NON-ACADEMIC SELF CONCEPT AND ACADEMIC ACHIEVEMENT: 
THE INDIRECT EFFECT MEDIATED BY ACADEMIC SELF CONCEPT

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ABSTRACT
The objective of this study is to confirm the roles of academic self-concept as a mediator for non-academic self-concept and academic achievement. The research is based on 493 tenth grade students and academic achievement is measured based on the students’ performance in the Lower Secondary Assessment. The data are then analysed using structural equation modelling. Results demonstrated that the model of academic achievement fits well with the data. Academic self-concept and non-academic self-concept produce impacts on academic achievement. Academic self-concept is a stronger predictor than non-academic self-concept for academic achievement. Academic self-concept results only in direct effect on academic achievement, whereas non-academic self-concept has both direct effect and indirect effect on academic achievement. The indirect effect is mediated by academic self-concept. The findings suggest the need to create awareness among educators, parents and society on the importance of academic self-concept and non-academic self-concept in facilitating student academic achievement. Educators should also emphasize the significant contribution of non-academic self-concept in teaching and learning as it can generate indirect effects on academic achievement through academic self-concept which acts as a mediator.

KEYWORDS: Non-Academic Self Concept, Academic Achievement, Academic Self-concept, Indirect Effect.

INTRODUCTION
Self concept has been determined as a crucial factor that impacts a person during the process of development. Through decades, psychologists have confirmed its role in producing success in many aspects of a person’s life if he or she possesses a positive self concept. Self-concept is the set of attributes, abilities, attitudes and values that an individual believes define who he or she is (Berk, 2009). According to Lefrancois (2000), notions of the self are often closely allied with individuals’ beliefs about how others perceived them. Self-concept is a hierarchical and multi-faceted construct. General self concept is located at the apex and is further divided into academic self-concept and non-academic self-concept at the next level (Shalvelson et al., 1976).

Academic self-concept is defined as the individual’s assessment of his or her ability to learn in the school context in comparison to relevant others in the school (Brookover, 1959). The non-academic self-concept is about the perception of oneself in the non-academic activities (Suntornrapot, Auyporn & Thaweeewat, 2009). In this study, the non-academic self-concept comprised the aspects of social, physical, moral and ethical, personal and family. According to Fitts and Warren (1996), physical self-concept describes a person’s view of his or her health, appearance, physical skills and sexuality, moral and ethic self-concept measures people’s satisfaction with their own conduct; it is related to the sense of being able to control one’s own impulses and behaviour. Personal self-concept provides input on a person’s sense of adequacy and self-determination apart from physical attributes or relationship with others. Family self-concept reflects how people view themselves in relation to their family and close associates. Social self-concept gives indication on how individuals perceive themselves in relation to peers, besides family members and close friends.

Literature on self-concept suggested that it affects academic achievement. Self-concept was found to be able to predict and having a causal relationship with learning outcomes (Lau, Yeung, & Jin, 1998, Mendez, 2005). The findings of Hasenzadeh, Hussini, and Moradi (2004) indicated a significant relationship between global self-concept and academic achievement. However, academic self-concept is found to have a higher correlation with academic achievement as compared to general self concept (Hamachek, 1995). This is explained by Brookover (1959) since academic self-concept is defined as the individual’s assessment of his or her ability to learn...
in the school context in comparison to relevant others in the school. On the other hand, academic self-concept was also proven to be related to resilience as demonstrated in Davis (2008). Resiliency plays a vital role in academic success. Wondimu and Marjon (2006) found that academic self-concept can enhance academic achievement. This is due to the positive correlation between academic self-concept and motivation. This is supported by findings obtained by Nasim, Roberts, Harrell, and Young (2005) who concluded that academic self-concept is the only non-cognitive predictor for the academic achievement of the college students. Mendez (2005) reported that academic self-concept correlates with cumulative grade point average at 0.701 based on the study using the students of university. These findings further highlighted the importance of academic self-concept even at the tertiary level. According to Byer (2000), review from literature has shown that academic self-concept correlates positively with academic achievement in the range of .20 to .57.

Review of the literature regarding the impact of non-academic self-concept on academic achievement shows inconsistency in findings. According to Suntonrapot et al. (2009), non-academic self-concept can produce causes not only in the classroom but also outside the classroom. Non-academic self-concept can provide much more information than academic self-concept for improving students’ skills, characters, social, behavior and academic achievement. The importance of non-academic self-concept is further highlighted by William (1993) as he felt that many researchers have neglected the roles of non-academic self-concept in academic achievement whereas non-academic self-concept is closely related to students’ life. The findings of Hasenzadeh, Hussini, and Moradi (2004) and Suntonrapot et al. (2009) demonstrated that there is a relationship between non-academic self-concept and academic achievement. The findings by Chong (2007) reported a positive correlation between non-academic self-concept and academic achievement but the relationship is weak for children in remedial classes as compared to students in normal classes. Hence, the findings show evidence of a positive relationship between non-academic self-concept and academic achievement. However, this is not agreeable by Sánchez and Roda (2003) as their study indicated that non-academic self-concept is a negative predictor of academic achievement. On the other hand, the report of Marzuki (2002) based on the Malaysian samples review found no relationship between non-academic self-concept and academic self-concept with academic achievement.

