value of heroism. Although there is integration of culture between the two groups, this somehow did not coincide completely when the test of significance was applied to the data obtained from the firefighters. It turned out that the Chinese-Filipino firefighters got a higher mean score in this factor, which explains that they exhibit a higher tendency in helping a victim in times of calamity. This result could be further supported by the fact that the volunteer fire brigades or stations were put up by the Chinese-Filipino people because of their willingness to give something back to the community where they are living in. Even though they had to choose other ways of helping their own community, they still decided to adopt this risk-taking “job” in order to show their support, which later became universal. Universal in a sense that not only was this “job” directed towards the Chinese-Filipino community, it was also directed towards the Filipino community. The sense of heroism of the Chinese-Filipino people especially the Chinese-Filipino volunteer firefighters is made evident through their helping.

In using the Rasch Model, the 71 items are calibrated to to arrive with an ability free measure of predisposition to help. Given the 71 items there is now a separate parameter for the items and the respondents’ ability. The calibrated values of persons and items arrived at show that the dispersion of extremely high and low scores on helping equalizes with the helping characteristics of the respondents. The test width of the scale to measure helping is 1 which is low and extreme scores were removed creating a sample free measure of predisposition to help. The values of the standard error computed are low which indicates that the characteristics of the respondents in helping is centered among the spread of the items creating a more precise measure of predisposition to help. The local independence of the measure and standard errors result in a measure of helping that improves accuracy and performs in a stable manner across settings and populations.

The Rasch model showed that majority of the misfitting items occurred for the heroism and sensitivity. The importance of these concepts were explained as appropriate characteristics of helping but due to the presence of misfitting items, there is a need to review the items identified if they really capture the meanings associated for the construct. However, most of the items for the social justice, relational kinship, and reciprocity were more responsive. The lack of fitting items for heroism and reciprocity indicates the need to make consistent the meanings that people attach for the construct. Respondents may have different ways of looking at the meanings attached for heroism and sensitivity which resulted to having several misfitting items.

The present study advances what is known about helping especially for Filipinos and firefighters. Common theories that are used to explain helping behavior are western in orientation such as the social exchange theory,
evolutionary theory and normative theory. The present study advances knowledge on a more culturally appropriate construction of predisposition to help. The present study also made helping behavior domain specific for firefighters and it showed that not much difference occurred between Filipinos and Chinese-Filipinos. This shows that the Chinese-Filipinos share common characteristics of helping with the Filipinos.

References


**About the Author**

Dr. Carlo Magno is presently a faculty of the Counseling and Educational Psychology Department at De La Salle University, Manila, Philippines. His research interest includes voluntarism, predisposition to help, self-regulation, metacognition, language learning, and scale development using Item Response Theory. Further correspondence can be addressed to him at carlo.magno@dlsu.edu.ph.
Program Evaluation in Higher Education

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University of Malaya, Malaysia

Abstract
Every programmes implemented by each institution and organization should be evaluated after the execution of a cohort. The Purpose of Programme Evaluation, According to Doll (1992) is to recognize sizes and continuities in evaluating its effectiveness, Stufflebeam (1971) believes that the purpose is to highlight the objective achievement for the next alternative in decision making, while from the humanist point of view concerns on individual achievement in a planned situation (Stake and Denny, 1969). According to Talmage (1985), the content of programme evaluation comprising intrinsic value, instrumental value, comparative value, idealization value and decision value. The types of programme evaluation according to Scriven (1997) divided into formative and summative. Formative evaluation was made during an ongoing programme, while summative evaluation was made at the end of a programme. Therefore Provus (1971) evaluated the effectiveness of the programme in terms of performance, standards and products. According to Borg and Gall (1989), evaluation towards the effectiveness of the programme is usually made to determine the success of educational programme or focused on the level of success, the merit of respondent, syllabus design, and content of the programme, implementation and objectives achievement of the programme itself (Longstreet and Suane, 1993). The model Contex, Input, Product, and Process (CIPP) was adapted from the theoretical model designed by Stufflebeam and Shinkfield (1984), which focuses on improvement oriented evaluation. Measurement of programme evaluation should be evaluated quantitatively through the impact value to see its effectiveness. Impact means double level of effectiveness. The first is in terms of mean, and the second is impact value. Measurement of impact level in its scale (five likert scales) is measure by three quartiles system according to mean range score (5 ÷ 3 = 1.66) and impact range score (25 ÷ 3 = 8.33). The value of 25/100 is the impact wattage for each four dimension variable: context, input, process and product (CIPP). Two interval scores are used to prove the impact level of each dimension: context, input, process and product (CIPP).