The major objectives of this study are as follows:
- to identify the direct and indirect effects resulted by non-academic self-concept on academic achievement using the structural equation modelling (SEM) approach
- to confirm the role of academic self-concept as a mediator in the relationship between non-academic self-concept and academic achievement.

**METHODOLOGY**

Respondents for this study were tenth grade 16 year old students of public secondary schools in the Klang District in Selangor, Malaysia. From the total number of respondents of 493 students, 218 were male and 275 were female. The respondents were 227 Malay, 184 Chinese, 75 Indians and 7 others. Seventy (70) respondents obtained 4A-6A, 151 respondents obtained 1A-3A and 272 respondents did not obtain any A for their PMR examination (Lower Secondary Assessment) result. However, 399 of the respondents have achieved the level of competency which means they passed all the six subjects. Most of the respondents came from a middle socioeconomic status family background with monthly income of the father ranging from RM500 to RM 2499.

Two-stage random sampling procedure was applied to obtain the sample. In the first stage, four rural secondary schools and four urban secondary schools were selected randomly using school as cluster based on the list provided by the Selangor State Education Department. The second stage involved the random selection of three grade tenth classes from each school. All the students in each class were considered as samples. A survey was carried out to obtain the data using a self-administered questionnaire. The questionnaire consisted of three parts which are the respondents’ background information, Tennessee Self-concept Scale (Fitts, 1965) to evaluate the aspect of non-academic self-concept and Brookover Self-concept of Ability Scale (Brookover et al., 1964) to collect the data on academic self-concept. All the instruments are translated from English to Malay Language and have been pilot-tested for validation. The academic achievement aspect was measured based on the results of the PMR examination (Lower Secondary Assessment) which comprised of English language, Malay Language, Mathematics, Science, Geography and History.

**RESULTS OF RESEARCH**

The reliability of the instruments was determined based on estimates of internal consistency (Cronbach alpha). The cut-off point for Cronbach alpha is .70 and above (Hinton, Brownlow, McMurray, & Cozens, 2004). Results reported all the instruments used in the study have reached acceptable reliability as the Cronbach alpha ranged from .73 to .90. Structural equation modelling (SEM) was used to test the a priori full model of academic achievement. SEM was performed using AMOS 16 (Analysis of Moment Structure). As suggested by Kline (2005) at least three types of goodness-of-fit indices should be used in testing the goodness of fit of the model. Four goodness-of-fit indices used in the study to determine
the fit of all models were Jöreskog Sorbom goodness of fit index (GFI), Bentler comparative fit index (CFI), Tucker-Lewis index (TLI) and Root mean-square error of approximation (RMSEA). The cut-off for acceptable model fit based on GFI, CFI and TLI is .9, with the values greater than .9 indicating adequate model fit whereas for RMSEA the value smaller than .06 is a indication of good fit (Bentler & Bonett, 1980; Hair, Anderson, Tatham & Black, 1998; Hu & Bentler, 1999; Kline, 2005).

Figure 1 represents the a priori full model of academic achievement based on the data of the study. The model has reached the acceptable fit [GFI = .918, CFI = .935, TLI = .928, RMSEA = .044]. This is because the values of GFI, CFI and TLI are above .900 whereas the value of RMSEA is below .060 (Bentler & Bonett, 1980; Hair et al., 1998; Hu & Bentler, 1999; Kline, 2005).

Figure 1. Full model of academic achievement

(IN1-IN20, P1-P2 and BSAA1-BSAA4 represent observed variables, e1-e66 represent error variances, ASC represents academic self concept, NASC represents non-academic self-concept, and AC represents academic achievement)

Table 1 illustrates the standardized direct effect, standardized indirect effect and standardized total effect of the full model of academic achievement. Academic self-concept produces a total effect of .612 on Academic Achievement of this study. It is also a stronger predictor for Academic Achievement as compared to non-academic self-concept. The total effect of .612 is due to the positive direct effect of .612 from academic self-concept to academic achievement. Both total effect and direct effect are significant at 95% CI (confidence interval). Non-academic self-concept is a weaker predictor for academic achievement in this study with the total effect of .169 only. However, non-academic self-concept produces two types of effects on academic achievement which are the direct effect and indirect effect. There is a negative direct effect of -.172 from non-academic self-concept to Academic Achievement and a positive indirect effect of .341 from non- academic self-concept to academic achievement. The indirect effect is almost two times the direct effect in magnitude. The positive and negative values of both the effects have contributed to the low value in total effect. The role of academic self-concept as a mediator has resulted in the indirect effect of non-academic self-concept on academic achievement. All the effects from non-academic self-concept to academic achievement are significant at the 95% CI (confidence interval). Beside that, non-academic self-concept also has produced a total effect of .557 on academic self-concept directly. This direct effect is significant at the 95% CI (confidence interval).

Table 1: Standardized direct effect, standardized indirect effect and standardized total effect

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<th>Estimate</th>
<th>95% CI*</th>
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<td>Upper</td>
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<tr>
<td>** ASC ➔ AC **</td>
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<tr>
<td>Total effect</td>
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<td>Direct effect</td>
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<td>Indirect effect</td>
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<td>** NASC ➔ AC **</td>
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<tr>
<td>(ASC)* Total effect</td>
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<tr>
<td>Direct effect</td>
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<td>-.308</td>
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<tr>
<td>Indirect effect</td>
<td>.341</td>
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<tr>
<td>** NASC ➔ ASC **</td>
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*Based on 1000 bootstrap sample.
** Mediator

DISCUSSION

The analysis has demonstrated that there is a relationship between academic self-concept, non-academic self-concept and academic achievement for the sample in this study. Academic self-concept is a better predictor for Academic Achievement as compared to non-academic self-concept. Academic self-concept results in a strong positive direct effect on Academic Achievement. This implies that higher academic self-concept can contribute to better academic achievement. This is supported by the findings of Hasenzadeh, Hussini, and Moradi (2004) that confirmed the correlation between academic self-concept and academic achievement is higher as
compared to general self-concept and academic achievement. Beside that, the study of Wondimu and Marjon (2006) also revealed that academic self-concept can improve academic achievement. The importance of academic self-concept is further highlighted by Nasim, Roberts, Harrell, and Young (2005) as they concluded that academic self-concept is the only non-cognitive predictor for academic achievement in college students. Academic self-concept can produce a strong direct effect on academic achievement because it is related to the aspect of motivation (Wondimu & Marjon, 2006) and resiliency (Davis, 2008). This means that students with positive academic self-concept will put in more attempts to achieve better performance and they can face challenges with confidence in the process of learning. In spite of that, students with positive academic self-concept will give high evaluation on their ability related to academic pursuits, and thus boot up interest and effort in completing an academic task.

The findings of this study also instil awareness among us about the role of non-academic self-concept in academic success. This is because non-academic self-concept can produce influences not only in the classroom but also outside the classroom (Suntonrapot et al., 2009). Non-academic self-concept is important because it is closely related to the life of an individual (William, 1993). Although non-academic self-concept is not related to academic factors, it can generate effects on academic achievement directly and indirectly. The relationship between non-academic self-concept and academic achievement is evidenced in the findings of Hasenzadeh et al. (2004) and Suntonrapot et al. (2009). Sánchez and Roda (2003) also reported from their study that non-academic self-concept is a negative predictor of academic achievement.

Findings of this study reveal that the indirect effect from non-academic self-concept to academic achievement is almost two times stronger than the direct effects. Non-academic self-concept influences academic achievement directly in a negative manner. This means that non-academic self-concept cannot enhance academic achievement directly. This could be because all the subscales in non-academic self-concept are not academic based. Non-academic self-concept can produce positive effect on academic achievement indirectly through the mediator, academic self-concept. Academic self-concept is said to play a role as a mediator in the relationship of non-academic self-concept and academic achievement can be explained in this study and supported by theory. As reported in the findings of this study, non-academic self-concept has a direct and positive relationship with academic self-concept and academic self-concept will further enhance the success in academic field. Positive direct effect from non-academic self-concept to academic achievement occurred due the fact that both of them are the subscales of general self-concept. Beside that, individuals with higher perception of self in the aspects of personal, family, morality and ethics, physical and social may believe more in their academic ability and level of academic achievement. Thus, the higher positive non-academic self-concept may leads to better academic success.

The findings of this study illustrate that both the factors of non-academic self-concept and academic self-concept can influence the aspect of academic success among students. The important positive indirect effect produced by non-academic self-concept on academic achievement should not be overlooked in the process of upgrading students’ academic achievement. This is because non-academic self-concept is related more to the life of a student which can be perceived as more holistic. A student with successful life has higher tendency to excel academically. At the same time, the result also highlights the mediating effect produced by academic self-concept on the relationship between non-academic self-concept and academic achievement. Thus, academic self-concept can be classified as a very important factor in the learning process as it can enhance academic performances directly besides playing the role as a mediator in the relationship of non-academic self-concept and academic achievement. In conclusion, when helping students to excel in academic performance, emphasis should be given to both the factors of non-academic self-concept and academic self-concept.

REFERENCES