Keywords: Program Evaluation

Introduction

In terms of effectiveness, Ornstein and Hunkins (1993) stated that the effectiveness means; response (impact) subject that leads to a change resulting from an achievement of an objective to make decision, appropriate research design is by using survey. According to White, Mayne and Evarton (1990), effectiveness means; reference to the quality, a prolonged effort of mind to change and reshape experience. Cheng (1996) deems effectiveness as something that has criteria that can be measured or assessed from the aspects of qualities and achievement. David Pratt (1980) also describe ‘effectiveness’ as, to what extent students were able to achieve the objectives of the programme viewed from exam’s grade and production that meets planning. From the effectiveness aspects in education and teaching programme, Kah Boh Boon (1987: 5) explained: The term effectiveness is
concerned with how far a course or activity has brought about the intended result pertaining to the acquisition of professional knowledge and skills expected of a teacher. Butterfield (1995:145) added it as standards that the curriculum seeks to establish.

Hussein Hj. Ahmad (1991:145) stated that to evaluate effectiveness or its opposite, is usually begin with terms such as, ‘to what extent something is...’ so that the effectiveness leads to the implication of assessment. Stake (1967) then explained ways to improve and create the detection is through measurement of objectives and its goal through data collection, processing and interpretation related to a programme. Evaluation of a programme is also a process to determine the pattern and how it will happen, the next as submitted by Rowntree (1997) also agree with Tyler (1990) emphasize more process to determine the achievement of an objective set of programmes.

In Malaysia Language Teaching Centre, Ministry of Education views evaluation and the effectiveness of a training programme or a course as an effort which aimed to assess the achievement of the objectives and implementation of a programme. Specifically, what is known through the effectiveness research of a programme or course is to detect the level of knowledge achievement, skills, and attitudes of participants, problems and changes obtained after the training programmes. Dessler (1997) highlighted four things of the effectiveness of a programme that need to be measured which includes:

i. Participant’s reaction towards the course
ii. Learning
iii. Behaviour
iv. Result

Joyce Van TASSEL (199) evaluated the effectiveness of a programme from the aspects: the content of course’s component, content focus and experience gained from the programme. While Ubben and Hughes (1996) viewed the effectiveness of a programme is the aspect of mastery in skills or abilities.

From the aspects of effectiveness evaluation process, until now, evaluation and detection of teaching programmes are made during and at the end of the course. Evaluation is made to identify performance of participants and effectiveness implementation of the programme itself. Common effectiveness evaluation tools used for this purpose are tests and examinations, questionnaires, observation, interviews and discussion. Asariah Shah Mior (1991), stated that what to emphasized in future is the formalization and strengthening of assessment programme and by detecting and evaluating the effectiveness or results from the attended course.
Programme Evaluation from the perspective of education means an assessment of a teaching training programme whether it is effective or vice versa. Tuckman (1985) suggested that the assessment is done by achieving the goal of input and outcome aspects. While Worthen and Sanders (1987) suggested that teaching evaluation programme is made through the determination of the standards for quality’s budgeting, determine whether standards are relative or absolute, and to collect relevant information.

**Purpose of Programme Evaluation**

According to Doll (1992) the purpose of programme evaluation is to recognize sizes and continuities in evaluating its effectiveness, views and right processes for it to reach its goals. Stufflebeam (1971) believes that the purpose is to highlight the objective achievement for the next alternative in decision making. It may also a process to see, hear, observe, and document what is seen, heard, observed and completed by taking action (Noor Azmi, 1990). In a programme’s context, many aspects of evaluation was created that intended to measure the effect and impact. As described by Asariah Mior Shaharuddin (1991), detection programme is a systematic framework for collecting and analyzing data on all events related to the implementation of the programme with the purpose to improve its management.

Evaluation in a context of a programme contains the curriculum that often involves the effectiveness. The aim is to collect a combination of data between the content of the curriculum and goal achievement. Evaluation of curriculum from the perspectives of philosophic focuses on the achievement of individual behaviours, while from the humanist point of view concerns on individual achievement in a planned situation (Stake and Denny, 1969).

**Content of Programme Evaluation**

Cronbach (1963), stated that evaluation towards the effectiveness of the programme is focusing on results and execute one of the following results: first, a decision to improve the course, second, decision towards students and teachers, and third, decision regarding the administration and regulations. However, Talmage (1985), evaluated several aspects in the form of:

i. Intrinsic value: Benefit and accuracy of the curriculum content.
ii. Instrumental value: Determine the goals and targets of the curriculum.
iii. Comparative value: Comparison between the curriculum in several aspects such as; courses or programmes, content, implementation and its objective.
iv. Idealization value: The idea on how to make the programme in the best performance towards the achievement of respondents in every aspect.
v. Decision Value: Determination on the result of curriculum whether to continue, suspended, modified or terminated.

**Types of Programme Evaluation**

Scriven (1997) divided the programme evaluation into formative and summative. Formative evaluation was made during an ongoing programme, while summative evaluation was made at the end of a programme that aimed to collect information as a mean whether to continue or terminate a programme or after a programme ended to see overall effectiveness of the programme. Provus (1971) evaluated the effectiveness of the programme in terms of performance, standards and products.

According to Borg and Gall (1989), evaluation towards the effectiveness of the programme is usually made to determine the success of educational programme or focused on the level of success, the merit of respondent, syllabus design, content of the programme, implementation and objectives achievement of the programme itself (Longstreet and Suane, 1993).

**Context, Input, Product, and Process (CIPP) Model**

The model was adapted from the theoretical model designed by Stufflebeam and Shinkfield (1984), which focuses on improvement oriented evaluation. The aim is to make a decision towards one’s course or an educational programme.

Briefly, through the CIPP model theory, evaluation of effectiveness of one course begins with an agency that operates the control system (course or programme) then followed by evaluation in the first dimension that is evaluation of context by setting the curriculum’s goals to achieve. Next is the second dimension, evaluation of input focuses on using various strategies and methods of teaching and learning as the content of the courses. The third dimension is the evaluation of process that focused on the assessment of a process implementation and existing problems that can circumvent components of the programme in the form of context and input. Finally the fourth dimension is evaluation of product that focused on outcomes achievement of one’s course or programme.

Stufflebeam (1981) stated that, the evaluation process can also be placed after assessment of a product because the process is significant to existing problems which could hinder the entire course including dimensions of context, input and product. In other words, the more problems exist, the harder to achieve the success of a course.

The decision must be made in product and process dimensions whether to terminate, suspend, proceed or modify the course. If modification is needed
for the course, the assessors are required to examine any weak dimension to fix until the first terminal that is operation system. CIPP model theory from the framework concept is as follows:

CIPP Theory Model


The CIPP model theory was designed by Feinch (1984) and developed by Cates. While Robert Stake (1968) had included responsive approach elements, as Michael Scriven (1966) added two evaluation elements that are formative and summative, while Patton (1978) and Cronbach (1980) included characteristics of evaluation and measurement in the CIPP model theory. With that, CIPP model theory was built with a combination of several leading icons in the field of effectiveness evaluation of educational programmes in USA.

CIPP model theory is used as theoretical framework in this research and has been studied by researchers starting from classic’s theories until the implementation of CIPP model developed by modern researchers. Resources was referred from Scriven (1966) that include formative and summative
evaluation to the CIPP model theory to qualify any programmes to be included inside the regulation of course or the effectiveness of evaluation of the programme. Stake (1967) had placed the input and outcome inside the product to see the effectiveness of achievement of goals and its objective. Even Daniel L Stufflebeam (1968) is considered the founder and pioneer of CIPP model theory, James Longest (1975), Potton (1978) and Cronbach (1982) are the icons whose responsible for inserting the characteristics and measurement characteristics into the CIPP model theory. 

While Cates (1985), Ayers, Gephart, and Clark (1989) and Abu Bakar Ibrahim (1990), had placed the characteristics of formative and summative evaluation into the CIPP model theory. Worthen and Sanders (1973) focused on decision making into the CIPP model theory.

In terms of its implementation, CIPP model theory had been used in various studies such as Muhammad Hj. Ihsan (1997) which use the CIPP theory model in evaluating the effectiveness of Diploma in Education programme at the Faculty of Education, University of Malaya through qualitative research.

Tan Hui Leng (1998) had used CIPP model theory, four dimension that are context, input, process and product (model theory 1973 - oriented implementation and decision-making of the programme) in evaluating the effectiveness of the course, Science’s subject in the Teacher Training Programme (KPLI) with a combination of quantitative (descriptive statistic – percentage, mean and intervention statistics - correlation) and qualitative method.

Azizi Yahaya (1999) had applied theory CIPP model, four dimension that are context, input, process and product (CIPP model theory 1971 – product assessment orientation) in evaluating the effectiveness of subject Living Skill in secondary schools in Negeri Sembilan by using descriptive statistic survey (percentage and the difference of mean).

While Rosnani Hashim and Mohd Sahari Nordin (1998) in the action research had focused on product’s dimension only from the CIPP model theory (model theory 1971 - oriented implementation’s evaluation) in evaluating the effectiveness of Halaqah Ta'aruf Programme (Orientation Week for new students in the Faculty of Education, International Islamic University of Malaysia after ten years after of implementing descriptive statistics (Likert 3 Scale).

As a conclusion, CIPP model theory can be used as a basis to measure the effectiveness of DPLI programme. Theoretical framework of this research also will be the mould and basis towards method and measurement of research so that every design studies will be more easily understood and avoid it from sidetracked.
Conclusion

David Pratt (1980) which stated a programme or course is considered effective and successful when the following criteria are met such as 90% of program participants excelled successfully (passing grade), 50% passed with distinction (honours), at least 8 out of 10 participants that were randomly selected had achieved the objectives of the program through test, the sequence of objectives had been achieved, there were no negative outcomes, throughout the 12 months following from the end of the programme, there is no proof showed that students failed to perform well that requires immediate treatment.

References


